

FY2021 Annual Report on Performance and Expenditures

*FY2020 and FY2021 Unified
Planning Work Program for
Regional Transportation Planning*



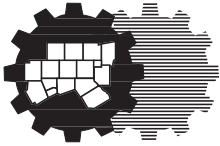
Transportation Department
North Central Texas Council of Governments

What is NCTCOG?

The **North Central Texas Council of Governments** (NCTCOG) is a voluntary association of, by, and for **local governments** within the 16-county North Central Texas Region. The agency was established by state enabling legislation in 1966 to assist local governments in **planning** for common needs, **cooperating** for mutual benefit, and **coordinating** for sound regional development. Its purpose is to strengthen both the individual and collective power of local governments, and to help them recognize regional opportunities, resolve regional problems, eliminate unnecessary duplication, and make joint regional decisions – as well as to develop the means to implement those decisions.

North Central Texas is a 16-county **metropolitan region** centered around Dallas and Fort Worth. The region has a population of more than 7 million (which is larger than 38 states), and an area of approximately 12,800 square miles (which is larger than nine states). NCTCOG has 229 member governments, including all 16 counties, 167 cities, 19 independent school districts, and 27 special districts.

NCTCOG's **structure** is relatively simple. An elected or appointed public official from each member government makes up the **General Assembly** which annually elects NCTCOG's **Executive Board**. The Executive Board is composed of 17 locally elected officials and one ex-officio non-voting member of the legislature. The Executive Board is the policy-making body for all activities undertaken by NCTCOG, including program activities and decisions, regional plans, and fiscal and budgetary policies. The Board is supported by policy development, technical advisory and study **committees** – and a professional staff led by **R. Michael Eastland**, Executive Director.



NCTCOG's offices are located in Arlington in the Centerpoint Two Building at 616 Six Flags Drive (approximately one-half mile south of the main entrance to Six Flags Over Texas).

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NCTCOG's Department of Transportation

Since 1974 NCTCOG has served as the Metropolitan Planning Organization (MPO) for transportation for the Dallas-Fort Worth area. NCTCOG's Department of Transportation is responsible for the regional planning process for all modes of transportation. The department provides technical support and staff assistance to the Regional Transportation Council and its technical committees, which compose the MPO policy-making structure. In addition, the department provides technical assistance to the local governments of North Central Texas in planning, coordinating, and implementing transportation decisions.

Prepared in cooperation with the U.S. Department of Transportation (Federal Highway Administration and Federal Transit Administration) and the Texas Department of Transportation.

The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Texas Department of Transportation.

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December 2021

Regional Transportation Council

The Transportation Policy Body for the North Central Texas Council of Governments
(Metropolitan Planning Organization for the Dallas-Fort Worth Region)



**Transportation Department
North Central Texas Council of Governments**

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Michael Morris, P.E.
Director of Transportation, NCTCOG

Surface Transportation Technical Committee

Tanya Brooks, Chair
Assistant Director, Traffic Management Division
Transportation and Public Works
City of Fort Worth

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I. Task 1 – Administration and Management

Coordination, communication, and management tasks that are essential to maintaining the metropolitan planning process comprise the subtasks in the area of Administration/Management. Overall direction of planning activities and grant administration tasks such as purchasing, contract development, and auditing are included. The preparation and circulation of information relevant to regional transportation policy is a major focus of this element. This includes support to the Regional Transportation Council (RTC), associated technical committees, and the North Central Texas Council of Governments (NCTCOG) Executive Board. In addition, public involvement and outreach activities as emphasized in the Fixing America's Surface Transportation (FAST) Act are conducted under this element.

1.01 Community Outreach

This annual Work Program subtask will be conducted in FY2021 and FY2022 and includes staff activities in support of NCTCOG's Transportation Department Public Involvement, Outreach, and Education Program; monitoring of the regional transportation system performance and reliability; business community outreach; legislative outreach; internet/intranet outreach and support improvements; and public education campaigns and services to support transportation and air quality programs/policies.

Public Involvement, Publications, and Legislative Support

Transportation Planning Funds

Staff will appear regularly at community and business events to discuss transportation and air quality matters. Efforts to ensure full and fair participation in the transportation decision-making process consistent with Title VI and Environmental Justice principles are implemented through a Public Participation Plan. Anticipated products include:

- Regular opportunities, including public meetings, online opportunities, a virtual public engagement platform, and listening sessions, among others, for North Texans to learn about and provide input on transportation and air quality plans, programs and policies;
- Summaries of public input provided to the Regional Transportation Council (RTC);
- Appearances at neighborhood meetings, professional association meetings, business community/chamber of commerce meetings, and other events;
- Dynamic outreach and communications plan to continually enhance public involvement;
- Enhanced multimedia and social media presence;
- Communications through email services on transportation planning projects as well as other projects supported through the UPWP;
- Press releases and other media relations materials;
- Department newsletters including Local Motion and Mobility Matters, among others;
- Progress North Texas state-of-the-region report and other reports and brochures;
- Contributions to agency newsletters;
- Communications pieces that explain the transportation planning process and opportunities to provide input;
- Summaries of activity in the Legislature and Congress relating to Metropolitan Planning Organization functions;

- Legislative testimony;
- RTC state and federal legislative programs; and
- Regular updates to policy and technical committee members on legislative initiatives related to RTC priorities.

Work Performed and Status: Public input opportunities were one of several avenues North Texans could learn about and offer input on transportation in FY2021. Due to the COVID-19 pandemic, Texas Governor Greg Abbott declared a State of Disaster on March 13, 2020. Texas Government Code Section 418.016 permits the Governor to suspend certain statutes upon a Declaration of Disaster, and provisions of the Texas Open Meetings Act were suspended on March 16, 2020. NCTCOG's Public Participation Plan already outlines circumstances under which public input opportunities may be held solely online, and NCTCOG continued its practice from early in the pandemic of hosting online-only public input opportunities. Therefore, NCTCOG offered 10 public input opportunities in an online-only format. In accordance with the procedures outlined in the Public Participation Plan, copies of the presentations and documents presented for review were posted online; in some cases, a recorded video presentation was also provided. As an accessibility measure for individuals without a connection to the Internet, print copies of presentation materials were made available upon request.

For both public meetings and online input opportunities, comments and written summaries were made available on the NCTCOG website. Summaries, which included public comments, were included on Surface Transportation Technical Committee (STTC) and Regional Transportation Council (RTC) meeting agendas.

Approximately 15,000 notices were sent by mail and email for each public meeting and online public input opportunity. Also, more than 140 libraries in the Metropolitan Planning Area received public meeting and online input opportunity flyers to make available to patrons. Additionally, flyers were provided to municipal offices. Notices for public meetings and online public input opportunities were placed in area newspapers, including minority publications, and translated ads were published in Spanish newspapers and a Vietnamese newspaper. Online notices of input opportunities supplemented print notifications.

Due to the COVID-19 pandemic, in-person community events the NCTCOG Transportation Department regularly participates in were either canceled or postponed. Department staff were able to participate in four virtual events in FY2021 to communicate information about multiple regional transportation and air quality programs and issues. NCTCOG continued to coordinate with the hosts of these events (including cities, transit partners, community organizations and school districts) to maintain relationships and plan for opportunities to share transportation and air quality information in the future.

Proactive media outreach efforts included the distribution of 31 press releases on major projects and programs to approximately 200 reporters at local media outlets, including minority publications. Press releases were emailed to media contacts and interested parties and were posted to the Department's online newsroom. In addition, multiple interviews were conducted with local and national print, radio and television media, as well as podcasts. The media list is updated continuously.

The Department also provided news and updates in Local Motion, its monthly newsletter, and Mobility Matters, a semiannual publication, as well as through contributions to agency newsletters. Mobility Matters was distributed to contacts on the public involvement mailing list,

and the online version was also shared with regional partners. Local Motion was issued to partners and posted online monthly. The Department also contributed articles to an agency newsletter, What's New at NCTCOG, which is published online and distributed to partners and interested parties via email. Staff continued to distribute several other internal and external publications in print and online. A series of fact sheets for the general public were published in print and online.

Additionally, the Department published Progress North Texas, its annual state-of-the-region report, which provided an update on transportation and air quality developments in the Dallas-Fort Worth area over the previous year. The report's theme was "Transportation for All." It examined efforts in several areas, including mobility, growth, roadway, active transportation and transit improvements, funding, goods movement, aviation, safety, air quality, and public involvement. Approximately 7,000 copies were mailed to partners and residents throughout the region. The Department continued to reach the public through the report's webpage, and copies were provided by mail and electronically to partners throughout the year.

To complement traditional outreach, staff maintained a presence in social media for the NCTCOG Transportation Department, using Facebook, Twitter, YouTube, Instagram, and Vimeo to post regular updates and interactive content in accordance with the Department social media policy. Department workshops, webinars, and virtual outreach opportunities were shared through the Meetup social media platform, and links to the Department's publications were posted to social media.

Monthly social media metrics were tracked, and reports were created for analysis by staff. Data from these reports is continuously used to improve the Department's social media strategy and provide more engaging content to increase followers.

Finally, legislative assistance was provided throughout FY2021 to State Legislative and Congressional offices, as well as policy and technical committee members. Information was provided, as requested, on policy matters related to the Metropolitan Planning Organization. In preparation for the State Legislative session, staff, in coordination with elected officials, prepared the RTC's Legislative Program for the 87th Texas Legislature. While the Texas Legislature was in session, policy issues and challenges related to the implementation of the Metropolitan Transportation Plan were identified by staff and brought to the attention of the RTC. Tracking actions in the United States Congress were ongoing, and information on federal issues and rulemaking was relayed to policy and technical committee members as necessary.

Transportation Planning Funds were used to support work activities. Work will continue in FY2022.

Other Funding Sources

NCTCOG local funds will be utilized to support activities that are not eligible for federal reimbursement. Such items may include:

- Meal expenses;
- Travel expenses; and
- Special meetings with state or federal elected officials.

Work Performed and Status: No funds were expended in FY2021. Work will continue in FY2022.

Internet/Intranet Outreach and Support

Transportation Planning Funds

This element is ongoing throughout both FY2020 and FY2021, providing technical support for regional committees, public information and participation efforts and the transportation planning process. This includes the ongoing creation, maintenance and modernization of Web resources presented externally and internally on the Internet/Intranet sites. Anticipated products include:

- Website assessment and improvement of visual architecture, accessibility, and usability;
- Website edits, updates and maintenance;
- Website content development, including articles, public information resources and program area updates;
- Websites and applications available on the most common browsers and an improving mobile experience;
- Web pages and applications audited and reviewed for internal standards/branding and security (QA/QC);
- Web page performance reports, including analytic assistance;
- Web application development and support;
- Standards for search engine optimization;
- Software upgrades, including evaluation and migration of web assets and content to new Kentico content management platform;
- Microsoft ERP: CRM and SharePoint Online D365 development/administration; and
- Internal training opportunities.

Work Performed and Status: A new quality assurance workflow using the Siteimprove platform was deployed to help staff identify broken links and misspellings and enhance accessibility and search engine optimization (SEO). Individual and group training sessions were conducted to educate staff on best practices for Kentico, the Agency's content management platform; these efforts were assisted by how-to articles written for the Department's Kentico resource page. In addition, staff led an agency-wide Web Advisory Team established to coordinate and address concerns collaboratively; this initiative was supported by a department committee focused on improving user experience and providing quality content. The committee's work entailed a review of web analytics, persona exercises, development of website heat maps, and education on tools available through Bing and Google to understand user needs. Security efforts to mitigate risks associated with providing online content and exchanging information and data with external partners were implemented. Finally, migration of tools and resources from an intranet server into the Office 365 SharePoint Online cloud environment is being planned and implemented.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Transportation and Air Quality Education and Engagement

Other Funding Sources

The North Central Texas Council of Governments (NCTCOG) will continue to implement strategic communications efforts to educate and inform the region on transportation- and air quality-related issues, including improvement strategies, funding opportunities, training initiatives, and new programs/policies. Major efforts will focus on transportation and air quality education and engagement programs, and Clean Vehicle Technologies Programs. This work element will be supported through Congestion Mitigation and Air Quality Improvement Program funds, US Department of Energy funds, Transportation Development Credits, and other funding sources. Paid media will be utilized when needed. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Regional air quality and transportation campaigns (including Air North Texas and other efforts that support transportation and air quality improvement strategies) utilizing communication strategies including, but not limited to, website/web pages, paid education campaigns, social and electronic media, videos, photography, email and blog updates, air pollution alerts, flyers, brochures, and outreach and associated displays;
- Integrated campaign resources for use by local governments, the business community, education institutions, and other stakeholders/interested parties;
- Communication services for local governments, as well as other NCTCOG Transportation Department programs/campaigns;
- Procurement, inventory, and distribution of educational items;
- Performance measure strategies and analytics for transportation and air quality communication initiatives;
- Purchase of electronic equipment, devices (e.g., counters, outreach wheels), online services, and computers for the purpose of outreach, technical guidance, photography and video production;
- Regional growth of overall efforts through regular meetings and conference calls with the Air North Texas Coalition, stakeholder groups, and other partners including state, federal, and local interest groups about the campaign and other air quality education initiatives;
- New partner recruitment for transportation and air quality campaigns; and
- Partner recognition for work on programs, such as Air North Texas.

Work Performed and Status: During FY2021, NCTCOG staff continued to develop and implement or support regional air quality and transportation campaigns and related communications strategies for initiatives such as Air North Texas. The Air North Texas air quality awareness campaign continued to be implemented through paid education, social media, educational items, and partner coordination. Outreach items were provided for distribution at an in-person event. (The Transportation Department did not attend in-person events in FY2021 due to the COVID-19 pandemic). Clean Air Corner, the Air North Texas blog, was distributed monthly to more than 4,300 subscribers. Ozone alerts issued by the Texas Commission on Environmental Quality were monitored to ensure Air North Texas themed Ozone Action Day Alert messages were disseminated to interested parties. On August 4, 2021, Air North Texas celebrated the 12th annual Clean Air Action Day, which staff implemented with regional partners.

For Clean Air Action Day, educational materials and promotional ideas were provided to 35 Air North Texas partners, including cities, counties, and transportation agencies. More than 1,100 North Texans made commitments to participate in Clean Air Action Day due to these

efforts. Also, staff produced air quality educational materials such as promotional items and other outreach pieces for partners.

Staff began implementing a Transit Pandemic Recovery Campaign in conjunction with Dallas Area Rapid Transit, Denton County Transportation Authority, and Trinity Metro to help increase transit ridership. Campaign tactics and phases were developed, and materials to educate North Texans about transit safety protocols were created for use by the agencies and local partners. Additionally, NCTCOG procured paid education campaign spokespersons from local radio stations to promote transit through a social media and radio spot campaign. NCTCOG and the three transit agencies met twice a month to manage the campaign's implementation.

Communication services continued for other Department transportation and air quality-related programs and campaigns, such as Dallas-Fort Worth Clean Cities, the Try Parking It commuter tracking program, GoCarma toll discount outreach, and bicycle/pedestrian education. Since staff and related partners worked from home significantly in FY2021, meetings still primarily took place virtually, so staff uploaded those meetings to online platforms and the Department's YouTube Channel for public viewing. Other materials developed and/or procured included graphics, outreach campaign materials, bicycle and pedestrian video series, and educational items.

Elements of NCTCOG Transportation Department communication campaigns were tracked and reviewed to improve and refine campaign performance measures. For the Air North Texas campaign, 28 Ozone Action Day Alerts were distributed to subscribers. Air North Texas website traffic was monitored, and the website recorded more than 21,000 users and 26,000 sessions for the fiscal year. The bicycle and pedestrian video series gathered more than 65,000 views.

Contact with other State, federal, and local air quality partners to collaborate on consistent messaging and themes was maintained. For Air North Texas, NCTCOG staff continued to develop and grow relationships with a wide range of regional partners known as the Air North Texas Coalition. Staff planned and hosted six Coalition conference calls to coordinate the regional air quality awareness campaign.

Contracts for online communications tools, including Constant Contact, Survey Monkey, and other website subscriptions were renewed. A Getty Images subscription for the Department was purchased.

In November 2020, several Coalition members were recognized for their notable contributions to the campaign as part of the partners' annual reporting process.

Congestion Mitigation and Air Quality Improvement Program funds (CSJs 0918-00-296 and 0918-297), US Department of Energy funds, and Transportation Development Credits were used to support work activities. This project is ongoing, and work will continue in FY2022.

1.02 Program and Policy Administration

Management and administrative activities conducted by the MPO staff support operations of the NCTCOG Transportation Department and implementation of all projects. Activities such as development, monitoring, and coordination of the Unified Planning Work Program and necessary modifications; preparation of the Annual Performance and Expenditure Report; personnel and recruitment support; risk assessment; process development; committee support; legal review of agreements and policies; provision of furniture and consumable supplies for staff; and general office management are included in a cost allocation plan. Costs are allocated to all projects, including projects funded with Transportation Planning funds and other funding sources. These costs are included in the funding summaries for each Task.

Work Performed and Status: Two sets of modifications to the FY2020 and FY2021 Unified Planning Work Program (UPWP) received NCTCOG committee, and State and federal approvals during FY2021. These modifications reflected new initiatives, project modifications, and funding adjustments. The modifications were presented to the public for review and comment prior to seeking committee and funding agency approvals. Efforts to develop the Transportation Department's FY2022 and FY2023 Unified Planning Work Program, summarizing the department's work activities to be carried out over the next two years, were also conducted. The document was made available for public review and comment and received NCTCOG committee, State, and federal approvals. The FY2020 Annual Performance and Expenditures Report was prepared and also received State and federal approvals. Performance reports on the accomplishment of Transportation department goals established for FY2020 were also prepared and submitted to the NCTCOG Executive Director's office, as well as new goals for FY2021, for compilation into Agency documents to be provided to a number of agencies, including the Office of the Governor.

Monthly meetings of the Regional Transportation Council (RTC) and the Surface Transportation Technical Committee (STTC) were held. Due to the COVID-19 pandemic, Texas Governor Greg Abbott declared a State of Disaster on March 13, 2020. Texas Government Code Section 418.016 permits the Governor to suspend certain statutes upon a Declaration of Disaster, and provisions of the Texas Open Meetings Act were suspended on March 16, 2020. As a result, RTC and STTC meetings between March 16, 2020, and September 1, 2021, were held virtually. As of September 1, 2021, all provisions of the Open Meetings Act were back in effect which permits a governmental body that extends into three or more counties to meet by videoconference call if the member of the governmental body presiding over the meeting is physically present at the location of the meeting. The September 2021 Regional Transportation Council meeting was held by videoconference with the Chair presiding from the meeting location. A call-in number for each meeting of the RTC was provided to allow the public an opportunity to speak to the members of the RTC on the respective meeting's agenda items. A video recording of the Regional Transportation Council meetings was available online for public access following each meeting. The RTC and STTC meeting agendas contained both action and information items for the committees' consideration and were posted online. Staff continued to prepare information for these meetings, develop meeting minutes, post items to the website, carry out committee actions, and respond to requests for additional information as needed. Staff also continued to support the submittal each month of transportation items to the NCTCOG Executive Board for consideration.

Staff recruitment efforts and personnel actions were conducted throughout the year (i.e., advertising, candidate interviews, processing of new hires, staff separations, internal

promotions, maintenance of databases, and development of job descriptions). General office management activities also continued to be carried out (i.e., distribution of incoming mail, office assignments and moves, completion of timesheets, and the conduct of management and staff meetings). Records management activities continued, including the reviewing, purging, inventorying, destruction, and storage of files. During FY2021, the Department's Continuity of Operations Plan was also updated to provide guidance to staff.

Legal staff reviewed numerous agreements, Executive Board items related to MPO activities, and procurement materials for legal sufficiency and compliance with federal and State requirements. Staff continued to implement DocuSign to facilitate electronic signature of agreements and continued to expand departmental implementation for signature of other various documents due to the COVID-19 pandemic. Regular updates were made to www.nctcog.org/rfp for publication of procurement opportunities to potential bidders/consultants.

Required risk assessment processes were refined for the department's contracting activities. Additionally, staff completed discretionary risk assessments for review and assignment of risk level to potential funding opportunities. Further, staff completed numerous federally required risk assessments for assignment of risk level and identification of risk mitigation factors for subrecipient awards. Staff provided assistance to respond to internal and external audit and program reviews. Legal review of Regional Transportation Council-related agreements, memorandums of understanding, and policies was conducted.

The cost allocation plan was used to support the above work activities. Work will continue in FY2022.

Program administration efforts described below include activities that may be excluded from the cost allocation plan and charged directly to the funding sources identified.

Program Administration

Transportation Planning Funds

This subtask includes management and administrative activities that directly support the NCTCOG Transportation Department's role as the Metropolitan Planning Organization and fulfillment of responsibilities outlined in regulations governing the administration of Federal Highway Administration Transportation Planning Funds. This subtask is ongoing throughout Fiscal Years 2020 and 2021 and includes participation in and support for the Association of Metropolitan Planning Organizations (AMPO), the Texas Metropolitan Planning Organization (TEMPO), and the Transportation Research Board (TRB). Additionally, this subtask includes oversight and coordination of the NCTCOG University Partnership Program. Consultant assistance may be utilized to assist with this subtask. Anticipated products include:

- NCTCOG representation at AMPO and TEMPO meetings;
- NCTCOG participation in the TRB annual meeting and other conferences and professional development opportunities;
- Hosting and provision of training opportunities for local government, transportation providers, and planning agency staff;
- Appropriate office accommodations for staff and guests, including provision of consumable supplies, furniture, and leasehold improvements;

- Project topics for participation in the University Partnership Program;
- Assistance to the Texas Transportation Commission, as requested;
- Participation on and support for special task forces;
- Identification of regional transportation focus areas for incorporation into NCTCOG's Strategic Plan to aid in addressing critical needs in the region; and
- Eligible and accurate billings within identified budgets.

Work Performed and Status: In FY2021, work activities included coordination of policy and institutional discussions between the Texas Transportation Commission (TTC), the Texas Department of Transportation (TxDOT), and the Regional Transportation Council (RTC).

NCTCOG staff provided advice and recommendations regarding Metropolitan Planning Organization (MPO) programs, plans, policies, and projects in order to comply with federal and State statutory and regulatory requirements, specifically 23 United States Code Section 134 and Programming. In addition, advice and recommendations were provided regarding compliance with the Texas Open Meetings Act and Texas Public Information Act.

NCTCOG staff participated in the 2021 TMA Planning Certification Review of the Dallas-Fort Worth-Arlington, Lewisville-Denton, and McKinney Metropolitan Planning Organization. This Review is conducted every four years, and NCTCOG's planning process was found to be in compliance by the Federal Highway Administration and Federal Transit Administration.

NCTCOG staff continued to support the Texas Association of Metropolitan Planning Organizations (TEMPO) in FY2021. The NCTCOG Assistant Director of Transportation continued service to TEMPO as the Deputy Executive Director of TEMPO. Staff also participated in a statewide committee regarding potential updates to the document format of the Unified Planning Work Program.

Professional development requests for NCTCOG staff were processed in FY2021 for attendance at webinars, seminars, training courses, and conferences, including the Transportation Research Board annual meeting. Furniture orders were placed, but delayed or cancelled due to Buy America constraints.

Administration of the University Partnership Program continued. Staff coordinated with the participating universities and other department staff to identify project topics, help ensure understanding and compliance with the program guidelines, and implement the contracting process, including execution of agreements. Work performance with regard to the specific University Partnership Program projects is provided in the appropriate Work Program subtask.

Staff submitted monthly requests for reimbursement to the Texas Department of Transportation (TxDOT) for activities described in this report, specifically work budgeted for use of Transportation Planning Funds. All expenditures are supported by accounting records and receipts as requested by TxDOT.

Transportation Planning Funds were used to support work activities. Work will continue in FY2022.

Other Funding Sources

North Central Texas Council of Governments Local funds, Regional Transportation Council Local funds, and other local funds will be utilized to support activities in Program Administration that may not be eligible for federal reimbursement. Such items may include, but are not limited to:

- Small stipend and travel expenses for a minority student and supporting professor to attend annual TRB meeting to represent work conducted on behalf of NCTCOG under the TRB Minority Student Fellowship Program partnership;
- Meal expenses;
- Individual staff memberships in professional organizations;
- Service awards;
- Travel expenses for foreign applicants;
- Legal and application filing fees for foreign employees;
- Audio/video expenses (i.e., equipment, maintenance, and video/web hosting services) in the Transportation Council Room;
- Office furniture; and
- Other special projects.

Work Performed and Status: In FY2021, local funds were used to support items such as meeting and travel expenses, individual staff memberships in professional organizations, legal fees, consumable supplies, furniture, and the live internet broadcasts of the monthly Regional Transportation Council and Surface Transportation Technical Committee meetings.

Regional Transportation Council Local funds and North Central Texas Council of Governments Local funds were used to support the above expenses. Work will continue in FY2022.

Disadvantaged Business Enterprise Program Enhancements

Other Funding Sources

This element will be ongoing throughout both FY2020 and FY2021, focusing on enhancements of resources and compliance mechanisms related to the Disadvantaged Business Enterprise (DBE) Program. This effort will be geared toward outreach to the vendor community to raise awareness of the DBE program and development of new partnerships with regional and State certification agencies. Surface Transportation Block Grant Program funds supported by Transportation Development Credits will be used for this effort. Anticipated products include:

- Education, outreach, events, and workshops with potential bidders/consultants;
- Website content updates, including traditional and new media tutorials for potential bidders/consultants;
- Collaboration and new partnerships with regional and State DBE certification agencies, such as the North Central Texas Regional Certification Agency.

Work Performed and Status: As part of NCTCOG's efforts to develop and refine tools to oversee Disadvantaged Business Enterprise (DBE) program compliance, NCTCOG staff has implemented a process to verify timelines of payments to subcontractors. Over the last year, staff completed review of prompt payment procedures, submitted reports by prime consultants on the status of payments to subcontractors, verified payments to subcontractors including

DBE firms, and followed up on contractual compliance deficiencies. NCTCOG staff initiated review of contracting issues related to DBE attainment to determine guidance documents and training materials that could be developed to help ensure DBE commitments stay on track. Additionally, NCTCOG staff completed website content updates and coordination with potential bidders and consultants on registration in NCTCOG's vendor database regarding potential procurement opportunities.

Surface Transportation Block Grant Program funds (CSJ 0902-00-178) and Transportation Development Credits were used for this effort. This project is ongoing, and work will continue in FY2022.

Regional Transportation Council Policy/Project Coordination

Other Funding Sources

This element will be ongoing for FY2020 and FY2021, providing contract management and legal support. Among the activities is staff legal assistance relative to coordination for Regional Transportation Council policies and projects; evaluation, development, and negotiation of legal instruments and mechanisms to implement metropolitan planning organization programs and initiatives; and enhancement of legal review system and tracking mechanisms for information sharing and decision making. Work activities will be supported through Surface Transportation Block Grant Program funds and Transportation Development Credits. Anticipated products include:

- Assistance to the Texas Department of Transportation, as requested;
- Participation on and support for special task forces;
- Identification of federal and State laws to support policy decisions;
- Identification of institutional mechanisms to implement policies and projects;
- Executed contracts and/or agreements and amendments; and
- New and/or improved tracking mechanisms for information sharing and decision making.

Work Performed and Status: Staff conducted a review of Regional Transportation Council (RTC) and Texas Transportation Commission policies, statutory, and regulatory provisions related to the allocation of funding to the Dallas-Fort Worth region to assist the RTC in policy considerations on such matters. Specifically, formula and non-formula allocations in the Transportation Code and companion Administrative Code provisions as well as implications of potential legislative changes were reviewed. Staff presented related materials to the Regional Transportation Council and Surface Transportation Technical Committee.

Surface Transportation Block Grant Program funds (CSJ 0902-00-178) and Transportation Development Credits were used to support work activities. This project is ongoing, and work will continue in FY2022.

1.03 Fiscal Management and Information Systems

The North Central Texas Council of Governments staff continues to support diverse programs, providing opportunity to facilitate projects with unique and innovative funding methodologies. This subtask includes work activities and strategies to enable effective fiscal coordination and streamlined accounting. Some fiscal management and information systems activities, such as

accounting support for Transportation projects; enhancement of procedures; development of financial management tools; compilation, assessment, and coordination of the NCTCOG Transportation Department annual budget; and financial assessment, monitoring, and reporting, are included in a cost allocation plan. These costs are included in the funding summaries for each Task.

Work Performed and Status: During FY2021, staff facilitated and conducted work activities supporting transportation projects and programs. These activities included coordination of receipts and payments; financial monitoring and analysis; development and documentation of procedures and tools; budget development, monitoring, and modifications; compliance review and documentation; information systems and records management; reporting; assessment of internal controls and contract compliance; and coordination of fiscal requirements for the Agency. Staff also coordinated responses to audits and project reviews.

The cost allocation plan was used to support work activities. Work will continue in FY2022.

The fiscal-related activities described below may be excluded from the cost allocation plan and charged directly to the funding sources identified.

Local funding Commitments

Other Funding Sources

During FY2020 and FY2021 NCTCOG local, Regional Transportation Council Local, and other local funds will be utilized to support certain fiscal processes and fulfill financial commitments. Such items may include:

- Local match to support TxDOT Direct State Costs for State-administered projects; and
- Other costs to supplement project implementation.

Work Performed and Status: During FY2021, NCTCOG staff coordinated payment to TxDOT for support of non-construction projects. Funds were also expended for miscellaneous fees and costs for activities cancelled due to the COVID-19 pandemic; and to facilitate accounting closeout activities.

Regional Transportation Council Local funds, North Central Texas Council of Governments Local funds, and other local funds were used to support work activities. Work will continue in FY2022.

Fiscal Information Systems

Other Funding Sources

An extensive information system is utilized for overseeing the transportation fiscal management activities. This information system is constantly being expanded and improved upon to meet ever-evolving project management and reporting needs, including the following:

- Tracking grant and project management activities;
- Providing information for better and more consistent project management; and

- Generating reports for policy officials, members of the public, partners and consultants, and agencies providing funding for projects.

This element is ongoing through FY2020 and will specifically focus on modernizing and streamlining the current fiscal management information, transitioning from an Access-based interface to a web-based interface. Additionally, other codes will be updated to improve the efficiency and reliability of the system. Surface Transportation Block Grant Program funds, supported by Transportation Development Credits, will be used for this effort. Anticipated products include:

- Web-based fiscal forms for NCTCOG staff.

Work Performed and Status: During FY2021, these work activities were supported through the cost allocation plan.

Innovative Transportation Financing Strategies

Other Funding Sources

Ongoing throughout FY2020 and FY2021, activities under this work program element explore innovative transportation financing and funding strategies as authorized by State and federal law. Innovative funding tools allow for enhanced flexibility in meeting critical transportation needs. The Regional Transportation Council, in partnership with transportation providers in the Dallas-Fort Worth area, is pursuing many of these strategies including the use of innovative public and private partnerships, State Infrastructure Bank loans, Transportation Infrastructure Financing and Innovation Act loans, tax increment financing, transportation reinvestment zones, and value capture mechanisms through municipal land-use authority. In addition, staff will explore the institutional structures, partnerships, and agreements necessary to leverage these innovative financing and funding tools in the Dallas-Fort Worth region. Lastly, staff will continue to monitor and track existing and proposed innovative financing partnerships and funding. Regional Toll Revenue funds will support work activities. Anticipated products include:

- Innovative finance policies and strategies;
- Assessments of State and federal legal authority; and
- Presentations and informational materials.

Work Performed and Status: Staff continued its efforts to review specific statutory tools for application to projects in the Metropolitan Transportation Plan (MTP). Legal staff coordinated, developed, and reviewed agreements related to innovative financial strategies throughout the region. Several innovative funding agreements were developed to memorialize Regional Transportation Council-approved funding strategies. The following funding partnerships/agreements were finalized: Old Weatherford Road and Klyde Warren Park Expansion. The following funding partnerships/agreements are pending and in development: Grand Prairie SH 360 Frontage Roads, North Richland Hills Transit-Oriented Development Landbanking, and Trinity River Bridges. Staff provided assistance to local government partners related to the City of Terrell Pass-Through Finance Agreement with the Texas Department of Transportation (TxDOT) and to the City of Plano related to the Collin Creek Mall Parking Garage Project. Staff also developed revenue share recommendations to TxDOT and Cintra concerning the IH 635/IH35E Y Connection. Staff worked to update tracking mechanisms related to the initiatives.

Regional Toll Revenue funds (CSJ 0902-00-236) supported work activities. Project activities are ongoing and will continue in FY2022.

1.04 Computer System Applications and Data Management

The overall goal of this subtask is to provide NCTCOG staff with the tools and technical support needed to complete work tasks in an efficient and timely manner. Computer resource management activities are conducted by the MPO staff in support operations of the NCTCOG Transportation Department and implementation of all projects. Activities such as planning for, monitoring, and coordinating computer and software replacements and upgrades, as well as various audio/video, computer and computer-related staff support and system maintenance functions are included in a cost allocation plan. Costs are allocated to all projects, including projects funded with Transportation Planning Funds and other funding sources. These costs are included in the funding summaries for each Task.

Work Performed and Status: In FY2021, staff coordinated computer and software replacements and upgrades, imaged and deployed computers to staff, performed preventative maintenance on equipment, maintained documentation of equipment and software licenses, monitored network drive space, responded to user questions, and provided solutions to software and hardware problems. Audio and video technical support was provided for numerous meetings and webcasts.

The cost allocation plan was used to support work activities. This project is ongoing, and work will continue in FY2022.

Efforts described below include activities that may be excluded from the cost allocation plan and charged directly to the funding sources identified.

Computer Resource Management and Equipment Purchases

Transportation Planning Funds

This subtask is ongoing throughout FY2020 and FY2021 and includes the purchase or lease of computer equipment such as Voice-Over-Internet Protocol phones, software and associated maintenance/support, licenses, and application subscriptions to support NCTCOG department staff in the fulfillment of their job responsibilities. A list of equipment and software purchases/leases anticipated to be obtained during the time period of this Work Program, including the identified funding sources, is provided as Exhibit VIII-3 in Chapter VIII, Overview of Work Program Funding. Equipment and software purchases over \$5,000 per unit that are being obtained with Transportation Planning Funds require prior State and federal approval. Consultant assistance may be pursued to assist with this task. Anticipated products include:

- Voice-Over-Internet Protocol phone devices;
- Software licenses;
- New and upgraded software and associated maintenance/support;
- Application subscriptions; and
- Associated equipment necessary to support activities.

Work Performed and Status: Software maintenance and support was purchased to continue annual vendor support for traffic modeling licenses of TransCAD and Microsoft licenses covered under NCTCOG Microsoft Enterprise Agreement Licensing Program for Windows Operating System upgrades. This includes Windows 10, Microsoft Office 365, and Software Assurance Benefits. New software licenses and upgrades were purchased as needed, including Smartsheet, Adobe Professional DC, Adobe Illustrator, Adobe Photoshop, Adobe InDesign, and Adobe Creative Cloud – All Apps. Voice-Over-Internet-Protocol phones were also purchased to support staff needs.

Transportation Planning Funds were used to support these purchases. This project is ongoing, and work will continue in FY2022.

Other Funding Sources

Regional Transportation Council Local funds will be utilized to purchase or lease computer systems and related equipment/hardware that may not be eligible for federal reimbursement. Such items may include, but are not limited to:

- Desktop, portable and tablet computers (i.e., replacement of computers that are out of warranty and new computers to support staff needs);
- Monitors/televisions;
- Printers and scanners;
- Voice-Over-Internet-Protocol phone devices; and
- Associated accessories.

Work Performed and Status: Laptop and desktop computers were purchased to accommodate replacement computers for staff and new employee needs.

Regional Transportation Council Local funds were utilized to support these purchases. This project is ongoing, and work will continue in FY2022.

Database and Geographic Information Systems Management

Transportation Planning Funds

This element is ongoing throughout both FY2020 and FY2021 among efforts to inventory, develop, maintain, consolidate, and optimize the numerous internal and external data sources, hardware/software tools, and various computer or web-based applications critical for the comprehensive processing of NCTCOG transportation projects, programs, and stakeholder services. This includes the management, coordination, and more effective utilization of Geographic Information System (GIS) technologies, due not just to the spatial references tied to most databases relevant to transportation-related activities and effects, but also to their potential for increased visualization, communication, and performance tracking opportunities. This work will support the establishment of seamless multi-disciplinary linkages, improved productivity and analysis capabilities, expanded venues for public/agency interaction and consumption, and enhanced inter-relationships in identifying, tracking, and reporting on transportation needs, impacts, and outcomes. These objectives will be accomplished through extensive investigations, collaboration, training, and technical development among Transportation Department program areas, other NCTCOG departments, and external partnering agencies.

Resulting databases and applications will integrate the following information, including but not limited to:

- Transportation Improvement Program (TIP) projects and programs;
- Metropolitan Transportation Plan (MTP) projects and programs;
- Multi-modal transportation networks and attributes (roadway, rail, bicycle/pedestrian, etc.);
- Infrastructure support systems/operations networks and attributes;
- NCTCOG Travel Demand Model attributes and outputs;
- National Environmental Policy Act (NEPA) effects and constraints;
- Safety, security, and sustainability qualities;
- Demographic and environmental justice properties; and
- GIS features and outputs.

Anticipated products include:

- Multi-variate databases and application tools, including GIS datasets and maps;
- GIS and database management training;
- Technical templates, manuals, and protocols for data coding, storage, manipulation, linkages, and visualization;
- Data collection, quality control/assurance processes, and analysis services;
- Open-source and/or web-based information sharing; and
- Performance measure/target tracking and reporting.

Work Performed and Status: Geographical Information System (GIS) services were provided internally to the Transportation Department in coordination with other NCTCOG departments. These tasks included data collection and analysis, programming and scripts, online map hosting, map creation and project administration, and database management. Ongoing maintenance of the Enterprise Geodatabase continued which included updating files, adding new files, and modifying or adding metadata. The GIS liaison group continued to meet and coordinate on a regular basis to help define GIS desktop/online applications and technical decisions for the department. Additionally, the group has completed the process to identify a Strategic Plan for GIS in the Transportation Department for the next five years. Materials related to onboard procedures and training were created for draft use. Outreach to various departments of data management consolidation began with a draft list created for internal use. GIS and data management have combined resources into a new team to fully utilize all department resources from data and spatial organization of data.

Transportation Planning Funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Regional Digital Aerial Imagery

Other Funding Sources

During FY2021, this project will obtain high-resolution color digital imagery for areas of North Central Texas. The aerial photography and Light Detection and Ranging (LiDAR) imagery obtained will be high-resolution and geocoded with high-accuracy Global Positioning System coordinates (latitude, longitude, and elevation). The digital imagery will align with industry-accepted procedures and standards, and image accuracy will be ensured through ground control and surface integration. The resulting imagery will be used for a wide variety of planning purposes,

including improvements to travel demand modeling, corridor alignment planning and engineering analysis (including for the Regional Outer Loop), watershed hydrology modeling, environmental support, and tracking for changes in population/employment, land uses, and impervious surface cover. This work will be supported through Surface Transportation Block Grant Program, Texas Department of Transportation, and local funds. Anticipated products include:

- Digital aerial imagery for use in a wide variety of planning purposes.

Work Performed and Status: Through an internal agency agreement with the NCTCOG Regional Information Services (RIS) Department, digital aerial imagery was flown for the Dallas-Fort Worth region and supplied to the three TxDOT districts: Dallas, Fort Worth, and Paris. The aerial flights included the entire expanded NCTCOG region as a RIS department initiative. Three types of digital aerial flights were flown: 3-inch Frame, 6-inch Frame, and 6-inch Pushbroom. In addition to the digital aerial imagery, Light Detection and Ranging (LIDAR) was provided at specific locations throughout the region to enhance the imagery in these areas. Finally, post processing allowed contour data to be provided for the NCTCOG region.

Surface Transportation Block Grant funds (CSJ 0902-00-279), Texas Department of Transportation funds, and Regional Transportation Council Local funds were used to support work activities. Additional imagery may be obtained during FY2022 or FY2023.

TASK 1.0 – FUNDING SUMMARY

Funding Source	Amount Programmed (2-year)	Authorized (2-year) ¹	Expended (FY2020)	Expended (FY2021)	Amount Expended (2-year)	Balance of Programmed (2-year)	% Expended of Programmed (2-year)	Balance of Authorized (2-year)	% Expended of Authorized (2-year)
1.01 – Community Outreach									
TPF	\$3,906,800	\$3,906,800	\$1,963,485	\$2,117,730	\$4,081,215	(\$174,415)	104.5%	(\$174,415)	104.5%
CMAQ	\$3,288,000	\$3,552,584	\$872,540	\$1,163,507	\$2,036,047	\$1,251,953	61.9%	\$1,516,537	57.3%
DOE	\$68,500	\$68,082	\$62,566	\$5,516	\$68,081	\$419	99.4%	\$0	100.0%
LOCAL ²	\$0	\$37,586	\$0	\$37,586	\$37,586	(\$37,586)	0.0%	\$0	100.0%
NCTCOG LOCAL ³	\$4,000	\$48,246	\$4,849	\$43,397	\$48,246	(\$44,246)	1206.1%	\$0	100.0%
Subtotal	\$7,267,300	\$7,613,297	\$2,903,440	\$3,367,736	\$6,271,175	\$996,125	86.3%	\$1,342,122	82.4%
1.02 – Program and Policy Administration									
TPF	\$573,700	\$573,700	\$135,002	\$125,472	\$260,474	\$313,226	45.4%	\$313,226	45.4%
STBG	\$306,800	\$306,250	\$4,496	\$34,246	\$38,742	\$268,058	12.6%	\$267,508	12.7%
LOCAL	\$196,200	\$253,404	\$41,224	\$6,296	\$47,521	\$148,679	24.2%	\$205,883	18.8%
NCTCOG LOCAL	\$119,800	\$51,713	\$27,325	\$24,388	\$51,713	\$68,087	43.2%	\$0.00	100.0%
Subtotal	\$1,196,500	\$1,185,067	\$208,047	\$190,402	\$398,449	\$798,051	33.3%	\$786,618	33.6%
1.03 – Fiscal Management and Information Systems									
STBG	\$1,000	\$948	\$948	\$0	\$948	\$52	94.8%	\$0	100.0%
LOCAL	\$16,400	\$9,065	\$2,400	\$4,710	\$7,110	\$9,290	43.4%	\$1,955	78.4%
NCTCOG LOCAL	\$20,000	\$13,766	\$11,784	\$1,982	\$13,766	\$6,234	68.8%	\$0	100.0%
RTR	\$300,000	\$300,000	\$12,870	\$91,832	\$104,703	\$195,297	34.9%	\$195,297	34.9%
Subtotal	\$337,400	\$323,779	\$28,002	\$98,524	\$126,527	\$210,873	37.5%	\$197,253	39.1%
1.04 – Computer System Applications and Data Management									
TPF	\$768,100	\$768,100	\$266,495	\$286,059	\$552,553	\$215,547	71.9%	\$215,547	71.9%
STBG	\$1,700,000	\$1,683,000	\$0	\$1,008,000	\$1,008,000	\$692,000	59.3%	\$675,000	59.9%
TXDOT	\$425,000	\$420,750	\$0	\$252,000	\$252,000	\$173,000	59.3%	\$168,750	59.9%
LOCAL	\$1,319,000	\$687,000	\$21,885	\$163,810	\$185,695	\$1,133,305	14.1%	\$501,305	27.0%
Subtotal	\$4,212,100	\$3,558,850	\$288,379	\$1,709,869	\$1,998,248	\$2,213,852	47.4%	\$1,560,602	56.1%
Total	\$13,013,300	\$12,680,993	\$3,427,868	\$5,366,531	\$8,794,399	\$4,218,901	67.6%	\$3,886,594	69.4%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

² Local Funding was used to cover small cost overruns.

