

According to the Federal Highway Administration’s Code of Federal Regulations regarding the development and content of the metropolitan transportation plan:

The metropolitan transportation plan should include a safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects for the MPA contained in the Strategic Highway Safety Plan required under 23 U.S.C. 148, as well as (as appropriate) emergency relief and disaster preparedness plans and strategies and policies that support homeland security (as appropriate) and safeguard the personal security of all motorized and non-motorized users.

Code of Federal Regulations, Highways, Title 23, sec. 450.322.

The information obtained by safety and security programs should be implemented into every project planning effort and considered during every phase of the process. The awareness of safety issues and security plans that are unique to the Killeen-Temple region will better inform both the decision makers and public in future efforts to maintain the well-being of its citizens.

SAFETY

The Highway Safety Improvement Program (HSIP), established by SAFETEA-LU in 2005, focuses on reducing traffic fatalities and serious injuries on all public roads. As a major piece of the HSIP, SAFETEA-LU requires all state DOTs to develop a Strategic Highway Safety Plan (SHSP) to identify state safety issues and needs and to guide planning decisions. TxDOT’s initial Strategic Highway Safety Plan, approved in 2006, details the crash data analysis, stakeholder surveys, and workshops of safety professionals that were used to assist TxDOT in the identification of special highway safety emphasis areas. The passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2012 reaffirmed commitment to the national safety program. MAP -21 strengthens the SHSP while the FAST Act continues to build upon safety requirements. Since then, the 2017-2022 Texas Strategic Highway Safety Plan serves as the current publication. The Texas Strategic Highway Safety Plan is structured around seven emphasis areas to include distracted driving, impaired driving, intersection safety, older road users, pedestrian safety, roadway and lane departures, and speeding. The plan focuses on each of these areas and provide

KTMPO utilizes the Texas SHSP as a guidebook in the safety analysis of its regional infrastructure. The roadway safety emphasis areas help staff focus analysis on particular crash types and locations, system users, user behaviors, and system administration.

Current Safety Conditions

KTMPO uses crash data from the Crash Records Information System (CRIS) database, which is maintained by TxDOT. These data come directly from the CR-3 crash reports that are completed at the time of the incident by local law enforcement for all reported motor vehicle crashes. For the Killeen-Temple MSA, there were 6,256 serious accidents (Fatality, Incapacitating Injury, Non-incapacitating Injury), 1186 incapacitating injury accidents, and 249 fatal accidents from 2012-2016. Exhibit 8.1 and Exhibit 8.2 details the total number of fatalities and serious injuries resulting in crashes.

Exhibit 8.1: Number of Fatal Crashes from 2012-2016

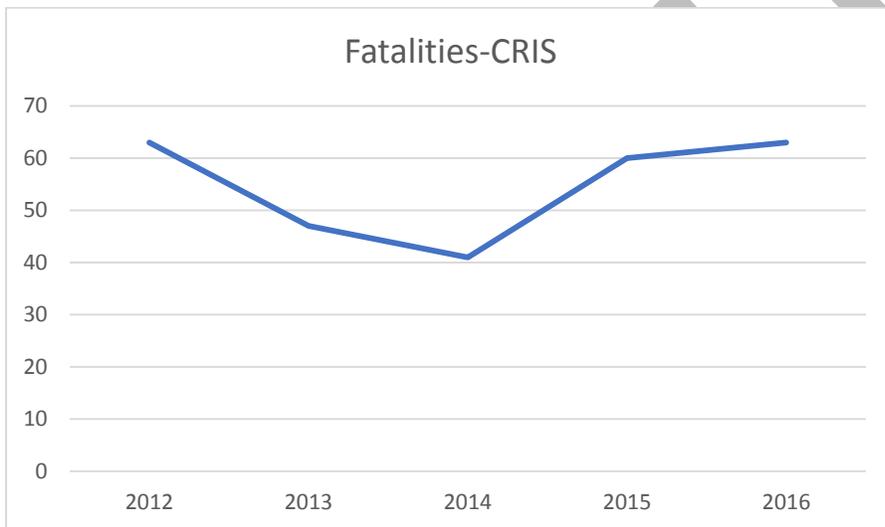
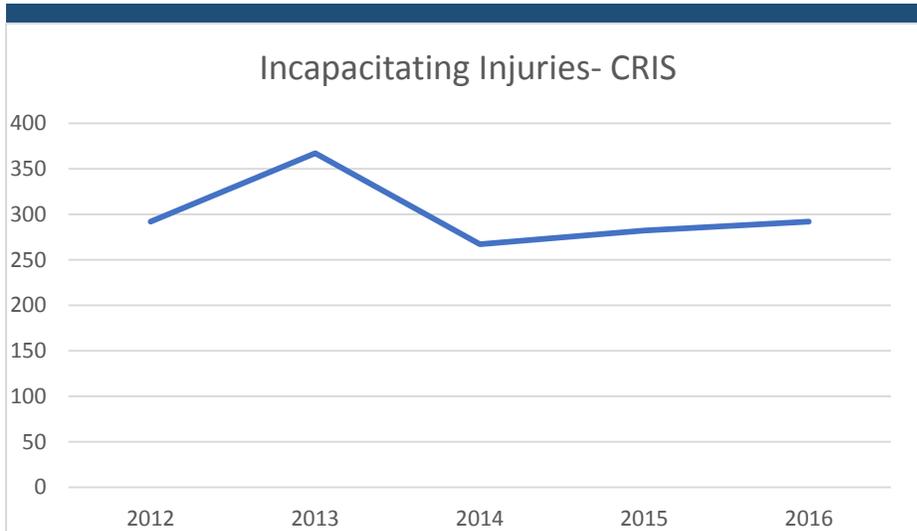


