

APPENDICES

A1. Emphasis Area Data	1
Intersection Safety	1
Roadway and Lane Departures	5
Speeding	9
Occupant Protection	13
Motorcycles	18
Bicyclist and Pedestrian Safety	20
Impaired Driving	26
Distracted Driving	30
A2. Countermeasure or Strategy Selection	35
Speeding Proven Countermeasures	39
Roadway Departure Proven Countermeasures	46
Intersection Proven Safety Countermeasures	47
Pedestrian and Bicyclist Proven Safety Countermeasures	48
A3. Additional High Injury Network Maps and Table	50
A4. Regional Transportation Council Regionwide Safety Program Funding Table	65
A5. Existing NCTCOG Safety Efforts	72
Safety Outreach and Education	72
Traffic Incident Management	72
Mobility Assistance Patrol Program	73
Commercial Vehicle Enforcement	74
Collaboration Efforts	75
Statewide Safety Initiatives	75

LIST OF FIGURES

Figure A1 Intersection-Related Crash Tree	1
Figure A2 Intersection-Related Fatal and Serious Injuries by Time of Day and Day of Week	2
Figure A3 Intersection-Related Fatal and Serious Injuries Among Drivers by Age and Gender	2
Figure A4 Intersection-Related Fatal and Serious Injuries by Ethnicity	3
Figure A5 Intersection-Related Fatal and Serious Injuries by Month and Year	3
Figure A6 Intersection-Related Fatal and Serious Injuries	4
Figure A7 Roadway and Lane Departure-Related Crash Tree	5
Figure A8 Roadway and Lane Departure Fatal and Serious Injuries by Time of Day and Day of Week	6
Figure A9 Roadway and Lane Departure Fatal and Serious Injuries Among Drivers by Age and Gender	6
Figure A10 Roadway and Lane Departure Fatal and Serious Injuries by Ethnicity	7
Figure A11 Roadway and Lane Departure Fatal and Serious Injuries by Lighting Conditions	7
Figure A12 Roadway and Lane Departure Fatal and Serious Injuries by Month and Year	8
Figure A13 Roadway and Lane Departure-Related Fatal and Serious Injuries	8
Figure A14 Speeding-Related Crash Tree	9
Figure A15 Age and Gender of Drivers Involved in Speeding-Related Crashes	10
Figure A16 Ethnicity of Drivers Involved in Speeding-Related Crashes	10
Figure A17 Speeding-Related Fatal and Serious Injuries by Lighting Conditions	11
Figure A18 Speeding-Related Fatal and Serious Injuries by Month and Year	11
Figure A19 Speeding-Related Fatal and Serious Injuries	12
Figure A20 Occupant Protection Crash Tree	13
Figure A21 Occupant Protection Fatal and Serious Injuries by Time of Day and Day of Week	14
Figure A22 Occupant Protection Fatal and Serious Injuries by Age and Gender	14
Figure A23 Occupant Protection Fatal and Serious Injuries by Ethnicity	15
Figure A24 Occupant Protection Fatal and Serious Injuries by Lighting Conditions	15
Figure A25 Occupant Protection by Month and Year	16

Figure A26 Occupant Protection Related Fatal and Serious Injuries	17
Figure A27 Motorcycle-Related Crash Tree	18
Figure 28 Motorcycle-Related Fatal and Serious Injuries by Time of Day and Day of Week	18
Figure A29 Motorcycle Fatal and Serious Injuries by Age and Gender	19
Figure A30 Motorcycle-Related Fatal and Serious Injuries by Helmet Usage	19
Figure A31 Motorcycle-Related Fatal and Serious Injuries	20
Figure A32 Bicyclist and Pedestrian Crash Tree	21
Figure A33 Bicyclist and Pedestrian Fatal and Serious Injuries by Time of Day and Day of Week	22
Figure A34 Bicyclist Fatal and Serious Injuries by Age and Gender	22
Figure A35 Pedestrian Fatal and Serious Injuries by Age and Gender	23
Figure A36 Bicyclist Fatal and Serious Injury by Ethnicity per 100,000	23
Figure A37 Pedestrian Fatal and Serious Injuries by Ethnicity per 100,000	24
Figure A38 Bicyclist and Pedestrian Fatal and Serious Injuries by Month and Year	24
Figure A39 Bicyclist and Pedestrian Related Fatal and Serious Injuries	25
Figure A40 Impaired Driving Crash Tree	26
Figure A41 Impaired Driving Fatal and Serious Injuries by Time of Day and Day of Week	26
Figure A42 Impaired Drivers Fatal and Serious Injuries by Age and Gender	27
Figure A43 Impaired Driving Related Fatal and Serious Injuries by Ethnicity	27
Figure A44 Impaired Driving Fatal and Serious Injuries by Lighting Conditions	28
Figure A45 Impaired Driving Related Fatal and Serious Injuries by Month and Year	28
Figure A46 Impaired Driving Related Fatal and Serious Injuries	29
Figure A47 Distracted Driving Crash Tree	30
Figure A48 Distracted Driving Fatal and Serious Injuries by Time of Day and Day of Week	31
Figure A49 Distracted Driving Fatal and Serious Injuries by Age and Gender	32
Figure A50 Distracted Driving Fatal and Serious Injuries by Ethnicity	33
Figure A51 Distracted Driving Fatal and Serious Injuries by Month and Year	33