³ NCTCOG Local funding was used to cover small cost overruns.

TASK 1.0 – TPF FUNDING SUMMARY 2021

	Amount Programmed	Amount Authorized ¹	Amount Expended	Balance of Programmed	% Expended Programmed	Balance of Authorized	% Expended Authorized
1.01 – Community Outreach							
TPF	\$1,997,600.00	\$1,997,600.00	\$2,117,729.77	(\$120,129.77)	106.0%	(\$120,129.77)	106.0%
1.02 – Program Administration							
TPF	\$291,000.00	\$291,000.00	\$125,471.60	\$165,528.40	43.1%	\$165,528.40	43.1%
1.04 – Computer System Administration and Data Management							
TPF	\$287,600.00	\$287,600.00	\$286,058.61	\$1,541.39	99.5%	\$1,541.39	99.5%
Total	\$2,576,200.00	\$2,576,200.00	\$2,529,259.98	\$46,940.02	98.2%	\$46,940.02	98.2%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

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II. Task 2 – Transportation Data Development and Maintenance

Development and maintenance of travel and air quality data and the refinement and application of the travel and air quality models used to support regional transportation and air quality planning activities are critical tasks in support of the metropolitan planning process. This task includes the collection, development and use of data, maintenance and improvements to the Dallas-Fort Worth Regional Travel Model, and monitoring of demographic and growth activity in the region and refinement of demographic forecasting techniques.

2.01 Travel Forecasting Support

The purpose of this subtask is to provide analytical tools for travel forecasting within the Metropolitan Planning Area (MPA). The Regional Travel Model includes Hill County in addition to the 12 counties that comprise the MPA due to the fact that the southern split of IH 35 is located within the boundary of this county and because of the impact this facility has on transportation planning within the MPA. The forecasting tool set includes various arrays of data, mathematical models, computer programs, and information system products. These tools are used in essential functions of the Metropolitan Planning Organization. These functions include the long-range transportation plan, Transportation Improvement Program, congestion management process, Safety and Security Program, air quality conformity analysis, roadway and transit alternative analyses, subarea studies, thoroughfare planning, environmental statements, and technical assistance to local public agencies. This subtask is closely complemented by Subtasks 2.02 and 2.03, which are related to data management and demographic forecasting, respectively. The components of this subtask are described below.

Dallas-Fort Worth Regional Travel Model for the Expanded Area

Transportation Planning Funds

This component covers activities related to the maintenance of the Dallas-Fort Worth Regional Travel Model for the Expanded Area (DFX). DFX is a collection of computer program software applications, training materials, and documents used by transportation analysts for planning the projects and policies in the region; this regional travel model was originally developed in 2009. With the release of the Next Generation Regional Travel Model in FY2020, DFX will not be the primary model used in the Dallas-Fort Worth region. DFX will be maintained and updated to support project work started in 2019 and earlier to maintain consistency in project analysis. The tasks related to DFX include software updates, version maintenance, file backup and archiving, and technical support. The technical support may include internal support to users within NCTCOG, responding to questions about DFX, and enabling member local governments or agencies to have access to DFX. The DFX maintenance and operations project is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Model software application and component programs;
- DFX version library;
- Model run archive database; and
- Technical support.

Work Performed and Status: The existing regional travel demand model computer application for the expanded area (DFX) was maintained. Project-specific versions of DFX were created to assist with unique project needs. All versions of the model are saved in a DFX version library. An archive of model run files was maintained. NCTCOG provided support to internal and external users of the model. NCTCOG staff also prepared travel model installation packages for consultants and local entities to have access to the regional model in their own offices.

Transportation Planning Funds were used to support these activities. Work will continue in FY2022.

Next Generation of the Regional Travel Model

The next generation of the regional travel model (Next Generation RTM) for the Dallas-Fort Worth metropolitan area will be released in fiscal year 2020. The Next Generation RTM is a collection of computer program software applications, training materials, and documents used by transportation analysts for planning the projects and policies in the region. Development and maintenance of a regional travel model is a multiyear project with several subtasks that will incrementally complement each other to create a mature analytical tool. Two sources of funding will be used for the development of the Next Generation RTM. These components are explained in the following paragraphs.

Transportation Planning Funds

Core Activities of the Next Generation RTM – This component includes core activities related to the development of the Next Generation RTM. These include software component and application development, visualizations, required documentation, maintenance and updates, and management activities. These activities will continue through FY2020 and FY2021. Anticipated products include:

- Next Generation RTM software application; and
- Next Generation RTM user guide and model description.

Work Performed and Status: Development and maintenance of the next generation regional travel model (RTM) software application continued in FY2021. Updates were made to model components. Meta data, interface, and programs for demographics and peripheral models were created. Air quality report programs and interface were built, tested, and released. The application was maintained for use internally and for use at Dallas Area Rapid Transit offices. User guides were created for each major module in the user interface and provided to the users. An outline of the model description document was developed, and draft chapters were written.

Transportation Planning Funds were used to support these activities. Work will continue in FY2022 under the element Transportation Analytical Forecasting Tool.

Other Funding Sources

Supplemental Activities of the Next Generation RTM – These activities supplement the core products of the next generation RTM. These include preparation of the newly available data for recalibration and revalidation of the model components, enhancement of application software

interface, development of hardware specifications, and streamlining the programs. These activities also include further documentation of the model outputs and reports. Any conceptual development of new sub-models or innovative work related to modeling also fall under this component. Surface Transportation Block Grant Program and local funds, as well as Transportation Development Credits, will be utilized to support work efforts. Anticipated products during FY2020 and FY2021 include:

- Next Generation RTM calibration report; and
- Next Generation RTM model output report.

Work Performed and Status: Draft calibration and validation reports for the Next Generation RTM were developed. A model run reports interface was created to summarize model run demographics, trip distribution, mode choice, time of day, and roadway assignment results. A model run output description document was created to describe the calculations of the report output fields. Training on use of the model run reports interface was provided internally.

Surface Transportation Block Grant Program funds (CSJ 0902-00-177) and Transportation Development Credits were used to support these activities. Work will continue in FY2022 under the element Development of Non-motorized Trip Model.

Regional Travel Model Application Support

Transportation Planning Funds

This component covers activities related to the support for regional travel model application work, both internal and external of the agency. The tasks in this component are categorized in four perspectives. First, general model application support includes RTM planning application activities, technical support, and the model's functions clarification. Second, project-based model application support is related to certain projects that involve more comprehensive model application support, including analysis of the projects, modification of the RTM to satisfy the projects' requirements, and review of the new analytical tool based on the RTM. Third, general model trainings are provided to model users as scheduled and requested. The training topics can be model's usage, concept, and report. Fourth, coordination with model users that includes meeting with model users and collecting questions and feedback from model users. Regional travel model application support is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Coordination meetings; and
- Training sessions.

Work Performed and Status: Training and receipt of feedback from users' tests internally and externally for the next generation of RTM was sustained to support continued refinement of the model. The NCTCOG Model team continued to meet with other NCTCOG staff that were applying the model and DART periodically about the usage of the next generation of RTM. These meetings will continue until the transition between the previous generation of RTM and the next generation of RTM is accomplished. Technical support to several roadway and transit projects was provided to other teams.

Transportation Planning Funds were used to support these activities. Work will continue in FY2022.

Household Travel Survey

Other Funding Sources

NCTCOG, in collaboration with the Texas Department of Transportation, has been a part of the National Household Travel Survey (NHTS) 2017 project, which was previously called NHTS 2016. NCTCOG staff will reweight the NHTS 2017 dataset to be consistent with the weighting of other household travel surveys in the NCTCOG region, analyze and summarize NHTS 2017, and participate in other activities related to NHTS. Surface Transportation Block Grant Program and local funds, as well as Transportation Development Credits, will be utilized to support work efforts. Anticipated products during FY2020 and FY2021 include:

- Documentation of the reweighting methodology; and
- Summary tables of NHTS 2017 analysis.

Work Performed and Status: Trip time and trip length distributions by mode were developed and analyzed for NHTS 2017.

Surface Transportation Block Grant Program funds (CSJ 0902-00-177) and Transportation Development Credits were used to support these work activities. Work will continue in FY2022.

Innovative Data Collection Method and Data Analysis

Other Funding Sources

This component includes investigation of newly available data sources such as social media and big data for application in transportation planning. These emergent technologies may have a substantial effect on existing data collection and analytical tools. Surface Transportation Block Grant Program and local funds, as well as Transportation Development Credits, will be utilized to support work efforts. The anticipated products during FY2020 include:

- Reports of investigation findings.

Work Performed and Status: During FY2021, activities focused on development of the specifications, purchase, and application of passively collected travel data for six months of 2019. This data source was primarily purchased for transit studies but found various applications across the Transportation department. Staff coordinated with the vendor for complex purchase agreements, conducted internal trainings, and provided services using the purchased data. Other activities included coordination with the Texas Department of Transportation (TxDOT) for statewide data purchase programs. No report was generated from these activities, but data sources have been documented and maintained in the database system.

Surface Transportation Block Grant Program funds (CSJ 0902-00-177) and Transportation Development Credits were used to support work activities. The investigation of data sources will continue in FY2022.

Regional Dynamic Traffic Assignment Model

Other Funding Sources

Dynamic Traffic Assignment (DTA) represents a more realistic and accurate assignment method superior to the existing time-of-day static assignment. DTA captures the interaction between travelers' route choices, traffic congestion, and time-dependent travel time in a temporally coherent manner. Specifically, DTA models aim to describe such time-varying network and demand interaction using a behaviorally sound approach. The theoretical foundations for a DTA will be laid out and its implementation will start using available commercial software in the industry. Consultant assistance may be utilized. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support work efforts. The regional DTA project will take place in FY2020 and FY2021. Anticipated products include:

- Scope of services for consultant;
- Implementation of a regional DTA model; and
- Calibration and validation report of the developed regional DTA model.

Work Performed and Status: The framework for the creation of the regional DTA was drafted in FY2021. Staff initiated development of a Request for Information (RFI) to help determine the best method to proceed with the creation of the dynamic traffic assignment model. Responses to the RFI will result in either the issuance of a Request for Proposals for consultant assistance or the purchase of the software for work to be conducted in house.

Surface Transportation Block Grant Program funds (CSJ 0902-00-177) and Transportation Development Credits were utilized to support this project. Work on this project will continue in FY2022.

Development of Non-Motorized Trip Model

Other Funding Sources

This component's main purpose is to develop a non-motorized trips module to represent the travel behavior of non-motorized trips in the RTM. The work related to this task includes investigating the existing methods, coding the networks, restructuring the zones, systemizing bike and person counts, developing travel behavior models, developing software applications, and file system development, documentation, and training. Consultant assistance may be utilized. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support work efforts. The development of non-motorized trips model will take place in FY2020 and FY2021. Anticipated products include:

- Non-motorized trip model;
- Final report of the model; and
- User guide and model description.

Work Performed and Status: During FY2021, staff conducted meetings and reviewed the existing processes to develop a work plan for the nonmotorized trips. The organization of bicycle and pedestrian count data into a database system was continued. An analysis of the nonmotorized trips from existing collected data was performed to assist with the

conceptualization of the model. Model development activities will begin in FY2022 as staff gains a better understanding of the intended application of the nonmotorized trips model.

Surface Transportation Block Grant Program funds (CSJ 0918-00-313) and Transportation Development Credits were utilized to support this project. Work will continue in FY2022.

Transit Travel Survey

Other Funding Sources

NCTCOG, in coordination with Dallas Area Rapid Transit, Denton County Transportation Authority, and Trinity Metro, will prepare for and conduct a regional transit onboard survey in FY2020 and FY2021. This project will include a survey of transit routes as identified by the three agencies. The resulting data will be heavily used in updating the next generation of the regional travel demand model. Consultant assistance will be utilized. Surface Transportation Block Grant Program funds, local funds, and Transportation Development Credits will be utilized to support work efforts. Anticipated products include:

- Scope of work for the regional transit onboard survey;
- Interagency agreements;
- Transit Travel Survey Final Report; and
- Transit Travel Survey Databases.

Work Performed and Status: Due to the status of COVID-19 in the NCTCOG region and its effect on transit ridership in FY2021, it was decided that a full resumption of the survey was not possible in the fiscal year. With upcoming changes to the services at Dallas Area Rapid Transit (DART), Denton County Transportation Authority (DCTA), and Trinity Metro in early FY2022, planning activities and data collection for the Transit Travel Survey are anticipated to be conducted in late FY2022 and FY2023.

Consultant work on a preliminary transit onboard survey was conducted to capture demographics, fare, and current travel use of DART transit routes. An executive summary report was created.

Surface Transportation Block Grant Program funds (CSJ 0918-00-313), local funds, and Transportation Development Credits were used to support these work activities. Work on this project will continue in FY2022.

Supplemental Transit Surveys

Other Funding Sources

This project includes supplemental transit surveys which may be independent from the regional transit travel survey. Anticipated projects may include an automatic passenger count validation study for Trinity Metro and a license plate survey for Denton County Transportation Authority. Consultant assistance may be utilized. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support work efforts. Anticipated products during FY2020 and FY2021 include:

- Survey scope for each survey conducted; and
- Final project reports for each survey conducted.

Work Performed and Status: Work on this project is pending collaboration between NCTCOG and the transportation authorities on the timelines and scopes of the projects. Future work would be conducted as part of the Transit Travel Survey if requested in FY2022.

Improving Behavioral Estimation of Origin-Destination Matrix Estimation

Transportation Planning Funds

Recent research through the University Partnership Program has developed a behavioral origin-destination matrix estimation (ODME) technique involving changes to trip productions/attractions and other planning model parameters. This technique has both theoretical advantages (better match between number of parameters and observations) and behavioral advantages (the OD matrix can still be interpreted in terms of trip distribution and mode choice). This project aims to further investigate this technique, including optimizing parameters and improving implementation for the NCTCOG network on both desktop and high-performance machines, and to explore parallel techniques, such as neural networks, for estimating the sensitivity information needed for this method. University assistance will continue to be utilized on this initiative. Anticipated products in FY2021 include:

- Mathematical framework for ODME estimation technique that combines trip distribution and trip assignment; and
- Implementation of high-performance computing of the model with parallel computing technique.

Work Performed and Status: University assistance continued to be utilized in Phase Two of this project to continue improvement of the ODME framework. In FY2021, all modeling steps were programmed into the ODME process. The optimization algorithm in the ODME approach was refined based on the gradient descent method. The complete ODME framework, including travel demand model, traffic assignment, and ODME optimization algorithm, has been integrated, validated, and tested successfully.

Transportation Planning Funds were used to support work activities. Work on this project is complete. The final products, including the code, documentation, and final report were delivered to NCTCOG.

Toll Road User Survey

Other Funding Sources

In cooperation with the North Texas Tollway Authority, Texas Department of Transportation, and managed lane operators, NCTCOG will conduct a survey of toll and non-toll users in several corridors related to the socio-economic characteristics of the travelers and to their trip behavior, and their willingness to pay for use of the tolled facilities. This study will also be used in an evaluation of environmental justice related to building the tolled facilities. Final survey results are expected in FY2021. Consultant assistance will be utilized. Work efforts will be supported through

Surface Transportation Block Grant Program funds and Transportation Development Credits. Anticipated products during FY2020 and FY2021 include:

- Intermediate progress reports; and
- Toll road user travel database.

Work Performed and Status: In FY2021, NCTCOG staff continued comprehensive research on the survey method, technology, legal risk, and budget allocation for the Toll Road User/Limited Access Facilities Survey. To minimize the impact of COVID-19 on the survey circumstances, it was determined that the survey and traffic information collection would be better initiated in the fall 2021.

A Request for Proposals was created and posted, and a consultant was selected. The consultant completed classification traffic counts collection in more than 200 locations. NCTCOG staff developed a list of data items to collect and composed the survey questions. The consultant developed the survey process and began programming the survey instrument. The survey will continue in FY2022 with data collection, data deliverables, and data analysis.

Surface Transportation Block Grant Program funds (CSJs 0902-00-196 and 0918-00-208) and Transportation Development Credits were used to support these work activities. Work on this project will continue in FY2022 under the element Limited Access Facility User Survey.

Sketch Planning Tool for Transit Ridership Estimation

Other Funding Sources

This component is comprised of activities related to the development of a simple sketch model to estimate transit ridership. Estimations will be made using transit route characteristics, Census data, and on-board transit survey data. The goal of this project is to develop a simplified modeling tool which will help speed preliminary analysis as well as perform spot checks for validation of the regional travel model. The tool will ultimately be included in the development of a Geographic Information System (GIS) interface, for which university assistance will be utilized. Federal Transit Administration 5339 funds and Regional Transportation Council Local funds will be utilized to support efforts. This component will continue through FY2020 and FY2021 with anticipated products to include:

- Final project report; and
- Application software.

Work Performed and Status: Utilizing assistance through the University Partnership Program, the web-based GIS interface for this project was refined and completed. The interface, along with other information regarding the estimator models, was presented in a webinar to NCTCOG Transportation Department staff. After the webinar, all code, final documentation, reports, and web-hosting access were transferred to NCTCOG staff.

Work efforts for this project were supported by Federal Transit Administration Section 5339 funds and Regional Transportation Council Local funds. This project was completed in FY2021.

Travel Model Network Development and Maintenance

Transportation Planning Funds

Included in this element are the development and maintenance of geographic electronic roadway and transit network files used in travel demand modeling. Staff will monitor local and regional transportation improvements in order to develop and maintain a current-year network and various forecasted networks. Activities will be ongoing throughout FY2020 and FY2021. Anticipated products include:

- Current-year transportation network;
- Roadway and transit networks for the Metropolitan Transportation Plan and Air Quality Conformity analysis;
- Roadway and transit networks for specific roadway and transit corridor studies;
- Network Development and Maintenance Program that is administered to continually evaluate network quality control through the review of existing and proposed transportation networks; and
- GIS-based roadway and transit networks for use in roadway corridor, transit corridor, and thoroughfare studies and as a response to technical assistance requests.

Work Performed and Status: A current-year transportation network was monitored and updated to reflect the status of the region's transportation system. Roadway and transit networks were developed on request to support the Metropolitan Transportation Plan and air quality conformity analysis, along with specific roadway and transit corridor studies. To ensure quality control, a network development and maintenance process was utilized for a continual review of transportation networks. GIS-based roadway and transit networks were provided to internal and external partners on an as-needed basis for technical assistance, along with corridor and subarea studies.

Transportation Planning Funds were used to support work activities. Work will continue in FY2022.

2.02 Transportation Data Development

This subtask complements the analytical toolsets of Subtask 2.01 and provides data products for virtually all planning activities in the department. The components of this subtask are related to coordination with data providers, integration of data, dissemination of information in the form of services and websites, and analysis of data. Coordination with internal and external entities plays an important role in the efficiency of data products and activities; therefore, one component of this section focuses on this area of work.

Coordination with Data Providers

Transportation Planning Funds

The activities considered in this component focus on establishing communication and collaboration agreements with agencies and cities that regularly collect transportation performance data. The goal of these activities is to obtain the most recent and accurate data from these agencies so that it can be used in the transportation planning process. These data include,

among others, the following items: traffic counts, transit ridership, travel times, speeds, lane occupancy, vehicle occupancy on special purpose lanes, airport movements, toll transactions, vehicle registrations, inventories, and vehicle miles traveled. This component also considers building consensus among stakeholders, participating in decision making and setting guidelines for the collection, integration, and analysis of transportation data. This component will be an ongoing activity in FY2020 and FY2021. Anticipated products include:

- Datasets from the Texas Department of Transportation (TxDOT), North Texas Tollway Authority (NTTA), Federal Highway Administration (FHWA), Dallas Area Rapid Transit (DART), Trinity Metro, Denton County Transportation Authority (DCTA), Dallas Fort Worth International Airport (DFWIA), and other agencies and cities;
- Database of contact information; and
- Agreements with agencies.

Work Performed and Status: Traffic count data for the year 2020, including those from the Five-Year Saturation Count program, were requested and obtained from the Texas Department of Transportation. Transit ridership data and updated routing schedules were requested and obtained from Dallas Area Rapid Transit, Denton County Transportation Authority, and Trinity Metro. Travel time data was obtained from the Federal Highway Administration for September 2020 to August 2021. NCTCOG staff continued updating the database containing staff contact information for providers at major cities and regional agencies.

Transportation Planning Funds were utilized to support these work efforts. This project is ongoing, and work will continue in FY2022.

Integration of Data

Transportation Planning Funds

This component encompasses the development of methods and computer tools to facilitate and optimize the integration of the data collected by NCTCOG or provided by participating agencies. The purpose of this effort is to provide better access to the transportation data by staff, stakeholders, and the public. The datasets assembled by NCTCOG from participating agencies and cities will be transferred from their original files into spatial SQL Server databases and GIS layers. Examples of these datasets are the traffic count files from TxDOT; the travel time data that FHWA delivers as part of the National Performance Management Research Dataset; travel time data from HERE; and the ridership statistics, routes, and schedules compiled by regional transportation agencies. Consultant assistance will be utilized. This component will be an ongoing activity in FY2020 and FY2021. Anticipated products include:

- Database for traffic counts;
- Database for speed and travel time data;
- Geographic databases of transportation inventories; and
- Databases for several transportation performance measures.

Work Performed and Status: Over 3,840 traffic count locations and 9.8 million traffic, bicycle and pedestrian count records were added to the corresponding database. Approximately 796 million records with travel times were added to the database of speed data, and a new layer of roadway segments, called XD, was aggregated to the geographic datasets. Transit

ridership statistics for 12 months were added to the database, and the most recent routes and itineraries were uploaded to the corresponding Geographic Information System layers. NCTCOG gained access to the INRIX trips interface.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Dissemination of Data

Transportation Planning Funds

This element focuses on building graphic user interfaces that allow the public to generate reports, maps and summaries of assembled transportation data. Activities involve the development and maintenance of websites that allow users to see relevant and detailed data. Consultant assistance will be utilized. This component will be an ongoing activity in FY2020 and FY2021. Anticipated products include:

- Web-based traffic count reporting;
- Website for speed and travel time data;
- Website for inventories of traffic control devices; and
- Website for transportation performance measures.

Work Performed and Status: The traffic counts website was maintained to continue the availability of these data to the public. This website also displays bicycle and pedestrian counts. The website for transportation usage measures was updated with the data for the last 12 months. These data include transit ridership, vanpools, and gasoline consumption, among others. Transportation data associated with the impacts of COVID-19 was made available during Regional Transportation Council and Surface Transportation Technical Committee meetings, and a Dashboard to display this specific data was designed and posted on the website for public access.

Transportation Planning Funds were used to support work activities. Work will continue in FY2022.

Analysis of Data

Transportation Planning Funds

This item refers to the support of staff and stakeholders for specific analyses of the integrated transportation data. Analyses of transportation data may be related to air quality, traffic accidents, vehicle detectors, travel times, historical transportation-related measures and gasoline consumption, and correlations with the Census and American Community Survey. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Summaries and reports;
- Performance charts; and
- Static and animated maps.

Work Performed and Status: NCTCOG staff summarized traffic counts and travel-time data to address several requests. In the specific case of the travel-time data, it was used to create heat charts that were used to illustrate levels of congestion, by day and time of day, on corridors and specific freeway segments. Data related to traffic, speeds, transit, bike/pedestrians, crashes, fatalities, and airport passengers, among others, was summarized to illustrate the impact of the stay-at-home measures implemented due to the COVID-19 pandemic. Seasonal factors for air quality conformity were calculated. Origin-Destination data from INRIX, Streetlight and LOCUS was analyzed.

Transportation Planning Funds were used to support work activities. Work will continue in FY2022.

Data-Supported Transportation Operations and Planning (D-STOP) in the Dallas-Fort Worth Area

Other Funding Sources

Through the University Partnership Program, NCTCOG will participate in D-STOP research activities that focus on harnessing innovative technologies and data sources to develop architectures and systems for data collection and analysis. Some of these can be directly applied today in the operation or long-range planning of transportation systems and some will support next-generation methods for operations and planning. These methods will be useful for evaluating proposed solutions with a broad range of metrics (e.g., reflecting multimodal or equity issues), with greater accuracy and precision than before and for allocating scarce funding in a way that maximizes the potential for equitable economic growth. Regional Transportation Council Local funds will be utilized. Anticipated products include:

- Reports that provide guidance and methods for using data from emerging transportation technologies such as automated vehicles in modeling, forecasting and planning;
- Scenarios and probability ranges relating to emerging transportation technologies and business models (e.g., shared mobility) on key elements going into transportation modeling and planning;
- Reports and guidance on the nature and pace of the adoption of emerging transportation technologies and business practices;
- Analyses of consumer and market responses to emerging transportation technologies and business practices; and
- Analyses of the impact of emerging transportation technologies and business practices on infrastructure and vehicular elements relating to transportation.

Work Performed and Status: Year IV of the University Partnership Program project, Travel Modeling in an Era of Connected and Automated Transportation Systems, focused on extending the already enhanced four-step travel demand model of the Dallas-Fort Worth region to explicitly account for the zero-occupancy vehicle (ZOV) trips generated by ride-hailing vehicles and privately owned connected/automated vehicles (CAVs). The methodology to accommodate CAV empty trips was proposed to capture the influence of parking cost for determining home-return and park elsewhere. Therefore, a binary logit-based model approach was developed for determining the percentages of automated vehicles that return home and park elsewhere based on travel time as well as the parking cost at destination. The deliverables, including the presentation summarizing accomplished work and main results over the four years of this project; the final GISDK code, a technical memorandum describing

the implemented methodology; a memorandum documenting all the changes made to the GISDK code; and the steps to replicate the final model simulation were delivered to NCTCOG.

Regional Transportation Council Local funds were utilized to support work activities. The four-year project was completed in FY2021.

2.03 Demographic Data and Forecasts

This subtask focuses on creating data products and models related to land use and demographic data in the region. These products will be used for planning and transportation projects. The subtask is closely associated with Subtask 2.01 for compatibility of data. The activities related to this subtask are grouped into inventory of land use and demographic data, development of a regional land use and demographic model, development of a regional demographic forecast, development of a large employer geographic database, development of auxiliary geographic databases, and the Participant Statistical Area Program (PSAP). Data acquisition and purchases may be needed for this subtask.

Inventory of Land Use and Demographic Data

Transportation Planning Funds

This inventory of land use and demographic data will be created through communications with local agencies and government entities. The collection of various datasets includes up-to-date city boundaries, land inventory, Census 2010 and American Community Survey databases, sub-county area employment estimates, and technical support. Ongoing throughout FY2020 and FY2021, anticipated products include:

- Geographic Information System Layer of updated city boundaries;
- An information system of the inventory of land-use data, based on uses such as residential, commercial, and industrial;
- Processed decennial US Census data and American Community Survey data;
- Small-area estimates of population and jobs by industry sector for sub-county areas like Census tracts; and
- Technical assistance in response to a variety of inquiries by phone or email.

Work Performed and Status: There has been a partial collection of updated city boundaries; work on this update is on hold pending completion of other GIS layer updates. The most current City/Place boundaries supplied by the US Census Bureau have been processed and released. Work on a 2020 land-use layer with enhanced detail is well underway. Data from the 2020 Census redistricting files were processed and made publicly available along with corresponding geographic files. Estimates for 2000, 2005, 2010, and 2015 households, population, and employment by industry sector at Census block group-level were completed and made publicly available. Staff responded to both internal and external requests for assistance with demographic and GIS data.

Transportation Planning Funds were used to support work activities. Work on this project will continue in FY2022.

Development of a Regional Land Use and Demographic Model

Transportation Planning Funds

Efforts will continue on the development of a new regional land-use and demographic forecast model. Activities include compilation of various data sources into estimation datasets, and the estimation, calibration, and validation of the forecasting model. The forecasts made by the model will be used by the regional travel model, as well as local transportation projects. Activities will be ongoing throughout FY2020 and FY2021. Anticipated products include:

- Model development report; and
- A set of programs and procedures for demographic forecasting.

Work Performed and Status: The forecasting process has been documented and numerous items detailing the performance metrics and modeling outcomes have been presented. The procedures and programs reside within agency systems that are accessible and supported.

Transportation Planning Funds were used to support work activities. Work on this project will continue in FY2022.

Development of Regional Demographic Forecasts

Transportation Planning Funds

Regional demographic forecasts will be developed in consultation and coordination with local government agencies. Attention will be placed on the evaluation of possible methodologies for the demographic forecasting process. Specific demographic datasets may be generated for various projects. This effort will support the regional demographic model. Activities will be ongoing throughout FY2020 and FY2021. Anticipated products include:

- Demographic forecast database for planning horizon; and
- Information system of consultation with local governments.

Work Performed and Status: Draft long-range demographic forecasts were prepared and made available to local governments for review and comment. The local review is being conducted through a purpose-built app that streamlines the feedback process. Along with the data, local governments were furnished with methodology and program background information to provide context and enhance understanding. Project-specific demographic datasets were created as needed.

Transportation Planning Funds were used to support work activities. Work on this project will continue in FY2022.

Development of a Large Employer Geographic Dataset

Transportation Planning Funds

This component includes development of a large employer geographic database. Large employers are defined based on number of employees and development size. This database will

enhance quality control in local transportation projects and studies. When purchasing or evaluating new data sources, this database may also serve as a useful benchmark. Activities will be ongoing throughout FY2020 and FY2021. Anticipated products include:

- Information system of the large employers.

Work Performed and Status: Employers are continually monitored in the region, and a database of employers was updated as data became available.

Transportation Planning Funds were used to support work activities. Work on this project will continue in FY2022.

Development of Auxiliary Geographical Databases

Transportation Planning Funds

This component includes creation of auxiliary geographic databases. These databases are planned to be used in the regional travel demand model and will also be used in local transportation projects. Activities will be ongoing throughout FY2020 and FY2021. Anticipated products include:

- Database of K-12 schools (including private) and the service coverage;
- Database of colleges and post-K12 educational institutions, and training facilities; and
- Database of hospitals.

Work Performed and Status: Various developments, including educational facilities and hospitals, are continually monitored in the region. A number of training facilities were added to the development monitoring program during FY2021. This dynamic inventory is updated annually at a minimum, or as data becomes available.

Transportation Planning Funds were used to support work activities. Work on this project will continue in FY2022.

Participant Statistical Area Program

Transportation Planning Funds

As part of Census 2020 preparation, in 2019 NCTCOG led a coordination effort between local governments and member agencies to delineate boundaries of Census Tracts, Census Block Groups, Census County Divisions, and Census Designated Places statistical areas. In FY2020, NCTCOG will respond to the Census Bureau request for validation of these geographies. This project includes coordinating and assisting local governments and member agencies to provide additional information to support the defined statistical area boundaries. The work also includes use of GIS software to identify the high growth areas, high population areas, and employment centers and communicate back to the Census Bureau.

The coverage of this project is the 16-county area of NCTCOG. Four of these counties are outside the Metropolitan Planning Area boundary (MPA), but the adjacency of these counties to the MPA may bring these areas into the analysis of projects at or near the borders of the MPA. The addition

of the four counties does not create a significant amount of work for Census geographical boundary delineation and inclusion of these four counties will make future analysis more consistent. This component will take place in FY2020. Anticipated products include:

- Census Tract Geography files for each member county to be used for Census 2020;
- Census Block Group Geography files for each member county to be used for Census 2020;
- Census County Divisions Geography files for each member county to be used for Census 2020; and
- Census Designated Place Geography files for each member county to be used for Census 2020.

Work Performed and Status: This project was completed in FY2020.

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TASK 2.0 – FUNDING SUMMARY

Funding Source	Amount Programmed (2-year)	Authorized (2-year) ¹	Expended (FY2020)	Expended (FY2021)	Amount Expended (2-year)	Balance of Programmed (2-year)	% Expended of Programmed (2-year)	Balance of Authorized (2-year)	% Expended of Authorized (2-year)
2.01 – Travel Forecasting Support									
TPF	\$1,838,200	\$1,838,200	\$915,471	\$853,849	\$1,769,320	\$68,880	96.3%	\$68,880	96.3%
FTA	\$188,600	\$188,593	\$80,845	\$107,249	\$188,093	\$507	99.7%	\$500	99.7%
STBG ²	\$4,295,600	\$3,148,353	\$459,269	\$658,148	\$1,117,417	\$3,178,183	26.0%	\$2,030,935	35.5%
LOCAL	\$1,194,520	\$1,179,508	\$571,291	\$235,167	\$806,458	\$388,062	67.5%	\$373,050	68.4%
Subtotal	\$7,516,920	\$6,354,653	\$2,026,876	\$1,854,412	\$3,881,288	\$3,635,632	51.6%	\$2,473,365	61.1%
2.02 – Transportation Data Development									
TPF	\$559,000	\$559,000	\$327,373	\$240,351	\$567,724	(\$8,724)	101.6%	(\$8,724)	101.6%
LOCAL	\$88,500	\$85,926	\$42,970	\$41,337	\$84,307	\$4,193	95.3%	\$1,619	98.1%
Subtotal	\$647,500	\$644,927	\$370,343	\$281,688	\$652,031	(\$4,531)	100.7%	(\$7,105)	101.1%
2.03 – Demographic Data and Forecasts									
TPF	\$1,115,400	\$1,115,400	\$605,445	\$473,055	\$1,078,501	\$36,899	96.7%	\$36,899	96.7%
Subtotal	\$1,115,400	\$1,115,400	\$605,445	\$473,055	\$1,078,501	\$36,899	96.7%	\$36,899	96.7%
Total	\$9,279,820	\$8,114,980	\$3,002,665	\$2,609,155	\$5,611,821	\$3,667,999	60.5%	\$2,503,159	69.2%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

² A portion of the programmed and authorized funding includes funding that was transferred from TxDOT to FTA.

TASK 2.0 – TPF FUNDING SUMMARY FY2021

	Amount Programmed	Amount Authorized ¹	Amount Expended	Balance of Programmed	% Expended Programmed	Balance of Authorized	% Expended Authorized
2.01 – Travel Forecasting Support							
TPF	\$922,200.00	\$922,200.00	\$853,848.85	\$68,351.15	92.6%	\$68,351.15	92.6%
2.02 – Transportation Data Development							
TPF	\$239,200.00	\$239,200.00	\$240,351.33	(\$1,151.33)	100.5%	(\$1,151.33)	100.5%
2.03 – Demographic Data and Forecasts							
TPF	\$513,100.00	\$513,100.00	\$473,055.43	\$40,044.57	92.2%	\$40,044.57	92.2%
Total	\$1,674,500.00	\$1,674,500.00	\$1,567,255.61	\$107,244.39	93.6%	\$107,244.39	93.6%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

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III. Task 3 – Short-Range Planning and Programming, and Air Quality and Transit Operations

The continued growth in population and employment in the Dallas-Fort Worth metropolitan area and the resultant travel demand, coupled with the challenges facing the region with regard to air quality, requires the Metropolitan Planning Organization planning and programming process be both comprehensive and proactive in addressing the region's mobility and air quality needs. Close coordination with the Texas Department of Transportation, local governments, and transportation authorities to identify, evaluate, select, and prioritize those transportation projects to be included in the Transportation Improvement Program is a key function of this work program element. The companion effort of performing air quality conformity analyses in order to ensure new project and programs being proposed for the region will have a positive impact on the region's air quality is a required and vital step toward implementation of these improvements. Programs addressing the demand for mobility, the transportation supply, and the importance of new technology are included as part of a coordinated and comprehensive planning approach to the region's air quality problem. In addition, this task recognizes the importance of continued support for planning associated with improving the expanding public transportation in the Dallas-Fort Worth area. Implementation activities aimed at helping the region reach attainment of the ozone standards and enhance transit service in the region are also included.

3.01 Transportation Projects Programming

The Dallas-Fort Worth Metropolitan Planning Organization (MPO) coordinates with the Texas Department of Transportation (TxDOT), transit providers, local governments, and other transportation partners to prioritize and select projects for inclusion in the Transportation Improvement Program (TIP). The Regional Transportation Council (RTC) and North Central Texas Council of Governments (NCTCOG) continue to monitor and implement projects in the TIP.

Transportation Improvement Program

Transportation Planning Funds

The Transportation Improvement Program (TIP) is a staged, multi-year program of projects approved for funding by federal, State, and local sources within the Dallas-Fort Worth area. Before transportation projects are selected and listed in the TIP, they are evaluated to ensure consistency with the current Metropolitan Transportation Plan and Air Quality Conformity Determination. These steps ensure that projects improve regional safety and mobility without detrimentally impacting air quality within the Dallas-Fort Worth area. In addition, the TIP has been analyzed to ensure that project listings are fiscally constrained to available resources, meaning that projects can only be included if federal, State, local or other funds are available to cover project costs. Every two years a new TIP document is developed to which updates are made on a quarterly basis.

As funds are made available, the Regional Transportation Council issues funding initiatives or calls for projects to local governments and transportation agencies. It is anticipated that new projects will be selected in the FY2020 and FY2021 timeframe using federal, State, and local funding. As new funding sources or additional funding allocations arise, staff will implement appropriate project selection processes. In addition, coordination will continue with the Texas

Department of Transportation on the update of the region's 10-Year Plan and inclusion of projects into the Unified Transportation Program.

MPO staff will also provide general assistance to implementing agencies, elected officials, and the public regarding funded transportation projects, including the development and implementation of transportation solutions. In addition, MPO staff will track and monitor projects to ensure timely completion. Anticipated products in FY2020 and FY2021 include:

- A financially constrained 2021-2024 TIP document in FY2020;
- Quarterly TIP modifications in alignment with the Statewide Transportation Improvement Program (STIP) revision cycles;
- Calls for projects and funding initiatives as funding becomes available; and
- A report to the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and TxDOT that details the obligation of federal funds to individual projects at the end of each calendar year.

Work Performed and Status: Revisions to the 2021-2024 Transportation Improvement Program (TIP) were made and it was re-submitted to the Texas Department of Transportation (TxDOT) for inclusion in the Statewide Transportation Improvement Program (STIP) in February 2021. This TIP contained \$13.1 billion of funding for 428 projects. In FY2021, 415 modifications to projects listed in the 2021-2024 TIP were processed, and 278 were submitted to TxDOT as STIP revisions. In addition, the Regional Transportation Council approved \$434.7 million in funding for projects through the COVID-19 Infrastructure Program in FY2021. An update to the Regional 10-Year Plan that included new projects and revisions to existing projects was also approved by the RTC after coordination between North Central Texas Council of Governments (NCTCOG) and Texas Department of Transportation staff. Projects totaling \$10.33 billion have been funded through the region's 10-Year Plan to date. The FY2020 Annual Project Listing (APL) was drafted, and conversations are ongoing with TxDOT regarding how to represent certain transactions. Monthly TxDOT/NCTCOG coordination meetings were held, and information requests from external parties were answered in a timely manner throughout FY2021.

Transportation Planning Funds were utilized to support work activities. This program is ongoing and will continue in FY2022.

Regional Project Tracking, Monitoring, Assessment, and Software Development Project

Other Funding Sources

A series of improvements to the transportation project information system (TIP database) will continue. The goal of this project is to enable the tracking of projects by individual phase including the cost, funding, start date, and completion date of each project phase. This project was originally created in response to the federally mandated year of expenditure/total project cost requirements, as well as the increased complexity involved with funding, tracking, and monitoring transportation projects. Expansion of this data management system will reduce administrative project review time and increase the availability of timely project information. This project is funded with Surface Transportation Block Grant Program funds, Regional Toll Revenue funds, and Transportation Development Credits. Anticipated products include work on the interactive, web-based interfaces noted below:

- Deployment of additional enhancements to the TIP modification editing interface expected in FY2020 and FY2021; and
- Deployment of updates to existing modules and additional modules, including TIP development, project status tracking, additional Geographic Information Systems (GIS) mapping tools, and obligations tracking; significant progress anticipated in FY2020 and FY2021.

Work Performed and Status: Staff tested, verified, and deployed an updated Invoicing module to accommodate the display of closed-out projects, ensure all phases of a project with an advance of RTR funds appear on an invoice, allow invoices to be submitted with overlapping dates, and ensure running totals work as intended when an invoice is created or updated. In addition, the team began to document requirements and needed improvements, create rules, and add new functionality for the Funding Allocation module. Eighty-three enhancements and updates were made to the Projects, TIP Modification Submission, TIP Modification Editing, Invoicing, and Reports modules.

Surface Transportation Block Grant Program funds (CSJs 0902-00-184 and 0902-00-240) and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Regional Toll Revenue Fund Management and Project Tracking Implementation

Other Funding Sources

Since 2007, MPO staff has tracked Regional Toll Revenue funds and projects, and efforts to monitor selected projects will continue. Regional Toll Revenue (RTR) funds will continue to support these activities. Anticipated products in FY2020 and FY2021 include:

- An up-to-date RTR-funded project list and account balances;
- Standard operating procedures to maintain data integrity;
- Coordination with TxDOT and NCTCOG Administration Department on RTR fund and expenditure discrepancies;
- Tracking the status of environmental clearance for RTR-funded projects;
- Quarterly submission of RTR project changes to TxDOT for inclusion in the Texas Transportation Commission (TTC) Minute Order for authorization; and
- Communication with local agencies to provide close-out information for completed RTR-funded projects.

Work Performed and Status: Tracking programmed funding, expenditures, Transportation Improvement Program modifications, and status of each Regional Toll Revenue (RTR) project (including environmental clearance) continued, thereby maintaining an updated project list throughout FY2021. Further coordination to develop standard operating procedures continued. In addition, regular coordination occurred with the Texas Department of Transportation (TxDOT) and the NCTCOG Administration Department regarding the documentation of RTR account balances for each county, including interest earned, expenditures, reclassifications of funding between counties, and loans. RTR project changes were submitted to TxDOT for inclusion in the Texas Transportation Commission Minute Order for authorization on April 29, 2021. Close-out information for completed RTR-funded projects was communicated to local agencies and four project close-outs were completed in FY2021.

Regional Toll Revenue funds (CSJs 0918-00-238 and 0918-00-285) were used to support work activities for FY2021, and work will continue in FY2022.

3.02 Regional Air Quality Planning

Since 1991, the North Central Texas region has been in nonattainment for the National Ambient Air Quality Standard (NAAQS) for ozone. As a result of this designation, federal and State procedures are required in order for projects identified in multimodal transportation plans to proceed to implementation. In response, a variety of air quality planning occurs to ensure these requirements are met.