Exhibit 8.2: Number of Incapacitating Injury Crashes from 2012-2016



The knowledge of the geographic location of a crash is the first step in determining the safety issue at hand. Staff has used the CRIS data to create heat maps showing the concentration of crashes in the region at intersections and along road segments as shown in Exhibits 8.3-8.7. Further crash rate analysis was completed for intersections and segments with high crash numbers.

Some recommendations may be made to reduce the recurrence of crashes at particular locations, such as:

- Upgrades to existing transportation infrastructure
- Modification or implementation of safety infrastructure
- Creation of alternative routes to alleviate congestion
- Public campaigns promoting a particular safety issue
- Requirement of the use of motorcycle and bicycle safety gear
- An assessment of the transportation network to determine driver decisions

Another key element to improve safety is identifying and understanding the root causes of crashes. Knowing what caused crashes to occur can help planners and engineers determine if roadway and/or human factors need to be addressed.

The improvement of transportation safety is an ongoing process that requires collaboration with all transportation decision makers in the KTMP region. Continuing efforts will assist this process as new issues are discovered or updated data can be obtained to inform new decisions. A large

part of safety on the roads involves the attention and attitude of the transportation users. Successful safety programs also incorporate a public education element to help the KTMPPO public make informed decisions in its driving behavior. KTMPPO will continue to push information from national and state safety organizations and keep the public aware of safety issues in our region via online social media methods and in line with the public involvement process.