Figure A52: Distracted Driving Fatal and Serious Injuries	34
Table A1 Recommended Countermeasures by Emphasis Area	35
Figure A53 High Injury Network Roadway Segments - Dallas County	50
Figure A54 High Injury Network Roadway Segments - Tarrant County	51
Figure A55 High Injury Network Roadway Segments - Denton and Collin Counties	52
Table A2 High Injury Network Roadway Segments Prioritization Table	53
Table A3 NCTCOG Safety Program Funding (FY24-FY26)	65
Figure A56 Mobility Assistance Patrol Routes	74

A5. EXISTING NCTCOG SAFETY EFFORTS

The North Central Texas Council of Governments' existing transportation safety efforts include but are not limited to, Safety Outreach and Education, Traffic Incident Management, Mobility Assistance Patrol Program, Commercial Vehicle Enforcement, Statewide Safety Initiatives, and collaboration with other NCTCOG program areas and our partner agencies.

Safety Outreach and Education

Safety Outreach and Education is aimed at interacting with the public to help combat negative driving behaviors and educate on safety countermeasures and techniques. The <u>Drive Aware North Texas Campaign</u> is an education campaign aimed at improving negative driver behaviors that are the leading contributing factors for fatal and serious injury crashes in the North Central Texas region. The campaign highlights four of the top contributing factors in our region and includes statistics, demographic data, and driver behavior safety tips for each factor. The four factors highlighted are Speeding, Distracted Driving, Impaired Driving, and Wrong Way Driving. The Drive Aware North Texas Campaign also includes a marketing campaign catered towards drivers that crash data suggests are most frequently the cause of these negative driving behaviors. Because speeding is the top contributing factor for fatal and serious injury crashes year in and year out the inaugural Drive Aware North Texas marketing campaign is aimed at reducing the amount of Speeding-Related crashes.

Traffic Incident Management

The goal of NCTCOG's Traffic Incident Management (TIM) training program 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. Specific courses have been designed for both first responders and managers and executive level policy makers. The First Responders and Managers course is held six times a year and the Executive Level Training course is held twice a year. Either course could be held locally if an agency would want to host it off-site of NCTCOG.

The NCTCOG TIM program has also released two different Call for Projects (CFP) efforts for regional partners. The Traffic Incident Management Equipment Purchase CFP (conducted previously in 2014 and again in 2019) made available funding to eligible agencies for the purchase of equipment and technology used to mitigate traffic incidents in the North Central Texas nonattainment area. Types of equipment eligible for funding included but was not limited to: cones, protective clothing, traffic barriers, signs, cameras, flares, barrels, lighting, radio equipment, accident reconstruction equipment/technology, etc. Agencies selected to receive funding were responsible for purchasing the desired equipment and seeking reimbursement from NCTCOG. The Call for Projects covered multiple jurisdictions

throughout the Dallas-Fort Worth nonattainment area, including Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties. Accordingly, the Regional Incident Management Freeway Blocking Equipment CFP made available funding to eligible agencies for the purchase of scene management blocking equipment used to provide protection to first responders responding to traffic crashes in the North Central Texas nonattainment area. Types of equipment eligible for funding included but was not limited to, crash attenuators, crash barriers, crash cushions, etc. The CFP covered multiple jurisdictions throughout the Dallas-Fort Worth Metropolitan Planning Area, including Collin, Dallas, Denton, Ellis, Hood, Hunt, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties.