Regional Greenhouse Gas Emission Inventory Program

Transportation Planning Funds

A regional Greenhouse Gas (GHG) emissions inventory will be initiated by NCTCOG staff in FY2021 to understand the sources and sectors contributing to regional GHG emissions. GHG inventories provide regions an opportunity to understand the GHG profile to adequately determine appropriate reduction actions and allow the region to set regional GHG emission goals; enable cities who have their own inventories to compare themselves against a regional inventory; and provide a framework upon which to evaluate, analyze, and prioritize GHG reduction actions. Staff will identify primary sectors that contribute to GHG emissions at the regional level, input data into a Greenhouse Gas emissions management tool, conduct test runs of the tool, analyze model output results, and create a regional Greenhouse Gas emissions inventory. This will support a future regional GHG control strategy catalog. Anticipated products in FY2021 include:

- Data from emissions sources;
- Regional Greenhouse Gas emissions inventory; and
- Report of quality assurance/control of results.

Work Performed and Status: During FY2021, work on a regional GHG emissions inventory was started for the metropolitan planning area. Meetings with regional partners were held to plan for data collection required to conduct the analysis. Staff held a call for interested cities to allow cities to participate in city-wide GHG emissions inventories and held meetings with participants to discuss project expectations. Staff participated in trainings to understand appropriate use of the emissions calculation software.

Transportation Planning Funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Other Funding Sources

In addition to the use of Transportation Planning Funds for staff to develop a Regional Greenhouse Gas emissions inventory as noted above, local funds will be used to purchase the software necessary to create the inventory. Anticipated products in FY2021 include:

- Purchase of a GHG emissions management tool with support for 24 months.

Work Performed and Status: During FY2021, NCTCOG purchased software and associated support to utilize a GHG emissions calculation tool for 24 months. This agreement included access to these services for up to 20 additional entities, allowing NCTCOG staff to offer access to the emissions calculation tool to local governments interested in conducting city specific GHG emissions inventories.

Local funds were used to purchase the tool. This project is complete and will not continue in FY2022.

Air Quality Planning

Transportation Planning Funds

The Dallas-Fort Worth State Implementation Plan (SIP) is a legal and federally enforceable plan mandated by the Clean Air Act (CAA). This plan identifies how nonattainment areas will reduce emissions from stationary, area, and mobile sources to demonstrate attainment and/or maintenance of air quality standards. In nonattainment areas, the CAA mandates federally funded and regionally significant transportation activities must conform to the SIP. Under this requirement, the Regional Transportation Council, the transportation policy body for the Metropolitan Planning Organization, is required to make an initial local-level transportation conformity determination on the Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP) before submitting recommendations to the US Department of Transportation for independent review and a final federal-level conformity determination. The conformity determination is a method to ensure federal funding and federal approval is given to transportation projects, programs, and policies consistent with regional air quality goals. In addition, many other transportation planning efforts occur throughout the year that ensure successful conformity determinations. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Development, analysis, and monitoring of elements contained in and required of the SIP, as necessary, to meet air quality requirements;
- Assistance with addressing specific data and technical requests;
- Tracking and responding accordingly to statewide and national rules and guidance affecting the nonattainment area and surrounding counties, such as the eight-hour NAAQS for ozone and other primary or secondary pollutants;
- Annual report of pollutant levels at monitoring stations located throughout the region;
- A successful regional air quality conformity analysis incorporating new or updated projects proposed for inclusion in the MTP and TIP;
- Assistance with a comprehensive multipollutant emission inventory;
- Monitoring of the timely implementation of Transportation Control Measures;
- Monitoring, collection, and update of Mobile Source Emission Reduction Strategies commitments for annual reporting requirements of emission reductions projects;
- Guidance, rules, and proposals that incorporate NCTCOG direction/expertise and/or experience related to NAAQS and mobile-source issues;
- Evaluation of technical models used in regional air quality planning, with feedback to agency developing the model(s) and, as appropriate, creation of in-house applications to successfully run models;
- Presentations for workshops, technical committees, student chapters, and training sessions; and
- Update of the NCTCOG website with the latest air quality information.

Work Performed and Status: During FY2021, planning continued for the region's reclassification from serious to severe under the 2008 ozone National Ambient Air Quality Standard (NAAQS) and from marginal to moderate under the 2015 ozone NAAQS. This included coordination with the Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ) to understand upcoming requirements and regulatory guidelines. Ongoing review of the Federal Register and TCEQ's Rules, Proposals and Adoptions was conducted.

Planning continued for the development of a 2022 Transportation Conformity analysis for the Mobility Plan Update in FY2022 and associated Transportation Improvement Program for North Central Texas. Anticipated completion of the analysis is November 2022.

Updates to the Mobile Source Emission Reduction Strategies (MoSERS) commitments of Congestion Mitigation and Air Quality Improvement Program (CMAQ)-funded projects continued as needed, based on project parameter updates, for inclusion in Transportation Improvement Program reporting and the annual CMAQ report. Staff completed and submitted the 2020 annual CMAQ report to the Texas Department of Transportation. Review was done to ensure CMAQ emissions reductions for Performance Measures targets were met for FY2020 and on track for FY2022.

Participation in and assistance with other statewide and national efforts continued. This work included, but was not limited to, the Association of Metropolitan Planning Organizations Air Quality Work Group, the Transportation Research Board's Transportation and Air Quality Committee, the Fort Worth Chamber's Environment and Safety Committee, the MOVES Review Work Group, the Coordinating Research Council, the statewide Technical Working Group for Mobile Source Modeling, and the Advisory Council of the Texas Air Quality Research Program.

The NCTCOG air quality website was continuously updated with relevant information, including information on the State Implementation Plan, Transportation Conformity development, and the Environmental Protection Agency's 2008 and 2015 NAAQS for ozone. During ozone season, daily updates were made to allow public awareness to real-time ozone levels and trends. Tracking was also conducted on relation of COVID-19 and impacts to air quality.

Transportation Planning Funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Emission Inventories and Technical Studies

Other Funding Sources

Emission inventories estimate emission amounts from specific sources within a specified area and time interval. Transportation emission budgets used in transportation conformities are developed based upon emission inventories used in development of the SIP and the impact of control measures included within that SIP. Emissions are greatly impacted by regionally specific data, so updated regional inventories analysis is necessary to better predict future-case emission impacts from control strategies, vehicle miles traveled, vehicle activity from outside the nonattainment area, and evaporative emissions. This work element will be supported through

Texas Commission on Environmental Quality funds and is ongoing throughout FY2020 and FY2021. Anticipated products include:

- A variety of emission inventories for federal, state, or local requirements; and
- Mobile source technical analysis performed to enhance state of the practice.

Work Performed and Status: During FY2021, Dallas-Fort Worth (DFW) Reasonable Further Progress (RFP) On-Road Mobile Emissions Inventories and DFW Attainment Demonstration (AD) On-Road Mobile Emissions Inventories were completed utilizing the MOVES 3 model. These efforts were to support the development of SIP revisions for both the 2008 8-hour Ozone National Ambient Air Quality Standard (NAAQS) and the 2015 8-hour Ozone NAAQS.

The On-Road Mobile Emissions Inventories to support the VMT offset demonstration for the 2008 8-hour Ozone NAAQS also began in FY2021. This effort is to support development of an SIP revision for the 2008 NAAQS.

Texas Commission on Environmental Quality funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Teleworking and Telelearning: The Next Generation

Transportation Planning Funds

University Partnership Program assistance will be utilized in teleworking and telelearning activities that focus on identifying locations within the region where computer and internet resources are limited, understanding if such resources limit travel flexibility, and recommending solutions. The idea of teleworking is not new. In the early 1990s, this concept was a vital tool in the solutions toolbox to reduce vehicle emissions and improve air quality. Over the past few decades, companies moved away from this option. Today's widespread access to internet services and improvements in equipment made teleworking more viable. Talk of 5G and other communication upgrades offers increased hope that more people will work and learn from home. Unfortunately, many small communities and households in urban areas report that they do not have internet access or a computer. This element is ongoing throughout FY2021, and anticipated products include:

- Report that identifies locations in the Dallas-Fort Worth region with limited computer and internet resources;
- Surveys of area needs, issues, and roadblocks for addition and/or improvement of teleworking and/or telelearning capabilities;
- Data on potential resources to better equip areas for teleworking and/or telelearning; and
- Recommended solutions to ensure implementation of needed tools for an area to successfully participate in tele-activities.

Work Performed and Status: During FY2021, university assistance was utilized to analyze teleworking and telelearning activities to identify locations throughout the region with limited access to computer and internet resources. Completed work included literature regarding teleworking and telelearning, a survey designed for companies/businesses and educators to determine the appropriate companies and educators to interview, a report on survey results, and a final report for submittal to the Transportation Research Board (TRB). Biweekly

meetings were held with the university to ensure the project was moving forward and tasks were being completed. Peer reviews were held to discuss potential survey questions and final project results. Final report recommendations were reviewed and approved prior to TRB submittal.

Transportation Planning Funds were used to support work activities. This project is complete and will not continue in FY2022.

3.03 Air Quality Management and Operations

The purpose of this subtask is to identify, design, implement, and promote voluntary local strategies to reduce transportation-related emissions and air quality impacts. Emphasis is placed on achieving reductions in ozone precursor emissions to achieve compliance with federal ozone standards but works to comprehensively reduce emissions of other air pollutants. Strategies range from initiatives related to vehicle fleets, consumer-facing initiatives, and local government policies. In all areas, NCTCOG works collaboratively with other stakeholders and peer organizations who are implementing emission-reducing activities, including the Texas Clean Air Working Group. NCTCOG also carries out responsibilities of the Department of Energy (DOE)-designated Dallas-Fort Worth Clean Cities coalition.

Fleet and Commercial Strategies

Other Funding Sources

Vehicle fleets and commercial vehicle activity, especially older heavy-duty diesel vehicles, are a major source of air pollution. NCTCOG carries out strategies focused on reducing emissions from these vehicles by encouraging retirement of older “legacy” vehicles, improving efficiency of vehicles, and encouraging use of cleaner, lower-emitting technologies and fuels. Through this work, NCTCOG also performs work associated with being an Affiliate of the EPA SmartWay Transport Program and engages with the freight truck industry through the Saving Money and Reducing Truck Emissions Program. Additional efforts are focused on reducing air pollution through efficiency improvements in other institutional operations for both governments and businesses, such as building efficiencies, which will become more important as developments in electric vehicle technologies, such as vehicle-to-grid projects, result in more integration of the transportation and built environment sectors.

Demonstration programs investigate methods to reduce fuel use and emissions not only through emissions testing, but also through activity and behavior modifications. Typically, these programs seek to demonstrate the benefit and feasibility of potential or conceptual measures for greater implementation. Projects may include both light-duty and heavy-duty vehicles of multiple fuel types, non-road equipment, and energy conservation techniques.

This work element will be supported through Congestion Mitigation and Air Quality Improvement Program funds, Surface Transportation Block Grant Program funds, Department of Energy funds, Environmental Protection Agency funds, Texas Commission on Environmental Quality funds, Regional Transportation Council Local funds, other local funds, Transportation Development Credits, and private funding sources. Consultant assistance may be used. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Competitive grant applications to seek additional funds to facilitate Calls for Projects (CFPs) and technology implementation efforts;
- Grant awards or other financial assistance for, and implementation of, technology projects that reduce emissions from fleet and commercial vehicles, including vehicle or equipment repair, replacement, repower, retrofit, idle reduction technologies, refueling infrastructure, or other emissions reduction technologies;
- Participation in a study comparing the maintenance costs between heavy-duty diesel and natural gas goods movement vehicles;
- On-site visits and monitoring of funding recipients to ensure grant compliance, reporting and project fulfillment;
- Reports on funded grant activities and outcomes related to various pilot programs or demonstration projects and technology improvement programs;
- Communications regarding funding and incentive programs available for fleets and commercial vehicles;
- Fleet evaluation and technical assistance to assist in identifying potential technology improvements and related financial assistance, including for the Denton County Transportation Authority;
- Outreach regarding adoption of fleet best practices and the RTC-recommended Clean Fleet Policy;
- Workshops, meetings, trainings, webinars, and other forums to provide education about emissions-reduction and energy efficiency strategies and technologies;
- Opportunities for fleets to try vehicles on a short-term basis through avenues such as loaner programs or ride-and-drives;
- Comments and recommendations to state and federal agencies regarding programs that support fleet emissions reduction efforts;
- Feasibility studies on existing or new programs;
- Development and implementation of new innovative programs for further vehicle emissions reductions;
- Evaluation of light-, medium-, and heavy-duty vehicles and emissions impacts on air quality;
- Communications about ways to improve building efficiencies, including recommendations on integration of EVs;
- Consultant and partner agreement(s); and
- Purchase or lease, operation, and maintenance of low-emission vehicles for NCTCOG staff use in traveling on department business such as attendance at outreach events, meetings, and site visits, as well as roadway signage monitoring.

Work Performed and Status: During FY2021, efforts were ongoing to award subgrants and rebates for technology improvement projects. Three Calls for Projects were administered to provide funding assistance for emissions-reducing projects: the Clean Fleets North Texas 2020 Call for Projects, the North Texas Emissions Reduction 2020 Call for Projects, and the North Texas Freight Terminal Electrification 2020 Call for Projects. Across these initiatives, a total of 13 heavy-duty diesel vehicle replacements, 10 diesel non-road equipment replacements, and 135 electrified parking space projects were awarded, and project implementation began. Implementation of projects awarded in previous fiscal years continued, including reimbursement of five heavy-duty vehicle replacements and monitoring activities to ensure grant compliance.

Staff continued to evaluate self-reported data and conduct site visits to verify performance of previously reimbursed subgrant activities. Nine site visits were completed where activities/equipment were inspected and facilities monitored to ensure compliance with grant

requirements. Memos and reports summarizing each site visit were drafted, compiled, and scanned for internal files.

Sixteen email blasts promoting or announcing various funding opportunities were distributed throughout the year to the “Air Quality Funding” email list, which added 96 subscribers throughout the year. Staff heavily promoted the Texas Volkswagen Environmental Mitigation Program funding, resulting in Dallas-Fort Worth being the only region across the state in which all funds were requested for bus, refuse, or local freight truck replacement projects. One local fleet inventory was analyzed to guide fleets toward potential funding programs, and staff facilitated completion of electrification plans for two additional fleets. Outreach and funding initiatives resulted in 12 additional organizations adopting the RTC Clean Fleet Policy during the fiscal year, bringing the total number of adopting entities to 85. A packet of resources was compiled for local school districts to help reduce idling emissions impacts, including information about fleet strategies, and mailed to all districts at the outset of the 2021-2022 school year.

Work continued on a study comparing the maintenance costs between heavy-duty diesel and natural gas goods movement vehicles with staff contacting and requesting multiple fleets to share their maintenance data.

Outreach was conducted through the Saving Money and Reducing Truck Emission (SMARTE) program, through emails sent to SMARTE and SmartWay contacts and by updating the SMARTE website with relevant information related to emission reducing strategies, with information on how to become a SmartWay partner, air emission facts related to the trucking industry, and ways to improve air quality. NCTCOG continued to serve as the Dallas-Fort Worth Clean Cities (DFW Clean Cities) coalition and hosted nine meetings/webinars to educate fleets on emissions-reducing technologies, alternative fuel vehicles, and related funding opportunities. Staff launched the “Try and Drive Alternative” program, which provides a mechanism for vendors to sign up to provide short-term “demonstration” or “loaner” vehicles/technologies for local fleets to get hands-on experience and build familiarity with the technology.

One low-emission vehicle was operated and maintained for staff business use.

Congestion Mitigation and Air Quality Improvement Program funds (CSJs 0918-00-254 and 0918-00-256), Surface Transportation Block Grant Program funds (CSJs 0918-00-316 and 0918-00-317), Department of Energy funds, Environmental Protection Agency funds, Regional Transportation Council Local funds, local contributions, and Transportation Development Credits were used to support work activities.

This project is ongoing, and work will continue in FY2022.

Consumer Initiatives

Other Funding Sources

Initiatives included in this element reduce emissions and/or improve energy efficiency through the promotion and implementation of new technologies and education to encourage consumers to adopt cleaner technologies or seek changes in consumer behavior. Staff identifies and pursues opportunities for demonstration of new measures to improve efficiency and reduce emissions as

appropriate. These consumer efforts may be implemented through local, regulatory, and legislative means.

Some initiatives are designed to specifically target vehicles producing excessive emissions and not in compliance with automobile emissions standards or the State's Inspection and Maintenance Program. Efforts continue to support and enhance existing programs and local stakeholders, federal and State agencies as they conduct on-road emissions enforcement and other enforcement-related work, including truck-lane restrictions and idling restrictions.

This work element will be supported through Congestion Mitigation and Air Quality Improvement Program funds, Surface Transportation Block Grant Program funds, Department of Energy funds, Regional Transportation Council Local funds, Transportation Development Credits, and private funding sources. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Opportunities for individuals to try vehicles on a short-term basis, through avenues such as loaner programs or ride-and-drives;
- Educational and awareness events, such as an annual National Drive Electric Week event and car care clinics;
- Education about consumer practices that can reduce vehicle emissions, such as idle reduction and proper vehicle maintenance;
- Incentives for consumers to adopt cleaner technologies or behavior changes;
- Communications about incentives available to citizens for cleaner, lower-emitting technologies;
- Comments and recommendations to state and federal agencies regarding consumer incentive programs;
- Periodic meetings, training classes, education, and recommendations for law enforcement, federal and State agencies and other interested parties regarding emissions enforcement and similar programs; and
- Enhancement of existing programs such as the Regional Smoking Vehicle Program's reporting and correspondence and air quality data information systems.

Work Performed and Status: In FY2021, the Air Quality Funding and Resources website (www.nctcog.org/aqfunding) was regularly maintained to promote funding assistance available for lower-emitting vehicles for fleet and consumer-oriented incentives. Idle reduction best practices and consumer-related educational materials continued to be maintained on the Engine Off North Texas website (www.EngineOffNorthTexas.org). Educational and outreach materials were coordinated and provided to non-profit organizations to help the public comply with Texas' annual vehicle emissions inspection requirements by promoting proper vehicle preventative maintenance along with maintaining the car care awareness website (www.ntxcarcare.org). Staff also began participating in public-facing outreach events to provide materials about consumer-appropriate clean vehicle strategies, such as electric vehicle (EV) technology and related renewable energy and energy efficiency strategies. Planning began for a National Drive Electric Week event to be held at the outset of fiscal year 2022.

Staff monitored and evaluated bills that passed through the legislative session that may impact grant programs or other air quality initiatives.

NCTCOG continued to facilitate and coordinate quarterly meetings of the Heavy-Duty Diesel Inspection and Maintenance (I/M) Working Group, which is made up of jurisdictions and

researchers from the United States and abroad that are interested in heavy-duty diesel emissions inspections and evolving the technology to meet the needs of vehicle inspection programs. Also, coordination continued with commercial vehicle enforcement (CVE) officers to collect emissions-related data from heavy-duty diesel vehicles during CVE operations. Work initiated on an On-Road Vehicle Emissions Project to focus on collecting real-world tailpipe emission samples from heavy, medium and light-duty on-road vehicles as well as funding an emissions enforcement task force to combat fraudulent vehicle inspections and improper vehicle registrations.

In order to track potential COVID-19 impacts, staff monitored vehicle registration and inspection trends due to the Governor's executive order suspending registration requirements in order to better understand patterns in the region.

Staff continued to manage the NCTCOG Emissions Database (NED), which contains vehicle registration and inspection records and is used by officers performing emissions enforcement. Staff worked with local counties across North Texas and the State to continue the Regional Emissions Enforcement Program (REEP). Staff prepared REEP materials as requested by partnering police departments for training new recruits and as a refresher for existing officers to identify improper vehicle inspections, awareness of anti-idling ordinances and NCTCOG Emissions Database (NED) users. NED was updated weekly with vehicle inspection records from the Texas Commission on Environmental Quality. Work also continued on the Regional Smoking Vehicle Program, with 954 reports submitted by phone, online, and received from the TCEQ. This resulted in 713 letters sent to reported vehicle owners. The smokingvehicle.net website was maintained.

Surface Transportation Block Grant Program funds (CSJs 0918-00-316 and 0918-00-317), Congestion Mitigation and Air Quality Improvement Program funds (CSJs 0918-00-254 and 0918-00-256), Department of Energy funds, and Transportation Development Credits were used to support work activities. This project is ongoing, and work will continue in FY2022.

Local Government Policies/Community Readiness

Other Funding Sources

Initiatives in this element promote policies and contractual or regulatory measures available to local governments and businesses that can influence deployment of lowest-emissions and efficient technologies by consumers and fleets. Efforts also include collaborations with local governments to provide data and peer exchange related to air quality issues to help them make decisions about appropriate action steps to take within their jurisdictions. Work continues to evaluate, develop and incorporate policy statements in the Metropolitan Transportation Plan policy bundle, as applicable. Staff works collaboratively with local, state, and national stakeholders to identify and develop these strategies. Efforts continue to maintain websites to provide technical and policy resources to regional stakeholders, including Conserve North Texas, Go Solar Texas, and Electric Vehicles North Texas.

This work element will be supported through Surface Transportation Block Grant Program funds, Federal Highway Administration funds, Department of Energy funds, Regional Transportation Council Local funds, other local funds, and Transportation Development Credits. NCTCOG may seek assistance through the University Partnership Program for analysis of health risks related to

transportation impacts as opposed to other factors. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Technical and planning assistance to local governments, workplaces, and multifamily properties regarding deployment of electric vehicle (EV) charging stations and other electrification or alternative fuel infrastructure to facilitate clean vehicle or technology adoption by fleets and consumers;
- Development of a Zero Emissions Vehicle (ZEV) Infrastructure Deployment Plan along IH 45 to enable zero-emission travel from Dallas-Fort Worth to the Houston area, with emphasis on goods movement;
- Communications to local governments encouraging adoption of RTC-recommended local government policies, including anti-idling rules and Clean Construction Contract Language;
- Template language for contracts, ordinances, codes, and other local government mechanisms (e.g., EV-ready best practices, low-emissions requirements for contractors, etc.);
- Comments and recommendations to federal, State, and local agencies regarding regulatory practices that are relevant to use of cleaner technologies;
- Meetings, webinars, conference calls, and other forums to educate local governments about opportunities to influence fleet and consumer choices, or facilitate energy efficiency/renewable energy activities;
- Innovative new partnerships with key stakeholder organizations, such as vehicle auctioneers, charities and non-profits who accept donated vehicles, hospitals and universities, vehicle rental companies, and major employers in the region;
- Support for local government peer exchange on comprehensive air quality issues through the North Central Texas Stewardship Forum and other avenues;
- A task force to convene government representatives, health officials, academic representatives, and air quality experts to evaluate regional data that may indicate areas of need for additional air quality improvement or strategies;
- Support for local government efforts to provide air quality education, including to the Hood County Clean Air Coalition;
- Equitable, favorable options for capturing revenues from vehicles that do not pay traditional gasoline tax;
- Identification and development of additional policy positions by the RTC that encourage actions to help reduce mobile and other transportation sector air emissions;
- Data collection of electric vehicle and electric vehicle infrastructure use and performance;
- Education and data collection with local governments and utilities with regard to energy efficiency, renewable energy, and integration of energy topics with the transportation sector, especially with regard to transportation electrification and renewable natural gas potential; and
- Resources and guidance to school districts on best practices to minimize idling at school campuses.

Work Performed and Status: As part of DFW Clean Cities efforts, nine webinars/roundtable meetings were held to provide information to communities or property owners about planning for electric vehicle (EV) infrastructure, including utility considerations. Staff continued to evaluate policy implications of EV adoption, particularly with regard to transportation revenue, and initiated discussions around the idea of building codes or standards for new construction. Data on EV registration trends continued to be collected and summarized to support regional planning efforts. Staff also facilitated local stakeholder participation in a national EV data collection project. Stakeholder meetings were held and data was collected to develop an infrastructure deployment plan to enable a Zero-Emission Vehicle Corridor along Interstate

Highway 45 from Houston to Dallas with a focus on heavy-duty vehicle fleets. Formal comments were drafted regarding EV and other alternative fuel vehicle signage in the proposed Manual of Uniform Traffic Control Devices.

During FY2021, staff continued to support Engine Off North Texas (EONT) efforts by distributing brochures, posters, and anti-idling street signs upon request to cities in the region to assist them with resources to continue vehicle idling restrictions enforcement. Staff revised and launched the EONT website with an updated local government guide and educational content. The revised EONT website was presented to the Surface Transportation Technical Committee (STTC). Work on a revised Regional Transportation Council vehicle idling restriction resolution was promoted through a public meeting and STTC. A packet of resources was compiled for local school districts to help reduce idling emissions impacts, including information about fleet strategies, and mailed to all districts at the outset of the 2021-2022 school year.

Staff continued to support and participate in quarterly meetings of the Regional Integration of Sustainability Efforts (RISE) Coalition, which is the result of the evolution of the North Texas Stewardship Forum. Four meetings were held for an Air Quality Health Monitoring Task Force to discuss the impacts of transportation-related air pollution on public health. University assistance is being utilized to assess pollution attributable to the transportation system.

Surface Transportation Block Grant Program funds (CSJs 0918-00-316 and 0918-00-317), Congestion Mitigation and Air Quality Improvement Program funds (CSJs 0918-00-254 and 0918-00-257), Department of Energy funds, Federal Highway Administration funds, Regional Transportation Council Local funds, and Transportation Development Credits were used to support work activities. This project is ongoing, and work will continue in FY2022.

3.04 Public Transportation Planning and Management Studies

This Work Program subtask provides funding to assist local governments and transportation providers with public transportation funding and planning activities that focus on identifying opportunities for increased service in the region, as well as improving the efficiency and effectiveness of current systems.

Public Transportation Funding and Administration

Transportation Planning Funds

This planning activity is ongoing throughout both FY2020 and FY2021, supporting the efforts of metropolitan, urban and rural transit providers in the North Central Texas region. General responsibilities include monitoring transit appropriations, grant activities and funding issues; identifying and monitoring transit-related issues of local, regional, and national interest; and responding to citizen, consultant, State, and federal requests for data, information, or assistance. Additional responsibilities include providing technical assistance to providers by coordinating the dissemination of technical information, federal regulations, and grant requirements. Anticipated products include:

- Planning for financial needs in coordination with local public transit providers; and

- Assistance to transit providers in the development of the annual program of projects and coordination of the programming of funds in an approved Statewide Transportation Improvement Program (STIP).

Work Performed and Status: Staff coordinated with 11 transportation providers in the region to process 25 FY2021 Programs of Projects totaling approximately \$135.9 million in Federal Transit Administration (FTA) Formula Program funds, as well as \$1.6 million in Transportation Development Credits. A subrecipient compliance workshop was held for 11 subrecipients to receive training and information on updated federal regulations, updated processes, and financial planning of federal funds. Staff also provided technical assistance to FTA and transit providers with grant submittals and reporting requirements.

Transportation Planning Funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Regional Public Transportation Coordination and Planning

Transportation Planning Funds

This planning activity is ongoing throughout both FY2020 and FY2021, supporting activities that further a coordinated and seamless public transportation system. This activity includes the Access North Texas Plan, which outlines coordination goals, policies and strategies to move the North Central Texas region toward more coordinated, efficient and seamless transportation services. Regional coordination activities will primarily focus on the counties that comprise the Metropolitan Planning Area. Coordination with surrounding areas will be included based on the impact that public transportation connections have within the planning area boundary. This activity also includes technical assistance and general planning support to the transportation authorities in the region, as well as smaller transit agencies. Anticipated products include:

- Enhancements to the Access North Texas Plan;
- Implemented coordination strategies identified in the Access North Texas Plan;
- Planning for the transportation needs of the disadvantaged, including low income, seniors, and individuals with disabilities, in an effort to increase opportunities and access to public transportation;
- Assistance to transit agencies including travel demand model data, ridership projections, financial modeling, planning studies, and technical assistance;
- Support for transit system improvements resulting in seamless regional connectivity; and
- Facilitation of improved efficiency in the use of transit capital resources in the region, resulting from pursuing opportunities for vehicle sharing, retired vehicle or community vehicle programs.

Work Performed and Status: In FY2021, staff met with stakeholders to kick off the upcoming Access North Texas Plan update, prepared outreach materials, conducted public outreach, and began data analysis for the Access North Texas public transportation coordination plan in preparation for the 2022 update.

In addition, strategies identified in the 2018 Access North Texas Plan continued to shape planning and funding decisions including coordinating with Dallas Area Rapid Transit (DART) and the Southern Dallas Inland Port Transportation Management Association to expand service hours to increase access to job opportunities for low-income populations with limited

access to public transportation and modification of the project programming in the 2021-2024 Transportation Improvement Program.

The Access North Texas Plan also informed the continued implementation of the quarterly Regional Mobility Managers meetings to serve as a forum for regional discussion and coordination among transit providers and partners. This platform proved critical during the pandemic as many partners shared best practices on how to provide crucial service for essential workers in a safe and efficient manner. The Access North Texas Plan's strategies further informed the execution of the My Ride North Texas 2.0 project, which serves as a source of personalized regional transportation information through the establishment of a free 1-800 phone number for the general public with a focus on seniors and individuals with disabilities.

As requested throughout FY2021, staff provided planning support and technical guidance to partner agencies to increase opportunities and access to public transportation. Efforts included ridership analysis of the vanpool groups managed by DART, Trinity Metro, and Denton County Transportation Authority and GIS mapping to visualize the boundaries of the various programs. Staff also conducted coordination meetings with transportation providers, local governments, members of the private sector, and academic representatives as needed. Planning assistance and support was also involved in the submission of an FY2021 Federal Transit Administration Areas of Persistent Poverty grant application to evaluate public transportation access within the zip code of 76104 in Fort Worth.

Transportation Planning Funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Regional Transit Planning Assistance

Other Funding Sources

This planning activity is ongoing throughout both FY2020 and FY2021 supporting activities that encourage short- and long-term transit implementation planning for local governments and transit providers. Activities include providing assistance to subgrantees as they implement identified strategies and recommendations. Other initiatives include providing technical assistance and general planning support to local governments with transit implementation options and investigating innovative funding and implementation opportunities for regional passenger rail systems, including the Irving to Frisco passenger rail corridor. Efforts will include, but are not limited to, comprehensive transit studies for: colleges and universities; and Collin, Dallas, Denton, Kaufman, Rockwall, and Tarrant Counties. Federal Transit Administration, Surface Transportation Block Grant Program, and Regional Toll Revenue funds, as well as Transportation Development Credits will support these activities. Consultant assistance will be used. Anticipated products include:

- Planning conducted on behalf of Urbanized Area Formula Program subrecipients based on identified needs;
- Planning and implementation assistance to local governments based on requested and identified needs;
- Procurement and executed agreements for consultant assistance;

- Reports on transit implementation options in identified subregions that may include potential public transit implementation options, funding sources (public and private), and increased regional connections; and
- Mapping of potential alignment alternatives.

Work Performed and Status: Planning conducted on behalf of subrecipients included the preparation and submittal of grant applications under two United States Department of Transportation programs, FY2021 Infrastructure For Rebuilding America (INFRA) Discretionary Grant Program and FY2021 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Discretionary Grant Program, that propose to enable an expansion of STAR Transit’s service and supporting infrastructure in the International Inland Port of Dallas.

Staff provided assistance to local governments through GIS mapping and project coordination for the South Dallas Employment Project, led by local nonprofits Redemption Bridge and The State Fair of Texas, in conjunction with the City of Dallas and other local stakeholders. Additionally, transit planning and funding assistance was provided for a High-Intensity Bus Pilot with Trinity Metro.

Preparations continued for launching the Denton County Transit Planning Study and the Intermodal Transportation Hubs for Colleges and Universities Study. Requests for Proposals for consultant assistance for both studies were released at the end of the fiscal year. Consultant selection and contract execution to launch the studies are expected in early FY2022.

Three independent transit studies (Collin County, Southern Dallas County, and Tarrant County) were completed in late FY2021. Each study concluded with a final report, which is the culmination of planning and stakeholder engagement activities that occurred throughout the lifespan of each project. Each final report outlines transit service recommendations for municipalities within each respective study area based on technical analyses and stakeholder/public input and provides a roadmap for service implementation (including cost/funding information, as well as service model options). The final reports and other project resources are available online at www.nctcog.org/transitstudies.

The study to advance the Frisco passenger rail corridor was completed. Work on this study included refinement of the potential stations along the route, including stations in Prosper and Celina, as well as the identification of opportunities to provide interlined services on routes adjacent to the corridor using potential connections at Downtown Irving and Downtown Carrollton stations. A consultant was procured to develop cost estimates and alternative approaches to financing and governance. Ridership projections were developed using both Mobility 2045 demographics and alternative demographics provided by the consultant. The possibility of using People Mover systems at four stations in the corridor to provide first-mile/last-mile passenger connections was also examined. Different approaches to allocating the estimated capital, maintenance, and operational costs of implementing rail in the Frisco corridor were developed. The advisory committee of local governments, transit agencies, and a Class I railroad received regular updates and provided guidance over the course of the project. A final report containing maps of potential alternative alignments and a technical memorandum describing the travel demand modeling process was delivered to the advisory committee.

Federal Transit Administration funds, Surface Transportation Block Grant Program funds (CSJ 0918-00-320), Regional Toll Revenue funds (CSJ 0918-47-211), and Transportation Development Credit were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

3.05 Transit Operations

This Work Program subtask provides funding primarily for the implantation of projects that focus on eliminating gaps in services, reducing duplication of services, enhancing coordination, and improving the efficiency and effectiveness of the region's existing services.

FTA Urban Funding Grant Administration

Other Funding Sources

This implementation activity is ongoing throughout FY2020 and FY2021, supporting all responsibilities NCTCOG assumes as the designated recipient for Federal Transit Administration (FTA) grant funds received for urbanized areas in the region. General responsibilities include program administration, project implementation, grant management and program oversight for all subgrantees who receive funds through the Bus and Bus Facilities Program, Congestion Mitigation and Air Quality Improvement Program, Enhanced Mobility of Seniors and Individuals with Disabilities Program, Job Access/Reverse Commute Program, New Freedom Program and the Urbanized Area Formula Program. In FY2020, activities will also include the administration of emergency assistance funding made available by FTA to subgrantees in response to COVID-19 through the Coronavirus Aid, Relief, and Economic Security (CARES) Act. Federal Transit Administration funds, Regional Transportation Council (RTC) Local funds, subgrantee local funds, and Transportation Development Credits will support these activities. Consultant assistance may be used. Anticipated products include:

- FY2020 and FY2021 funding allocations;
- CARES Act funding allocations;
- Strategic Partnerships;
- Grant and agreement management;
- Application of oversight and compliance initiatives;
- Funding disbursement of reimbursable project expenses to subgrantees;
- Administration of a vehicle lease program;
- Submittal of coordinated reports on behalf of subgrantees; and
- Procurements for services and equipment, including buses, on behalf of subgrantees.

Work Performed and Status: Staff managed 14 Urbanized Area Formula Program grants; eight Enhanced Mobility of Seniors and Individuals with Disabilities Program grants; four Bus and Bus Facilities grants; two Job Access/Reverse Commute Program grants; three New Freedom Program grants; one Congestion Mitigation and Air Quality Improvement Program grant; and one Coronavirus Aid, Relief, and Economic Security Act (CARES) grant for a combined total of approximately \$87 million in federal funds. Staff also closed out one Job Access/Reverse Commute program grant and three Enhanced Mobility of Seniors and Individuals with Disabilities Program grants upon completion of the projects designated therein.

Staff submitted 70 quarterly progress reports, four Charter Service reports, six National Transit Database (NTD) annual reports, 48 NTD Ridership and Safety and Security reports, and 25 Transit COVID-19 Response Program reports.

Staff updated the Strategic Partnerships funding program, formerly the Call for Projects, for a more deliberate and coordinated approach to help address gaps in service. Through this program, two percent of Federal Transit Administration (FTA) funding is set aside for transit projects that support Mobility 2045's goals and address needs outlined in Access North Texas, the regional public transportation coordination plan for transit-dependent populations. The evaluation criteria were designed to address needs of these transit-dependent populations, strategic value, sustainability, stakeholder collaboration, and recommendations from existing plans and studies. Staff will evaluate the first round of requests for projects in FY2022 and continue to evaluate them every six months thereafter.

Administrative functions associated with all projects continued and monthly requests for reimbursements were processed totaling \$1,827,639 in CARES Act funds, \$1,398,133 in Urbanized Area Formula-Job Access/Reverse Commute funds, \$11,075 in Job Access/Reverse Commute funds, \$392,474 in New Freedom funds, \$1,626,630 in Urbanized Area Formula funds, and \$266,893 in Enhanced Mobility for Seniors and Individuals with Disabilities funds.

Procurement guidance and review was provided for four subrecipients. Staff released a Request for Proposals and Request for Qualifications for a Cooperative Vehicle Procurement for five subrecipients and selected vendors for both contracts.

Agreements were created to transfer three transit vehicles which have met useful life standards through the Vehicle Loaner Program. Staff continued to monitor Transit Asset Management (TAM) regional performance and evaluate target methodology. The most recent available data was incorporated to analyze progress toward meeting regional TAM targets. Staff coordinated with regional Section 5307 recipients in collecting Public Transportation Agency Safety Plans (PTASP) and historical transit data to develop regional transit safety performance targets.

Federal Transit Administration funds, local funds, and Transportation Development Credits were used to support work activities. This project is ongoing, and work will continue in FY2022.

Sustainability and Innovative Solutions for Transit

Other Funding Sources

This implementation activity is ongoing throughout both FY2020 and FY2021, supporting coordination and implementation of sustainable transit initiatives and innovative solutions. The Program supports Chapter 461 of the Texas Transportation Code that focuses on maximizing the benefits of the State's investment in public transit through the coordination of services and other innovative transit-related projects. Activities include developing and implementing a regional equitable transit fares program and gathering data to improve transportation planning efforts for older adults, individuals with disabilities, individuals with low incomes, and additional environmental justice populations. Regional Toll Revenue funds and Regional Transportation Council Local funds will support these activities. Anticipated products include:

- Implementation of an equitable transit fare program to be coordinated with transit authorities, NCTCOG, and private partners;
- Assistance from the University Partnership Program to conduct innovative data collection activities related to environmental justice populations;
- Short- and long-range solutions that move the region toward more comprehensive, coordinated, accessible, efficient, and effective public transit services; and
- Policies, programs and projects that support and encourage sustainable transportation options around the region while elevating customer service and air quality.

Work Performed and Status: Four projects continued in FY2021 to support transit sustainability initiatives: Equitable Fares Transit Program; Dallas Area Rapid Transit (DART) Western Carrollton GoLink; McKinney Avenue Transit Authority (MATA) Service Frequency Improvements; and the My Amble 2.0 project for the University Partnership Program.

Staff met periodically with partner agencies and gathered information on DART's existing equitable fares initiatives and Trinity Metro's job access free rides program within the region. Staff also worked with partners and NCTCOG staff to develop a new transit fare initiative.

The funding agreement for the MyAmble 2.0 project was executed. The project, performed with university assistance, is piloting a smart-phone app-based data collection to characterize latent transportation demand and impacts on health and quality of life within environmental justice populations. In FY2021, the university worked towards project objectives, including partnership with NCTCOG staff on a focus group and refinement of the MyAmble app. Work on the project was presented to NCTCOG's Mobility on Demand (MOD) Working Group made up of staff from transit agencies and partners from across the region.

NCTCOG partnered with DART to provide a pilot for first/last mile service in the Western Carrollton GoLink Zone. The project continued in FY2021 and staff worked to amend the original agreement to expand the service area with the intention of increasing ridership. Also, through a partnership with MATA, support continued to provide funding for their Improved Service Frequency Plan and increase the number of operating railcars. MATA began implementing the improved service frequency plan and experienced regular corresponding increases in ridership. NCTCOG also coordinated with MATA to address challenges related to procurement of rail liability insurance and amended the project agreement to provide additional funding for MATA to secure rail liability insurance for the service.

Additionally, staff worked with Dallas Fort Worth (DFW) International Airport, Trinity Metro, and DART to identify solutions for the Trinity Railway Express (TRE) Shuttle which provides critical first and last mile service from the TRE Centrepoint Station to riders accessing job opportunities at DFW International Airport. The service has continued to operate as a partnership among DFW International Airport, DART, and Trinity Metro with RTC support, but due to budget constraints and pandemic ridership impacts, the partners have requested additional operational support. After discussions with stakeholders and exploration of multiple options, the Regional Transportation Council approved support of the project for the next three years as transportation partners finalize a sustainability plan for the service.

Regional Toll Revenue funds (CSJs 0918-00-174, 0918-00-193, 0918-00-325, and 0918-00-349) and Regional Transportation Council Local funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Mobility Management

Other Funding Sources

These planning and coordination activities are new for FY2020 and ongoing for FY2021, supporting mobility management and mobility as a service (MaaS) initiatives to improve the coordination of transportation services in the Metropolitan Planning Area. Activities include providing assistance to local governments, transit providers, healthcare providers, community service agencies, and the public to increase access to transportation and improve regional mobility. Other initiatives include monitoring MaaS platform integration, collaboration with strategic partners, and creating new innovative partnerships with local governments, and private and non-profit stakeholders who hold key connections or interest in increasing mobility options in the region. Federal Transit Administration (FTA) funds, Regional Transportation Council (RTC) Local funds, subgrantee local funds, and Transportation Development Credits will support these activities. Consultant assistance may be used. Anticipated products include:

- Implementation of a Mobility Management regional program with transit authorities to enable low-income seniors and individuals with disabilities access to healthcare and jobs;
- Establishment of a regional call center for individuals to access transportation counseling services and referrals to available transit providers;
- Documentation of best practices from existing mobility management programs in the region;
- Resources to assist local governments, transit providers, healthcare providers, community service agencies, and the public on available transit options; and
- Execution of subrecipient agreements and documentation of subrecipient compliance to grant requirements through monitoring and on-site reviews.

Work Performed and Status: The North Central Texas Council of Governments (NCTCOG) Regional Mobility Management program conducted activities toward the goal of increasing transportation access for low-income populations, seniors, and individuals with disabilities. Staff supported mobility management efforts from partner agencies across the NCTCOG region and hosted four quarterly regional mobility manager meetings with transit partners throughout the region as a platform to facilitate discussion of regional mobility topics such as ongoing planning studies, travel training, mobility management roles, driver recruitment and retention, and continued impacts of COVID-19 including best practices for providing service in a safe and effective manner.

Staff continued coordination on the operations of the My Ride North Texas 2.0 toll free 1-800 number which connects callers to personalized transportation navigation services for the 16-county NCTCOG region as part of the Federal Transit Administration (FTA) Access and Mobility Grant. This program fosters access to transportation information among low-income individuals, seniors, and individuals with disabilities to facilitate access to healthcare resources and jobs.

NCTCOG collected monthly call data and outreach event data from both subrecipients and quarterly qualitative reports to gain insight into the implications of the call data including reasons individuals did not take the trips that were advised, and common issues encountered by callers in their effort to ride transit. Travel navigators advised over 2,000 calls and provided referrals to individuals based on factors such as age, budget, or disability status and advised callers of scheduling, cost, application processes, and service changes.

Staff developed educational resources such as a guidebook and website to promote the regional call center and to assist local governments, transit providers, healthcare providers, community service agencies, and the public by increasing awareness of available transit options.

Through award of FTA's Access and Mobility Grant, staff provided technical assistance and performed oversight activities for two subrecipients to ensure compliance with federal requirements. One of the subrecipient agreements ended at the end of FY2021 and staff coordinated with the subrecipient to close out their portion of the project. Staff worked with the second subrecipient to extend the performance period of their agreement and coordinated to develop and conduct a needs assessment transportation survey through which partners collected information about public transportation resources and experiences among residents and transit riders in the region.

Federal Transit Administration funds, Regional Transportation Council Local funds, and Transportation Development Credits were used to support these activities. This project is ongoing, and work will continue in FY2021.

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TASK 3.0 – FUNDING SUMMARY

Funding Source	Amount Programmed (2-year)	Authorized (2-year) ¹	Expended (FY2020)	Expended (FY2021)	Amount Expended (2-year)	Balance of Programmed (2-year)	% Expended of Programmed (2-year)	Balance of Authorized (2-year)	% Expended of Authorized (2-year)
3.01 – Transportation Project Programming									
TPF	\$2,648,400	\$2,648,400.00	\$1,295,093	\$1,395,792	\$2,690,885	(\$42,485)	101.6%	(\$42,485)	101.6%
STBG	\$1,218,400	\$932,023	\$302,924	\$200,025	\$502,949	\$715,451	41.3%	\$429,074	54.0%
RTR	\$1,888,000	\$1,110,461	\$393,932	\$463,306	\$857,238	\$1,030,762	45.4%	\$253,223	77.2%
Subtotal	\$5,754,800	\$4,690,884	\$1,991,949	\$2,059,122	\$4,051,072	\$1,703,728	70.4%	\$639,812	86.4%
3.02 – Regional Air Quality Planning									
TPF	\$1,206,000	\$1,206,000	\$688,350	\$641,347	\$1,329,697	(\$123,697)	110.3%	(\$123,697)	110.3%
LOCAL	\$25,000	\$25,000	\$0	\$25,000	\$25,000	\$0	100.0%	\$0	100.0%
TCEQ ²	\$285,000	\$186,051	(\$148)	\$169,918	\$169,770	\$115,230	59.6%	\$16,281	91.2%
NCTCOG LOCAL ³	\$0	\$2,281	\$148	\$2,133	\$2,281	(\$2,281)	0.0%	\$0	100.0%
Subtotal	\$1,516,000	\$1,419,333	\$688,350	\$838,398	\$1,526,748	(\$10,748)	100.7%	(\$107,416)	107.6%
3.03 – Air Quality Management and Operations									
CMAQ	\$3,088,360	\$2,814,963	\$492,053	\$510,513	\$1,002,566	\$2,085,794	32.5%	\$1,812,397	35.6%
DOE ⁴	\$337,060	\$502,039	\$182,423	\$222,868	\$405,291	(\$68,231)	120.2%	\$96,748	80.7%
EPA	\$8,838,521	\$9,022,494	\$456,855	\$552,159	\$1,009,014	\$7,829,507	11.4%	\$8,013,479	11.2%
FHWA	\$80,000	\$78,400	\$13,928	\$53,268	\$67,196	\$12,804	84.0%	\$11,204	85.7%
STBG	\$4,774,400	\$5,268,496	\$1,511,332	\$1,504,550	\$3,015,882	\$1,758,518	63.2%	\$2,252,614	57.2%
LOCAL	\$19,338,385	\$19,530,523	\$1,976,655	\$1,598,648	\$3,575,303	\$15,763,082	18.5%	\$15,955,221	18.3%
TCEQ ²	\$273,641	\$273,694	(\$911)	\$0	(\$911)	\$274,552	-0.3%	\$274,605	-0.3%
Subtotal	\$36,730,367	\$37,490,608	\$4,632,333	\$4,442,007	\$9,074,341	\$27,656,026	24.7%	\$28,416,267	24.2%
3.04 – Public Transportation Planning and Management Studies									
TPF	\$1,604,700	\$1,604,700	\$834,182	\$698,541	\$1,532,723	\$71,977	95.5%	\$71,977	95.5%
FTA	\$850,000	\$1,596,826	\$290,878	\$585,647	\$876,524	(\$26,524)	103.1%	\$720,302	54.9%
STBG	\$1,857,000	\$1,862,000	\$401,772	\$730,811	\$1,132,583	\$724,417	61.0%	\$729,417	60.8%
LOCAL	\$0	\$2,530	\$0	\$0	\$0	\$0	0.0%	\$2,530	0.0%
RTR	\$385,000	\$385,000	\$168,063	\$213,325	\$381,387	\$3,613	99.1%	\$3,613	99.1%
Subtotal	\$4,696,700	\$5,451,056	\$1,694,894	\$2,228,324	\$3,923,218	\$773,482	83.5%	\$1,527,838	72.0%
3.05 – Transit Operations									
FTA ⁴	\$35,176,382	\$42,853,290	\$6,804,744	\$7,706,542	\$14,511,286	\$20,665,096	41.3%	\$28,342,004	33.9%
LOCAL ⁴	\$6,130,000	\$7,909,883	\$1,122,616.81	\$795,650	\$1,918,266	\$4,211,734	31.3%	\$5,991,617	24.3%
RTR	\$3,167,400	\$3,377,499	\$382,524	\$867,537	\$1,250,062	\$1,917,338	39.5%	\$2,127,437	37.0%
Subtotal	\$44,473,782	\$54,140,672	\$8,309,885.11	\$9,369,729	\$17,679,614	\$26,794,168	39.8%	\$36,461,058	32.7%
Total	\$93,171,649	\$103,192,552	\$17,317,413	\$18,937,580	\$36,254,992	\$56,916,657	38.9%	\$66,937,560	35.1%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

² Negative expenditures are due to adjustments made to FY2020 expenditures.

³ NCTCOG Local funding was used to cover small cost overruns.

⁴ Expenditures for FY2020 may reflect adjustments made after submission of the FY2020 Annual Report.

TASK 3.0 – TPF FUNDING SUMMARY FY2021

	Amount Programmed	Amount Authorized ¹	Amount Expended	Balance of Programmed	% Expended Programmed	Balance of Authorized	% Expended Authorized
3.01 – Transportation Project Programming							
TPF	\$1,421,700.00	\$1,421,700.00	\$1,395,791.93	\$25,908.07	98.2%	\$25,908.07	98.2%
3.02 – Regional Air Quality Planning							
TPF	\$667,700.00	\$667,700.00	\$641,346.54	\$26,353.46	96.1%	\$26,353.46	96.1%
3.04 – Public Transportation Planning and Management Studies							
TPF	\$786,900.00	\$786,900.00	\$698,540.85	\$88,359.15	88.8%	\$88,359.15	88.8%
Total	\$2,876,300.00	\$2,876,300.00	\$2,735,679.32	\$140,620.68	95.1%	\$140,620.68	95.1%

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IV.Task 4 – Metropolitan Transportation Plan

This task provides funding for the development and refinement of the Metropolitan Transportation Plan (MTP) in conjunction with metropolitan planning requirements of the Fixing America's Surface Transportation (FAST) Act. It also supports more detailed feasibility studies on projects included in the MTP. Activities to coordinate and ensure that performance-based planning is fully integrated into the North Central Texas Council of Governments' planning process are also a component of this task. Efforts to coordinate the transportation and environmental planning processes, mitigate the environmental impacts of projects, and emphasize the incorporation of environmental justice analyses into planning documents, policies, and activities are also included.

4.01 Metropolitan Transportation Planning

This subtask encompasses the development of the metropolitan area's long-range transportation plan and related documentation of the region's transportation system. As corridor studies contained in the Metropolitan Transportation Plan advance to final recommendations, periodic amendments and updates to this plan may be required. Additionally, the arterials contained in the plan fall into a number of categories detailed below, which are monitored and amended as necessary to meet transportation conformity and funding requirements.

Metropolitan Transportation Plan Development and Monitoring

Transportation Planning Funds

This subtask is ongoing throughout FY2020 and FY2021. The Metropolitan Transportation Plan (MTP) provides a blueprint for a multimodal transportation system and responds to broad transportation-oriented goals for the region. These goals include enhancing mobility, improving access, and reducing congestion; quality-of-life goals such as encouraging balanced land use, promoting orderly economic development, and improving air quality; and financial goals such as identifying and pursuing long-term stable sources of funding. The MTP must also meet financial constraint goals where project and program costs must not exceed anticipated revenue.

At any given time, the MTP is being monitored, developed, or modified. Staff will work in cooperation with the Texas Department of Transportation (TxDOT), Dallas Area Rapid Transit (DART), Trinity Metro, the Denton County Transportation Authority (DCTA), the North Texas Tollway Authority (NTTA), the Collin County Toll Road Authority (CCTRA), local governments, and other public agencies as needed to monitor programs and projects recommended in the current MTP, Mobility 2045, to ensure they reflect the latest planning assumptions, allowing those programs and projects to proceed through the planning and environmental stages of project development.

A plan amendment of Mobility 2045 may be developed during FY2020 or FY2021 to include any needed minor corridor adjustments and to meet federal requirements for air quality determination. Staff will continue to coordinate with transportation partners and the public during the development of the next long-range plan. This new planning effort to amend and/or update Mobility 2045 will factor in the planning horizon year, demographics, financial assumptions, and other planning requirements as necessary. The amendment and/or update to Mobility 2045 will be developed in accordance with the rules outlining the contents of the MTP under the policy

direction of the Regional Transportation Council, technical guidance of NCTCOG's technical committees, and public involvement efforts. Changes to the MTP will be made in coordination with local transportation providers and partners. During development of the amendment, preliminary evaluations will occur for corridor studies requested by local governments.

Moving Ahead for Progress in the 21st Century (MAP-21) introduced a new requirement to incorporate a performance-based approach in the transportation planning process. In response to this requirement, staff coordinated with TxDOT to establish regional transportation system performance measures and targets. Staff will continue to monitor and assess the performance of the transportation system and its effect towards meeting federally required performance targets according to guidance from the Fixing America's Surface Transportation Act. Anticipated products of this subtask include:

- Presentations utilizing MTP data and information;
- Maps;
- Collection and transmittal of travel model networks, GIS shapefiles, and performance reports as model outputs;
- Periodic reports to the Regional Transportation Council and the Surface Transportation Technical Committee documenting status of MTP implementation;
- Coordination meetings to monitor and ensure the continued progress of project recommendations; and
- Amended Mobility 2045 document, if necessary.

Work Performed and Status: Presentations were given to regional partners and community organizations regarding the policies, programs and projects contained in *Mobility 2045: The Metropolitan Transportation Plan for North Central Texas*. Presentations and data-entry tools were also given to transportation partners to assist them in review of the Mobility Plan data. Geographic Information System (GIS) shapefiles of the plan recommendations, travel model roadway and transit networks, performance reports from travel model forecasts, and demographics were provided to over a dozen entities during FY2021.

In preparing for a Mobility Plan Update in FY2022, revised project recommendations were reviewed and coordinated with transportation partners; updated financial forecasts and refined programs and policies were developed for the plan update as well. To better address the MAP-21 and FAST Act requirements, a suite of plan-specific performance measures was developed to include in the Mobility Plan Update. The Surface Transportation Technical Committee, the Regional Transportation Council, and the public were presented with the schedule and highlighted changes from the current plan for the Mobility Plan Update.

As a part of continual plan maintenance, several minor administrative revisions were made to the Mobility Plan recommendation listings. These administrative revisions were for only non-regionally significant items. The revisions were presented to the public for their comments and the revised recommendations listings were posted on the Mobility 2045 webpage and distributed to transportation partners.

Staff collaborated with transportation partners through regularly scheduled quarterly meetings and numerous ad hoc meetings to discuss the planning process and monitor projects to ensure they proceed to implementation.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Regionally Significant Arterials (RSA)

Transportation Planning Funds

NCTCOG staff will work in cooperation with the Federal Highway Administration, the Texas Department of Transportation, and all local governments to maintain, monitor, and amend the RSA system documentation for the Dallas-Fort Worth Metropolitan Area to maintain consistency with the revised National Highway System. Activities will be ongoing throughout FY2020 and FY2021 to monitor and amend the RSA system as needed. Anticipated products include:

- RSA database in both ArcGIS and TransCAD environments;
- Coordination with transportation partners in reviewing and revising arterials in the National Highway System;
- Coordination with local governments in the planning and staging of transportation improvements; and
- A listing of existing and planned RSAs to be included in the Metropolitan Transportation Plan and transportation conformity analysis.

Work Performed and Status: The Regionally Significant Arterials (RSA) data has been developed and maintained in a combination of SQL Server and ArcGIS Enterprise geodatabase environments. Detailed data used in travel demand forecasting is maintained in a TransCAD environment. The RSAs were monitored for consistency with active projects in the Transportation Improvement Program and minor updates to the database were made based on the monitoring efforts. The administrative revisions and revised RSA listings were posted on the NCTCOG website where the public was able to review and provide comments. The revised listing was also provided to transportation partners. As a result of the recent National Highway System update, all RSA designation changes are being incorporated in the next plan, the Mobility 2045 Update. Quarterly meetings and several ad hoc meetings were held with transportation partners to monitor the planning process of RSA recommendations and appropriate changes are being included in the Mobility 2045 Update. A draft RSA listing was provided to transportation partners.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Regional Thoroughfare Plan Inventory (RTPI)

Transportation Planning Funds

In conjunction with the continual development of the Metropolitan Transportation Plan, NCTCOG staff will collect, translate, and inventory local government thoroughfare plans and provide planning support from a regional perspective. Once the thoroughfare plans are combined and compared, some instances will require resolution of boundary disputes to ensure a high degree of consistency and continuity between local government planning efforts and regional planning efforts. Activities will be ongoing throughout FY2020 and FY2021. Anticipated products include:

- Documented inventory of thoroughfare plans that were collected and included in transportation networks, and
- A GIS-based regional arterial system map.

Work Performed and Status: Maintenance continued on a digital library containing thoroughfare plans for cities and counties within the Metropolitan Planning Area. NCTCOG monitored the availability of new or updated plans, ensuring that the library remained current. Project additions and improvements to the region's thoroughfare systems were included in GIS-based regional arterial maps and GIS-based transportation networks.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Federal Functional Classification System (FFCS)

Transportation Planning Funds

Staff will continue to work in cooperation with federal partners and the local TxDOT districts to maintain the FFCS for the Dallas-Fort Worth Metropolitan Area. This element includes monitoring roadway system function to determine the necessary mid-cycle amendments, as needed, to the FFCS. Activities will be ongoing throughout FY2020 and FY2021. Anticipated products include:

- Electronic transportation network of FFCS roadways;
- Coordination with local governments in the planning and staging of transportation improvements;
- Amendments, as needed, to the roadway system to correct, remove, or add roadways;
- Maps; and
- Presentations demonstrating location, function, and justification for amendments.

Work Performed and Status: Maintenance of an electronic network of the region's Federal Functional Classification System (FFCS) roadways continued. Staff worked with local governments directly or through the National Highway System (NHS) review and Transportation Improvement Program to determine potential additions or changes to the current system. Amendments to the FFCS were initiated to ensure that programmed projects resulting in new or improved roadways are accurately represented in the system. Reference materials created for this process indicate location, function, and justification for amendment.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

4.02 Coordination of Transportation and Environmental Planning Processes

Linking transportation planning and environmental planning represents a collaborative and integrated approach to transportation decision making. The following elements link development of data, processes and frameworks, and mitigation outcomes to enhance and support metropolitan transportation planning and project development activities.

Planning and Environment Linkages (PEL)

Transportation Planning Funds

This element will support a framework to consider environmental, community, and economic goals early in the transportation planning stage, then carry the goals through the corridor and project development phases into construction and mitigation efforts. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Metropolitan Transportation Plan environmental scoring and mitigation documentation;
- Outreach and technical assistance supporting stakeholder participation in transportation planning processes;
- Partnerships and agreements to expand or improve regional data needs and other partner agreements;
- Documentation and presentation material for coordination meetings, workshops, and training sessions; and
- Technical papers, as needed.

Work Performed and Status: Planning and Environmental Linkages (PEL) efforts continued in FY2021 to support the Texas Department of Transportation and other transportation project partners. These efforts included assistance on US 380 in Denton County, the Cottonbelt Rail project, and the US 287 feasibility study in Ellis County. Additionally, work was compiled for infrastructure methods for sustainable roadway construction for the Denton Greenbelt project and assistance was given on identifying transportation-related solutions for the region's food deserts. NCTCOG supported the Texas Department of Transportation in both the Infrastructure For Rebuilding America (INFRA) and Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant applications by proving cost-benefit analyses, data collection, map creation, document preparation, meeting attendance, and project application spearheading.

Staff participated in meetings with stakeholders regarding transportation planning in an environmentally sensitive area. Data layers used in environmental scoring were reviewed and updated. A presentation was created and presented to university students about environmental goals in transportation planning.

Transportation Planning Funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Army Corps of Engineers Section 404 and 408 Permitting

Other Funding Sources

In FY2020 and FY2021, staff will continue activities associated with the Water Resources Development Act Section 214 Memorandum of Agreement between the United States Army Corps of Engineers (USACE) and NCTCOG. This agreement was formed to expedite the evaluation of Section 404 permits for regional priority transportation projects. Staff will monitor the progress of permitting for specific projects identified by transportation partners. The performance and the cost-effectiveness of the USACE under this agreement will be evaluated by using specific performance measures identified by staff. Regional Toll Revenue funds and local funds will support Section 404 activities.

Additionally, staff will continue to monitor and aid in Section 408 permitting activities for major transportation projects. This effort could include attendance at meetings and coordination with resource agencies. Regional Toll Revenue funds will be utilized, and other funds may be sought to support this initiative. This effort will include the following products:

- USACE-reported performance metrics;
- Presentations, meetings, and annual reports; and
- Clean Water Act Section 404 and 408 finalized permit decisions.

Work Performed and Status: This program resulted in the expedition of two permits for the following transportation projects: BNSD bridge replacement – Trinity River and Hickory Creek Road improvements – Denton. A total of 125 finalized actions and 20 compliance inspections were completed in FY2021. All performance objective evaluations were performed at 100 percent satisfaction. Two new projects were added in FY2021: SH 380 from FM 1827 to CR 560 and the Rock Island Road bridge over Bear Creek.

Regional Toll Revenue funds (CSJ 0918-00-334) were used to support work activities. This project is ongoing, and work will continue in FY2022.

Environmental Stewardship Program

Other Funding Sources

The Environmental Stewardship Program will fund engineering studies for constructed wetlands. Consultants may be procured for these efforts. Staff will educate the private sector about mitigation needs in the region. Regional Toll Revenue funding will enable the procurement of trees to be planted to help mitigate the urban heat island effect. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Agreements with external partners;
- Updates of data relevant to stewardship or mitigation; and
- Documentation and presentation material for coordination meetings, workshops, and training sessions.

Work Performed and Status: Agreements with external partners were reviewed. Data relevant to stewardship or mitigation was updated in online tools. Presentations were given to educate the private sector about mitigation needs and opportunities identified by an online tool. Members of the private sector were surveyed to learn how data and online tools can better meet their mitigation needs. Trees were procured and planted to mitigate the urban heat island effect; the majority of trees were planted in low-income communities.

Regional Toll Revenue funds (CSJ 0902-00-193) were used to support activities. Work will continue in FY2022.

Denton Greenbelt Project

Other Funding Sources

Utilizing Regional Transportation Council Local funds, the Denton Greenbelt Project will address sustainability for a planned roadway expansion through the Denton Greenbelt. Staff will prepare a sustainability assessment and will educate stakeholders about indirect and cumulative effects the roadway expansion may have. This element is ongoing throughout FY2020 and FY2021. Anticipated products include:

- Sustainability assessment; and
- Documentation and presentation material for coordination meetings, workshops, or outreach efforts.

Work Performed and Status: Staff discussed sustainability needs during coordination meetings about the Denton Greenbelt. A matrix was drafted that assesses the sustainability of construction and conservation practices that could be implemented during the roadway expansion. Data was collected and a presentation is being developed for future meetings related to economic and environmental effects of the roadway expansion and related development.

Regional Transportation Local funds supported work activities. Work will continue in FY2022.

Blue-Green-Grey Silo-Busting Initiatives

Other Funding Sources

The focus of the “Blue-Green-Grey” initiative is to help address traditional transportation planning that can result in “silos” which cause projects to be disjointed due to lack of communication or coordination amongst planners or project champions in various disciplines. Blue-Green-Grey is an initiative to identify “silo-busting” projects that focus on three elements – blue (water), green (environment), and grey (transportation infrastructure). Selected projects will continue in FY2020 and FY2021. Additionally, staff will advance additional funding rounds throughout FY2020 and 2021 to help develop new ideas that engage multiple disciplines and implement projects that could be further developed and replicated regionwide. Through the 2017 solicitation, three projects were selected for funding: the City of Southlake Burney Lane Biofiltration System, the City of Farmers Branch Green Bus Stop Design Guidelines, and the Dallas Area Rapid Transit Community Gardens Hatcher Station Pilot. Through the 2018 solicitation, three projects were selected for funding: Hightower Drive Biofiltration Rain Gardens, Retrofitting Neighborhood Commercial Green Bicycle Park, and Micro-Detention Storage System. This initiative is supported through RTC Local funds. Anticipated products include:

- New funding initiatives and project awards;
- Completion of a Green Bus Stop Design Guidelines document for the City of Farmers Branch, along with a study of, and design for, ten existing bus stops;
- Completion of a community garden in a vacant parcel near the DART Hatcher Station;
- Implementation of an eco-friendly bike parking design in the Bishop Arts District in the City of Dallas;
- Installation of a biofiltration system at the City of Watauga’s Hightower Drive storm drain inlets;

- Development of a concept-level design details for implementation of a micro-detention storage system; and
- Final reports/case studies summarizing impacts, lessons learned, and any future plans.

Work Performed and Status: During FY2021, the two remaining unfinished projects for the second round of Blue-Green-Grey continued development. Construction and installation were completed for the Retrofitting Neighborhood Commercial Green Bicycle Parking Program; this project was completed in FY2021. The scope of work was completed for the City of Watauga's Hightower Drive biofiltration system; agreement execution and system installation are expected in FY2022.

A third round of Blue-Green-Grey occurred with a Call for Projects, and three projects were chosen by the Selection Committee: the UTA Biofiltration Swales Testing, the City of Allen Floatables Filter, and the Dallas Bottom District Beautification Guidelines. It is expected that these projects will start in FY2022.

Regional Transportation Council Local funds supported work activities, and work will continue in FY2022.

Integrated Planning for Regional Transportation Urban Development, and Stormwater Management

Other Funding Sources

Throughout FY2020 and FY2021, activities contained in this Work Program element concentrate on the integration of regional transportation planning, regional stormwater management, urban development planning, and environmental planning for the purposes of identifying impacts and alleviating risks from severe weather events such as flooding, as well as from other current and future disruptive environmental factors. This comprehensive planning initiative would include assessments of infrastructure and land-use vulnerabilities, analysis of potential lifecycle-based adaptability and durability measures, and determination of possible delivery and maintenance strategies aimed at improving operational capabilities and reducing risk from flooding. Established initially through a working group of partners and stakeholders located in Wise, and portions of Dallas, Denton, Ellis, Johnson, Parker, and Tarrant Counties (specifically, the combined watersheds of the Clear Fork, Elm Fork, and West Fork Trinity River basins), this effort would account for future transportation infrastructure plans, future land-use plans, and the resultant stormwater runoff and/or other environmental effects expected to occur based on these plans. Information and outcomes produced from this preliminary study could ultimately be used to conduct similar, all-inclusive, and contiguous studies facilitating opportunities throughout North Central Texas that may reduce lifecycle costs and other burdens to infrastructure and urban development as regional growth continues. The funding source for this initiative is Surface Transportation Block Grant Program funds, Regional Transportation Council Local funds, Transportation Development Credits, and anticipated federal non-transportation funds (e.g., US Housing and Urban Development/General Land Office). Anticipated products may include:

- Development, application, and technical analysis of dynamic numerical models for estimating the extent and severity of flooding and other environmental effects;
- Creation and maintenance of Geographic Information System (GIS) map layers, relational databases, web applications, and other technical tools supporting surveys/inventories, spatial analyses, permitting, and project implementation monitoring;

- Benefit-cost analyses and other economic outputs assessing potential multi-disciplinary alternative applications;
- Community engagement and analysis using the Community Health and Resource Management (CHARM) scenario planning tool in coordination with the Federal Emergency Management Agency (FEMA);
- Identification or incorporation of performance measures and evaluation criteria;
- Engineering products and tools aimed to calculate infrastructure/land-use design parameters, performance degradation, and lifecycle needs;
- Coordination with resource agencies, technical committees, stakeholders, and other partners highlighting outreach, education, training, and regulatory needs and actions; and
- Documentation of recommended policies, programs, and/or projects.

Work Performed and Status: Work on this project will begin in FY2022.

4.03 Ensuring Nondiscrimination and Environmental Justice in MPO Planning/Program Activities

As a recipient of federal funds, NCTCOG is required to ensure nondiscrimination under Title VI of the 1964 Civil Rights Act. Under Title VI and related statutes, each federal agency is required to ensure that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, disability, or religion. The Civil Rights Restoration Act of 1987 clarified the intent of Title VI to include all programs and activities of federal-aid recipients, subrecipients, and contractors whether those programs and activities are federally funded or not. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994), state that, “each federal agency shall make achieving environmental justice (EJ) part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” As an MPO, NCTCOG strives to ensure that nondiscrimination and the principles of environmental justice are incorporated in its transportation plans, programs, policies, and activities.

To ensure nondiscrimination and environmental justice in its transportation planning activities, staff will work to enhance Title VI, environmental justice, and Limited English Proficiency considerations and inclusion in the planning process and ensure compliance with all federally and State-mandated requirements.

This Work Program subtask supports the following continued initiatives:

Compliance with Federal and State Laws and Regulations

Transportation Planning Funds

This element is ongoing throughout FY2020 and FY2021. Staff will advise other department staff regarding appropriate ways to ensure consistency with applicable laws and regulations within their program areas. Anticipated products include:

- Annual reports; and
- Compliance audit reports.

Work Performed and Status: The Title VI/Nondiscrimination Annual Work Plan and Accomplishment Report was prepared and disseminated. Transportation Department staff were advised on compliance with Title VI of the Civil Rights Act of 1964. Staff reviewed future compliance requirements for Title VI and for the Americans with Disabilities Act.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Collection and Analysis of Data

Transportation Planning Funds

throughout FY2020 and FY2021. Work will include the collection and analysis of available demographic data, as well as investigation and review of similar processes across the country for applicability. Work will also include coordination with the University Partnership Program project being conducted in Subtask 5.11, Automated Vehicle Technology, Automated Vehicle Planning, related to the use of automated vehicles to improve access to jobs and services for access-deprived populations in the Dallas-Fort Worth area. Anticipated products include:

- Data updates to Environmental Justice Index;
- Documentation of review of methodology for Metropolitan Transportation Plan Environmental Justice analysis; and
- Metropolitan Transportation Plan environmental justice analysis.

Work Performed and Status: Data and methodology were updated for the Environmental Justice Index and Transit Accessibility Improvement Tool. Data were analyzed to identify transportation needs of protected communities. Best practices for equity analyses were identified and shared with staff. Feedback was provided to the federal government related to how federal agencies can support equity analyses and compliance. Data was used to support federal grant applications. Staff reviewed the Metropolitan Transportation Plan environmental justice analysis and discussed potential updates, including modifications necessitated by a new Travel Demand Model.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Public Outreach and Title VI Resource

Transportation Planning Funds

This element is ongoing throughout FY2020 and FY2021. Work will include investigating and integrating public engagement efforts to ensure protected populations are involved in the transportation planning process. Staff will hold meetings with program area environmental justice liaisons and review staff activities to advise appropriate ways to incorporate Title VI and environmental justice into their program areas. Staff will also continue to serve as a Title VI/environmental justice resource for transportation committee members, local government members, and subrecipients. Anticipated products include:

- Title VI/environmental justice website updates;

- Presentations and documents necessary to support Title VI and environmental justice training activities; and
- Technical support for partners.

Work Performed and Status: The Title VI/environmental justice website was updated to ensure links were accurate and to identify the agency's Title VI coordinator. Presentations were created to train staff on how to incorporate Title VI and environmental justice into their program areas. Equity information was provided for local government initiatives, and Title VI data was provided to subrecipients.

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

4.04 Performance-Based Planning and Coordination

Transportation Planning Funds

Recent federal and State regulations call for increased emphasis on performance-based planning to ensure the most beneficial transportation projects and programs are implemented. While data-driven decision making has been a cornerstone of the region's planning processes, this subtask will provide for the coordination of this commitment and ensure the federal initiative is fully integrated into NCTCOG's planning process. Work efforts will support both short- and long-range transportation planning efforts. The focus of this subtask will be the continued coordination of data-driven planning activities between staff, regional transportation partners, elected officials, and the public. Activities will include review of evolving rules and regulations related to performance-based planning, as well as oversight of data collection, analysis, and processes to support performance-based planning efforts in the metropolitan transportation planning process. Anticipated products include:

- Documentation and presentation materials for stakeholder meetings;
- Maps and databases;
- Documentation of analysis methodologies;
- Documentation of decision-making processes;
- Tracking and monitoring of transportation system performance documentation; and
- Web-based performance measure monitoring reports.

Work Performed and Status: NCTCOG continues to stay abreast of evolving federal guidance and rulemaking related to required performance measures as the federal performance measure process has matured. NCTCOG worked with stakeholders, prepared materials, and compiled data in preparation for various target-setting activities, including Regional Transportation Council action on targets for the following rulemakings: Pavement and Bridge Condition (PM2), Transit Asset Management (TAM), and Transit Safety (PTASP) (initial baselines and targets) as required by federal rules.

Staff also worked with stakeholders, prepared materials, and analyzed data for anticipated Regional Transportation Council target-setting action in early FY2022 on Highway Safety (PM1) measures.

NCTCOG continued to review and track progress towards meeting targets for these measures while also working towards a suite of its own performance measures beyond those required

by federal rulemaking to relate data-driven performance metrics to the goals of its Metropolitan Transportation Plan (MTP). In recognition of the significant impact that COVID-19 is having on the transportation system, NCTCOG tracked a suite of measures monitoring these impacts. Additionally, during FY2021, NCTCOG worked on ongoing revisions to the project selection/prioritization process for the 10-Year Plan/Unified Transportation Program, incorporating many new performance metrics and criteria.

NCTCOG continues to coordinate through a series of internal and external working groups on performance-based planning topics and is continuing to maintain an internal and external web presence for performance-based planning coordination with enhanced documentation.

Transportation Planning Funds were used to support work activities. Work on performance measurement will continue in FY2022.

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TASK 4.0 – FUNDING SUMMARY

Funding Source	Amount Programmed (2-year)	Authorized (2-year) ¹	Expended (FY2020)	Expended (FY2021)	Amount Expended (2-year)	Balance of Programmed (2-year)	% Expended of Programmed (2-year)	Balance of Authorized (2-year)	% Expended of Authorized (2-year)
4.01 – Metropolitan Transportation Plan									
TPF	\$2,285,100	\$2,285,100	\$1,086,348	\$1,171,294	\$2,257,642	\$27,458	98.8%	\$27,458	98.8%
Subtotal	\$2,285,100	\$2,285,100	\$1,086,348	\$1,171,294	\$2,257,642	\$27,458	98.8%	\$27,458	98.8%
4.02 – Coordination of Transportation and Environmental Planning Processes									
TPF	\$503,800	\$503,800	\$280,612	\$247,295	\$527,907	(\$24,107)	104.8%	(\$24,107)	104.8%
STBG	\$3,000,000	\$0	\$0	\$0	\$0	\$3,000,000	0.0%	\$0	0.0%
LOCAL	\$492,500	\$512,759	\$74,681	\$53,093	\$127,775	\$364,725	25.9%	\$384,984	24.9%
RTR	\$1,468,180	\$1,465,125	\$367,467	\$285,917	\$653,385	\$814,795	44.5%	\$811,740	44.6%
Subtotal	\$5,464,480	\$2,481,684	\$722,760	\$586,306	\$1,309,066	\$4,155,414	24.0%	\$1,172,617	52.7%
4.03 – Ensuring Nondiscrimination and Environmental Justice in MPO Planning/Program Activities									
TPF	\$414,700	\$414,700	\$206,784	\$192,750	\$399,534	\$15,166	96.3%	\$15,166	96.3%
Subtotal	\$414,700	\$414,700	\$206,784	\$192,750	\$399,534	\$15,166	96.3%	\$15,166	96.3%
4.04 – Performance-Based Planning and Coordination									
TPF	\$108,700	\$108,700	\$28,865	\$48,274	\$77,139	\$31,561	71.0%	\$31,561	71.0%
Subtotal	\$108,700	\$108,700	\$28,865	\$48,274	\$77,139	\$31,561	71.0%	\$31,561	71.0%
Total	\$8,272,980	\$5,290,184	\$2,044,757	\$1,998,625	\$4,043,382	\$4,229,598	48.9%	\$1,246,802	76.4%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

TASK 4.0 – TPF FUNDING SUMMARY FY2021

	Amount Programmed	Amount Authorized ¹	Amount Expended	Balance of Programmed	% Expended Programmed	Balance of Authorized	% Expended Authorized
4.01 – The Metropolitan Transportation Plan							
TPF	\$1,132,300.00	\$1,132,300.00	\$1,171,293.84	(\$38,993.84)	103.4%	(\$38,993.84)	103.4%
4.02 – Coordination of Transportation and Environmental Planning Processes							
TPF	\$256,000.00	\$256,000.00	\$247,295.27	\$8,704.73	96.6%	\$8,704.73	96.6%
4.03 – Ensuring Nondiscrimination and Environmental Justice in MPO Planning/Program Activities							
TPF	\$194,100.00	\$194,100.00	\$192,750.22	\$1,349.78	99.3%	\$1,349.78	99.3%
4.04 – Performance-Based Planning & Coordination							
TPF	\$59,300.00	\$59,300.00	\$48,274.41	\$11,025.59	81.4%	\$11,025.59	81.4%
Total	\$1,641,700.00	\$1,641,700.00	\$1,659,613.74	(\$17,913.74)	101.1%	(\$17,913.74)	101.1%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

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V. Task 5 – Special Studies

Providing support to transportation providers is critical in the planning, operation, and maintenance of a comprehensive regional transportation system. The North Central Texas Council of Governments provides support by conducting and participating in a wide range of travel forecasting, planning, and design projects. Emphasis in this task is placed on assisting local governments with subarea and thoroughfare planning studies, providing technical support for projects such as traffic impact analysis and thoroughfare planning, and participation with transportation providers in corridor or subarea studies where the regional transportation planning process has identified the need for additional transportation system capacity. Work in this area also addresses transportation and land-use planning issues, Intelligent Transportation System initiatives, congestion management activities, goods movement, transportation system security and safety, capital and operational asset management, and surface access to aviation. Efforts to streamline and coordinate the planning and environmental review processes to expenditure project delivery, implementation projects or programs aimed at reducing congestion and improving air quality, and activities related to the arrival of autonomous vehicles and high-speed passenger technology in the region are also included.

5.01 Regional Transportation Studies

This subtask provides support in the development and refinement of major regional corridor studies. For corridors identified for improvement in the financially constrained Metropolitan Transportation Plan (MTP), as well as other potential facilities being considered for inclusion in future MTPs, a comprehensive, detailed, and environmentally focused study must be performed at the corridor level.

Corridor Studies/Environmental Studies Support

Transportation Planning Funds

This subtask is ongoing throughout both FY2020 and FY2021, providing support in the development of corridor studies. For corridors identified for improvement in the Metropolitan Transportation Plan (MTP), both in the financially constrained and the illustrative list of projects, as well as other potential facilities being considered for inclusion in future MTPs, a comprehensive, detailed, and environmentally focused study must be performed at the corridor level. These corridor studies are funded by Transportation Planning Funds, unless otherwise noted, and may require environmental analysis, evaluation of existing and/or future infrastructure conditions, or other feasibility assistance. These studies are required by federal regulation and serve as a bridge between the regional planning process and the more detailed environmental analysis and corridor design and engineering phases conducted with partner agencies including Dallas Area Rapid Transit (DART), the Denton County Transportation Authority (DCTA), Trinity Metro, the North Texas Tollway Authority (NTTA), and the Texas Department of Transportation (TxDOT).

Where transportation-ended investments are contemplated, reasonable alternative strategies for addressing the transportation demands and congestion at a corridor or subarea level of the Metropolitan Planning Area are identified and evaluated in these studies. The corridor study process provides information to elected officials, technical staff, the business community, nearby

property owners, and the general public on the costs, benefits, and impacts of these alternatives so that an informed decision can be made for a corridor improvement strategy. The study process also presents the opportunity to promote a balanced and multimodal transportation network to improve system interoperability and efficiency, and support the goals of the Metropolitan Transportation Plan, along with sustainability, livability, and community land-use objectives. Funding assistance may be requested from the participating agencies and potential private concessionaires involved in Comprehensive Development Agreement (CDA) efforts.

In addition, this Work Program subtask includes technical assistance enabling NCTCOG to respond to ad hoc requests for information and assistance from local governments, transportation authorities, public agencies, Transportation Management Associations, and private interest groups. TxDOT technical assistance requests, such as on- or off-system arterial corridor analysis projects that help determine design concept and scope, are similarly included in this element. Tasks performed as technical assistance usually involve special computer processing and rerunning portions of the travel forecast model to determine travel conditions and assumptions as specified in each individual request. This work is often done for local governments in conjunction with consultants retained by the local government to complete a study or project. Anticipated products of this subtask include:

- Travel demand modeling forecasts for study corridor alternatives and alignment analysis;
- Specialized model runs such as select-link analyses and alternative demographic modeling;
- Report of daily volumes, peak-hour volumes, level of service, vehicle miles traveled, ridership totals, boarding and alighting figures, and other travel model data for studies;
- Travel demand modeling forecasts and forecast results reports with supporting tabulations as required for New Starts applications;
- Travel model networks, Geographic Information System (GIS) shape files, and performance reports as model outputs;
- Coordination meetings that monitor and ensure the continued progress of environmental document completion;
- Collection and transmittal of travel model data for potential CDA proposals;
- Environmental study and project updates on the NCTCOG website;
- Feedback to sponsoring agencies on review of document recommendations and design schematics prior to federal action;
- Update to the regional tolling analysis that evaluates potential environmental justice impacts;
- Analysis that quantifies potential environmental justice impacts at the corridor level;
- Written statements of support at public meetings and hearings for corridors;
- Assistance to local toll project entities on feasibility studies for potential toll roads;
- Review of feasibility and corridor study components;
- Evaluation of institutional structures necessary to implement proposed toll roads;
- Public involvement activities;
- Coordination of planning activities with regional transportation partners including TxDOT and NTTA;
- Corridor recommendations consistent with the Metropolitan Transportation Plan, the Transportation Improvement Program, and Regional Transportation Council policies; and
- Documentation to guide incorporation of asset management principles, performance measures, and pilot project recommendations in the preparatory, analysis, and decision-making efforts for updates to the Metropolitan Transportation Plan, Congestion Management Process, and the Transportation Improvement Program.

The following is a list of roadway and rail corridor studies in the Dallas-Fort Worth area that may require environmental analysis or other feasibility assistance and would be funded with Transportation Planning Funds. These studies will be conducted based on regional priorities, schedules of partner transportation agencies, and staff and funding availability. This list is not exhaustive of all potential corridor studies but is included as a guide for projects on which assistance is currently ongoing or is anticipated.

- IH 35/IH 35W – Denton County
- IH 35W – Tarrant/Johnson County
- IH 30 – Tarrant County
- SH 121 – Tarrant County
- IH 820/IH 20/US 287 – Tarrant County (Southeast Connector)
- SH 170
- SH 161/SH 360 Toll Connector
- IH 20 (East Tarrant County)
- SH 114 (Tarrant County)
- SH 199
- US 287 Tarrant County
- SH 360

Work Performed and Status: The North Central Texas Council of Governments (NCTCOG) participated in and contributed to Texas Department of Transportation (TxDOT)-led roadway corridor studies and environmental document completion by attending regular meetings, reviewing corridor study documents, and providing travel model related data. Additionally, staff coordinated with partner transportation agencies at the regional, State, and federal levels in the development of corridor studies and analyses and worked to ensure consistency between study recommendations and the Mobility 2045 Update.

Individual corridors involving significant staff time and resources during FY2021 included:

- IH 35/IH 35W – Denton County: NCTCOG staff continued to work with TxDOT Dallas and Fort Worth on the development of the overall concept and scope and to determine consistency related to the Mobility 2045 Update. Work on this corridor will continue in FY2022 as plans continue to develop.
- IH 35W – Tarrant County/Johnson County: NCTCOG attended technical work group and coordination meetings with TxDOT Fort Worth. Staff also provided traffic forecasting analysis for potential corridor alternatives and improvements on Segment Two of the corridor. Work on this corridor will continue in FY2022.
- IH 30 – Tarrant County: During FY2021, TxDOT Fort Worth continued with the re-evaluation of the IH 30 corridor from Cooper Street to SH 161. NCTCOG staff performed travel demand forecasting and presented traffic modeling results. Work on this corridor will continue in FY2022 as this study will require ongoing coordination and technical support.
- SH 121 – Tarrant County: NCTCOG staff continued to work with TxDOT Fort Worth on the ultimate vision and recommendations for the SH 121 corridor. Work is expected to continue in FY2022.
- IH 820/IH 20/US 287 (Southeast Connector) – Tarrant County: NCTCOG staff attended monthly corridor status meetings. These meetings provided information such as corridor

updates, Mobility 2045 Update coordination, and development schedules. Work will continue into FY2022 as this study will need continued coordination and technical support.

- SH 170: NCTCOG continued to assist TxDOT Fort Worth to determine the ultimate scope for the SH 170 corridor and for consistency with the Mobility 2045 Update. Work on this corridor is expected to continue in FY2022.
- SH 161/SH 360 Toll Connector: NCTCOG staff continued to work with TxDOT Fort Worth and the North Texas Tollway Authority on the evaluation of potential corridor alternatives and recommendations. Work on this corridor will continue in FY2022 as this study will require ongoing coordination and technical support.
- IH 20 – East Tarrant County: Staff attended TxDOT Fort Worth coordination meetings regarding proposed interim and ultimate improvements for IH 20 from Park Springs Boulevard to SH 161. Work on this corridor will continue in FY2022 as this study will require ongoing coordination and technical support.
- SH 114 – Tarrant County: NCTCOG staff continued to work with TxDOT Fort Worth on the ultimate vision and recommendations for SH 114 in the Mobility 2045 Update. Work will continue into FY2022.
- SH 199: NCTCOG continued to provide support to the ongoing TxDOT Fort Worth Feasibility Study for SH 199 from IH 820 to downtown Fort Worth. Staff attended corridor coordination meetings and worked with TxDOT Fort Worth on recommendations for the SH 199/IH 820 interchange. Work on this study will continue in FY2022.
- US 287 – Tarrant County: Staff attended TxDOT Fort Worth coordination meetings. Work on this corridor will continue in FY2022 as plans continue to develop.
- SH 360: NCTCOG staff continued to work with TxDOT Fort Worth on proposed interim and ultimate improvements for this corridor. Work on this study will continue in FY2022 as this study will require ongoing coordination and technical support.