Mobility Assistance Patrol Program

The goal of the regional Mobility Assistance Patrol Program (MAPP) is to improve roadway safety and help reduce the congestion on regional highways, toll roads, and managed lane facilities in Dallas and Tarrant Counties and portions of Collin, Denton, and Johnson Counties. The MAPP provides free assistance to stalled and stranded motorists by assisting with flat tires and stalled vehicles, with the ultimate purpose of getting the vehicles operating or off the roadway completely. Vital to the region's TIM operations, the MAPP assists first responders by providing traffic control assistance at the scene of traffic crashes on patrolled highways.

Mobility assistance patrols are operated by the Dallas County Sheriff's Office, Tarrant County Sheriff's Office, and the North Texas Tollway Authority (NTTA). MAPP services on the LBJ TEXpress and NTE TEXpress corridors are provided by private sector partners. Each agency's coverage is shown in Figure A56.

In 2020, NCTCOG began analyzing the potential expansion of patrol routes into additional counties within the metroplex and potential expansions to the number of patrol hours for Dallas and Tarrant Counties. These expansions will extend the MAPP service areas into Parker, Rockwall, Ellis, and Johnson Counties.

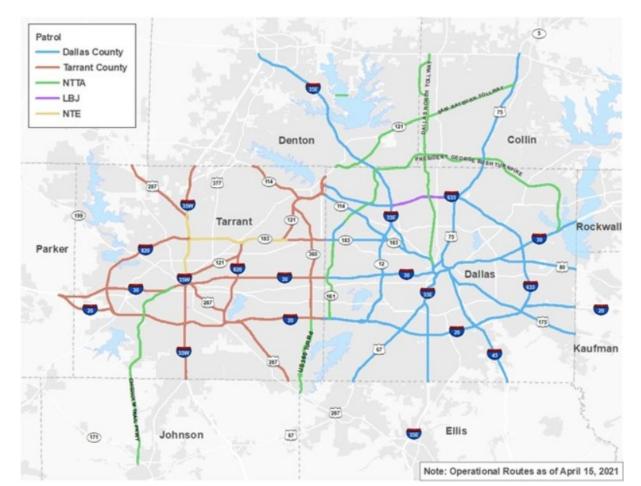


Figure A56 Mobility Assistance Patrol Routes

Commercial Vehicle Enforcement

Due to an increase in truck traffic in the NCTCOG region, safety has become the central concern for those who monitor goods movement. To address safety concerns, the NCTCOG Transportation Safety Program has worked with commercial vehicle enforcement agencies to support enforcement efforts and develop projects and programs that reduce the number of crashes on our regional roadways.

NCTCOG, in partnership with the National Traffic Law Center and the National District Attorney's Association, hosted Commercial Motor Vehicle Violations training courses in 2016, 2019, and 2021. The interactive course is designed to provide prosecutors, judges, and law enforcement officers with a better understanding of commercial vehicle regulations and commercial drivers' licensing laws. The training serves as a basic introduction for those who handle cases related to commercial drivers' licenses and commercial motor vehicles.

The Commercial Vehicle Enforcement Equipment and Training Program increases the enforcement of overweight commercial vehicles and creates a level playing field for trucking agencies that follow weight regulations. Overweight vehicles become a safety concern when their load exceeds the truck and/or trailer design limits. Additionally, these overweight trucks can cause expensive damage to roadways and bridges, as well as exceed regional air quality standards.

Collaboration Efforts

The Transportation Safety Program collaborates with other program areas within the NCTCOG agency. The safety program will assist and collaborate with other program areas to understand if there are any safety related concerns with projects and improvement plans. The safety program has also collaborated with the bicycle and pedestrian program area by providing data towards the development of their Pedestrian Safety Action Plan (PSAP), which includes goals and policies that support the Regional Transportation Council's safety position and adopted safety targets. More information about the PSAP is provided in the pedestrian safety emphasis area.

Statewide Safety Initiatives

The Highway Safety Improvement Plan is a federal program developed to achieve a significant reduction in traffic fatalities and serious injuries on all public roads by providing a standardized and data-driven approach for identifying and reviewing specific traffic safety concerns throughout the state.

TxDOT uses and implements this plan, working with districts and local partners to identify safety related projects in one of the seven emphasis areas identified in the Strategic Highway Safety Plan. Projects are up to 90 percent federally funded and must address at least one of these emphasis areas. They are also subject to a cost/benefit analysis using crash data, traffic volume, and construction costs.