Transportation Planning Funds were utilized to support the above work activities.

Other Funding Sources

Texas Department of Transportation funds will also be utilized to carry out the work activities noted above, as well as corridor-level mobile source air toxics analyses. The following projects will be performed using Texas Department of Transportation funds:

- US 75 – Dallas/Collin County
- US 80/IH 30 (Dallas/Rockwall/Kaufman/Hunt Counties)
- US 380 – Collin/Denton Counties
- IH 635 East
- City Map (Downtown Dallas Freeway Coordination Study)
- SH 190 East Branch

Work Performed and Status: In FY2021, NCTCOG staff provided support to TxDOT Dallas, as requested, on the US 380 Feasibility Study in Collin and Denton counties, the Northwest Highway Feasibility Study, the IH 345 Feasibility Study, and the IH 35E Lower Stemmons

Corridor Study. Staff attended weekly project status meetings, workshops, and coordination meetings. Work included travel demand forecasting, performance measure reporting, origin-destination analysis, benefit cost analysis, and presentation of travel model results for evaluation of potential corridor improvement alternatives.

Texas Department of Transportation funds were used to support work activities. Work will continue into FY2022 as staff anticipates continuing to support TxDOT Dallas in these studies.

North Texas Tollway Authority Feasibility Studies

Other Funding Sources

During both FY2020 and FY2021, NCTCOG will assist NTTA in providing travel demand modeling for current and future corridor feasibility studies, environmental documents, air quality impact analyses, and traffic and revenue forecasts. NTTA funds have been provided through an inter-local agreement between the two agencies to support this element for corridors listed in the Metropolitan Transportation Plan, as well as other potential NTTA corridors being considered for inclusion in future MTPs. NCTCOG will employ the Dallas-Fort Worth Regional Travel Model to provide technical data to NTTA in the analysis of new toll or managed facilities, operational enhancements, capacity improvements, or reconstruction of existing toll roads. Anticipated products of this subtask include:

- Technical data from the travel model including daily volumes, peak-hour volumes, levels of service, and vehicle miles traveled for use in the refinement of corridor recommendations; and
- Corridor-level mobile source air toxics analyses.

The following is a list of ongoing and potential feasibility or traffic and revenue studies for NTTA:

- Dallas North Tollway Extension (US 380 to Grayson County)
- SH 190 East Branch (IH 30 to IH 20)
- President George Bush Turnpike (Multiple Segments)

This list is not exhaustive of all potential toll facilities or toll-related roadway improvements. The list is also not presented in any sort of order of priority or importance. It is included as a guide for possible projects for which assistance may be requested. Project list revisions, as required, may be made by mutual agreement by NTTA and NCTCOG.

Work Performed and Status: In FY2021, NCTCOG was not requested to provide data on North Texas Tollway Authority (NTTA) corridors.

Staff may receive model-related requests from NTTA and its consultants in FY2022.

Strategic Corridor Initiatives

Other Funding Sources

Under this initiative, NCTCOG staff will continue to provide technical, planning, and environmental assistance to transportation agencies and the Regional Transportation Council to help advance

critical regional projects through development, approval, and implementation as soon as possible. The goal of this program is to help improve life-cycle functionality and reduce cost escalation due to inflation, alleviate congestion faster, assist in meeting air quality goals, and ensure incorporation of asset management and congestion mitigation strategies/principles. As regional roadway and freight/passenger rail projects continue to increase in complexity, scope, and impacts, the NCTCOG Transportation Department has identified a need to expand its involvement beyond its current planning and programming functions to improve project implementation in the Dallas-Fort Worth region.

Throughout FY2020 and FY2021, the program activities will provide assistance to advance all surface modes of transportation, including passenger rail, freight rail, and roadway improvements, particularly on those projects that deal with multiple transportation modes and asset management initiatives. Surface Transportation Block Grant Program funds, Regional Toll Revenue funds, Regional Transportation Council Local funds, and Transportation Development Credits will support this effort. Work products will vary depending on the work performed and could include:

- Meeting summaries;
- Comment review; and
- Technical memorandums.

The following is a list of roadway corridors that may be studied in this element:

- IH 820/SH 121
- SH 183
- IH 635 East
- State Loop 9
- SH 114
- Outer Loop
- IH 30 – Rockwall County/Hunt County
- IH 20 – Dallas/Tarrant County
- IH 20/IH 30 – Parker/Tarrant County
- IH 35E – Dallas County
- IH 35E – Ellis County
- IH 820 West – Tarrant County
- SH 360 – Tarrant County
- US 175 – Dallas County
- US 380 – Collin/Denton County
- US 75 – Collin/Dallas County

Work Performed and Status: NCTCOG continued to support the Texas Department of Transportation (TxDOT) on various projects in FY2021, including IH 30 in Dallas, Hunt, Rockwall, and Tarrant counties; US 380 in Denton and Collin counties; the Dallas Fort Worth Airport East-West Connector and its connection to SH 360 in Tarrant County; IH 820 West in Tarrant County with its connection to SH 199 (2b); Loop 9 Segments B and C in Dallas and Ellis counties; and the SH 114/SH 170 corridors in Denton and Tarrant counties. Work included writing and reviewing environmental documents, drafting and reviewing technical memos, reviewing schematics, developing conceptual designs, and hosting or participating in meetings and conference calls to ensure all projects met their accelerated deadlines.

Similar technical activities, documentation, and coordination were conducted with projects along the IH 820/SH 121, SH 183, and US 175 corridors in Tarrant and Dallas Counties for

the purpose of preparing/submitting applications to the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Discretionary Grant Program.

Surface Transportation Block Grant Program funds (CSJs 0902-00-261, 0902-00-262, 0902-00-265, and 0902-00-266), Regional Toll Revenue funds (CSJ 0902-00-161), Regional Transportation Council Local funds, and Transportation Development Credits supported work efforts. Work will continue in FY2022.

Collin County Strategic Transportation Initiative

Other Funding Sources

Carrying over into FY2020 and FY2021, work efforts on this initiative include developing a multimodal Collin County plan with emphasis on north-south capacity and east-west connections to Hunt County. Assistance through the University Partnership Program (UPP) will be utilized to estimate the travel impacts of transportation projects under consideration, with a benefit/cost analysis and an economic impact analysis to evaluate the economic implications of potential transportation improvements in Collin County.

Also carrying over from FY2019, are efforts focusing on identifying potential improvements to the IH 30, US 380, and SH 66 corridors; as well as identifying recommended changes to the Hunt County Transportation Plan regarding access to Collin County.

Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support these efforts. Anticipated deliverables include:

- Travel demand modeling;
- Report of daily volumes, peak-hour volumes, levels of service, vehicle miles traveled, and other travel demand model data;
- Presentation of results to local government officials;
- Draft technical memorandum detailing methodology and results of analysis; and
- UPP report on the benefit/cost ratio and other economic analysis results to help decision makers evaluate the value of an investment and prioritize projects.

Work Performed and Status: As a component of the Collin County Strategic Transportation Initiative, NCTCOG staff participated in stakeholder meetings and preliminary outreach efforts associated with the Collin County Future Mobility Study (CCFMS). Prior findings from the Collin County Strategic Transportation Initiative have been provided to the county's consultants and will inform initial phases of analysis for the CCFMS. Additional technical support has been requested by the county and will be provided by NCTCOG in FY2022.

Assistance was utilized through the University Partnership Program in generating an economic benefit evaluation tool. This tool will be used to compare transportation improvement scenarios in Collin and Hunt counties. Phase I of this project was completed in summer 2021 following a NCTCOG staff peer review. The economic toolkit and final report were delivered in August 2021. Phase II of this project will be conducted in FY2022.

Surface Transportation Block Grant Program funds (CSJ 0918-24-237) and Transportation Development Credits supported work efforts. Work will continue in FY2022.

Harry Hines Boulevard Corridor Study from Loop 12 to Downtown Dallas

Other Funding Sources

In FY2020 and FY2021, NCTCOG will develop a corridor plan for Harry Hines Boulevard from Loop 12 to downtown Dallas. The purpose of this study is to develop a context sensitive design with modern engineering concepts to provide multimodal transportation options and to increase the sustainability/livability in the corridor. Work efforts will be supported through Surface Transportation Block Grant Program funds and Transportation Development Credits. Consultant services may be used to support this study. Anticipated products include:

- A corridor plan for Harry Hines with an emphasis on sustainable development and providing multimodal transportation and technology options.

Work Performed and Status: For the Harry Hines study, staff worked with consultants and City of Dallas staff in preparation of the Harry Hines Boulevard Master Transportation Plan. Staff reviewed and provided comments on five technical memorandums that were produced by the consultant. These memorandums were on safety/crash data, previous related studies in the Harry Hines area, bike/ped accommodations, character zones, existing conditions traffic analysis, and transit and share-ride conditions in the corridor. Staff also reviewed the traffic projection methodology memo, which describes how the traffic will be projected for the project. In addition to general oversight of the project and the consultant, staff participated in two project workshops and attended project progress meetings; during these meetings items such as project management, coordination, and schedule were discussed. There has also been extensive coordination with the Texas Trees foundation and the Southwest medical district on plans they have for the Harry Hines corridor.

Surface Transportation Block Grant Program funds (CSJ 0918-47-284) and Transportation Development Credits were used to support work activities. Work on this project will continue in FY2022 as this study will require ongoing coordination and technical support.

High-Speed Passenger Technology

Other Funding Sources

NCTCOG staff will provide leadership and/or support for work activities related to high- and higher-speed passenger technology within the Dallas-Fort Worth planning area boundary and those areas outside the planning area boundary that impact travel within the boundary. NCTCOG work activities will be supported with Surface Transportation Block Grant Program funds, Regional Toll Revenue funds, Regional Transportation Council Local funds, and Transportation Development Credits. Efforts may include all activities associated with planning and implementation of high- or higher-speed passenger technology (i.e., rail, next-generation magnetic levitation) in the Dallas-Fort Worth region, as well as activities related to connecting the Dallas-Fort Worth region to other metropolitan areas. Consultant assistance may be used for this initiative. Regional Transportation Council Local funds will also be used to support travel and associated costs for implementation of high- or higher-speed passenger technology.

The following products will be delivered during FY2020 and FY2021 as the result of work done on this project:

- Various maps identifying alternatives and Regional Transportation Council policies;
- Development of ridership modeling analyses for various high-speed passenger technology alignments and station locations; and
- Recommended station locations, alignments, and technology.

Work Performed and Status: Work under this element focused on administering the consultant contract for the Dallas to Fort Worth High Speed Transportation Connections Study as well as hosting several public meetings throughout Phase 1 of the study. Additional efforts centered around monitoring the Dallas to Houston High-Speed Rail project and hyperloop technology advancements, including the development of a hyperloop certification facility.

Regional Toll Revenue funds (CSJs 0902-00-194 and 0918-00-197) were used to support work activities. This project is ongoing and will continue throughout FY2022.

High-Speed Passenger Technology Core Express Service

Other Funding Sources

The Regional Transportation Council has secured Surface Transportation Block Grant Program funding, to be matched with Transportation Development Credits, to support the development of high-speed passenger technology between Dallas and Fort Worth. These dollars and credits will be utilized by NCTCOG to lead the initiative to complete the Environmental Impact Statement on the Core Express Service project. Consultant assistance will be utilized. Anticipated products include:

- Final Environmental Impact Statement; and
- Record of Decision.

Work Performed and Status: Phase 1 activities for the Dallas to Fort Worth High-Speed Transportation Connections Study continued during FY2021. Phase 1 focused on an Alternatives Analysis of high-speed technologies and alignments between Dallas and Fort Worth. Activities included developing a public engagement plan; conducting public engagement, stakeholder, and community group meetings; developing and screening 43 potential alignments and five potential transportation modes; developing the criteria for the three-level screening process; hosting a technology forum with relevant technology experts from the industry; and hosting monthly coordination meetings with Federal Railroad Administration and Federal Transit Administration staff representatives.

Surface Transportation Block Grant Program funds (CSJ 0902-00-074) and Transportation Development Credits were used to support work activities. This project is ongoing and will continue throughout FY2022.

Regional People Mover Initiative

Other Funding Sources

Throughout the Dallas-Fort Worth region, many opportunities exist for an appropriate technology to serve as a “last mile” connection or distribution system within a mixed-use activity center area. During FY2020 and FY2021, NCTCOG staff, working in collaboration with the many project

opportunity owners, stakeholders, and local government and transportation authority partners, will identify the merits of alternative people mover technologies available and assess each regional project opportunity for unique needs, including similarities and synergies. This initiative also includes engineering design efforts for people mover system(s) at particular locations. Consultant assistance will be utilized for this initiative. Surface Transportation Block Grant Program funds and Transportation Development Credits will be used. The following products will be delivered as the result of work done on this project:

- Technical memorandums covering evaluation of alternative people mover technologies;
- Technical memorandums evaluating the needs of the various regional people mover project opportunities; and
- Engineering designs of location-specific infrastructure for alternative people mover systems.

Work Performed and Status: During FY2021, a consultant was procured to develop guidelines and standards for an Automated Transportation System (ATS) that would be applicable to the various needs around the region for first/last mile transit and movement of goods in an efficient and scalable manner. This ATS Guidelines Study focuses on four key areas: ATS vehicle technology, modular infrastructure for grade-separated guideways, wireless charging technology, and feasibility to retrofit existing people mover applications in the region.

Additional efforts in this initiative included refinement of GIS-based evaluation tools for site feasibility. Coordination with outside stakeholders, including municipalities and the private sector, led to project development efforts to initiate site-specific analysis and future design activities.

Surface Transportation Block Grant Program funds (CSJ 0902-90-008) and Transportation Development Credits supported this project. The project is ongoing and will continue in FY2022.

M-Line Extension Feasibility Study

Other Funding Sources

During FY2020 and FY2021, and in coordination with the McKinney Avenue Transit Authority, the city of Dallas, DART, and other stakeholders in the area, NCTCOG will conduct a feasibility study for an extension of the M-Line Trolley to connect Uptown with the Knox-Henderson neighborhood. The feasibility study will recommend alignments and stops; evaluate the cost of implementation, operation, and maintenance; identify potential funding sources; and develop a preliminary implementation schedule. Consultant assistance may be used for this initiative. Funding source is Surface Transportation Block Grant Program funds and Transportation Development Credits. Anticipated products include:

- Ridership estimates;
- Preliminary environmental analysis; and
- Technical reports.

Work Performed and Status: Staff continued to coordinate with the City of Dallas on the McKinney/Cole Two-Way conversion project as it has a bearing on the M-Line Extension

Feasibility Study, not only on scope elements, but also on the ideal timing of releasing a request for proposals for a consultant to provide assistance with the study.

In December 2020, staff met with stakeholders to discuss the Request for Proposals (RFP) schedule for the feasibility study. Due to a variety of factors, including the status of the Two-Way conversion project and the challenging circumstances introduced by the onset of COVID-19, the group decided to postpone the study for at least a year, but will reassess the need for it in FY2022.

Surface Transportation Block Grant Program funds (CSJ 0918-47-238) and Transportation Development Credits supported work activities.

Regional Passenger Rail Innovative Finance Initiative

Other Funding Sources

During FY2020 and FY2021, NCTCOG staff will further investigate innovative funding and implementation opportunities for regional passenger rail systems. NCTCOG staff will coordinate efforts with DART, DCTA, and Trinity Metro, as well as representatives from local government, state, and federal agencies; property owners and developers to investigate the possible funding options. NCTCOG, working with stakeholders, will explore options under state and local laws for project implementation, and financial and governance structures to advance all regional passenger rail projects. Efforts will include, but are not limited to, the Frisco passenger rail corridor. Work on the Frisco passenger rail corridor will be carried out under Subtask 3.04. Consultant assistance may be utilized for this initiative, and Regional Toll Revenue funds will be used. The following products will be delivered as the result of work done on this project:

- Technical memorandums documenting analysis related to project implementation, and financial and governance structure options; and
- Mapping of potential alignment alternatives.

Work Performed and Status: Efforts to integrate the technical analyses and results from the Frisco passenger rail corridor study carried out under Subtask 3.04, Regional Transit Planning Assistance, with the adjoining passenger rail network were accomplished under this element. Coordination efforts included analysis of the effect of interlined services with the Frisco corridor on the surrounding passenger rail network and the corresponding regional travel demand characteristics associated with each interlined option analyzed. Efforts to coordinate and integrate the technical work as a part of the overall transit in Collin County accomplished in Subtask 3.04 with the Collin County Strategic Transportation Initiative in Subtask 5.01 were also undertaken in this work activity to ensure consistency between roadway and transit initiatives.

Surface Transportation Block Grant Program funds (CSJ 0918-24-237) and Regional Toll Revenue funds (CSJ 0918-47-211) were used to support work activities. Work in this area will continue in FY2022 for further study on one or more rail corridors in the region.

Conversion of Freight Rail to Regional Passenger Rail

Transportation Planning Funds

Throughout the Dallas-Fort Worth region, several opportunities exist to provide passenger rail service in existing freight rail corridors. During FY2020 and FY2021, NCTCOG staff will analyze opportunities within the region where potential passenger rail service may be feasible sometime in the future, and what local governments can do to preserve the corridor and develop compatible land use and economic development options. The activities will include collaboration with many project opportunity owners such as private industry, transportation partners, stakeholders and local government entities: evaluation of corridor feasibility for rail service now and in the future; and how to prepare the corridor by evaluating land-use options that would facilitate future rail service. NCTCOG staff efforts will include analyzing the feasibility of combined or converted operations including opportunities for unique synergy, cost efficiencies and savings, operations efficiencies and transportation system effectiveness. The following products will be delivered as a result of work done on this project:

- Technical memorandums covering evaluation of various scenarios and corridor development alternatives;
- Ridership estimates;
- Technical memorandums identifying project feasibility; and
- Presentations and briefings notes.

Work Performed and Status: Work scope development and preliminary coordination were accomplished in FY2021.

Transportation Planning Funds were used to support work activities. This project will continue in FY2022 as Subtask 4.06, Regional Passenger Rail Planning and Evaluation Process Development.

Transportation Planning Funds were utilized to support work activities.

Dallas Fort Worth Airport Innovative Transportation Initiatives: Goods Movement, Rail Passenger Connections to the Trinity Railway Express, and Hyperloop Feasibility

Other Funding Sources

During FY2020 and FY2021, this study will assess the impact of regional freight movement to and from the Dallas Fort Worth (DFW) International Airport including air cargo and truck traffic using advanced technologies. Expectations from this effort are to reduce congestion and improve air quality using next generation technology and logistics. This study will also evaluate passenger movements by automated vehicle/rail improvements to and from the southern entrance to DFW International Airport. This will include improved access from the CentrePort station on the Trinity Railway Express (TRE) corridor. With new possible terminal expansion at DFW International Airport, the focus will be to and from the Airport in the southern direction. The study will include opportunities to reduce the need for vehicle parking at the Airport. To help with both goods movement and passenger movement capabilities, the study will address opportunities for Hyperloop technology to and from the Airport in the southern direction. Regional Transportation Council Local funds will be utilized for these initiatives. Anticipated products include:

- Strategic direction on goods movement using latest technologies associated with vehicles, information systems and logistic chains. For example, will the introduction of next generation autonomous vehicles be able to deliver goods directly from the warehouse to the tarmac? This effort will determine if Hyperloop technology can provide for cost-effective delivery of people and goods.
- The evaluation of additional passenger improvements. Passenger Rail exists in two corridors to and from DFW International Airport. A third corridor is already funded and soon to be under construction. This effort will answer the passenger rail movements to and from the south considering a range of technology options. This effort will result in the system connection of four distinct rail corridors impacting the Airport.
- The evaluation of Hyperloop technology. This technology can move people and goods. As a result, this study will evaluate the use of Hyperloop technology to help with the first objective, that being goods movement. In addition, this technology will be evaluated to assist with the second objective, that being passenger movements. The consideration of goods movement and passenger movements in the same study permits next generation technologies to be considered in addressing today's problems.

Work Performed and Status: No work was performed in this element during FY2021. As noted in FY2020, work on the Hyperloop technology was conducted under High-speed Passenger Technology in Subtask 5.01, and other work activities were determined to be unnecessary. This work will not carry over to FY2022.

High-Speed Rail/Cedars Planning Study

Other Funding Sources

This study of potential improvements, anticipated to begin in FY2021, will include the review of transportation thoroughfare systems over IH 30. This project will include transportation planning in the Cedars neighborhood of Dallas, transportation connections to the southern sector on both sides of the Trinity River, review of potential structures in proximity of the IH 30 freeway, and preliminary engineering of recommended improvements.

This work will be performed by NCTCOG staff and engineering consultants. It is anticipated that 50 percent of the entire project will be performed by NCTCOG staff and will be conducted in the first 18 months. Consultants will be used for engineering activities in the second 18 months of the study. It is anticipated this effort will be conducted over three years. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support work activities. The anticipated products will include:

- A proposed gridded thoroughfare system over IH 30;
- Transportation recommendations for the Cedars neighborhood;
- Transportation recommendations crossing the Trinity River, connecting Oak Farms to the Cedars neighborhood;
- An inventory of possible transportation and economic development structures in proximity to IH 30; and
- As stated previously, 50 percent of the effort will go primarily to engineering of critical projects.

Work Performed and Status: No work was performed on this project during FY2021. Work is anticipated to begin in FY2023.

Forest Hill Drive Planning Study

Other Funding Sources

Beginning in FY 2021, NCTCOG will prepare a corridor development plan facilitating the future reconstruction and widening of Forest Hill Drive between Lon Stephenson Road and Shelby Road within the cities of Everman, Forest Hill, and Fort Worth. The study will not only encompass corridor sustainability and reliability issues solely based on transportation concerns, but also the distribution and intensity of current/future land uses, and their possible contributions toward flooding and other stormwater management effects within the corridor's watershed. Proposed recommendations from the corridor development plan will be informed by data, activities, and outcomes resulting from the "Integrated Adaptation and Durability Planning for Regional Transportation, Urban Development, and Stormwater Management Study", described in detail under subtask 4.02, and due to the location of Forest Hill Drive within the larger study area.

Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized, and consultant assistance may also be acquired to support these efforts. Anticipated deliverables include:

- Technical memoranda documenting analysis of corridor transportation constraints, needs, and comparisons of proposed operational and capacity improvement alternatives;
- Technical memoranda highlighting potential engineering products and tools utilized for calculation of corridor-based infrastructure/land-use design parameters, performance degradation rates/scenarios, and lifecycle needs;
- Benefit-cost analyses and other economic outputs assessing potential multi-disciplinary alternative applications within the corridor;
- Coordination with resource agencies, technical committees, stakeholders, and other partners highlighting outreach, education, training, and regulatory needs/actions based on sustainability and asset management principles; and,
- Final environmental documentation and clearance declaration.

Work Performed and Status: No work was performed on this project during FY2021. Work is anticipated to begin in FY2023 under Subtask 4.02, Coordination of Transportation and Environmental Planning Processes.

5.02 Subarea Studies and Local Government Assistance

This subtask provides assistance to local governments, including thoroughfare planning support, comprehensive studies, and technical assistance. This includes coordinating with local, regional, State, and federal agencies and assisting in the preparation of environmental and planning documents, as well as working with local governments in developing the transportation component of a city's comprehensive plan or countywide transportation plan.

Comprehensive Transportation Planning Studies and Technical Support

Transportation Planning Funds

This subtask is ongoing throughout FY2020 and FY2021, providing an evaluation of multimodal transportation needs within a specific geographic area or along an arterial or transit corridor. Subarea studies are designed to study a specific issue and allow for a comprehensive assessment of general transportation needs within an area prior to examining system alternatives. A portion of this subtask is dedicated to assisting local governments in developing the transportation component of a city's comprehensive plan or in the development of citywide transportation plans through the delivery of travel forecasts and technical support for these efforts. This subtask includes technical assistance enabling NCTCOG to respond to ad hoc requests for information and assistance from local governments, transportation authorities, public agencies, Transportation Management Associations, and private interests. Due to the large number of similar requests, NCTCOG will prepare countywide subarea forecasts that can be used to assist local governments with thoroughfare planning needs and to answer many technical assistance questions. Additionally, this subtask allows for coordinated planning efforts that provide travel demand model ridership data and technical analysis to local transit agencies.

Specific projects in this work subtask are listed below. The list is not all inclusive, as additional requests may be considered pending staff and resource availability. The timing in which local governments are ready to begin studies and the availability of NCTCOG staff and consultant assistance drive the scheduling of these efforts. Consultant assistance may be utilized to support these studies, and local governments may be responsible for consultant assistance funding. The policies set forth to guide the activity in this Work Program element are contained in Exhibit I-5. This Work Program subtask also provides traffic forecasting and technical support for subtasks conducted by other program areas within the department.

Anticipated products include:

- Countywide subarea forecasts and identification of recommendations;
- Thoroughfare planning guidelines;
- Travel demand modeling for study corridor alternatives and alignment analyses;
- Report of daily volumes, peak-hour volumes, levels of service, vehicle miles traveled, ridership totals, boarding and alighting figures, and other travel model data for studies;
- Collection and transmittal of travel model networks, GIS shape files, and performance reports as model outputs;
- Project updates on NCTCOG website; and
- Incorporation of recommendations into the next Metropolitan Transportation Plan.

Provided below is a list of ongoing and candidate projects in the Dallas-Fort Worth area which will be conducted or supported based on regional priorities, schedules of partner transportation agencies, and staff and funding availability. This list is divided into three categories that provide a scaled level of NCTCOG staff involvement: Category 1 – NCTCOG is conducting the study; Category 2 – NCTCOG is providing limited analysis and data to support an external study; and Category 3 – NCTCOG is providing existing data in response to small, ad hoc requests for technical assistance.

Roadway

Category 1

- Hood County Transportation Plan (including Chisholm Trail Parkway Extension)
A countywide plan will be developed that incorporates land-use planning, traffic count and accident data, demographic projections, travel demand modeling, local government committee assistance, and public involvement.
- North Tarrant County Transportation Subarea Study
This study will focus on an assessment of transportation needs in northwest Tarrant County. This effort will include a review of current and future traffic volumes, with attention given primarily to the regional arterial system in regards to connectivity and capacity needs.

Work Performed and Status: The evaluation of multimodal transportation needs at the subarea or corridor level supports local governments and responds to those needs. The pre-NEPA planning work performed and project status during the reporting period of FY2021 is as follows:

Hood County Transportation Plan (including Chisholm Trail Parkway Extension): Commencement of this planning study is pending collaboration between Hood County and NCTCOG regarding the timeline and scope of the project. Internal meetings and preliminary data collection continued in anticipation of the planning study's commencement. This project will carry over to FY2022.

North Tarrant County Transportation Subarea Study: Continued work on this project is pending additional collaboration between NCTCOG and Tarrant County. Tarrant County staff continues to refine criteria for identifying priority corridors for further study. NCTCOG is prepared to provide additional data and planning services should the County need further assistance. This project will carry over to FY2022.

Category 2

- City of Cleburne Thoroughfare Plan
- Dallas County Major Capital Improvement Program (MCIP)
- City of Dallas Comprehensive Thoroughfare Plan Update
- Tarrant County (Mansfield/Kennedale) Business 287/Kennedale Parkway Corridor Study
- Dallas County Thoroughfare Plan Update
- Fort Worth Subarea Transportation Plan
- Western Tarrant County Transportation Initiative
- Hunt County Thoroughfare Plan
- East-West Connector for Dallas Fort Worth International Airport
- City of Balch Springs Master Thoroughfare Plan Update
- City of Dallas Bishop Arts Transportation Plan
- City of Wylie Collin College Regional Transportation Study
- City of Lake Worth Thoroughfare Planning Assistance
- City of White Settlement Thoroughfare Planning Assistance
- City of Celina Comprehensive Plan

Work Performed and Status: The evaluation of multimodal transportation needs at the subarea or corridor level supports local governments and responds to those needs. The pre-NEPA planning work performed and project status during the reporting period of FY2021 is as follows:

- City of Cleburne Thoroughfare Plan: As noted in FY2020, this project is complete and will not carry over to FY2022.
- Dallas County Major Capital Improvement Program (MCIP): Continued work on this project is pending additional collaboration between NCTCOG and the County. NCTCOG is prepared to provide additional data and planning services should the County or its consultants need further assistance. This project will carry over to FY2022.
- City of Dallas Comprehensive Thoroughfare Plan Update: Commencement of this project is pending collaboration between the City of Dallas and NCTCOG regarding the timeline and scope of the project. This project will carry over to FY2022.
- Tarrant County (Mansfield/Kennedale) Business 287/Kennedale Parkway Corridor Study: NCTCOG staff contacted the City of Kennedale in early FY2020, and future work on this project is not anticipated. NCTCOG is prepared to provide data and planning services should the city indicate roadway modeling needs. This planning study will not carry over to FY2022. Assistance is being provided to the City of Kennedale under Subtask 5.03, Sustainable Development Initiatives.
- Dallas County Thoroughfare Plan Update: As noted in FY2020, this project is complete and will not carry over to FY2022.
- Fort Worth Subarea Transportation Plan: As noted in FY2020, this project is complete and will not carry over to FY2022.
- Western Tarrant County Transportation Initiative: The scope of this planning study has been incorporated into the North Tarrant County Transportation Subarea Study (Category 1). This project is no longer required and will not carry over to FY2022.
- Hunt County Thoroughfare Plan: Travel demand modeling and demographic analysis were requested by County staff and completed by NCTCOG in Spring 2021. NCTCOG is prepared to provide additional data and planning services should the County or its consultants need further assistance. This project will carry over to FY2022.
- East-West Connector for Dallas Fort Worth International Airport: NCTCOG continued to work with TxDOT Fort Worth and Dallas Fort Worth International Airport (DFWIA) on coordination of this project through FY2021. Additional travel demand modeling and demographic analysis were requested by airport staff and completed by NCTCOG in Spring 2021. NCTCOG is prepared to provide additional data and planning services should TxDOT Fort Worth or DFWIA staff indicate further need. This planning study will carry over to FY2022.
- City of Balch Springs Master Thoroughfare Plan Update: As noted in FY2020, this project is complete and will not carry over to FY2022.

- City of Dallas Bishop Arts Transportation Plan: NCTCOG staff contacted and coordinated with City of Dallas officials in early FY2020. City officials do not anticipate additional assistance. This project is complete and will not carryover to FY2022.
- City of Wylie Collin College Regional Transportation Study: This project was completed in FY2020 and will not carry over to FY2022.
- City of Lake Worth Thoroughfare Planning Assistance: Commencement of this planning study is pending collaboration between the City of Lake Worth and NCTCOG regarding the timeline and scope of the project. This planning study will carry over to FY2022.
- City of White Settlement Thoroughfare Planning Assistance: Commencement of this planning study is pending collaboration between the City of White Settlement and NCTCOG regarding the timeline and scope of the project. This planning study will carry over to FY2022.
- City of Celina Comprehensive Plan: City officials do not anticipate additional assistance on this project beyond information that was provided in FY2020. This project is complete and will not carry over to FY2022.

Transportation Planning Funds were utilized to support work activities.

Category 3

- Technical Assistance

Work Performed and Status: NCTCOG staff responded to multiple requests for information and assistance in FY2021. A table highlighting the larger technical assistance efforts is provided below. This list is not all inclusive of assistance provided during the year. Phone calls and emails with simple responses are not documented but make up a large part of NCTCOG staff's job duties.

Requesting Agency	Project Location	Technical Assistance Provided
City of Dallas	City of Dallas	Projected Volumes, Roadway Networks
City of Denton	City of Denton	Projected Volumes, Roadway Network
City of Farmers Branch	City of Farmers Branch	Demographics, Traffic Survey Zones
City of Forney	City of Forney	Demographics, Projected Volumes, Roadway Network, Trip Length, Vehicle Miles of Travel (VMT) Data
City of Fort Worth	Vickery Boulevard, Hulen Street, City of Fort Worth	Projected Volumes
City of Grand Prairie	Main Street, Jefferson Street, City of Grand Prairie	Projected Volumes, Roadway Networks
City of Lancaster	IH 35E, Loop 9, City of Lancaster	Projected Volumes, Roadway Network
City of McKinney	East downtown area, City of McKinney	Projected Volumes, Roadway Network
City of Midlothian	City of Midlothian	Demographics, Projected Volumes, Roadway Network, Trip Length, VMT Data

Requesting Agency	Project Location	Technical Assistance Provided
City of Oak Point	City of Oak Point	Demographics, Projected Volumes, Roadway Network, Trip Length, VMT Data
City of Red Oak	City of Red Oak	Projected Volumes, Roadway Networks, Trip Length, VMT Data
City of Wylie	SH 78, City of Wylie	Projected Volumes
City of Wylie	City of Wylie	Projected Volumes, Roadway Networks
City of Wylie	Parker Road, Park Boulevard, City of Wylie	Projected Volumes, Roadway Network
Denton County	Shady Shores Road, Denton County	Projected Volumes
Private Consultant	FM 2181, City of Denton	Regional Performance Measures, Traffic Counts
Tarrant County	Tarrant County	Projected Volumes, Roadway Network
Tarrant County	Wichita Street, Forest Hill Drive, Tarrant County	Demographics, Projected Volumes, Roadway Network, Traffic Survey Zones
Texas A&M Transportation Institute	Regional	Demographics, Projected Volumes, Trip Tables, Roadway Networks, Traffic Survey Zones
Town of Northlake	Town of Northlake	Demographics, Projected Volumes, Roadway Networks, Traffic Survey Zones
Trinity River Authority	Cities of Cedar Hill, DeSoto, Glenn Heights, Lancaster, Ovilla, and Red Oak	Demographics, Traffic Survey Zones
Trinity River Authority	Cities of Mansfield, Alvarado, Arlington, Burleson, Grand Prairie, Cedar Hill, Dallas, Fort Worth, and Midlothian	Demographics, Traffic Survey Zones

Transportation Planning Funds were used to support work activities, and work will continue in FY2022.

Transit

Category 1

- No projects at this time.

Work Performed and Status: No work was conducted.

Category 2

- No projects at this time.

Work Performed and Status: No work was conducted.

Category 3

- Technical Assistance

Work Performed and Status: Technical assistance was provided to transit authorities throughout FY2021, including transit model runs, Geographic Information System-based transit networks, and demographic forecasts.

Please refer to Subtask 3.05 for additional transit reporting.

Transportation Planning Funds were used to support work activities.

Collin County Outer Loop

Other Funding Sources

Ongoing throughout FY2020 and FY2021, NCTCOG will continue to assist Collin County with the development and implementation of the proposed Collin County Outer Loop. This includes coordinating with local, regional, state, and federal agencies and assisting in the preparation of environmental and planning documents. Regional Toll Revenue funds will be utilized to support this effort, and consultant assistance will be utilized. Anticipated products include:

- Local environmental documents working in collaboration with Collin County staff and consultants.

Work Performed and Status: During FY2021, two consultants continued work on the environmental investigations. One consultant finalized the mussel survey reports and supplied them to NCTCOG while the other consultant helped finalize document preparation, including right-of-way impacts and social impacts. Environmental investigations and documentation have been completed for Segment 3 of the Collin County Outer Loop (from SH 289 to US 75). The document is waiting for potential public involvement and approval from the Collin County Toll Road Authority which is anticipated to occur in FY2022.

Regional Toll Revenue funds (CSJ 0918-24-174) were utilized to support work activities. This effort is ongoing for future Collin County Outer Loop segments and work will continue in FY2022.

Dallas Strategic Mobility Plan

Other Funding Sources

Carrying over from FY2019, the Strategic Mobility Plan for the City of Dallas will continue in FY2020 and is designed to coordinate and integrate existing and previous plans into one cohesive and strategic vision for the city. The plan, led by the city, will address connectivity and accessibility, safety and reliability of systems, integration of mobility plans and tools, alignment with community characters and land uses, collaboration and partnerships, environmental stewardship, and the timely implementation of goals and objectives. Regional Toll Revenue funds and local funds will support this effort. Consultant assistance is being utilized. Anticipated products include:

- Community engagement;
- Existing conditions and inventory of existing plans;
- Performance measures to track progress;
- Guiding principles and policies;
- Catalytic transportation project evaluations;
- Scenario planning tool with evaluated scenarios; and
- Action plan with short- and long-term recommendations.

Work Performed and Status: Carrying over from FY2020, the Strategic Mobility Plan for the City of Dallas was completed in FY2021. The city led the effort with consultant assistance. Work performed included final evaluation of scenario planning for three mobility scenarios, public engagement on the plan results, and completion of the Connect Dallas Strategic Mobility Plan final document including a strategic action plan for short-and long-term recommendations.

Regional Toll Revenue funds (CSJ 0918-47-245) provided to the city and local match from the city were utilized to support work activities. This project is complete.

5.03 Land-Use/Transportation Initiatives

This subtask is ongoing throughout both FY2020 and FY2021. Work will include various elements, including Sustainable Development Initiatives, Transit-Oriented Development, and Bicycle/Pedestrian Planning, Safety, and Engineering Initiatives.

Sustainable Development Initiatives

Transportation Planning Funds

This subtask includes regional, subarea, corridor, and district-level planning along with technical assistance focused on the interface between transportation and land use, including assistance with school siting. Staff will continue work on the development and implementation of tools related to land-use planning principles such as sustainable zoning practices and others, and will host training sessions and develop educational information. Staff will continue to pursue funding opportunities to expand or enhance activities. Anticipated products during FY2020 and FY2021 include:

- Technical assistance to local governments on implementing sustainable development programs and projects such as the development of unified corridor plans, land-use analysis, data collection, parking technical assistance, education and training, form-based code review, 3D visualization services, financing strategies and tools for economic development, zoning and special district analysis, and planning to promote infill and mixed-use developments;
- Online information, training, and education on topics related to Green Infrastructure, Sustainable Resource Efficiency, sustainable zoning, sustainable school siting, and other such topics to assist in growth management and land-use planning;
- Coordination between Independent School Districts (ISDs) and other stakeholders to engage in regional issues related to school siting, safe routes to school, and policy and transportation issues;

- Development of Safe Routes to School plans, training, and education information as well as promotion of Safe Routes to School encouragement activities;
- Technical assistance and best practices related to school siting and transportation connections to schools;
- Downtown Wylie pedestrian access and streetscape study recommendations;
- Kennedale Parkway corridor multimodal access, streetscape, and land-use recommendations for the City of Kennedale; and
- Technical assistance to the City of Dallas for the Hensley Field Redevelopment Master Plan, including monitoring of progress as it relates to military planning activities in North Texas.

Work Performed and Status: A regional green infrastructure training was held. A Downtown Wylie Vision Plan was completed, including facilitation of stakeholder meetings and development of preliminary concepts. Efforts continued on the creation of a regional guide for development of public community gardens near transit stations. Staff assisted the City of Kennedale with existing conditions analysis review and walk audit for development of a Kennedale Parkway context-sensitive design plan.

Four quarterly meetings of the Coordinated Land Use and Transportation Planning Task Force were held to share education among local governments related to best practices for walkable mixed-use communities' development. Staff participated in workshops and site visits for the Hensley Field Redevelopment Master Plan and provided technical assistance regarding transportation impacts.

Transportation Planning Funds were utilized to support work activities. The remainder of the projects are ongoing, and work will continue in FY2022.

Other Funding Sources

Utilizing Regional Transportation Council Local funds, staff will continue developing and tracking regional performance measures related to land-use and transportation projects and will develop future funding programs for implementation. Anticipated products include:

- Funding programs and coordination on regional sustainability/livability grant initiatives;
- Data collection and performance measure tracking;
- Technical assistance and best practices related to land use/transportation and sustainability/livability topics; and
- Training opportunities for various stakeholders.

Work Performed and Status: Work continued on performance measures for Sustainable Development programs and projects. Staff continued to update tracking on three- and five-year reports after project closeout for Sustainable Development infrastructure.

Regional Transportation Council Local funds were utilized to support staff activities. This project is ongoing, and work will continue in FY2022.

Utilizing Surface Transportation Block Grant Program funds and Transportation Development Credits, staff will support efforts related to school siting and technical assistance. Anticipated products include:

- Technical assistance reviewing roadway and active transportation projects impacting schools and analysis of potential school sites;

- Coordination among municipalities and ISDs to establish mechanisms for successful collaboration and partnerships;
- Practical tools for rapidly growing and greenfield cities and ISDs to plan proactively for school siting and safe bicycle/pedestrian access to schools;
- Survey and/or data collection of regional behaviors/perceptions;
- Technical assistance in developing safe routes to school plans;
- Safety and education information; and
- Training opportunities for various stakeholders.

Work Performed and Status: Regional school siting and Safe Routes to School program efforts advanced. Development of a Safe Routes to School regional action plan commenced. Staff began development of a workshop series focused on street connectivity/subdivision design for Safe Routes to School, as well as an RTC Safe Routes to School workshop. Technical assistance was provided to cities and Independent School Districts regarding planned or proposed school sitings and Safe Routes to School projects. Safe Routes to School projects awarded funding as part of a Transportation Alternatives call for projects were monitored for progress in advancement and coordination provided when needed.

Surface Transportation Block Grant Program funds (CSJs 0918-00-309 and 0918-00-347) and Transportation Development Credits were utilized to support staff activities. This project is ongoing, and work will continue in FY2022.

The Regional Transportation Council selected a series of infrastructure/construction, planning, and landbanking projects during three Sustainable Development Calls for Projects (SDCFP) in 2001, 2005-2006, and 2009-2010. Efforts in overseeing pass-through construction dollars will be conducted in conjunction with local governments to better coordinate transportation investments and land use. This program of projects was originally funded by Surface Transportation Program–Metropolitan Mobility funds (now known as Surface Transportation Block Grant Program [STBG] funds), and Congestion Mitigation and Air Quality Improvement Program funds and was established in 2001 when the RTC selected the first Land-use/Transportation Joint Venture projects. Additional RTC Local funds were programmed to fund these projects through the 2005-2006 SDCFP. Regional Toll Revenue, Surface Transportation Block Grant Program funds, and local funds were allocated to the program with the 2009-2010 Sustainable Development Call for Projects, and Congestion Mitigation and Air Quality Improvement Program funds, Surface Transportation Block Grant Program funds and local funds were allocated to the program with the Sustainable Development Phase IV: Turnback, Context-Sensitive, and Transit-Oriented Development funding initiative in FY2018.

Exhibit VI-1 contains the listing of the sustainable development infrastructure projects still underway. The funds are used to provide:

- Road construction, sidewalks, pedestrian amenities, bike trails, etc.

**EXHIBIT VI-1
SUSTAINABLE DEVELOPMENT PROJECTS**

Project Name	Type	Funding Source
Plano Transit Village	Infrastructure	STBG/CMAQ/RTC Local/TDCs
Fort Worth Ridglea Village (Westridge)	Infrastructure	CMAQ/RTC Local
Irving Northwest Corridor	Infrastructure	CMAQ/RTC Local
Fort Worth West Rosedale Improvements- Magnolia Green	Infrastructure	RTC Local
Dallas Mockingbird Plaza & Midtown/Central/University	Infrastructure	RTC Local
Dallas Routh Street Underpass	Infrastructure	RTR/STBG/TDCs
Dallas Zang Triangle	Infrastructure	RTR/STBG/TDCs
Dallas Omni Convention Hotel and Convention Center DART Station (Project Paseo)	Infrastructure	RTR/STBG/TDCs
Dallas Continental Mixed-Use Development	Infrastructure	RTR/STBG/TDCs
Dallas Collective (La Reunion Town Center) & The Courtyards	Infrastructure	RTR/STBG/TDCs
Dallas Lake Highlands TOD Multimodal Connectivity Project	Infrastructure	RTR/STBG/TDCs
Farmers Branch Station Area Sidewalks	Infrastructure	RTR/STBG/TDCs
Lewisville Old Town Transit-Oriented Development	Infrastructure	RTR/STBG/TDCs
Mesquite Thomasson Square	Infrastructure	RTR/STBG/TDCs
Fort Worth South Main Urban Village	Infrastructure	RTR/STBG/TDCs
Connecting Kennedale: Revitalizing the City Center	Infrastructure	RTR/STBG/TDCs
Grapevine Hudgins Street Corridor Roadway & Pedestrian Improvements	Infrastructure	Local/STBG/TDCs
Hurst Bellaire	Infrastructure	STBG/TDCs
Crowley Main Street	Infrastructure	CMAQ/STBG/Local
Ennis UPRR Safety Zone	Infrastructure	CMAQ/STBG/Local
Irving SH 356/Irving Boulevard	Infrastructure	CMAQ/STBG/Local
Lewisville College Street	Infrastructure	CMAQ/STBG/Local/TDCs
DCTA Intermodal Transit Center	Infrastructure	CMAQ/STBG/TDCs
Weatherford US 180 (Northern Loop)	Infrastructure	CMAQ/STBG/Local

The 2001 and 2018 projects are coordinated directly between the implementing agencies and the Texas Department of Transportation. Utilizing RTC Local funds, NCTCOG staff will provide oversight for the implementation of the 2005-2006 infrastructure and landbanking projects. Utilizing STBG funds and TDCs, staff will oversee the implementation of the 2009-2010 infrastructure projects and other planning projects that may be assigned that are project/corridor specific. Anticipated products during FY2020 and FY2021 include:

- Implementation and tracking of infrastructure projects;

- Project tracking and technical assistance to local governments developing sustainable development projects;
- Work scopes for plan procurements;
- Consultant selection;
- In-house studies on land use/transportation and sustainability/livability topics of regional benefit;
- Coordination on growth and demographics;
- Training opportunities on regional land use/transportation and sustainability/livability topics of benefit to stakeholders;
- Parking analysis of garage and transportation interfaces at various locations;
- Practical tools for curb lane management throughout the region; and
- Continued partnership for the IH 30 Ballpark Park-N-Ride lot to remain open for daily commuters.

Work Performed and Status: Staff continued to work with local governments to implement projects in the Sustainable Development funding program.

Seven infrastructure projects are currently underway, and staff reviewed invoices and progress reports throughout the year. Four projects, Grapevine-Hudgins Street, Fort Worth-South Main, Lewisville Old Town, and Irving Heritage Landbanking, were completed. Staff began development of metrics and data collection/analysis for an evaluation study of completed Sustainable Development funding program projects. Locally led initiatives and other sustainable development projects were tracked.

Surface Transportation Block Grant Program funds (CSJs 0918-00-309 and 0918-00-347), Regional Transportation Council Local funds, and Transportation Development Credits were utilized to support staff activities. Regional Toll Revenue funds noted in Exhibit VI-1 above were paid directly to the implementing agencies by the Texas Department of Transportation. This project is ongoing, and work will continue in FY2022.

Bachman Lake Area Planning Study

Other Funding Sources

In FY2021, NCTCOG staff will provide planning assistance to the city of Dallas to advance multimodal transportation coordinated with land use at the convergence of major transportation plans and improvements, including modification of major arterial roads such as North West Highway and Harry Hines Boulevard, and the possible second entryway to Love Field Airport. Planning efforts will use stakeholder engagement to identify priorities, goals, and determine areas of further study. Key emphasis of this multi-year study will be placed on addressing safe pedestrian access/facilities along major roadways to create connections to nearby trails, parks, and transit/DART stations; general connectivity of land uses; and coordination with ongoing studies. Consultant assistance may be utilized. Surface Transportation Block Grant Program funds, Regional Transportation Council Local funds, and Transportation Development Credits will be utilized to support work activities. In FY2021, anticipated products include:

- Identification of project needs, priorities, and goals; and
- Development of project work scope.

Work Performed and Status: Staff facilitated public engagement through multiple survey and input opportunities including three public meetings to identify community transportation needs. Technical analysis of transportation network performance including mapping sidewalk gaps, crashes, planned improvements, and related metrics were completed. Stakeholder coordination with City of Dallas, TxDOT, DART, and Dallas County was completed to coordinate transportation projects in progress. Progress was made toward final planning recommendations for improving the transportation system in context of a possible new north entry to Love Field.

Regional Transportation Council Local funds were used. Work is anticipated to be completed in FY2022.

Hickory Tree Road Planning Study

Other Funding Sources

In FY2021, NCTCOG staff will provide planning assistance to the City of Balch Springs for redesign of the Hickory Tree Road corridor to advance context-sensitive design, mitigate congestion, and facilitate future economic growth. Planning efforts will use stakeholder engagement to identify goals and a preferred vision for the corridor and identify any areas of further study. Key emphases of this study will include connectivity of and safe pedestrian access to amenities, conceptual street design that emphasizes both pedestrian safety and access management, and transportation planning integration with land use to facilitate economic growth. Surface Transportation Block Grant Program funds, Regional Transportation Council Local funds, and Transportation Development Credits will be utilized to support work activities. In FY2021, anticipated products include:

- Identification of project needs, priorities, and goals;
- Development of project work scope;
- Community outreach processes; and
- Draft and final plan and recommendations.

Work Performed and Status: Staff completed a review of existing conditions, development of preliminary roadway reconfiguration concepts, and stakeholder meetings. Public review of preliminary concepts was also launched.

Regional Transportation Council Local funds were used to complete project activities. Work is anticipated to be completed in FY2022.

Dallas Opportunity Zone 1: North Oak Cliff Planning and Conceptual Engineering Study

Other Funding Sources

This project contains three components within this Opportunity Zone. The first component involves the planning and concept engineering of the Jefferson Viaduct, the Houston Viaduct, the interface thoroughfare street entitled Greenbriar Lane, and the extension onto Jefferson Boulevard. This future system of thoroughfare streets is impacted by the age of the infrastructure, changes to the Dallas levee flood control system, economic development opportunities, and context-sensitive design. The second component involves Eads Avenue, on the eastern side of

IH 35E. The third component is a program that involves traffic calming and access management. All three of these emphasis areas involve planning and concept engineering. It is anticipated that a majority of this work will be conducted through a procurement process engaging the engineering community. The funding source is Surface Transportation Block Grant Program funds, matched with Transportation Development Credits provided by the Regional Transportation Council. This project is contained in the Transportation Improvement Program and was approved by the Regional Transportation Council in 2019. This item will provide planning assistance to the City of Dallas and is part of a larger system of transportation projects in and near the future high-speed rail station. In FY2021, anticipated projects include:

- Identification of project needs and goals;
- Preliminary work scope for the Viaducts/Greenbriar Lane/Jefferson Boulevard;
- Context-sensitive designs for Eads Avenue; and
- Identification of principles necessary for traffic calming and access management.

Work Performed and Status: Work is anticipated to begin in FY2022.

Transit-Oriented Development

Other Funding Sources

The Transit-Oriented Development (TOD) program was established to provide education, planning, data collection, and technical assistance to TOD projects. Under this element in FY2020 and FY2021, staff will coordinate with public-sector sponsors to evaluate specific needs for the successful implementation of TOD. Additional work will also be conducted to promote TOD in the region and to develop funding strategies and programs. Staff will analyze local data and identify and develop best practices for development around various transit modes. A regional TOD overall strategy will also be developed with local government participation. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support these efforts. Anticipated products include:

- Data collection intended to document existing conditions, develop performance measures for long-term transportation and land-use planning for areas surrounding rail stations and other transit-supportive modes;
- Meetings of the regional TOD Task Force to facilitate TOD education/training events and implementation strategies among the cities connected by rail transit and transit agencies;
- Analysis, education, and planning assistance on criteria-related issues such as the impact of the passenger light-rail system on property values in areas near existing rail stations and other transit modes, parking, job-housing balance, typologies, codes, performance measures, and analysis of options for density and design/form-based code zoning;
- Technical assistance to develop market assessments and station area plans to promote TOD in the region; and
- A regional TOD strategy.

Work Performed and Status: Data collection was initiated for a transit-oriented development inventory to track implementation of properties with various design principles near rail stations. Staff supported coordination with the City of Dallas and private stakeholders to complete recommendations for infrastructure in the transit-oriented district of Deep Ellum.

TOD topics were presented at four quarterly meetings of the Coordinated Land Use and Transportation Planning Task Force including 10 local speakers representing best practice in development around the rail station areas in their respective cities. Staff time was spent identifying speakers and developing content that would provide education on TOD.

Technical support of a BUILD grant application, Benefit-Cost Analysis for TOD Improvements in Dallas for the Lake June DART Station, was also provided.

Surface Transportation Block Grant Program funds (CSJs 0902-00-186 and 0918-00-347) and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

DART Red and Blue Lines TOD Planning Study

Other Funding Sources

The Transit-Oriented Development (TOD) Planning Pilot Grant was awarded to NCTCOG in October 2016 to support TOD planning around 28 Dallas Area Rapid Transit (DART) Red and Blue Line Light Rail Stations. The planning work will be coordinated with DART and the Cities of Dallas, Garland, Plano, and Richardson, with NCTCOG administering the grant and leading planning activities. Staff will coordinate with these project partners by hosting meetings, preparing draft scopes of work, and taking part in planning work and data collection as needed. The planning work has three elements: a pedestrian and bicycle last-mile infrastructure study, a parking utilization study, and a survey of TOD residents and employers. Federal Transit Administration funds, Regional Transportation Council Local funds, and other local funds will be used to support work activities. Consultant assistance will be utilized. Anticipated products in FY2020 include:

- An implementation plan for prioritizing and understanding cost to improve last-mile pedestrian and bicycle connections to these rail stations;
- Data collection of parking utilization at specific sites around a sample of the 28 stations and comprehensive policy recommendation related to analysis of that data;
- Survey data collection and analysis of residents and/or employers in the station areas focused on their travel behavior, demographics, and preferences related to TOD; and
- Strategic recommendations for policy adjustment based on data collected and a process for replicating similar data collection and study across the region.

Work Performed and Status: All tasks of the DART Red and Blue Lines Corridor TOD Study were completed in FY2021 with the final summary report document posted on the NCTCOG website. The corridor summary document includes a synthesis of the recommendations from the first/last mile bicycle/pedestrian study, the parking study, and a survey which each produced a streamlined list of recommendations. Additional data and context information was gathered with the intent to give the final summary a comprehensive evaluation of TOD recommendations. Presentations of results were given to various stakeholders and committees.

Federal Transit Administration planning grant funds, Regional Transportation Council Local funds, and local funds were used for this effort. No further work will occur in FY2022.

Bicycle and Pedestrian Planning

Other Funding Sources

The focus of this element during FY2020 and FY2021 is to assist in developing, educating on, and promoting bicycle and pedestrian mobility and safety throughout the region. Utilizing STBG funds, FHWA Enhancement Program funds, RTC Local funds, other local funds and TDCs, staff will plan facilities for active transportation modes; support and provide technical assistance to local governments and the Bicycle and Pedestrian Advisory Committee (BPAC); and advance general data collection, mapping, and a regional bicycle and pedestrian count program. Consultant assistance may be utilized. Staff will also develop and provide public education and information related to safety, accessibility, design, and economic impacts of bicycle and pedestrian facilities. Staff will also manage the updated Regional Safety Campaign: Look Out Texans. Anticipated products include:

- Update of the Active Transportation Planning element for Mobility 2050, including the Regional Veloweb, Performance Measures and Targets;
- Implementation of a bicycle and pedestrian monitoring and data collection program in the region and coordination with local governments on initiatives;
- Bicycle and pedestrian facility plans associated with transit-oriented development areas, bicycle and pedestrian transportation districts, and corridor-area plans;
- Design guidelines and best practices for on-street and off-street bicycle facilities and shared-use paths, including policies related to context-sensitive solutions for multimodal accommodations within street rights-of-way;
- Healthy initiatives and air quality coordination data;
- Regional pedestrian and bicycle plans;
- Active transportation funding programs;
- Bicycle and Pedestrian Advisory Committee meetings;
- Bicycle and pedestrian public education, research, and information programs;
- Purchase of automated bicycle and pedestrian count equipment, parts, and services;
- A-Train Corridor Utilization Study with DCTA in FY2021;
- Federal and State Active Transportation Programs which may include Transportation Alternatives Programs such as Transportation Enhancement, Safe Routes to Schools, and Urban Thoroughfares;
- Grant proposals to secure additional program funds or to support regional applications; and
- Technical assistance to cities, towns, and counties including policy guidance, planning studies, data, mapping, technical guidance, and GIS support.

Work Performed and Status: NCTCOG staff continued ongoing coordination with local governments to integrate updates to the regional trails and bikeway network database and related maps that will be integrated as part of Mobility 2045 (2022 Update).

The 2020 Bicycle and Pedestrian Traffic Data Monitoring Annual Report was finalized and distributed in March 2021, providing an overview of bicycle and pedestrian user counts collected at 19 locations throughout the region. Staff also continued coordination to provide user count forecast data related to the benefits of Congestion Mitigation and Air Quality Improvement Program (CMAQ)-funded projects. In addition, staff began coordination with TxDOT to provide trail and bikeway count data in the region to be included in the Texas Bicycle and Pedestrian Count Exchange. Staff initiated coordination with local governments for a group multi-agency approach to maintenance and service/equipment upgrades for installed automated bicycle and pedestrian count equipment expected to occur during FY2022.

The team coordinated and facilitated four quarterly meetings of the Bicycle and Pedestrian Advisory Committee. Staff provided technical assistance and relevant data, attended stakeholder meetings, and provided related support for various local governments that were developing Pedestrian and Bicycle master plans.

Throughout the year various outreach and advertising materials were distributed to local governments and community outreach events, and staff coordinated with regional partners to promote safety tips through social media posts and advertisements.

Staff initiated planning for pedestrian and bicycle facilities near rail stations served by the DCTA A-Train commuter rail.

NCTCOG coordinated with the Federal Highway Administration (FHWA) to host two Designing for Pedestrian Safety workshops for regional stakeholders. NCTCOG also coordinated with FHWA to host two Road Safety Audit workshops (for pedestrian and bicycle safety).

Staff also initiated efforts to develop a regional complete street policy template and promote the adoption of complete street policies by local governments in the region.

Surface Transportation Block Grant Program funds (CSJs 0902-00-186, 0918-00-309, and 0918-00-347) and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Staff will also oversee the implementation of the Regional Bicycle/Pedestrian Sustainable Development Initiatives projects which utilize pass-through CMAQ funds and TDCs available to local governments for the implementation of various bicycle and pedestrian projects. These projects may include, but are not limited to, spot improvements, safety countermeasures, innovative facilities, street reconstruction and rehabilitation as part of bicycle and pedestrian accommodation projects, multi-use trails, signage, pavement markings, traffic signals, and other supportive infrastructure. Staff oversight activities will be supported by STBG and local funds, and TDCs. Anticipated products include:

- Identification of funding needs and project scopes; and
- General project coordination and project development.

Work Performed and Status: The funding and development of regional trails continued through the use of Congestion Mitigation and Air Quality Improvement Program pass-through funds and Transportation Development Credits. NCTCOG staff continued coordination with Dallas Area Rapid Transit (DART) and local governments related to the design and construction of the Cotton Belt Trail to be implemented with the DART Silver Line Commuter Rail project.

NCTCOG staff oversight activities were supported with Surface Transportation Block Grant Program funds (CSJs 0902-00-186, 0918-00-309, and 0918-00-347) and Transportation Development Credits. This project is ongoing, and work will continue in FY2022.

Bicycle and Pedestrian Studies and Engineering

Other Funding Sources

Midlothian-to-Waxahachie Trail Preliminary Engineering: Staff will oversee the preliminary engineering of the Midlothian-to-Waxahachie Regional Veloweb Shared-Use Path from the existing Waxahachie city trail in Getzendaner Park east of IH 35E to near downtown Midlothian. Coordination efforts will include the City of Midlothian, the City of Waxahachie, Ellis County, NCTCOG, TxDOT, and the Union Pacific Railroad. CMAQ funds and local funds will be used to support engineering activities, and STBG funds and TDCs will be used for staff oversight activities. Anticipated products in FY2020 include:

- Preliminary design development schematic;
- Environmental report;
- Estimate of probable construction cost; and
- Construction phasing plan by jurisdiction.

Work Performed and Status: This project was completed in FY2020.

Denton-to-Dallas Trail Preliminary Engineering: During FY2020, staff will oversee the preliminary engineering of a Regional Veloweb Shared-Use Path from the existing trail at the Denton County Transportation Authority Hebron Station in Lewisville south to the Champion Trail in north Irving. The project would include connections to two DART stations in Carrollton and the existing Regional Veloweb North Levee trail along Denton Creek in Coppell. In addition to the seven agencies participating in the projects, coordination efforts will also include TxDOT, North Texas Tollway Authority, utility providers, and other public and private stakeholders in the area. CMAQ funds and local funds will be used to support engineering activities, and STBG funds and TDCs will be used for staff oversight activities. Anticipated products include:

- Feasibility and alignment study with preliminary design development schematic;
- Permitting review;
- Estimate of probable construction cost; and
- Construction phasing plan by jurisdiction.

Work Performed and Status: This project work was completed in FY2020.

Bomber Spur Trail Preliminary Engineering: During FY2020 and FY2021, staff will oversee the preliminary engineering of the Bomber Spur Regional Veloweb Shared-Use Path in Fort Worth from the intersection of SH 183 and W. Vickery Boulevard on the south to the intersection of SH 183 and Calmont Avenue on the north. Coordination efforts will include the City of Fort Worth, TxDOT, Union Pacific Railroad, and Streams & Valleys Inc. Surface Transportation Block Grant Program (STBG) and local funds will be used to support engineering activities, and STBG funds and Transportation Development Credits (TDCs) will be used for staff oversight activities. Anticipated products include:

- Preliminary design development schematic;
- Environmental summary;
- Estimate of probable construction cost; and
- Construction phasing plan.

Work Performed and Status: Consultant services on the project completed survey, environmental analysis, base mapping, opinions of probable construction costs, and preliminary design schematics. The trail alignment was finalized and coordinated with local governments and TxDOT. The trail preliminary design and project deliverables were finalized in November 2020 and coordinated with local governments and TxDOT.

Surface Transportation Block Grant Program funds (CSJs 0902-00-186, 0918-00-309, and 0918-00-347) and Transportation Development Credits were used to support staff activities. Consultant work activities were supported through Surface Transportation Block Grant Program funds (CSJ 0902-90-131) and local funds. This project work was completed in FY2021.

South Dallas Trail Preliminary Engineering: During FY2020 and FY2021, staff will oversee the feasibility and alignment study of the Southern Dallas County Regional Veloweb Shared-Use Path from near the intersection of FM1382 and W. Pleasant Run Road in Cedar Hill to near the intersection of E. Pleasant Run Road and Lancaster Hutchins Road in Lancaster. Coordination efforts will include TxDOT, Dallas County, and the cities of Cedar Hill, DeSoto, Duncanville, and Lancaster. STBG and local funds will be used to support the study activities, and STBG funds and TDCs will be used for staff oversight activities. Anticipated products include:

- Preliminary design development schematic;
- Environmental summary;
- Estimate of probable construction cost by jurisdiction; and
- Construction phasing plan by jurisdiction.

Work Performed and Status: Consultant services on the project completed survey, environmental analysis, base mapping, opinions of probable construction costs, and preliminary design schematics. The trail alignment was finalized and coordinated with local governments and TxDOT. The trail preliminary design and project deliverables were finalized in August 2021 and coordinated with local governments and TxDOT.

Surface Transportation Block Grant Program funds (CSJs 0902-00-186, 0918-00-309, and 0918-00-347) and Transportation Development Credits were used to support staff activities. Consultant work activities were supported through Surface Transportation Block Grant Program funds (CSJ 0918-47-285) and local funds. This project work was completed in FY2021.

Fort Worth-to-Dallas Regional Trail Branding Plan: During FY2020 and FY2021, staff will oversee the development of a plan for the Fort Worth to Dallas Regional Veloweb Trail including elements such as tourism and major event infrastructure, wayfinding and directional signage, real-time display counters of trail users, economic development, branding and public education, and implementation. The planning effort will include the cities of Arlington, Dallas, Fort Worth, Grand Prairie, and Irving. Regional Transportation Council Local and local funds will be used to support consultant activities, and Surface Transportation Block Grant Program funds and Transportation Development Credits will be used for staff oversight activities. Anticipated products include:

- Plan for infrastructure, signage, development opportunities, branding and public education, and user count equipment, and
- Implementation plan and strategies.

Work Performed and Status: Staff completed a Request for Proposals process to hire a consultant, and completed scope development, negotiations, and a kickoff meeting with the hired consultant. Staff collected trail existing conditions field data; coordinated with the consultant to fulfill an existing conditions data request; reviewed a public engagement plan and products for a first stakeholder meeting and open house; and coordinated on scheduling, invoicing, and other project management items.

Surface Transportation Block Grant Program funds (CSJs 0902-00-186, 0918-00-309, and 0918-00-347) and Transportation Development Credits were used to support staff activities. Consultant work activities were supported through Regional Transportation Council Local funds and local funds from project partners. This project is ongoing and will continue in FY2022.

City of Irving Bicycle Plan: During FY2020 and FY2021, staff will oversee the development of a citywide Bicycle Plan for the City of Irving focused on a seamless network of on- and off-street bicycle facilities integrated with the public transportation and the thoroughfare network. The Plan will include stakeholder involvement and analysis of the existing and planned bicycling/public transportation infrastructure network, including gaps in the network, crash data, and technology options. Consultant assistance will be utilized to support planning activities. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support work activities. Anticipated products include:

- City-wide bicycle network plan; and
- Project prioritization, implementation plan, and funding strategies.

Work Performed and Status: This project will be initiated in FY2022.

Regional Pedestrian and Bicycle Safety Campaign

Other Funding Sources

During FY2020 and FY2021, staff will continue to manage and promote the Look Out Texans safety and education campaign. The campaign is intended to inform, encourage, and educate people of various ages, races, and backgrounds about the benefits of multi-modal transportation and promote a culture of safety around active transportation in the region. STBG and local funds will be used to support the campaign activities, and STBG funds and TDCs will be used for staff oversight activities. Deliverables will include:

- Various education and outreach products which may include billboards, radio ads, print material, social media, bus wraps, etc.; and
- Updates to the Look Out Texans Website.

Work Performed and Status: Continued the regional safety campaign “Look Out Texans Bike-Walk-Drive Safely” throughout the year via the campaign website, www.lookouttexans.org. Various education and outreach materials were provided for community events and coordinated with regional partners to promote safety tips. NCTCOG continued to promote pedestrian and bicycle safety tips via social media posts. Social media was engaged through Spotify, YouTube, and Facebook. B-cycle advertising was purchased and displayed, a WFAA news special aired, and updated website videos were developed.

Surface Transportation Block Grant Program funds (CSJs 0918-00-309 and 0918-00-347) and Transportation Development Credits were used to support staff activities. This project is ongoing, and work will continue in FY2022.

Regional Pedestrian and Bicycle Safety Plan

Other Funding Sources

Carrying over from FY2019, efforts will continue in FY2020 and FY2021 on the development of a regional pedestrian and bicycle safety plan to improve safety for the region's pedestrian and bicycle transportation network. The plan will also serve as a template for the preparation and implementation of local agency pedestrian and bicycle safety plans. This initiative will be funded with Surface Transportation Block Grant Program funds and Transportation Development Credits. Consultant assistance may be utilized. Anticipated products include:

- Analysis of crash data and the contributing factors for pedestrian and bicycle crashes/fatalities throughout the region;
- Recommended countermeasures to improve safety for the region's pedestrian and bicycle transportation network;
- Recommended engineering, enforcement, education, and evaluation activities to implement across the region; and
- A framework for local agency pedestrian and bicycle safety plans.

Work Performed and Status: Staff completed the Regional Pedestrian Safety Action Plan, which provided goals, policies, and action plan strategies to improve pedestrian safety across the region. The plan and related documents were endorsed by the Regional Transportation Council in June 2021.

Surface Transportation Block Grant Program funds (CSJ 0902-00-185) and Transportation Development Credits were used to support staff activities. This project is ongoing, and work will continue in FY2022.

Regional Parking Management Tools and Strategies Program

Other Funding Sources

Parking management at the regional level is meant to improve the efficient use of parking spaces and coordinate the land-use elements of parking with its transportation impact. During FY2020 and FY2021, this program will develop data-driven tools and strategies to support public-sector management and programming of parking at various multimodal locations. Staff will lead planning activities and regional coordination with partner entities who set parking policy. Surface Transportation Block Grant Program funds and Transportation Development Credits will support work activities. Data collection and other consultant services may be required. Anticipated products include:

- Parking Management technology guidance;
- Development of parking management guidance, plans for strategic areas and pilot policy and program implementation;
- Analysis of parking use and data collection within areas of interest;

- Coordination of integrated parking management studies with land-use planning; and
- Identification of strategies for transitioning parking with technology-driven transportation systems.

Work Performed and Status: A Summary of North Texas Local Parking Studies evaluating 11 local parking management planning documents for regional trends in recommendations was prepared, placed on the NCTCOG website, and presented to local stakeholders. Staff identified speakers and developed content on parking topics for a meeting of the regional Coordinated Land Use and Transportation Planning Task Force that focused on local cities implementing parking management examples. Work was also initiated on a regional parking utilization database through interviewing peer regions in the United States on best practices with their similar efforts and initiating local stakeholder outreach.

Surface Transportation Block Grant Program funds (CSJ 0918-00-308) and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Smart Transit Corridors and Walkable Places

Other Funding Sources

Expanding transportation choices requires coordinating land use and transportation policy together to most effectively develop or redevelop multi-modal corridors and achieve improved transportation outcomes. Throughout FY2020 and FY2021 this program will focus on multimodal strategies to increase non-single occupancy (SOV) transportation options in the region through coordinated land-use and transportation planning in priority transit corridors and walkable neighborhoods.

Staff will identify the priority locations based on regional data and coordination with partner agency staff. Planning work for applicable corridors and locations may include existing conditions analysis and mapping, visioning, data collection, stakeholder engagement, investigations on best practices, pilot implementation, and development of regional, corridor, or area plans. Surface Transportation Block Grant Program funds and Transportation Development Credits will support work activities. Anticipated products include:

- Suggested improvements for bicyclists and pedestrians to access transit;
- Strategies to reduce multi-modal transportation barriers in key corridors;
- Review of data and opportunities for job/housing balance;
- Tools and strategies to mitigate gentrification;
- Best practices to support mixed income and workforce housing that increase multi-modal trips;
- Examination of economic potential and benefit of transit served and walkable places;
- Collaboration on public-private partnerships to support walkable development;
- Opportunities to leverage landbanking in support of multi-modal transportation infrastructure;
- Education and training events;
- Walkable area and corridor improvement plans;
- Transit corridor and station area plans; and
- Funding and development strategies for select corridors.

Work Performed and Status: Economic benefit of walkable places analysis was advanced through benefit-cost development. A review of national best practices in value capture related to coordinated land use and transportation was conducted. An inventory of tax increment revenue zones used in the North Texas region for the 50 largest municipalities was conducted. Staff also initiated work in developing criteria for identifying walkable places and developing a walkable places typology. Investigations were conducted on jobs/housing balance metrics and national best practices.

Staff initiated the development of planning-level recommendations and opinions of probable cost for priority implementation sections of the Regional Veloweb, community trails, and sidewalk infrastructure that close significant gaps in the network and improve access to transit stations/stops/corridors including seven rail stations served by the DCTA A-train commuter rail.

Surface Transportation Block Grant Program funds (CSJ 0918-00-312) and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Regional Economic Development Initiatives

Transportation Planning Funds

This element continues throughout FY2020 and FY2021 and will provide planning assistance and transportation demographic technical information and data to support economic development initiatives throughout the metropolitan area. Benefactors of this support may include the office of the Governor; area chambers of commerce; economic development coalitions, authorities and groups; and public-private sector partnerships when working to attract new business and large industries to the region. Transportation Planning Funds will be used to support these initiatives, as well as non-federal sources of funding as they become available. Anticipated projects include:

- Maps;
- Travel times;
- Traffic counts and volumes; and
- Socio-economic information.

Work Performed and Status: Staff responded to regional economic development initiatives from local governments, transportation authorities, public agencies, and private businesses. The requests were generally simple data inquiries and not specific to a project, location, or facility. A few examples of these initiatives included providing traffic volumes based on Mobility 2045, demographic data, and traffic counts.

Transportation Planning Funds were used to support work activities. Additional assistance may be requested in FY2022.

5.04 Transportation Asset Management

As defined in federal law, transportation asset management is a strategic and systematic process of operating, maintaining, and improving transportation assets to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and

sustain a desired state of good repair (SOGR) over the lifecycle of these assets at minimum practicable cost. This subtask will involve work efforts to integrate transportation asset management principles within the metropolitan transportation planning process.

Asset Information Planning Tool Development

Transportation Planning Funds

This element will involve the development of an asset information planning tool software with database and visualization features for storing and analyzing transportation asset data. Work efforts will involve the identification of asset data that is readily available from internal and external sources, prioritizing the asset data (asset types, attributes, etc.), and collecting and organizing the asset data. Additional activities will include evaluation of options for collecting additional data, implementing outreach to increase awareness of this tool, and integrating congestion mitigation strategies from the Congestion Management Process (CMP). Work will be ongoing throughout FY2020 and FY2021 and the following products will be delivered as the result of work done on this element:

- Integration of the data fields from the corridor fact sheets from the Congestion Management Process Update documentation into the planning tool;
- Ongoing coordination with program areas to maintain the planning tool to keep data current and reliable; and
- Documentation to guide incorporation of planning tool information and reports into updates to the Metropolitan Transportation Plan, Unified Transportation Program, and Transportation Improvement Program.

Work Performed and Status: The integration of performance and asset data items to update the Congestion Management Process, as well as data sources and evaluation methodologies continued in FY2021. The performance data items include crash data from the Texas Department of Transportation (TxDOT) Crash Record Information System, travel time index and level of travel time reliability from the Federal Highway Administration National Performance Management Research Data Set and TxDOT Pavement Management Information System bridge and pavement conditions data. In addition to performance data, corridor asset information has also been collected and was utilized in the evaluation of the CMP corridors. The asset data items include parallel arterials, frontage roads, parallel freeways/tollways, park-and-ride facilities, light rail, commuter rail, bus routes, shoulder availability, Intelligent Transportation Systems, truck lane restrictions, and HOV/Managed Lanes.

Ongoing meetings and coordination efforts with program areas that maintain the performance and asset data outlined above continued. These meetings have prompted a process to continue to collect and maintain the most current year of these data items.

The process and evaluation efforts have been coordinated and will be documented in future Metropolitan Transportation Plans, Unified Transportation Programs, and the Transportation Improvement Program.

Transportation Planning Funds were used to support these work activities. This project is ongoing and will continue in FY2022 as part of Subtask 5.05, Congestion Management Planning and Operations.

Other Funding Sources

This element will also utilize Surface Transportation Block Grant Program funds and Transportation Development Credits to assist with the development of the planning tool. Once the planning tool is in place, it would be maintained and upgraded by NCTCOG staff. Consultant assistance will be utilized. Anticipated products include:

- Development of a work program and request for proposals for the selection of a consultant to assist with the development of the planning tool software;
- Management and oversight of the consultant contract and invoices;
- Development of a planning tool software and website application that produces maps, tables, reports, and fact sheets which will highlight asset management data analyses and congestion mitigation strategy implementation and effectiveness; and
- Training classes, workshops, and instructional materials (user's guide) for internal and external users of the planning tool.

Work Performed and Status: Consultant assistance will not be pursued as part of this effort. The Congestion Management Process performance and asset data integration and filtering have historically been completed using a manual process; this task is implementing software to automate the process moving forward, and work on the automation process has begun. In addition, staff collected and analyzed data from the Texas Department of Transportation, INRIX, 511DFW and COMPAT tool from the Texas Transportation Institute website. The data and analysis that was collected from these platforms were utilized to produce maps, tables, and graphics to continue discussions with partner agencies to identify congestion mitigation strategies. These tools will also be utilized to evaluate the effectiveness of strategies implemented as a continuous effort.

Surface Transportation Block Grant Program funds (CSJ 0918-00-304) and Transportation Development Credits were used to support these work activities. This project is ongoing and will continue in FY2022 as part of Subtask 5.05, Congestion Management Planning and Operations.

National Highway System Infrastructure Performance Measures and Transportation Asset Management Plan Coordination and Reporting

Other Funding Sources

Existing federal regulations now require that the Texas Department of Transportation (TxDOT) and the North Central Texas Council of Governments (NCTCOG) coordinate on the establishment and reporting of performance targets for pavement and bridge conditions on the National Highway System (NHS). The NHS includes all Interstate Highways and other roadways designated by the US Department of Transportation (USDOT) as important to the nation's economy, defense, and mobility. NCTCOG has the discretion to support TxDOT's NHS pavement and bridge targets (i.e., agree to plan and program projects so that they contribute toward the accomplishment of TxDOT's established targets) or to establish its own quantifiable NHS pavement and bridge targets specific to its metropolitan planning area. As part of NCTCOG's contribution toward achieving established targets, data analysis, project review, and other technical assistance will be applied toward expediting condition improvements, particularly for bridges and NHS "off-system" pavements.

In addition to complying with NHS infrastructure performance measures, TxDOT is required to develop and implement a Transportation Asset Management Plan (TAMP) for the National Highway System (NHS) to preserve or improve asset condition and system performance as part of the National Highway Performance Program (NHPP). TxDOT has prepared a TAMP that not only focuses on pavement and bridge conditions on the NHS but also addresses the entire State Highway System. The scope of this TAMP includes asset management objectives and performance measures, life-cycle planning, risk management, financial planning, and performance gap analyses. To assist TxDOT with TAMP implementation, this element highlights the supporting role of NCTCOG to provide assistance to TxDOT to collect data and to disseminate TAMP findings to local jurisdictions with NHS roadways.

Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support work activities. Work will be ongoing throughout FY2020 and FY2021, and the following products will be delivered as the result of work done on this element:

- Collection and analysis of NHS pavement and bridge data in coordination with TxDOT and local jurisdictions with NHS roadways;
- Establishment and reporting of NHS pavement and bridge performance targets in coordination with TxDOT and in accordance with federal deadlines;
- Distribution of presentations and reports to guide incorporation of NHS infrastructure performance measures and TAMP findings into updates to the MTP and TIP;
- Development and maintenance of a web page on NHS infrastructure conditions and TAMP compliance, including status updates, meeting materials, and resource information; and
- Development and management of a data and project management system to facilitate reviews of pavement scores and engineering applications directed toward improving NHS “off-system” roadways in poor condition.

Work Performed and Status: Staff continued to participate in national resource agency committees as part of efforts to facilitate greater integration of asset management principles into project design, capital and maintenance investment programming, and metropolitan transportation planning practices. Examples include the Federal Highway Administration’s (FHWA) Transportation Asset Management Expert Task Group (TAM-ETG), the Transportation Research Board’s (TRB) Asset Management and Performance Management Committee (AJE20/AJE30), and the American Association of State Highway Transportation Officials’ (AASHTO) Performance-Based Management Committee. Participation in events/meetings and coordination among team members enabled greater access to data, tools, and best practices associated with asset condition analyses; lifecycle cost calculation methodologies and planning strategies; cross-asset resource allocations; and development of effective communication, organizational, and policy-building frameworks. Based on the types of events, work efforts included finalization of meeting logistics, preparation and review of technical reports, development of presentation materials, crafting and distribution of surveys, as well as other technical activities and documentation.

Staff completed the evaluation and establishment of Mid Performance Period target setting for National Highway System (NHS) pavement and bridge assets as a result of Regional Transportation Council (RTC) action in December 2020 supporting TxDOT’s statewide condition targets. That support includes continued work efforts with TxDOT and local governments on expediting improvements to NHS bridges and off-system arterial pavements rated in “poor” condition. Additionally, finalization of INFRA Grant obligation has enabled individual bridge projects in the awarded North Texas Strategic NHS Bridge Program to progress through environmental clearance, final design, and programming tasks leading

toward eventual implementation. Creation of a Statewide Resiliency Technical Work Group has enabled expanded collaboration among Texas metropolitan planning organizations (MPOs), FHWA, Texas A&M Transportation Institute (TTI), and TxDOT to ensure risk-based analysis and planning can ultimately be incorporated into the target setting and performance-based programming processes. Regular updates have been provided to the Surface Transportation Technical Committee (STTC), RTC, Association of Texas MPOs (TEMPO), and other entities on continuing activities to enhance partner engagements on infrastructure conditions and progress reporting.

Surface Transportation Block Grant Program funds (CSJ 0902-00-262) and Transportation Development Credits supported project activities. Work will continue in FY2022.

Transportation Infrastructure Vulnerability Assessment

Transportation Planning Funds

Improved asset management requires acknowledgment and engagement of the various environmental and economic risks that can affect infrastructure vulnerability and longevity. A durable system not only reduces the probability of component failure but also reduces the potential extent and severity of overall destruction, service interruption, and recovery time as the result of major disruptive events such as severe weather (e.g., flooding, drought, extreme heat, etc.). To that end, this element includes an initiative with the University Partnership Program (UPP) to appraise the endurance dimensions of transportation infrastructure in North Central Texas. This work will form the basis for conducting systemwide multilevel criticality and vulnerability assessments, establishing customized durability enhancement tactics, and developing decision-making and/or economic justification tools to aid in prioritization of multimodal durability measures and strategic projects, as appropriate.

Work will be ongoing throughout FY2021, and the following products will be delivered as the result of work done on this element:

- Creation of multilevel color-coded vulnerability analysis and condition ratings maps for existing and future regional transportation infrastructure modes; and
- Formulation of a multilevel asset endurance measurement model customized for North Central Texas infrastructure and environmental characteristics, yet consistent/compatible with USDOT parameters concerning TAMP and other performance management requirements.

Work Performed and Status: This University Partnership Program study focused on identifying resilience dimensions for transportation infrastructure and developing a decision-making tool to measure relative levels of resilience based on hazard-based factors. The study was conducted according to thorough scrutinization of resiliency literature review and available best practices, as well as statistical analyses from a comprehensive survey distributed among numerous local, State, and national transportation practitioners across all levels of management. A final report was submitted in September 2021, providing documentation of the study process, a sample copy of the distributed survey, rankings of the resilience measurement dimensions, and a methodology for development and application of the proposed resilience measurement tool.

Transportation Planning Funds were utilized to support work activities. This project is complete and will not carry over to FY2022.

5.05 Congestion Management Planning and Operations

The Regional Transportation Council (RTC) has selected the following congestion management planning efforts and operational strategies through a series of funding initiatives. The strategies listed below are congestion management directives and special projects that NCTCOG is responsible for implementing and/or administering. Efforts in this subtask will be conducted in conjunction with local governments for better coordination of transportation operations and investments.

Congestion Management Process (CMP) Documentation and Compliance

Transportation Planning Funds

As defined in federal guidelines, the Congestion Management Process is a regionally coordinated approach that provides accurate, up-to-date information on measuring congestion levels and assessing strategies for addressing congestion that meets state and local needs. A CMP is required in urbanized areas with population exceeding 200,000, known as Transportation Management Areas (TMAs). In TMAs designated as ozone or carbon monoxide non-attainment areas, federal regulations prohibit the programming of federal funds to projects that result in a significant increase in carrying capacity for single-occupant vehicles (SOVs) unless such projects can be justified and incorporate any reasonable travel demand management (TDM) and transportation system management and operation (TSM&O) strategies identified in the CMP.

The updating and maintenance of the CMP documentation for the Dallas-Fort Worth Metropolitan Area is a major element of this Work Program subtask. While the wide range of higher-cost capacity expansion projects and other major infrastructure investments identified in the MTP are needed to meet long-term transportation demands, the CMP focuses on identifying a range of lower-cost, short-term strategies for addressing congestion on the most congested roadway corridors in the region. In addition to TDM and TSM&O strategies, the CMP identifies Asset Optimization strategies where corridor deficiencies and performance gaps can be addressed within the existing right-of-way using lower-cost operational and capital improvement strategies that are more cost-effective and quicker to implement than higher-cost capacity expansion projects.

Work will be ongoing throughout FY2020 and FY2021, and the following products will be delivered as the result of work done in this element:

- Completion of the CMP Update documentation;
- Presentations and maps utilizing CMP data and information;
- Completion of justification analysis and CMP commitment identification for non-exempt single-occupancy vehicle (SOV) capacity-increasing projects submitted for Transportation Improvement Program (TIP) funding;
- Quarterly and other reports to the policy and technical committees to document CMP strategy commitments;
- Coordination meetings with TxDOT and other implementing agencies of significant SOV capacity-increasing projects to ensure CMP strategy commitments;

- Integration of corridor-specific CMP strategies into updates to the Metropolitan Transportation Plan and the TIP, and within corridor and environmental studies initiated through Subtask 5.01; and
- Development and maintenance of a web page on the CMP and related strategies, including status updates, meeting materials, and resource information.

Work Performed and Status: Congestion and Asset Management team members continued project planning and stakeholder outreach for the ongoing Congestion Management Process update effort. Members met with other NCTCOG Transportation Department program areas to establish relevance of previously used data, performance measures, and congestion management strategies from the previous CMP. Additional potential items were presented to other areas in these meetings for possible use in the new CMP. Feedback was summarized and distributed to relevant areas for review. Staff completed the data, performance measures criteria, asset inventory and flow process to evaluate roadway segments. Presentations to policy boards, internal and external stakeholder groups, and peer exchange opportunities were completed. In July 2021, the Regional Transportation Council approved the update of the 2021 CMP and in August 2021 the document was released to the public.

In coordination with the ongoing CMP update, both Single-occupancy Vehicle (SOV) Analysis and CMP Implementation and Monitoring Procedures (together known as CMP Compliance) were evaluated and discussed with Transportation Department internal program areas and TxDOT groups involved in the process. An overview of the CMP Compliance process was presented to both TxDOT Dallas and Fort Worth District staff. Efforts to align a simplified CMP compliance process with the more robust information and planning system addressed in the new CMP are ongoing.

The CMP web page was updated with the new 2021 CMP document and other CMP-related items including the CMP Compliance Form with instructions.

Transportation Planning Funds were used to support these work activities. This project is ongoing and will continue in FY2022.

Transportation System Management and Operations

Transportation Planning Funds

This program is ongoing throughout FY2020 and FY2021, supporting development of regional Transportation Systems Management and Operations (TSM&O) strategies. It includes strategies such as intersection and signalization improvements, grade separation, freeway bottleneck removal, and Intelligent Transportation Systems (ITS) which will be developed to reduce travel time and enhance system reliability. Anticipated products through the use of Transportation Planning Funds include:

- Monitoring, update, and evaluation of regional TSM&O plans, policies and projects outlined in the Metropolitan Transportation Plan (MTP) and Congestion Management Process (CMP);
- Evaluation of TSM&O projects for inclusion in the Transportation Improvement Program (TIP) consistent with the Regional ITS Architecture;
- Support and assistance to regional partners to plan strategies and promote cooperation and participation in committee meetings;

- Development and monitoring of the implementation of ITS plans, policies, and projects in coordination with regional partner agencies;
- Evaluation and implementation of vehicle and infrastructure technology; and
- Monitoring and assessment of Metropolitan Transportation Plan Policy Bundles survey for TSM&O-related survey components.

Work Performed and Status: NCTCOG staff continued to develop, implement and monitor regional Transportation Systems Management and Operations goals and strategies outlined in the Metropolitan Transportation Plan. Coordination efforts continued with cities and the Texas Department of Transportation (TxDOT) to identify and track deployment of TSM&O strategies/projects within the region, and staff participated in regional TSM&O plan updates. Staff updated the Safety and Operations section, including Copper Theft and Integration, of the Mobility 2045 Policy Bundle applications submitted by local governments, transit agencies, and Independent School Districts.

The Non-Competitive Project Selection Criteria for Traffic Signal and Intelligent Transportation System Projects for inclusion in the Transportation Improvement Program was reviewed. Projects submitted through the TIP were evaluated to ensure compliance with the Regional Intelligent Transportation Systems Architecture.

Two ITS Stakeholder Task Force meetings were held for regional partners, providing an overview and update on regional ITS activities and updates on the 511 DFW Traveler Information System and performance measures. Cooperation with regional partners was provided by NCTCOG staff toward the Advanced Transportation and Congestion Management Technologies Deployment Program grant.

Transportation Planning Funds were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Other Funding Sources

This program also uses Surface Transportation Block Grant Program (STBG) funds, Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds, Regional Toll Revenue funds, Texas Department of Transportation funds, and Transportation Development Credits (TDCs) to support activities in this area. Consultant assistance may be utilized. Anticipated products include:

- Agreements for regional communication, infrastructure, and information sharing including the Memorandum of Understanding between the Dallas-Fort Worth regional ITS partner agencies;
- Identification and documentation of standards for interagency communication of data and video, and the implementation of Center-to-Center-related software and requirements to facilitate information sharing between agencies;
- Update of the Regional ITS Architecture and development of associated plans and documents;
- Evaluation and implementation of vehicle and infrastructure technology;
- Identification of needed ITS integration;
- Collection and verification of data ensuring that devices and systems are operated and maintained at a level to detect and report accurate information (i.e., speeds, counts, and other data items);

- Evaluation, improvement, and implementation of the 511DFW System with outreach and communications planning and educational services to enhance public awareness and use of 511DFW;
- Evaluation and integration of 511DFW System and Regional Data Hub with other relevant systems operated within NCTCOG and by partner agencies;
- Review of statements of consistency with the Regional ITS Architecture;
- Staging of wreckers and other ancillary services for incident clearance and operational improvements;
- Strategies to integrate operations and rapidly clear collisions and stalled vehicles to improve roadway efficiency; and
- Accumulation of video footage of signage along the region's limited access roadway facilities, and the evaluation of this footage to identify deficiencies and improve wayfinding.

Work Performed and Status: Review and approval continued of all project-level statements of Intelligent Transportation Systems (ITS) Architecture consistency for ITS projects to receive federal funds. Staff continued to work with TxDOT to update an inventory of agencies that are connected to center-to-center (C2C) plug-ins and those agencies that require connection. Together, TxDOT and NCTCOG monitored and initiated existing and new agreements needed for the regional communication system. Staff also oversaw the identification, prioritization and development of C2C plug-ins for local agencies. The Regional ITS Architecture was updated to the current version of the Architecture Reference for Cooperative and Intelligent Transportation platform.

Work on executing a Memorandum of Understanding (MOU) by regional agencies to form a Regional Network Committee is ongoing. Agencies are being encouraged to execute the MOU with the purpose of establishing a regional network. This regional network would facilitate sharing of communications infrastructure, transportation data and transportation-related video. Staff continued the evaluation of upgrading technologies for video sharing opportunities.

The regional level ITS Data Archiving project continued. ITS Data Archiving is an initiative to archive traffic information by gathering data from multiple agencies using C2C software and the regional ITS communication network. Staff continued to work with the TxDOT Dallas and Fort Worth Districts to address data issues and concerns, and initiated evaluation of new methodologies for data transmission and archiving. Efforts continued to encourage the multi-agency use of direct data communication through C2C. A C2C data feed was initiated to provide North Texas Toll Authority data to the 511DFW Traveler Information System.

Staff also continued improvements to the 511DFW Traveler Information System, as well as the identification of additional future enhancements. Training was provided by NCTCOG staff and the consultant to local agency staff on the use of the updated 511DFW system and the associated performance measures. Recommendations for additional improvements continue to be solicited. An amendment to the consultant contract was implemented to provide maintenance and operations of the 511DFW system for an additional year.

Speed and volume data from October 2020 to September 2021 was downloaded from the TxDOT Lonestar remote file system and uploaded to the corresponding database at the NCTCOG SQL Server. The data was used for the following analyses: 1) summary by data link, lane and detector of average number of records, speed, hours of operation and daily volume; 2) summary of overall performance of the side-fire devices based on the periodicity of the data with acceptable quality; 3) comparison of detector speeds with those delivered by

the Federal Highway Administration; and 4) calculation of traffic growth factors for each month with respect to the previous year to identify decrease of traffic due to the implementation of COVID-19 measures.

Staff accumulated additional video footage of limited-access facilities within the Dallas-Fort Worth region. This video will be used to evaluate signage to identify improper directional information and other errors. This footage will also be utilized to improve wayfinding capabilities through signage refinements.

NCTCOG executed an agreement with Euless Wrecker Service to stage wreckers on the Technology Lane on the SH 121 Corridor. This Technology Lane opened in December 2020.

Surface Transportation Block Grant Program funds (CSJs 0902-00-175, 0902-00-176, 0902-00-182, 0902-00-188, 0902-00-258, 0902-00-259, 2964-01-050, 0902-90-051, and 0902-90-052), Regional Toll Revenue funds (CSJ 0918-00-246), Texas Department of Transportation funds, Regional Transportation Council Local funds, and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Development of Regional and Corridor-Level TDM Strategies

Transportation Planning Funds

This element is ongoing throughout FY2020 and FY2021, providing for the planning and development of regional travel demand management (TDM) strategies including, but not limited to, employer trip reduction, carpools/vanpools, park-and-ride, and transportation management associations. This element also supports the development of regional TDM strategies in the Metropolitan Transportation Plan. Regional travel demand management strategies identified in the CMP will be applied on a regional level, and additional travel demand reduction strategies will then be evaluated for their application on the corridor and subarea levels. At the project implementation level, TDM projects are monitored so they can be added to the regional Transportation Improvement Program at the appropriate time with respect to the single-occupancy vehicle facility implementation. Anticipated products include:

- Monitoring of regional TDM goals and strategies outlined in the Metropolitan Transportation Plan and the Congestion Management Process document;
- Monitoring and assessment of Metropolitan Transportation Plan Policy Bundle surveys for TDM-related survey components;
- Maintenance of and updates to the Regional Park-and-Ride Inventory database and map;
- Quarterly Regional Transit Coordination meetings with Dallas Area Rapid Transit, Denton County Transportation Authority, and Trinity Metro; and
- Development and implementation assistance efforts for new and/or recently established Transportation Management Associations.

Work Performed and Status: The management and progression of regional and corridor-specific travel demand management (TDM) strategies continued throughout FY2021. TDM staff also updated content for the Mobility 2045 Update and initiated updates to MTP Policy Bundle survey questions. Staff coordinated with Dallas Area Rapid Transit (DART), Trinity Metro, the Denton County Transportation Authority (DCTA), and private vanpool providers to receive updates regarding transit agency activities and planned TDM-related events. Staff

also continued to update and maintain the regional Park-and-Ride facility inventory listing. Coordination activities continued with the Southern Dallas County Inland Port Transportation Management Association (TMA) in Dallas and the Legacy Connect TMA in Plano. Staff initiated and finalized the development of the Regional Single-Occupancy Vehicle (SOV) Trip Reduction Target Resolution which established an annual target of a 20 percent reduction for SOV trips during peak periods.

Transportation Planning Funds were utilized to support these work activities. This project is ongoing, and work will continue in FY2022.

Special Events

Other Funding Sources

This program is ongoing throughout FY2020 and FY2021, providing planning and implementation activities for various transportation service needs for special events. NCTCOG continues coordination and technical support for local governments, transportation providers, and other key stakeholders in North Central Texas regarding the regional coordination of special event management plans and critical infrastructure needs to support these events. Surface Transportation Block Grant Program funds and Transportation Development Credits will support this initiative. NCTCOG staff will provide oversight of this program. Anticipated products include:

- An inventory of major special events in the region;
- Coordinated regional partner involvement;
- Implementation of coordinated congestion management strategies associated with special events;
- Identification of funding sources or shared resources, and funding agreements executed with regional partners to implement projects; and
- Committee meetings.

Work Performed and Status: Staff coordinated activities, including the use of an inventory for regionally significant special events, monitored special event calendars, and worked with regional partners to develop strategies and plans for special events. Dialogue was maintained with regional partners to plan for large special events within the region to understand critical infrastructure needs to support these events. Staff continued to work with TxDOT and the Cities of Arlington and Grand Prairie to identify the hours of operation for the IH 30 reversible managed lanes and coordinated with TxDOT and the North Texas Tollway Authority to monitor the system and post messages on Dynamic Message Boards during 136 events.

Surface Transportation Block Grant Program funds (CSJ 0902-90-049) and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Managed Lane Technology Assessment

Other Funding Sources

This element is ongoing throughout FY2020 and FY2021. To facilitate efficient operation and toll collection on the managed lanes, the region desires that a technology-based system be

implemented to verify auto occupancy. The region plans to utilize advanced technology for vehicle occupancy detection and verification, as well as other equipment to improve the safety and operations of managed lanes. As part of this task, staff will provide public outreach and education regarding High Occupancy Vehicle (HOV)/managed lane pricing. Staff will also work with regional partners to implement occupancy-based tolling and dynamic pricing. This element also supports NCTCOG's membership in, and support for research under, FHWA's High Occupancy Vehicle/Managed Use Lane Pooled Fund Study. Congestion Mitigation and Air Quality Improvement Program funds, Surface Transportation Block Grant Program funds, Texas Department of Transportation funds, and RTC Local funds will be used to support these activities. Anticipated products include:

- Coordination and meetings with partner agencies as needed;
- Public outreach and education on HOV/managed lanes;
- Implementation and testing of pilot for technology to detect auto occupancy;
- Implementation and integration of technology to detect/verify auto occupancy on HOV/managed lane system; and
- Support for and participation in FHWA High Occupancy Vehicle/Managed Use Lane Pooled Fund Study.

Work Performed and Status: Regular meetings continued to be held with partner agencies to discuss operational aspects and performance measures of the auto occupancy detection and verification technology on managed lanes within the region. The communication plan was updated with input from the Public Information Officers and included updates to the communications talking points, creative pieces, and messaging. Two Public Information Officer meetings were held during the year. Paid education campaign elements ran from June through September; partner agencies also utilized messaging on the Dynamic Message Signs, and a media event was held in September 2021 to promote the program and increase usage. The GoCarma application was integrated with the Try Parking It application to allow users to automatically earn rewards for their subsequent HOV trips identified by GoCarma. Staff continued to track usage, monitored, and responded to customer service inquiries; and developed talking points and processes for violators. Coordination efforts began on the US 75 Technology Lane corridor to utilize the GoCarma application to reward carpoolers. In addition, staff continued to attend meetings and participate on the FHWA High-Occupancy Vehicle/Managed Lane Pooled Fund Study.

Surface Transportation Block Grant Program funds (CSJs 0902-00-275 and 0902-00-215), Congestion Mitigation and Air Quality Improvement Program funds (CSJ 0902-00-215), Texas Department of Transportation funds, and Regional Transportation Council Local funds were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Traffic Incident Management Training

Other Funding Sources

This program is ongoing throughout FY2020 and FY2021, providing training for agencies responsible for managing and clearing traffic incidents. This training has been demonstrated to improve responder and motorist safety, and to reduce significantly the length and size of roadway closures. The Dallas-Fort Worth area was the first area in the nation to formalize the training process to reach out to all responders and generate improvements in the management of traffic incidents. The goal of NCTCOG Traffic Incident Management (TIM) training is to initiate a

common, coordinated response to traffic incidents that will build partnerships, enhance safety for emergency personnel, reduce upstream traffic accidents, improve the efficiency of the transportation system, and improve air quality in the Dallas-Fort Worth region. By implementing best practices techniques throughout the region, clearance times can be reduced by as much as 40 percent. Such an improvement will reduce the impact of congestion, improve regional air quality, and improve the safety and efficiency of travel for all residents and visitors in the area. Congestion Mitigation and Air Quality Improvement Program funds, Regional Transportation Council Local funds, local funds, and Transportation Development Credits support this program. Consultant services may be utilized. Anticipated products include:

- Program management and oversight for the TIM Training Program;
- TIM First Responder and Manager's Courses and TIM Executive Level Courses;
- Quick Clearance Crash Reconstruction Training workshops;
- Annual TIM Self-Assessment, performance tracking and coordination activities;
- Incident Management Equipment Purchase Call for Projects;
- Commercial Vehicle Enforcement (CVE) Equipment and Training Program development and CVE Working Group oversight; and
- Support of general training, educational projects and initiatives that promote the implementation of strategies that mitigate traffic and/or CVE incidents.

Work Performed and Status: NCTCOG hosted five Traffic Incident Management (TIM) First Responder and Manager training classes and two TIM Executive Level classes, with a combined total of 204 students attending. During that time, staff updated "in-person" training protocols for TIM training attendees in order to continue conducting in-person trainings, in light of COVID-19 restrictions/concerns. Staff reviewed and processed per-class invoices and performance reports and maintained and updated course material. The onboarding process for a new TIM instructor for the program was also completed. TIM class registration information was collected, and website updates were made to accurately track agency attendance. Staff conducted the 2020 TIM Self-Assessment in partnership with the Federal Highway Administration to evaluate regional performance relating to traffic incident management. Staff also continued oversight activities related to the 2020 Incident Management Equipment Purchase Call for Projects (CFP) including agreement development and execution activities, invoice review/approval activities, and project monitoring. The 2021 Incident Management Freeway Blocking Equipment CFP was developed and released in September and a Regional Information Forum was hosted in support of the CFP. Staff coordinated and participated in quarterly Dallas TIM Coalition meetings with incident management partners (i.e., police, fire, wrecking services, the Texas Department of Transportation, the North Texas Tollway Authority, and NCTCOG) to discuss major incidents which occurred and to coordinate ways to address local incident management issues. Staff also attended various regional TIM planning-related meetings and continued to coordinate activities for and host multiple meetings for the Abandoned Vehicle Working Group with partner agencies to address the increased frequency of abandoned vehicles along regional highways and tollways. Regional incident management performance measures, including incident response and clearance times, were requested and collected when available. A total of 104 portable weighing scales were procured and distributed, along with equipment training, to 15 area Commercial Vehicle Enforcement (CVE) departments as part of the CVE Equipment and Training Program. This program was developed to reduce the number of overweight commercial vehicles on North Texas roadways. Staff also hosted two commercial motor vehicle violations training opportunities for prosecutors and judges.

Congestion Mitigation and Air Quality Improvement Program funds (CSJ 0918-00-258), Regional Transportation Council Local funds, local funds, and Transportation Development Credits were utilized to support these work activities. This project is ongoing, and work will continue in FY2022.

Mobility Assistance Patrol Program (MAPP) Administration

Other Funding Sources

This program is ongoing throughout FY2020 and FY2021, and aids stalled or stranded motorists by helping them to move disabled vehicles from the main lanes of regional limited access facilities and ultimately get the vehicles operating or off the facility completely. This support includes minor mechanical and crash assistance, protection to first responders, and the removal of debris. All assistance is provided free of charge to motorists. The MAPP is an essential element to the region's Traffic Incident Management operations and provides ancillary congestion relief, safety, and air quality benefits.

Mobility assistance patrols are operated by the Dallas County and Tarrant County Sheriffs' Offices on congested roadway systems in Dallas and Tarrant Counties, and portions of Collin, Denton, and Johnson Counties. The North Texas Tollway Authority (NTTA) operates patrols on NTTA toll facilities throughout the region, and private-sector partners operate patrols on the LBJ and North Tarrant Express Corridors. Surface Transportation Block Grant Program funds, and Transportation Development Credits support this program. Consultant services may be utilized. Anticipated products include:

- Regional program oversight including active coordination and support activities for Dallas and Tarrant County operations, and NTTA and Comprehensive Development Agreement operations;
- Performance tracking, budget monitoring, and patrol route evaluation;
- Evaluation of supplemental funding opportunities and innovative technologies; and
- Assessment of the current program to ensure that the program is operating efficiently.

Work Performed and Status: Staff continued to provide program oversight for the regional Mobility Assistance Patrol Program (MAPP). Performance measures were collected quarterly from the Dallas County and Tarrant County Sheriff's Offices, the North Texas Tollway Authority, and the private operators patrolling the North Tarrant Express and LBJ Express managed corridors. MAPP performance measures were analyzed and published in the annual safety performance report. Performance measures were also used in a continued evaluation of possible route expansions for both the Dallas and Tarrant County operations. Staff held a series of meetings with Dallas and Tarrant County officials, TxDOT staff, and others to discuss these expansions and potential program restructuring including alternative funding options. Budget assistance was coordinated with the Dallas County and Tarrant County patrols as well.

Surface Transportation Block Grant Program funds (CSJs 0902-00-175 and 0902-90-049) and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Regional Trip Reduction and Vanpool Programs

Other Funding Sources

These programs are ongoing throughout FY2020 and FY2021. Both programs are designed to reduce employee commute vehicle trips. The Regional Trip Reduction Program (RTRP) is an educational commute options program aimed at educating large private and public employers in the region about available Travel Demand Management (TDM) programs and strategies that reduce single-occupancy vehicle trips for work purposes. The strategies promoted under the RTRP include rideshare (carpool and vanpool) programs, telecommuting and flexible work-hour programs, transit programs, walking, bicycling and similar strategies. The Try Parking It website, www.tryparkingit.com, the regional commute tracking, ride-matching and commuter reward system application, is a major component of the RTRP.

The Regional Vanpool Program is a major rideshare program for trip reduction, providing a “shared ride” alternative to single-occupancy vehicle travel for commuters traveling long distances or in areas with limited or no fixed-route service. The current Regional Vanpool Program is operated by Dallas Area Rapid Transit (DART), the Denton County Transportation Authority (DCTA), and Trinity Metro.

Surface Transportation Block Grant Program funds, Regional Transportation Council Local funds, Transportation Development Credits, and local funds will be utilized for these programs. NCTCOG staff will provide management, oversight, and implementation of the programs. Consultant assistance will be utilized. Anticipated products include:

- Direct employer outreach to educate employers on available TDM strategies and assist them in establishing and/or strengthening alternate commute programs in the workplace;
- Maintenance and update of the Regional Trip Reduction Guide for Employers;
- Maintenance of the RTRP performance database which includes monitoring and publication of ridership, VMT reduced, and emission reductions performance measures;
- Management and oversight of the Try Parking It Program website and commuter recognition activities;
- Promotion of NCTCOG’s Try Parking It website to increase program recognition and usage;
- Coordination and oversight of regional vanpool program including operational processes, program budget, invoice activities, agreement development activities, and program assessment activities; and
- Management of the Regional Vanpool Managed Lane Toll Reimbursement Program.

Work Performed and Status: Program activities for the implementation of the Regional Trip Reduction Program and Regional Vanpool Program continued. Staff managed and implemented the Regional Trip Reduction Program, including oversight of the Try Parking It website and application, and monitored the regional single-occupancy-vehicle trip reduction annual target. Staff participated in outreach activities to promote TDM strategies to regional employers and the general public. Try Parking It website oversight activities included completion of the Year Three contract amendment for website hosting activities; oversight and coordination activities for website enhancements and maintenance, monthly invoice review/approval activities and processing; G.R.E.E.N. (Give.Receive.Expand.Effect.North Texas) reward partner coordination activities; and program performance monitoring and reporting. Staff continued activities related to the redesign and update of the Regional Trip Reduction Employer Guide. Staff also continued to collaborate with transit agencies in managing vanpool-related information on Try Parking It and assisting commuters with Try

Parking It-related inquiries. Staff continued to provide oversight for the Vanpool Managed Lane Toll Reimbursement Program and communicated with program participants regarding reimbursement requests and documentation when needed. Regional TDM-related program performance measures continued to be collected/tracked/maintained and reported/published in the annual Regional TDM Performance Report.

Regional Vanpool Program activities included the development of an annual work plan; interlocal agreement development; coordination of program budgets; invoice review and payment activities for the Dallas Area Rapid Transit Vanpool Program; and regular communications with vanpool program staff from DART, DCTA, Trinity Metro, and regional private vanpool providers. Meetings with the transit agencies continued to focus on COVID-19 related issues/impacts, post COVID-19 strategies, and clarifying service boundaries, as well as creating a more streamlined Regional Vanpool Program. At the end of FY2021, 147 total vanpools were in operation, which contributed to vehicle miles of travel reductions, along with producing savings of volatile organic compound and nitrogen oxide emissions. Due to COVID-19 restrictions/concerns, many vanpools continued to be placed on hold and others terminated altogether.

Surface Transportation Block Grant Program funds (CSJs 0918-00-217, 0918-00-280, 0902-00-175, 0902-00-232, 0902-00-233, and 0918-00-281), Regional Transportation Council Local funds, local funds, and Transportation Development Credits supported work activities. This project is ongoing, and work will continue in FY2022.

Regional Traffic Signal Retiming and Minor Intersection Improvement Program

Other Funding Sources

This program is ongoing throughout FY2020 and FY2021 and targets the improvement of the arterial transportation system, including frontage roads, in the Dallas-Fort Worth region. Efforts will be conducted in conjunction with local governments, Independent School Districts, and/or private-sector companies to identify corridors or intersections to be included. The corridors or intersections will be selected based on several factors including, but not limited to, previously recommended low-cost program improvements, high volumes, regional distribution, previously funded and unfunded projects, safety and local agency needs such as traffic signal software, traffic signal cabinets, traffic signal controllers, battery backup, intersection cameras, detection devices, communications with Traffic Management Center or other intersections, and Global Positioning System clocks. These efforts will generate nitrogen oxide and volatile organic compound emissions reductions to aid in future transportation conformity determinations. Consultant services may be utilized. Congestion Mitigation and Air Quality Improvement Program funds, Texas Department of Transportation funds, other local funds, and Transportation Development Credits support this project. NCTCOG staff will provide oversight of this project. Anticipated products include:

- Call(s) for Projects process for review and approval;
- Subrecipient agreements for pre-approval and execution;
- Recommendation and implementation of major and minor improvements;
- Traffic signal equipment and other procurement;
- Implementation of signal retiming plans including analysis of baseline and improved conditions;
- Monthly progress meetings with consultants, TxDOT and local agencies as appropriate;

- Review of corridor reports, project summary reports, consultant invoices and progress reports; and
- Signal retiming and reimbursement of tolls for closures during IH 30/SH 360 interchange construction.

Work Performed and Status: Coordination and implementation of the Regional Traffic Signal Retiming and Minor Intersection Improvement Program continued, improving timing plans along arterial transportation systems and frontage roads. The Regional Traffic Signal Retiming program includes a baseline analysis, recommendation and implementation of low-cost capital improvements, implementation of signal retiming plans, and a subsequent improvement analysis (improved conditions).

Staff provided oversight of consultant(s) work, quantified air quality benefits, integrated collected data, and coordinated with local agencies. Staff also selected corridors for frontage road retiming during main-lane incidents and executed interlocal agreements with agencies for the implementation of minor improvements and frontage road retiming programs.

A new approach is being evaluated to identify existing traffic signal equipment and operations with the goal of developing regional standards and identifying gaps for potential improvement projects. Staff issued a request for proposals and selected three firms through the consultant selection committee process to implement the new approach.

Staff coordinated with the North Texas Tollway Authority (NTTA) to set the tolls to zero on SH 161 during the November 2020 and September 2021 IH 30 closures and provided reimbursement to NTTA for the uncollected tolls.

Congestion Mitigation and Air Quality Improvement Program funds (CSJs 0918-00-252, 0902-00-168, 0902-00-197, 0902-00-217, 0902-90-054, and 0902-00-172), Texas Department of Transportation funds, Regional Transportation Council Local funds, local funds, and Transportation Development Credits were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

Communication Efforts for the DFW Connector Pilot Program

Other Funding Sources

The DFW Connector Pilot Program will be ongoing throughout FY2020 and will test strategies to increase TollTag usage in the DFW Connector corridor. Strategies will be tested independently to determine the relative success in increasing TollTag usage that can be applied to other corridors in the region. The strategies will be closely coordinated with the North Texas Tollway Authority. Reports will be finalized on strategies implemented in prior fiscal years such as TollPerks for new TollTag customers, prize giveaways, and preloaded TollTags to targeted areas. Additional strategies of TollTag sales at inspection stations in targeted areas, and TollTag sales at car dealerships in targeted areas, will be implemented. This project will utilize Regional Toll Revenue funds. Consultant assistance and paid media may be utilized when needed. Anticipated products include:

- Increased TollTag usage; and
- Report summarizing strategy results.

Work Performed and Status: This program was completed in FY2020.

Video and Analytics Evaluating Lost Capacity Due to Technology-Related Behaviors

Other Funding Sources

University Partnership Program (UPP) assistance will continue to analyze delay on the transportation system associated with distracted drivers. This study is investigating the assumed driver delay versus actual driver time delayed due to distractions. A survey may be conducted to observe reaction time and analyze if idling, queuing and other reductions of capacity have increased since the onset of technology. The study will determine if different assumptions used for modeling and operations need to be adjusted in order to more accurately reflect actual delay associated with new technology distractions. Surface Transportation Block Grant Program funds and Transportation Development Credits will be used to support this project. Anticipated products include:

- Meeting summaries;
- Comment review; and
- Technical memorandums.

Work Performed and Status: This project was completed in FY2020.

5.06 Regional Freight Planning

Transportation Planning Funds

During FY2020, freight planning activities will be conducted based on truck, rail and air cargo movements throughout the region in support of city, county, state and federal agencies. Also, coordination between private-sector stakeholders and public-sector staff will be initiated through multiple initiatives and meetings. Anticipated products include:

- Regional Freight Advisory Committee (RFAC) meetings;
- Regional Transportation Council Intermodal/Multimodal/High-Speed Rail/Freight Subcommittee meetings, as needed; and
- Support to the USDOT Federal Highway Administration and Texas Department of Transportation for various projects as needed.

Work Performed and Status: Working in collaboration with freight industry professionals and public-sector representatives, NCTCOG staff conducted Regional Freight Advisory Committee (RFAC) meetings in November 2020 and May 2021. Staff participated in the Texas Freight Advisory Committee meetings held in November 2020, April 2021, and August 2021 hosted by the Texas Department of Transportation. NCTCOG also hosted multiple regional rail stakeholder meetings to continue ongoing coordination with regional rail agencies.

Transportation Planning Funds were utilized to support work activities. Work will continue in FY2022.

Other Funding Sources

This subtask is ongoing throughout FY2020 and FY2021, assessing the impact of truck traffic, rail freight, and other freight movement issues within and through the DFW Region, including planning and implementation activities related to the use of a regional railroad information system to monitor and forecast train traffic conditions for both freight and passenger operations. This task also includes the collection and analysis of data pertaining to freight mobility and safety. These tasks will include continued coordination with private-sector partners in the trucking, rail, and freight-forwarding businesses. Consultant assistance may be utilized. University Partnership Program (UPP) assistance will be initiated in FY2021 for a freight economic analysis of transportation infrastructure improvements in the Dallas-Fort Worth region. The objective of this study is to develop an agency-friendly data-supported freight economic analysis framework to identify and quantify the short-term and long-term economic benefits of infrastructure improvements in the region. Surface Transportation Block Grant Program funds in the amount of \$7,100,000, matched with Transportation Development Credits; Regional Transportation Council Local funds in the amount of \$400,000; federal BUILD grant funds in the amount of \$2,500,000; and approximately \$3,100,000 from regional rail agencies will support the regional railroad information system development and implementation. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized for all other work activities. Anticipated products include:

- Monitoring of truck-lane restriction corridor conditions;
- Various reports and studies regarding freight conditions in the DFW region, including a Regional Hazardous Materials Route Study, Economic Impact Analyses, Truck Bottleneck Analysis and a Freight and Passenger Rail Integration Study;
- Recommended follow-up studies identified in Freight North Texas: The North Central Texas Regional Freight System Inventory, including a Land-Use Compatibility Analysis and a Data Collection Program which could include traffic counts, classification counts and surveys for the Regional Freight Model;
- UPP final report on freight economic analysis of transportation Infrastructure Improvements in the Dallas-Fort Worth region;
- Freight Mobility Plan;
- Corridor studies;
- Roadway/rail crossing assessments;
- Public outreach and educational programs; and
- Development and initiation of a regional railroad information system in the Dallas-Fort Worth region.

Work Performed and Status: Monitoring of Truck Lane Restriction corridors was an ongoing initiative in FY2021. Construction status on highways with Truck Lane Restrictions was evaluated to identify if restrictions/signage could be put in place. Staff completed the FY2021 Freight Safety Initiative. This public outreach and educational program will bring awareness to truck and rail safety within the region. The FY2021 Freight Safety Initiative Campaign was held from May through September. For the campaign, staff created billboards and ads to promote safe driving near trucks. As part of the campaign, NCTCOG staff worked with Operation Life Saver to promote safety at rail crossings. Work continued on Freight North Texas (FNT) recommended follow-up studies with identification of at-risk locations for land-use conflicts and potential mitigation strategies for further study in the land-use analysis. This analysis will be incorporated into the Freight Mobility Plan in the future.

Work began on the new regional freight plan, including data collection, development, and writing of the plan. The FM 429 realignment continued to move forward. Staff is currently working with UPRR and the Texas Department of Transportation (TxDOT) on the design for the realignment and funding. The Freight and Passenger Rail Integration Study, a TxDOT study on which staff is assisting, was completed. Work included identifying grade crossings to review, coordinating with regional rail partners and cities, reviewing draft documents, developing corridor-specific plans, and planning a possible third phase of the study.

Regional Rail Information System (RRIS) work continued and included releasing a Request for Proposals, identifying a consultant, and working on agreements with both the consultant and TxDOT. In addition, staff continued to coordinate with regional rail partners, develop contract cost, and schedule meetings. Staff continued with the NT MOVES Rail Program and the double track projects.

NCTCOG was awarded \$25 million for its BUILD grant submission in FY2020. Work on this included coordinating with the Federal Transit Administration, working with regional rail partners, and working with TxDOT on highway projects that affect the double track projects. Other work included development of the freight section of the Mobility 2045 Update, data collection, and additional freight-related activities.

Surface Transportation Block Grant Program funds (CSJs 0902-00-271, 0902-00-272 and 0902-90-101) and Transportation Development Credits were utilized to support work activities. Work is ongoing and will continue in FY2022.

5.07 Transportation System Security and Emergency Preparedness

Transportation Planning Funds

This program is ongoing throughout FY2020 and FY2021, supporting ongoing local, State, and federal initiatives to address transportation system security and emergency preparedness planning. NCTCOG continues a dialogue among local governments and transportation providers in North Central Texas regarding the regional coordination of response plans, response capabilities, and emergency medical services in the event of a major incident. Staff also provides technical transportation data needed to support these planning efforts, as well as to facilitate the coordination of various transportation providers and planning agencies.

NCTCOG's Transportation Department will continue to support the Emergency Preparedness Department in developing/enhancing regional emergency preparedness capacity as it relates to utilization of Intelligent Transportation Systems or transportation management tools and infrastructure protection by developing a framework for response and contingency planning due to the unexpected loss or intentional removal of roadway capacity. Scenario modeling may identify the impact to parallel or complementary routes for strategic corridors in the region to help determine potential temporary or interim traffic management solutions. Anticipated products include:

- Support and assistance to agency and regional partners including monitoring of activities, promotion of regional coordination, and committee meetings;
- Interaction and cooperation between emergency responders and transportation staff;
- Technical transportation data, performance analyses, and planning services related to transportation security;
- Infrastructure protection measures (identifying regional transportation assets including recommending vulnerability analyses on regional facilities and services; and
- Transportation resource support for mass evacuation events.

Work Performed and Status: In collaboration with NCTCOG’s Emergency Preparedness Department, staff continued to provide support to national, State, and local initiatives directed to support the security of the region’s transportation system.

Also, in collaboration with the Emergency Preparedness Department, staff coordinated with regional partner agencies regarding critical infrastructure and security precautions. Technical transportation data was evaluated to maintain the inventory of critical infrastructure and key resources. Staff participated in public safety initiatives, including coordination for fiber and video feed sharing with NCT911 and other local agencies.

Local and state agencies were encouraged to develop internal approaches to identify and protect transportation infrastructure through funding and cost-reduction opportunities. Staff participated in discussions among transportation, law enforcement and other agencies. Transportation staff attended meetings associated with the Public Works Emergency Response Team to share transportation-related information and insight. Transportation resource support for mass evacuation events is outlined in *Mobility 2045: The Metropolitan Transportation Plan for North Central Texas*.

Mobility 2045 Policy Bundles related to transportation security were updated.

Transportation Planning Funds were utilized to support work activities. This project is ongoing, and work will continue in FY2022.

5.08 Roadway and Railroad Safety

This subtask is ongoing throughout FY2020 and FY2021, supporting planning efforts to develop safety policies, programs, and projects.

Transportation Safety Planning

Transportation Planning Funds

Staff coordinates with the Regional Safety Advisory Committee, the Texas Department of Transportation (TxDOT), Texas Department of Public Safety, Federal Highway Administration, local governments, and other partners to develop strategies for regional safety planning efforts, data collection, and analysis. These partners also assist in developing policies, programs and projects to improve safety related to the transportation system. Anticipated products include:

- Collection, processing, maintenance, and analysis of regional safety data including crash data from TxDOT’s Crash Records Information System, fatality data from the National

- Highway Traffic Safety Administration’s Fatality Analysis Reporting System, and hazardous material spill data from the National Response Center;
- Regional Safety Information System implementation and assessment activities;
- Monitoring and promotion of the implementation of regional intersection improvements outlined in NCTCOG’s Intersection Safety Implementation Plan (ISIP) and the Texas ISIP;
- Regional and federal safety performance measure tracking and reporting activities;
- Safety-related education and training courses for member agencies;
- Implementation of driver safety public education, outreach, and information programs, including a contributing factor public education campaign;
- Oversight of systemic safety improvement funding program activities;
- Oversight and expansion of regional Wrong-Way Driving Mitigation Program; and
- Coordination efforts for the Regional Safety Advisory Committee.

Work Performed and Status: Staff requested/processed/analyzed TxDOT Crash Records Information Systems (CRIS) data for the region for 2016-2020. Along with National Highway Traffic Safety Administration Fatality Analysis Reporting System (FARS) data, staff used CRIS data to establish federally mandated safety performance targets at the MPO level, in support of the state’s crash reduction targets. Staff utilized the CRIS crash data to complete multiple data requests for internal staff and external partner agencies, and to analyze crash trends and hotspots. Staff completed a contributing factor analysis for serious injury and fatal crashes on limited access facilities, and analyzed driving under the influence-related crashes, wrong-way driving crashes, and crashes involving motorcycles, as examples. Staff also calculated crash rates for the 12-county Metropolitan Planning Area along limited access facilities. Staff tracked and reported hazardous material incidents that occurred on limited access facilities using data available from the National Response Center. Systemic intersection improvements, including those concerning wrong-way driving countermeasures, were tracked in the TxDOT Dallas and Fort Worth Districts. Work continued on a before-and-after study of intersections included in the Intersection Safety Implementation Plan. Regional safety-related programs and projects were published in the annual Regional Safety Performance Report. A supplemental Regional Crash Fact Sheet was also produced and published. Staff hosted four Regional Safety Advisory Committee meetings and participated in emphasis area team meetings for the Texas Strategic Highway Safety Plan. Staff also updated content for the Mobility 2045 Update MTP document and initiated updates to MTP Policy Bundle survey questions.

Transportation Planning Funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Other Funding Sources

Surface Transportation Block Grant Program funds, local funds, Transportation Development Credits, and grants will also be utilized to support this program. Anticipated products include:

- Regional Safety Information System application tool;
- Driver safety public education, outreach, and information programs including a contributing factor public education campaign;
- Regional roadway safety strategic plan development activities;
- Systemic safety improvement funding program activities; and
- Expansion of regional Wrong-Way Driving Mitigation Program.

Work Performed and Status: Staff released a Request for Proposals (RFP) for a cloud-based predictive crash analysis tool that could identify crash risk along roadway segments

and at intersections and suggest appropriate safety countermeasures. The procurement was later canceled with plans to re-release the RFP in FY2023. Staff finalized the design of the newly created safety campaign website for Drive Aware North Texas, the regional driver safety outreach campaign to positively influence negative driver behaviors. Staff also evaluated top crash contributing factors and developed/initiated demographics-focused marketing and education outreach activities focused on reducing speeding. Staff initiated development activities for the Regional Roadway Safety Plan, including plan outline and regional data analysis for plan emphasis areas. Wrong-way driving crashes were analyzed by location and time of day and systemic countermeasures have been completed by the Texas Department of Transportation.

Surface Transportation Block Grant Program funds (CSJ 0902-00-248) and Transportation Development Credits were used to support these work activities. This project is ongoing, and work will continue in FY2022.

Railroad Crossing Coordination

Other Funding Sources

This element is ongoing throughout FY2020 and FY2021 and includes the identification, planning, and implementation of rail crossing projects throughout the DFW region. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized to support this project. Anticipated products include:

- Maintenance of the regional railroad banking program;
- Regional rail crossing assessments;
- Analysis of rail safety data to identify target areas for educational efforts;
- Public outreach and education efforts in the region; and
- Enhanced regional partnerships.

Work Performed and Status: Railroad crossing safety work plans were continued for specific study areas, including Prairie Creek, Joppa, Ennis, West Dallas Gateway, and Haslett crossings. Work plan efforts continued in FY2021 for FM 429 in Terrell. To increase regional crossing safety partnerships, staff collaborated with regional railroad agencies and the Cities of Grand Prairie, Terrell, Haslett, Ennis, Dallas, Arlington, and Fort Worth. In addition, staff worked with the Northwest Independent School District and local elected officials on crossing issues in the North Fort Worth area. Staff worked on the regional rail crossing assessments, including crossings in the city of Fort Worth. Meetings were held with both public and private stakeholders, TxDOT staff, and rail agencies, and preliminary solutions for crossing issues were evaluated. Staff continued the maintenance of the Regional Railroad Banking Program which included working with both cities and railroads on various at-grade crossing issues.

Surface Transportation Block Grant Program funds (CSJ 0902-90-101) and Transportation Development Credits were utilized to support work activities. Work will continue in FY2022.

5.09 Regional Aviation Planning and Education

This work program subtask includes planning for the regional aviation system and the surface transportation system that links aviation facilities to the region. Mitigation of reckless unmanned aircraft systems (UAS) operations in Dallas-Fort Worth airspace is also part of this program, in addition to public outreach to help expand and enhance aviation and aerospace education and career skills.

Surface Access to Aviation

Transportation Planning Funds

This element is ongoing throughout FY2020 and FY2021. Work includes data collection and planning efforts to access infrastructure to aviation facilities and associated improvement needs. This item includes a review of travel-time contours, air cargo trends and connectivity, and land-use implications surrounding commercial and general aviation facilities. This project also includes reporting to the Regional Transportation Council and the Air Transportation Advisory Committee, and input into the Metropolitan Transportation Plan (MTP). Anticipated products include:

- Documentation of surface access to aviation impacts;
- Inventory and data collection of infrastructure improvements;
- Analysis and recommendations for infrastructure improvements affecting aviation;
- Travel-time contours for commercial and general aviation facilities;
- Inventory of surface transportation access to aviation facilities; and
- Monitoring and assessment of Metropolitan Transportation Plan Policy Bundles survey for aviation-related survey components.

Work Performed and Status: In FY2021, staff collected data and continued to maintain an inventory of surface access improvements to aviation facilities within the region. Staff collected air cargo and commercial aviation data to monitor demand trends that could affect surface access to aviation facilities. Staff also updated content for the Mobility 2045 Update MTP document and initiated updates to MTP Policy Bundle survey questions.

Transportation Planning Funds were used to support work activities. Work will be ongoing in FY2022.

Regional Aviation System Planning

Other Funding Sources

This element is ongoing throughout FY2020 and FY2021 and includes continuous system planning efforts and implementation of the Regional General Aviation and Heliport System Plan. Ongoing technical assistance to local governments and stakeholders for development recommendations and preservation of the North Central Texas regional aviation system is provided. Coordination with State and federal governments and aviation stakeholders will be completed to provide input to the National Plan of Integrated Airport Systems, the Texas Airport System Plan, and North Central Texas Council of Governments' documents (such as the Metropolitan Transportation Plan). Airport system evaluation may include demand forecasting

and capacity assessments. Consultant services may be utilized. This project is funded through RTC Local funds. Anticipated products include:

- Air Transportation Advisory Committee meetings;
- Stakeholder meetings and associated outreach materials;
- Continued implementation of the Regional General Aviation and Heliport System Plan;
- Aviation system performance measures;
- Collection of geospatial data related to airport infrastructure;
- Geographical Information System (GIS) Web Interface;
- Monitoring of compatible development surrounding airports including obstructions;
- Aviation environmental planning tools such as noise modeling and wildlife tracking;
- Monitoring, coordination and evaluation of the impacts of unmanned aircraft systems (UAS) on the regional aviation system; and
- North Texas UAS Safety and Integration Task Force meetings.

Work Performed and Status: In FY2021, staff hosted four quarterly Air Transportation Advisory Committee (ATAC) meetings to include briefings for elected officials at the local, State, and federal levels. Regional aviation funding was monitored and tracked and presented at each meeting. Presentations included committee members who shared construction activities, compatible development planning, and best practices for operations during the COVID-19 pandemic. Sharing among airports fostered more communication and collaboration among committee members. Ten Know Before You Fly workshops were held with consultant assistance.

Regional system planning efforts continued in FY2021. Staff collaborated and coordinated with numerous stakeholders to continue work on the safe integration of unmanned aircraft systems (UAS) into the region's airspace, including, but not limited to, the planning activities associated with the UAS Safety and Integration Initiative/Task Force. Nine Unmanned Aircraft System Safety and Integration Task Force meetings were completed. Staff also organized five UAS working groups focused on issues and opportunities associated with legislation, education, integration, and training as NCTCOG continues to monitor, inventory, and share efforts to implement UAS initiatives within the region.

In FY2021 staff was also successful in winning an agreement with NASA for planning assistance in accelerating the integration of Vertical Mobility into North Texas.

Regional Transportation Council Local funds were used to support work activities. Work will be ongoing in FY2022.

Aviation Education Integration and Outreach

Other Funding Sources

This element is ongoing throughout FY2020 and FY2021 and describes implementation and outreach efforts associated with recommendations from the North Texas Aviation Education Initiative study completed in 2010. Facilitation for development of regional aviation programs, as well as a variety of outreach strategies to local students, will be conducted. These efforts are funded through a combination of grants, RTC Local funds, and industry partnerships. Anticipated products include:

- Participation in aviation advisory committees and presentations to school boards;
- Continued development of a Speakers Bureau;
- Enhancement of the aviation careers-based mentorship program;
- Enhancements to NCTAviationcareers.com;
- Program curriculum development and facilitation;
- Regional workshops with educators, industry stakeholders, and policy officials; and
- Continued promotion of the aviation education gaming app, FLYBY.

Work Performed and Status: Work continued with Career and Technology Education (CTE) programs within Independent School Districts to promote aviation education. Staff continued speaking engagements, presentations, and other outreach events, including the Tarrant County Community College Advisory Committee, the Arise Planning Committee, Bell Aerial Robotics Advisory Committee, Fort Worth Drone Advisory Committee, the NCTX Aerial Robotics Leadership Committee, Fort Worth ISD UAS Workforce Steering Group, the Irving ISD Aviation Advisory Board, Crowley ISD CTE Advisory Board, and the Midlothian ISD Advisory Board.

The aviation careers website was updated with relevant events and content, and to ensure accuracy as needed.

Regional Transportation Council Local funds were used to support work activities. Work will continue in FY2022.

5.10 Regional Military and Community Coordination

This Work Program subtask includes the planning and implementation of programs to support regional military and community coordination.

Naval Air Station Joint Reserve Base Fort Worth Land Use and Community Outreach Implementation

Other Funding Sources

Following a 2008 study funded through the Department of Defense Office of Economic Adjustment (DOD OEA) that focused on compatible development near military installations, the Naval Air Station Joint Reserve Base, Fort Worth Regional Coordination Committee (RCC) was formed. Participating local governments include, but are not limited to, Tarrant County and the Cities of Benbrook, Fort Worth, Lake Worth, River Oaks, Sansom Park, Westworth Village, and White Settlement. The interjurisdictional partnership is based on the identification of actions that can be taken jointly by the community and the installation to promote compatible development and address current and future encroachment as identified through the Joint Land Use Study. The RCC created a Development Review Web tool for communities to discuss proposed developments near NAS JRB Fort Worth. This element is ongoing throughout FY2020 and FY2021. Regional Transportation Council Local and other local funds will be utilized to support activities in this area. Anticipated products include:

- Community outreach meetings;
- Tracking of bills proposed in the state legislature;

- Regional Coordination Committee (RCC) Development Review Web tool project inventory and comments;
- At least four RCC meetings and RCC Officer coordination; and
- Documentation and presentation material for forums, workshops, and meetings.

Work Performed and Status: Administration of the NAS JRB Fort Worth Regional Coordination Committee (also known as the Regional Coordination Committee or RCC) during FY2021 included conducting four quarterly committee meetings and three officer meetings. Committee efforts were supported by providing legislative updates related to compatible development and communication to residents affected by military operations and unmanned aircraft vehicles as detailed in the RCC Legislative Program for the 87th Texas Legislature. Other support included preparing presentations, providing updates on transportation projects near the base, drafting correspondence, maintaining the RCC Development Review Web Tool, revising bylaws, and assisting the NAS JRB Fort Worth Commanding Officer.

Regional Transportation Council Local funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

Regional Military Compatible Use Implementation

Other Funding Sources

The Department of Defense Office of Economic Adjustment (DOD OEA) funds implementation of recommendations from planning studies to maintain military operations and support compatible development surrounding military installations. NCTCOG recently completed a Regional Joint Land-use Study (JLUS), now known as a Compatible Use study, that contained over 150 recommendations. The Regional Military Compatible Use Implementation initiative will involve work with federal and State military installations, the Texas Military Department, local governments, and the business community to implement the study recommendations. This element is ongoing throughout FY2020 and FY2021. Regional Transportation Council Local funds and Department of Defense funds will be used for this project. Anticipated products include:

- Active parcel compatibility management tool;
- Homeowner relations program to inform new residents about quality-of-life issues near military installations and identify resources related to sound attenuation;
- Updates to local government zoning ordinances, future land-use plans, and building codes and statewide local government code to increase compatibility near military installations;
- Improved and formal communications channels for Texas Military Department installations;
- Economic development and transportation projects near Texas Military Department installations;
- Information exchanges between both military installations and local governments within the region and between communities across Texas that participate in the Department of Defense Compatible Use program; and
- Grant management requirements.

Work Performed and Status: Preliminary work was begun on the active parcel management tool including a set of data needs that will be pulled into a mapping platform. Additionally, work began on designing a user interface for the mapping platform.

A brochure was completed and printed that details the results of the previous study as well as documenting compatible development actions taken. This brochure will be part of an overall Welcome Packet to be distributed to residents living near military installations. The contents and design for the Welcome Packet were drafted and have undergone refinement. A standard presentation was also developed that can be used in multiple presentation settings to the general public. A review was completed of the requirements for homeowners to disclose proximity to military installations when selling homes, including a review of local government websites to ensure required reports are accessible online.

Presentation materials and model ordinances/codes for local governments to highlight the need for overlay zoning in safety zones and noise contours, as well as building code additions for noise contours, was begun. This included a review of local existing ordinances as well as review of ordinances nationwide to find appropriate examples. Slides have also begun to be developed. Preparation work for participating in a sound mitigation program through the DOD was begun.

Monthly meetings were held with Texas Military Department staff, as well as several additional meetings regarding Fort Wolters specifically, with some involving Mineral Wells staff, to discuss transportation and economic development improvements. Staff participated in meetings regarding the Hensley Field planning study, which would impact several installations in the region.

A transportation project status tracking tool was developed and implemented as a clearinghouse for details on projects near NAS JRB Fort Worth.

A project contact list was established for each military installation and surrounding community as well as for region-wide interested parties. Two meetings were held, with other entities in Texas involved in compatible use planning.

US Department of Defense funds and Regional Transportation Council Local funds were used to support work activities. This project is ongoing, and work will continue in FY2022.

5.11 Automated Vehicle Technologies

Activities in Subtask 5.11 will plan for the arrival of automated vehicles, focusing on the implications that automated vehicles may have regarding travel demand, land use, congestion, and transportation data, as well as vehicle-to-vehicle and vehicle-to-infrastructure communications. Planning tools, including travel forecasting models, will be forced to adapt in ways that account for the effect upon the roadway system brought about by these technological innovations and transformations. Automated vehicles are no longer discussed solely in the context of automobile passenger travel, but also in the context of freight, transit, and people-mover/shuttle systems. Such planning efforts will include coverage of associated technologies such as connected vehicle technologies, and emerging technologies such as digital and virtual reality technologies that allow people to engage in life activities without having to travel through physical space.

Automated Vehicles: Planning

Transportation Planning Funds

This program is ongoing throughout FY2020 and FY2021 providing planning for the arrival of automated vehicles and determining the impact of such vehicles on the transportation system. Strategies include analyzing the impact of automated vehicles and monitoring legal development relating to automated vehicles. University Partnership Program assistance will be utilized in FY2021 in modeling the impacts of telecommuting on the transportation system and evaluating if and how automated vehicles can improve access to jobs and services for access-deprived populations and areas in Dallas-Fort Worth. Anticipated products include:

- Support for existing NCTCOG programs, including transportation planning and modeling;
- Monitoring of automated vehicle laws and policies;
- Establishment of information clearinghouse for region on automated vehicle issues;
- Planning and coordination of pilot programs advancing the deployment of automated vehicles;
- Liaison on automated vehicle issues with public and private parties; and
- University Partnership Program final report on Access via New Technologies: Autonomous Vehicles, Telework, and Shared Fleets.

Work Performed and Status: In FY2021, NCTCOG continued work with six automated vehicle (AV) trucking firms to bring automated freight to the region. At least two additional firms have established an operations footprint in North Texas. Other firms now operating in North Texas are moving goods along highways and gathering critical data to improve operations. NCTCOG continued advising partner entities on possible automated vehicle solutions for non-freight mobility problems they have identified, including shared mobility, micro-mobility and automated sidewalk delivery robot use cases. During FY2021, the Connected and Automated Vehicle Program at NCTCOG was retitled as the “Transportation Technology and Innovation Program” (TTIP).

In FY2021, Transportation Technology and Innovation Program staff presented to 32 groups across the region, State, and country. Audiences varied from local municipalities to chambers of commerce to auto industry groups to national organizations. Topics ranged from local approaches to transportation innovation to understanding macro-level shifts across the entire transportation sector. Public outreach and education, as well as interagency coordination, continues to be an essential task for NCTCOG’s Automated Vehicles Program.

Transportation Technology and Innovation Program staff continued to provide leadership, guidance, and content to support work done by professional organizations at the regional, State, and national levels (i.e., Greater Dallas Planning Council’s Mobility Task Force, Texas Innovation Alliance, Chair of the Workforce and Economic Development Subcommittee for the Governor’s Connected and Automated Vehicle [CAV] Task Force, member of the Advisory Board for the Richardson Innovation Quarter [IQ], and Partners for Automated Vehicle Education [PAVE]).

Transportation Technology and Innovation Program staff also served as a member of the advisory board for the Center for Transportation Equity, Decisions, and Dollars (C-TEDD), a US Department of Transportation Tier-1 University Transportation Research Center based at the University of Texas at Arlington and provided guidance on future connected and automated vehicle education and research initiatives.

Work activities were completed on a University Partnership Program project that explored the impact of shared-use automated vehicles on underserved communities across Dallas-Fort Worth. A final report was prepared by the participating university and provided to NCTCOG.

Transportation Planning Funds were utilized for these efforts. Work is ongoing and will continue in FY2022.

Automated Vehicles: Development and Deployment

Other Funding Sources

This program is ongoing throughout FY2020 and FY2021 providing for the development and deployment of automated vehicles and related technologies. Strategies include building an open data infrastructure to support safe deployment of automated vehicles, encouraging shared mobility transportation models to deliver more mobility to more people in the region more cost-effectively, and exploring the benefit of using automated/driverless vehicles and innovative approaches such as transportation network companies to bridge the transportation gap for rural transportation agencies. Consultant and University Partnership Program (UPP) assistance may be utilized to support work activities. This program uses Congestion Mitigation and Air Quality Improvement Program funds, Surface Transportation Block Grant Program funds, Texas Department of Transportation funds, Regional Transportation Council Local funds and Transportation Development Credits to support activities in this area. Anticipated products include:

- An open data infrastructure for use by automated vehicles;
- Support for shared mobility service delivery models, especially those that increase average vehicle occupancy;
- Development and deployment of automated vehicle technologies in the region;
- Advancement of emerging cellular-V2X, DSRC and other communications technologies;
- Liaison to the Smart City/Smart State program; and
- UPP report on the benefit of using transportation network companies and automated vehicles to bridge the transportation gap for rural transportation agencies.

Work Performed and Status: To support a wide range of connected and automated vehicle technology deployments across North Texas, the Transportation Technology and Innovation Program staff continued working with local partners to introduce other mobility innovations such as new agent-based traffic signal data sharing technology and technology focused on using Artificial Intelligence to analyze roadway conditions via dashcam video, automated sidewalk delivery robot technology, and other connected vehicle data systems.

In FY2021, work continued to develop a scope for automated transportation systems capable of transporting goods and people in both urban and industrial environments. This work is being conducted in coordination with work activities under the Regional People Mover Initiative in Subtask 5.01.

Work continued on the second phase for the IH 30 portion of the Texas Connected Freight Corridor Program, led by the Texas Department of Transportation (TxDOT). While TxDOT is the program leader, NCTCOG staff supported the IH 30 segment between Dallas and Fort Worth by coordinating work and communications among local stakeholders. This portion of the project will focus on providing dual communications capabilities (Dedicated Short-Range

Radio and Cellular 5G) along the IH 30 managed lanes, establishing data sharing between automated trucks and TxDOT, and integrating *WAZE for Cities*' data feed into 911 call centers along the corridor.

Surface Transportation Block Grant Program funds (CSJs 0902-00-214, 0902-90-100, and 0902-00-182) and Texas Department of Transportation funds, were utilized to support work activities. Work is ongoing and will continue in FY2022.

Updated Regional Automated Vehicle Program (AV 2.0)

Other Funding Sources

This program will be ongoing throughout FY2020 and FY2021 and consists of three elements: (a) Planning—provide planning assistance for public entities that are planning ahead for the deployment of AVs in their communities; (b) Implementation Costs—funding to help public entities cover infrastructure, equipment, safety, public education, and other costs incurred when an AV deployment comes to a community; and (c) Regional Strategic Investments—comprehensive support for AV deployment projects supporting use cases/communities that have not attracted AV developer interest.

The Planning grants will be accessible by public entities that indicate they are interested in future AV deployments. Assistance could include, but is not limited to, traffic modeling, identifying use cases, policy development, public outreach and education, scenario planning, and land-use planning. The Implementation Cost grants will be accessible by public entities with active AV deployments. Eligible costs for reimbursement could include, but are not limited to, local government staff and consultant time, infrastructure upgrades, legal services, public education, safety, and software and technical expertise. The Regional Strategic Investments will be selected through a competitive process at a later date. Surface Transportation Block Grant Program funds and Transportation Development Credits will be utilized. Consultant assistance may be utilized. Anticipated products include:

- Automated transportation planning resources for local partners;
- Reimbursement opportunities for local partners that deploy automated transportation solutions;
- Comprehensive projects that address transportation “pinch-points” in the region that require public intervention; and
- Financial and operational support for local partners hosting an automated vehicle implementation.

Work Performed and Status: Work began in FY2021 on three funding programs that make up the “Automated Vehicles 2.0” initiative approved by the Regional Transportation Council in 2018. The three programs are titled: AV2.1, AV2.2, and AV2.3. A consultant was selected to lead the AV2.1 program which is a regional planning exercise aimed at preparing the region for increasing roadway and vehicle automation and connectivity.

Transportation Technology and Innovation Program staff worked with local partners to develop a slate of six project proposals which underwent approval by the Regional Transportation Council, all of which fall under the AV2.2 and AV2.3 rubrics. The AV2.2 and AV2.3 are intended to (1) provide financial support to local partners as they conduct technology deployments, and (2) cover the costs associated with launching automated vehicle

services. The six approved projects cover a wide range of deployment types and service needs such as campus-to-community connector services; mobility technology workforce development programs; grocery delivery via sidewalk delivery robots within a South Dallas food desert; automated truck port; an automated and electric bus route at Dallas Love Field; and a combined automated vehicle circulator and smart infrastructure district.

Surface Transportation Block Grant Program funds (CSJs 0902-00-280, 0902-00-281, and 0902-00-282) and Transportation Development Credits were utilized to support work activities. Work is ongoing and will continue in FY2022.

Dallas-Fort Worth Freight Optimization Corridors

Other Funding Sources

This project will use connected vehicle and related technologies to optimize the flow of trucks between freight hubs and expressways in the region. The freight industry has identified this initiative as a top priority. The Value of Time for goods movement approaches \$75 per hour. There are safety, operational, and environmental benefits from reducing the number of truck stops/starts at intersections. This project will focus on intersections with high volumes and proportions of freight traffic. It will use the optimal mix of technologies and data sharing to reduce the number of stops trucks make at signalized intersections. Deployment locations will be selected based on an assessment of potential benefits and costs and after consultation with the responsible local jurisdictions and freight companies. The project will include continual performance monitoring and adjustment to deliver the maximum net benefits. Consultant assistance will be utilized. Surface Transportation Block Grant Program funds, Regional Transportation Council Local funds, and Transportation Development Credits will be utilized to support project activities. Anticipated products include:

- Completion of before and after studies of focus intersections;
- Coordination meetings with TxDOT, freight industry, and other public agencies responsible for roadways in the focus areas;
- Evaluation, procurement, and implementation of connected vehicle and other technologies; and,
- Development of data sharing tools that bridge platforms between public- and private-sector stakeholders.

Work Performed and Status: In FY2021, NCTCOG staff issued a request for proposals to procure consultant expertise in an effort to develop a state-of-the-art, innovative approach to improving freight detection and prioritization at signalized intersections. A consultant was selected to lead the DFW Freight Optimization project.

Regional Transportation Council Local funds were utilized to support work activities. Work is ongoing and will continue in FY2022.

5.12 Red River Navigation System Feasibility Study

During the 86th Texas Legislative Session, Texas legislators approved the conduct of a feasibility study by the Red River Authority of Texas on increasing navigation on the Red River between Texarkana and Denison, Texas. This is a partnership effort between the states of Arkansas, Louisiana, Oklahoma, and Texas. During FY2020 and FY2021, NCTCOG will join this partnership and participate in the planning process to extend the study from Denison to the Gulf of Mexico. The extension of the navigable waters could provide the Dallas-Fort Worth region with access to the sea and result in logistics changes for goods movement in the region. The use of the Red River could potentially provide additional freight transport options, divert freight traffic, provide an inexpensive transportation option for bulk freight, provide potential electric power generation, result in possible air quality benefits, and provide an opportunity to partner with the sovereign Indian nations. Regional Transportation Council Local funds will be utilized to support this initiative. Anticipated products include:

- Navigational report on the findings of the study, including a navigation system of locks and dams or other means;
- Presentation of the navigational report to the standing committees of the Texas Legislature having jurisdiction over navigation; and
- Other studies requested by the State of Texas including conceptual engineering and benefit cost studies.

Work Performed and Status: A contract was executed to enable partners to conduct a study of navigation costs. An engineering report was provided to the Texas Legislature. Staff began participating in the Project Review Committee.

Regional Transportation Council Local funds were used to support work activities, and work will continue in FY2022.

5.13 North Texas Center for Mobility Technologies

Other Funding Sources

The North Central Texas Council of Governments has partnered with the Texas Research Alliance to develop a mobility research center, the North Texas Center for Mobility Technologies (NTCMT), that will bring together North Texas' top mobility research talent to work on sponsored research projects. Regional Transportation Council Local funds will be utilized to launch this initiative, with contributions from university partners as the initiative progresses. The primary functions and anticipated products of the NTCMT include:

- Readymade research and development network of and for mobility-related companies, municipalities, and other public agencies;
- Attraction of industry and academic talent to North Texas;
- Mobility-related research capabilities within North Texas universities;
- Facilitation of communication and collaboration among the universities with respect to research and development projects and the pursuit/execution of grants;
- Facilitation of university-public sector partnerships on mobility-related projects;
- Facilitation of mobility-related internships for workforce enhancement;
- Acting as a catalyst for building similar North Texas area university networks in other industry sectors;

- Research and industry reports, regional assessments, white papers, scholarly articles focused on mobility innovation topics; and
- Applications for grants and other prospective funding sources.

Work Performed and Status: After leading the development and approval process for the North Texas Center for Mobility Technologies in FY2020, in FY2021 staff continued collaborating with the program’s stakeholders as the first sets of projects were adopted. The North Texas Center for Mobility Technologies is a region-wide consortium comprised of research universities and the North Central Texas Council of Governments, designed to provide technical expertise to the connected and automated vehicle industry in order to stimulate technology deployments across the region. Additional projects are anticipated to be developed and adopted in FY2022.

Regional Transportation Council Local funds were utilized to support work activities. Work is ongoing and will continue in FY2022.

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TASK 5.0 – FUNDING SUMMARY

Funding Source	Amount Programmed (2-year)	Authorized (2-year) ¹	Expended (FY2020)	Expended (FY2021)	Amount Expended (2-year)	Balance of Programmed (2-year)	% Expended of Programmed (2-year)	Balance of Authorized (2-year)	% Expended of Authorized (2-year)
5.01 – Regional Transportation Studies									
TPF	\$1,209,500	\$1,209,500	\$590,236	\$565,535	\$1,155,770	\$53,730	95.6%	\$53,730	95.6%
STBG ²	\$23,634,400	\$11,408,840	\$1,216,434	\$3,645,314	\$4,861,748	\$18,772,652	20.6%	\$6,547,092	42.6%
TXDOT	\$200,000	\$36,864	\$6,199	\$30,665	\$36,864	\$163,136	18.4%	\$0	100.0%
LOCAL	\$736,700	\$389,257	\$265,836	\$83,800	\$349,636	\$387,064	47.5%	\$39,621	89.8%
NTTA	\$76,400	\$79,038	\$4,038	\$0	\$4,038	\$72,362	5.3%	\$75,000	5.1%
RTR	\$2,575,600	\$4,276,091	\$694,094	\$518,982	\$1,213,076	\$1,362,524	47.1%	\$3,063,015	28.4%
Subtotal	\$28,432,600	\$17,399,589	\$2,776,836	\$4,844,296	\$7,621,132	\$20,811,468	26.8%	\$9,778,457	43.8%
5.02 – Subarea Studies and Local Government Assistance									
TPF	\$1,159,200	\$1,159,200	\$587,380	\$548,424	\$1,135,804	\$23,396	98.0%	\$23,396	98.0%
RTR	\$205,100	\$450,045	\$96,741	\$67,315	\$164,056	\$41,044	80.0%	\$285,990	36.5%
Subtotal	\$1,364,300	\$1,609,245	\$684,121	\$615,738	\$1,299,860	\$64,440	95.3%	\$309,386	80.8%
5.03 – Land-Use/Transportation Initiatives									
TPF	\$837,000	\$837,000	\$502,858	\$366,010	\$868,868	(\$31,868)	103.8%	(\$31,868)	103.8%
CMAQ	\$557,500	\$317,719	\$317,719	\$0	\$317,719	\$239,781	57.0%	\$0	100.0%
FTA	\$529,800	\$527,593	\$399,488	\$127,696	\$527,183	\$2,617	99.5%	\$409	99.9%
STBG	\$9,107,700	\$5,119,895	\$1,342,994	\$1,714,649	\$3,057,643	\$6,050,057	33.6%	\$2,062,251	59.7%
LOCAL	\$2,110,665	\$2,411,419	\$366,753	\$290,243	\$656,996	\$1,453,669	31.1%	\$1,754,423	27.2%
Subtotal	\$13,142,665	\$9,213,626	\$2,929,812	\$2,498,598	\$5,428,410	\$7,714,255	41.3%	\$3,785,216	58.9%
5.04 – Transportation Asset Management									
TPF	\$311,400	\$311,400	\$59,156	\$114,298	\$173,454	\$137,946	55.7%	\$137,946	55.7%
STBG	\$1,390,000	\$396,960	\$0	\$134,455	\$134,455	\$1,255,545	9.7%	\$262,505	33.9%
Subtotal	\$1,701,400	\$708,360	\$59,156	\$248,753	\$307,909	\$1,393,491	18.1%	\$400,451	43.5%
5.05 – Congestion Management Planning and Operations									
TPF	\$968,300	\$968,300	\$496,758	\$371,516	\$868,275	\$100,025	89.7%	\$100,025	89.7%
CMAQ ³	\$7,736,740	\$11,268,783	\$1,798,616	\$2,300,179	\$4,098,795	\$3,637,945	53.0%	\$7,169,988	36.4%
STBG ³	\$14,396,285	\$13,750,016	\$4,019,169	\$4,137,675	\$8,156,845	\$6,239,440	56.7%	\$5,593,171	59.3%
TXDOT ³	\$2,427,855	\$2,882,674	\$773,234	\$791,457	\$1,564,691	\$863,164	64.4%	\$1,317,983	54.3%
LOCAL	\$4,408,100	\$4,118,126	\$733,273	\$1,361,991	\$2,095,264	\$2,312,836	47.5%	\$2,022,862	50.9%
RTR	\$547,900	\$432,349	\$91,915	\$10,503	\$102,418	\$445,482	18.7%	\$329,930	23.7%
Subtotal	\$30,485,180	\$33,420,247	\$7,912,965	\$8,973,322	\$16,886,287	\$13,598,893	55.4%	\$16,533,960	50.5%
5.06 – Regional Freight Planning									
TPF	\$51,700	\$51,700	\$5,121	\$9,544	\$14,666	\$37,034	28.4%	\$37,034	28.4%
STBG ³	\$8,885,400	\$9,789,684	\$550,184	\$764,516	\$1,314,699	\$7,570,701	14.8%	\$8,474,985	13.4%
LOCAL	\$400,000	\$400,000	\$0	\$0	\$0	\$400,000	0.0%	\$400,000	0.0%
Subtotal	\$9,337,100	\$10,241,384	\$555,304.73	\$774,060	\$1,329,365	\$8,007,735	14.2%	\$8,912,019	13.0%
5.07 – Transportation System Security and Emergency Preparedness									
TPF	\$60,700	\$60,700	\$22,361	\$17,383	\$39,744	\$20,956	65.5%	\$20,956	65.5%
Subtotal	\$60,700	\$60,700	\$22,361	\$17,383	\$39,744	\$20,956	65.5%	\$20,956	65.5%

Funding Source	Amount Programmed (2-year)	Authorized (2-year) ¹	Expended (FY2020)	Expended (FY2021)	Amount Expended (2-year)	Balance of Programmed (2-year)	% Expended of Programmed (2-year)	Balance of Authorized (2-year)	% Expended of Authorized (2-year)
5.08 – Roadway and Railroad Safety									
TPF	\$618,100	\$618,100	\$329,179	\$291,819	\$620,998	(\$2,898)	100.5%	(\$2,898)	100.5%
STBG	\$725,280	\$795,140	\$7,839	\$231,215	\$239,055	\$486,225	33.0%	\$556,085	30.1%
LOCAL	\$24,000	\$16,039	\$230	\$0	\$230	\$23,770	1.0%	\$15,809	1.4%
Subtotal	\$1,367,380	\$1,429,279	\$337,248	\$523,035	\$860,283	\$507,097	62.9%	\$568,996	60.2%
5.09 – Regional Aviation Planning and Education									
TPF	\$164,200	\$164,200	\$69,061	\$95,480	\$164,541	(\$341)	100.2%	(\$341)	100.2%
LOCAL	\$856,900	\$883,971	\$293,097	\$381,469	\$674,566	\$182,334	78.7%	\$209,405	76.3%
Subtotal	\$1,021,100	\$1,048,171	\$362,159	\$476,948	\$839,107	\$181,993	82.2%	\$209,064	80.1%
5.10 – Regional Military and Community Coordination									
DOD	\$432,000	\$1,223,075	\$172	\$52,173	\$52,345	\$379,655	12.1%	\$1,170,730	4.3%
LOCAL	\$281,100	\$452,024	\$49,109	\$176,045	\$225,154	\$55,946	80.1%	\$226,870	49.8%
Subtotal	\$713,100	\$1,675,099	\$49,281	\$228,218	\$277,499	\$435,601	38.9%	\$1,397,600	16.6%
5.11 – Automated Vehicle Technologies									
TPF	\$743,500	\$743,500	\$528,985	\$436,665	\$965,649	(\$222,149)	129.9%	(\$222,149)	129.9%
CMAQ	\$122,500	\$35,571	\$0	\$0	\$0	\$122,500	0.0%	\$35,571	0.0%
STBG	\$11,171,240	\$5,917,758	\$74,295	\$402,791	\$477,086	\$10,694,154	4.3%	\$5,440,671	8.1%
TXDOT	\$64,975	\$64,635	\$16,225	\$5,004	\$21,229	\$43,746	32.7%	\$43,406	32.8%
LOCAL	\$263,100	\$247,215	\$45,000	\$37,378	\$82,378	\$180,722	31.3%	\$164,837	33.3%
Subtotal	\$12,365,315	\$7,008,678	\$664,504	\$881,838	\$1,546,343	\$10,818,972	12.5%	\$5,462,336	22.1%
5.12 – Red River Navigation System Feasibility Study									
LOCAL	\$500,000	\$500,000	\$4,227	\$3,689	\$7,916	\$492,084	1.6%	\$492,084	1.6%
Subtotal	\$500,000	\$500,000	\$4,227	\$3,689	\$7,916	\$492,084	1.6%	\$492,084	1.6%
5.13 – North Texas Center for Mobility Technology									
LOCAL	\$2,500,000	\$2,500,000	\$0	\$5,813	\$5,813	\$2,494,187	0.2%	\$2,494,187	0.2%
Subtotal	\$2,500,000	\$2,500,000	\$0	\$5,813	\$5,813	\$2,494,187	0.2%	\$2,494,187	0.2%
Total	\$102,990,840	\$86,814,378	\$16,357,975	\$20,091,692	\$36,449,666	\$66,541,174	35.4%	\$50,364,712	42.0%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

² A portion of the programmed and authorized funding includes funding that was transferred from TxDOT to FTA.

³ Expenditures for FY2020 may reflect adjustments made after submission of the FY2020 Annual Report.

TASK 5.0 – TPF FUNDING SUMMARY FY2021

	Amount Programmed	Amount Authorized ¹	Amount Expended	Balance of Programmed	% Expended Programmed	Balance of Authorized	% Expended Authorized
5.01 – Regional Transportation Corridor Studies							
TPF	\$584,500.00	\$584,500.00	\$565,534.77	\$18,965.23	96.8%	\$18,965.23	96.8%
5.02 – Subarea Studies and Local Government Assistance							
TPF	\$553,100.00	\$553,100.00	\$548,423.87	\$4,676.13	99.2%	\$4,676.13	99.2%
5.03 – Land-Use/Transportation Initiatives							
TPF	\$391,100.00	\$391,100.00	\$366,010.09	\$25,089.91	93.6%	\$25,089.91	93.6%
5.04 – Capital and Operational Asset Management System							
TPF	\$157,000.00	\$157,000.00	\$114,298.25	\$42,701.75	72.8%	\$42,701.75	72.8%
5.05 – Congestion Management Planning and Operations							
TPF	\$465,200.00	\$465,200.00	\$371,516.18	\$93,683.82	79.9%	\$93,683.82	79.9%
5.06 – Regional Freight Planning							
TPF	\$44,000.00	\$44,000.00	\$9,544.29	\$34,455.71	21.7%	\$34,455.71	21.7%
5.07 – Transportation System Security and Emergency Preparedness							
TPF	\$31,500.00	\$31,500.00	\$17,383.30	\$14,116.70	55.2%	\$14,116.70	55.2%
5.08 – Roadway and Railroad Safety							
TPF	\$312,000.00	\$312,000.00	\$291,819.43	\$20,180.57	93.5%	\$20,180.57	93.5%
5.09 – Regional Aviation Planning and Education							
TPF	\$83,800.00	\$83,800.00	\$95,479.56	(\$11,679.56)	113.9%	(\$11,679.56)	113.9%
5.11 – Automated Vehicle Technology							
TPF	\$331,200.00	\$331,200.00	\$436,664.72	(\$105,464.72)	131.8%	(\$105,464.72)	131.8%
Total	\$2,953,400.00	\$2,953,400.00	\$2,816,674.46	\$136,725.54	95.4%	\$136,725.54	95.4%

¹ TxDOT does not provide authorized funding at a subtask level. Funding is reported at a mega-task level.

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VI. Funding Summaries

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Transportation Planning Funds (FY2020)

UPWP Task	Amount Programmed	Amount Expended	Balance of Programmed	% Expended of Programmed
1.0	\$2,672,400.00	\$2,364,981.72	\$307,418.28	88.5%
2.0 ¹	\$1,838,100.00	\$1,848,289.23	(\$10,189.23)	100.6%
3.0	\$2,582,800.00	\$2,817,625.66	(\$234,825.66)	109.1%
4.0	\$1,670,600.00	\$1,602,608.38	\$67,991.62	95.9%
5.0	\$3,170,200.00	\$3,191,095.03	(\$20,895.03)	100.7%
Total	\$11,934,100.00	\$11,824,600.02	\$109,499.98	99.1%

¹ FY2020 programming amounts updated to match latest UPWP modification approval for FY2020.

Transportation Planning Funds (FY2021)

UPWP Task	Amount Programmed	Amount Expended	Balance of Programmed	% Expended of Programmed
1.0	\$2,576,200.00	\$2,529,259.98	\$46,940.02	98.2%
2.0	\$1,674,500.00	\$1,567,255.61	\$107,244.39	93.6%
3.0	\$2,876,300.00	\$2,735,679.32	\$140,620.68	95.1%
4.0	\$1,641,700.00	\$1,659,613.74	(\$17,913.74)	101.1%
5.0	\$2,953,400.00	\$2,816,674.46	\$136,725.54	95.4%
Total	\$11,722,100.00	\$11,308,483.11	\$413,616.89	96.5%

**Transportation Planning Funds
(Two-Year Total)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended	Balance of Programmed	% Expended Programmed	Balance of Authorized	% Expended Authorized
1.0	\$5,248,600.00	\$5,248,600.00	\$4,894,241.70	\$354,358.30	93.2%	\$354,358.30	93.2%
2.0	\$3,512,600.00	\$3,512,600.00	\$3,415,544.84	\$97,055.16	97.2%	\$97,055.16	97.2%
3.0	\$5,459,100.00	\$5,459,100.00	\$5,553,304.98	(\$94,204.98)	101.7%	(\$94,204.98)	101.7%
4.0	\$3,312,300.00	\$3,312,300.00	\$3,262,222.12	\$50,077.88	98.5%	\$50,077.88	98.5%
5.0	\$6,123,600.00	\$6,123,600.00	\$6,007,769.49	\$115,830.51	98.1%	\$115,830.51	98.1%
Total	\$23,656,200.00	\$23,656,200.00	\$23,133,083.13	\$523,116.87	97.8%	\$523,116.87	97.8%

	FY2020	FY2021
Carryover	\$4,629,455.32	\$4,453,550.58
FHWA PL-112	\$8,728,068.87	\$8,463,215.20
FTA 5303	\$2,920,626.41	\$3,110,814.00
Total Revenue	\$16,278,150.60	\$16,027,579.78
Total Expended ¹	\$11,824,600.02	\$11,308,483.11
Carryover	\$4,453,550.58	\$4,719,096.67

¹ FY2020 total expended adjusted to what was billed to TxDOT. Due to rounding discrepancy, \$0.01 less was actually billed.

**Transportation Planning Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$5,248,600	\$5,248,600	\$2,364,982	\$2,529,260	\$4,894,242	\$354,358	93.2%	\$354,358	93.2%
2.0	\$3,512,600	\$3,512,600	\$1,848,289	\$1,567,256	\$3,415,545	\$97,055	97.2%	\$97,055	97.2%
3.0	\$5,459,100	\$5,459,100	\$2,817,626	\$2,735,679	\$5,553,305	(\$94,205)	101.7%	(\$94,205)	101.7%
4.0	\$3,312,300	\$3,312,300	\$1,602,609	\$1,659,614	\$3,262,222	\$50,078	98.5%	\$50,078	98.5%
5.0	\$6,123,600	\$6,123,600	\$3,191,095	\$2,816,674	\$6,007,770	\$115,830	98.1%	\$115,830	98.1%
Total	\$23,656,200	\$23,656,200	\$11,824,601	\$11,308,483	\$23,133,084	\$523,116	97.8%	\$523,116	97.8%

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**Congestion Mitigation and Air Quality Improvement Program Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$3,288,000	\$3,552,584	\$872,540	\$1,163,507	\$2,036,047	\$1,251,953	61.9%	\$1,516,537	57.3%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$3,088,360	\$2,814,963	\$492,053	\$510,513	\$1,002,566	\$2,085,794	32.5%	\$1,812,397	35.6%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$8,416,740	\$11,622,074	\$2,116,335	\$2,300,179	\$4,416,514	\$4,000,226	52.5%	\$7,205,559	38.0%
Total	\$14,793,100	\$17,989,620	\$3,480,928	\$3,974,200	\$7,455,127	\$7,337,973	50.4%	\$10,534,493	41.4%

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**Department of Defense Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$432,000	\$1,223,075	\$172	\$52,173	\$52,345	\$379,655	12.1%	\$1,170,730	4.3%
Total	\$432,000	\$1,223,075	\$172	\$52,173	\$52,345	\$379,655	12.1%	\$1,170,730	4.3%

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**Department of Energy Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$68,500	\$68,082	\$62,566	\$5,516	\$68,081	\$419	99.4%	\$0	100.0%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$337,060	\$502,039	\$182,423	\$222,868	\$405,291	(\$68,231)	120.2%	\$96,748	80.7%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
Total	\$405,560	\$570,120	\$244,988	\$228,384	\$473,372	(\$67,812)	116.7%	\$96,748	83.0%

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**Environmental Protection Agency Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$8,838,521	\$9,022,494	\$456,855	\$552,159	\$1,009,014	\$7,829,507	11.4%	\$8,013,479	11.2%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
Total	\$8,838,521	\$9,022,494	\$456,855	\$552,159	\$1,009,014	\$7,829,507	11.4%	\$8,013,479	11.2%

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**Federal Highway Administration Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$80,000	\$78,400	\$13,928	\$53,268	\$67,196	\$12,804	84.0%	\$11,204	85.7%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
Total	\$80,000	\$78,400	\$13,928	\$53,268	\$67,196	\$12,804	84.0%	\$11,204	85.7%

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**Federal Transit Administration Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
2.0	\$188,600	\$188,594	\$80,845	\$107,249	\$188,094	\$506	99.7%	\$500	99.7%
3.0	\$36,026,382	\$44,450,116	\$7,095,622	\$8,292,189	\$15,387,810	\$20,638,572	42.7%	\$29,062,306	34.6%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$529,800	\$527,593	\$399,488	\$127,696	\$527,183	\$2,617	99.5%	\$409	99.9%
Total	\$36,744,782	\$45,166,302	\$7,575,955	\$8,527,133	\$16,103,088	\$20,641,694	43.8%	\$29,063,215	35.7%

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**Local Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$1,531,600	\$987,055	\$65,509	\$212,402	\$277,911	\$1,253,689	18.1%	\$709,144	28.2%
2.0	\$1,283,020	\$1,265,433	\$614,262	\$276,503	\$890,765	\$392,255	69.4%	\$374,669	70.4%
3.0	\$25,493,385	\$27,467,936	\$3,099,271	\$2,419,298	\$5,518,569	\$19,974,816	21.6%	\$21,949,367	20.1%
4.0	\$492,500	\$512,759	\$74,681	\$53,093	\$127,775	\$364,725	25.9%	\$384,984	24.9%
5.0	\$12,080,565	\$11,918,049	\$1,757,525	\$2,340,428	\$4,097,952	\$7,982,613	33.9%	\$7,820,097	34.4%
Total	\$40,881,070	\$42,151,233	\$5,611,248	\$5,301,724	\$10,912,972	\$29,968,098	26.7%	\$31,238,261	25.9%

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**North Central Texas Council of Governments Local Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$143,800	\$113,725	\$43,958	\$69,767	\$113,725	\$30,075	79.1%	\$0	100.0%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$0	\$2,281	\$148	\$2,133	\$2,281	(\$2,281)	0.0%	\$0	100.0%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
Total	\$143,800	\$116,006	\$44,106	\$71,900	\$116,006	\$27,794	80.7%	\$0	100.0%

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**North Texas Tollway Authority Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$76,400	\$79,038	\$4,038	\$0	\$4,038	\$72,362	5.3%	\$75,000	5.1%
Total	\$76,400	\$79,038	\$4,038	\$0	\$4,038	\$72,362	5.3%	\$75,000	5.1%

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**Regional Toll Revenue Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$300,000	\$300,000	\$12,870	\$91,832	\$104,703	\$195,297	34.9%	\$195,297	34.9%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$5,440,400	\$4,872,960	\$944,519	\$1,544,168	\$2,488,686	\$2,951,714	45.7%	\$2,384,273	51.1%
4.0	\$1,468,180	\$1,465,125	\$367,467	\$285,917	\$653,385	\$814,795	44.5%	\$811,740	44.6%
5.0	\$3,328,600	\$5,158,485	\$882,750	\$596,800	\$1,479,549	\$1,849,051	44.4%	\$3,678,935	28.7%
Total	\$10,537,180	\$11,796,569	\$2,207,606	\$2,518,717	\$4,726,323	\$5,810,857	44.9%	\$7,070,246	40.1%

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**Surface Transportation Block Grant Program Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$2,007,800	\$1,990,198	\$5,444	\$1,042,246	\$1,047,690	\$960,110	52.2%	\$942,508	52.6%
2.0	\$4,295,600	\$3,148,353	\$459,269	\$658,148	\$1,117,417	\$3,178,183	26.0%	\$2,030,935	35.5%
3.0	\$7,849,800	\$8,062,519	\$2,216,028	\$2,435,386	\$4,651,414	\$3,198,386	59.3%	\$3,411,105	57.7%
4.0	\$3,000,000	\$0	\$0	\$0	\$0	\$3,000,000	0.0%	\$0	0.0%
5.0	\$69,310,305	\$47,178,293	\$7,210,915	\$11,030,616	\$18,241,531	\$51,068,774	26.3%	\$28,936,761	38.7%
Total	\$86,463,505	\$60,379,362	\$9,891,657	\$15,166,396	\$25,058,053	\$61,405,452	29.0%	\$35,321,310	41.5%

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**Texas Commission on Environmental Quality Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$558,641	\$459,745	(\$1,059)	\$169,918	\$168,859	\$389,782	30.2%	\$290,886	36.7%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
Total	\$558,641	\$459,745	(\$1,059)	\$169,918	\$168,859	\$389,782	30.2%	\$290,886	36.7%

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**Texas Department of Transportation Funds
(Two Year)**

UPWP Task	Amount Programmed	Amount Authorized	Amount Expended (Year 1)	Amount Expended (Year 2)	Amount Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$425,000	\$420,750	\$0	\$252,000	\$252,000	\$173,000	59.3%	\$168,750	59.9%
2.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
3.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
4.0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	0.0%
5.0	\$2,692,830	\$2,984,173	\$795,657	\$827,126	\$1,622,783	\$1,070,047	60.3%	\$1,361,390	54.4%
Total	\$3,117,830	\$3,404,923	\$795,657	\$1,079,126	\$1,874,783	\$1,243,047	60.1%	\$1,530,140	55.1%

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**Summary of Funds and Expenditures
FY2020 and FY2021**

UPWP Task	Amount Programmed (2-year)	Amount Authorized (2-year)	Expended (FY2020)	Expended (FY2021)	2 Year Expended	Balance of Programmed	% Expended of Programmed	Balance of Authorized	% Expended of Authorized
1.0	\$13,013,300	\$12,680,993	\$3,427,868	\$5,366,531	\$8,794,399	\$4,218,901	67.6%	\$3,886,594	69.4%
2.0	\$9,279,820	\$8,114,980	\$3,002,665	\$2,609,155	\$5,611,821	\$3,667,999	60.5%	\$2,503,159	69.2%
3.0	\$93,171,649	\$103,192,552	\$17,317,413	\$18,937,580	\$36,254,992	\$56,916,657	38.9%	\$66,937,560	35.1%
4.0	\$8,272,980	\$5,290,184	\$2,044,757	\$1,998,625	\$4,043,382	\$4,229,598	48.9%	\$1,246,802	76.4%
5.0	\$102,990,840	\$86,814,378	\$16,357,975	\$20,091,692	\$36,449,666	\$66,541,174	35.4%	\$50,364,712	42.0%
Total	\$226,728,589	\$216,093,087	\$42,150,678	\$49,003,582	\$91,154,260	\$135,574,329	40.2%	\$124,938,827	42.2%

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