DRAFT

Exhibit 8.3: Fatality Crash Hotspot Map

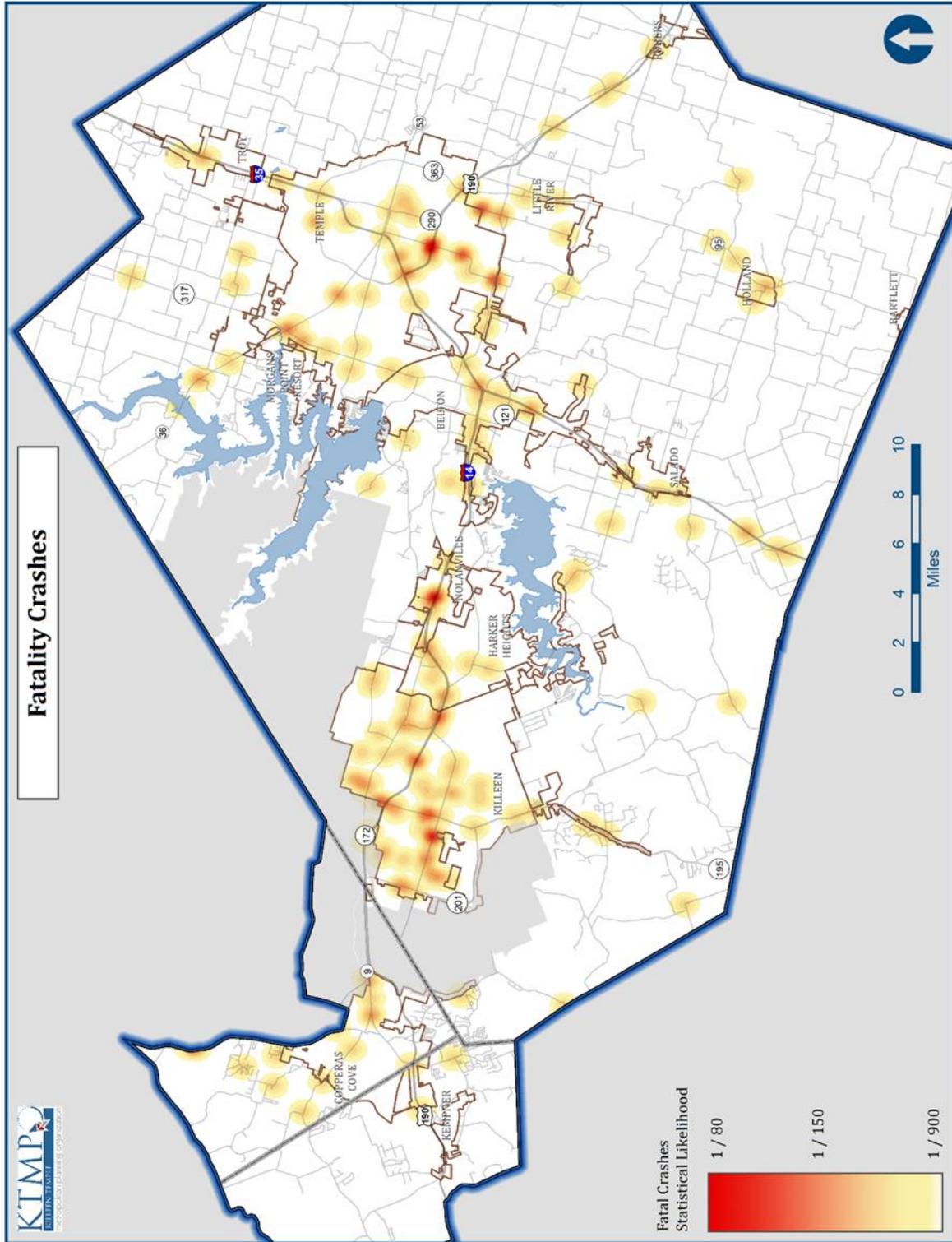


Exhibit 8.4: Fatal and Injury Crashes Hotspot Map

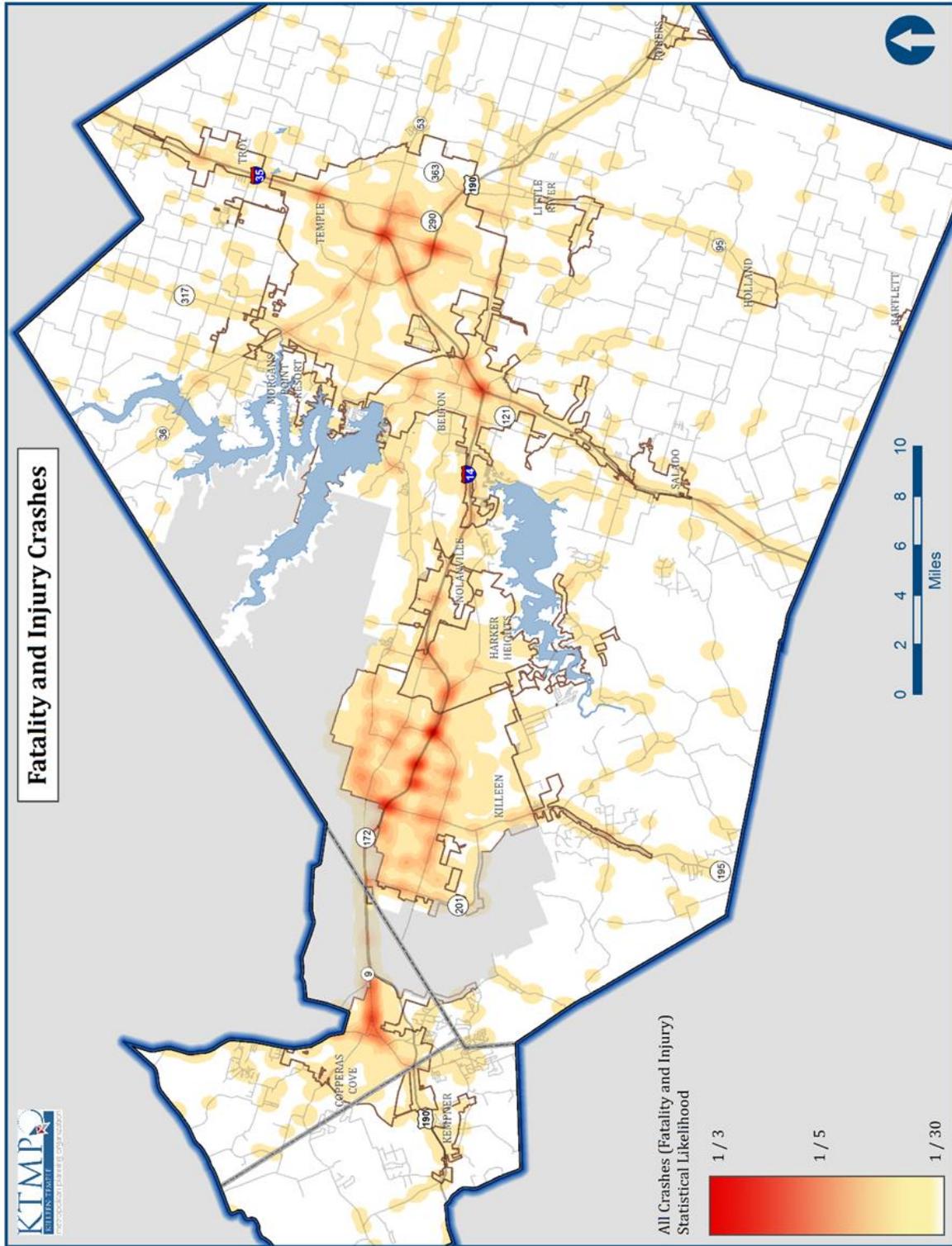


Exhibit 8.5: Distracted Driving Crashes Hotspot Map

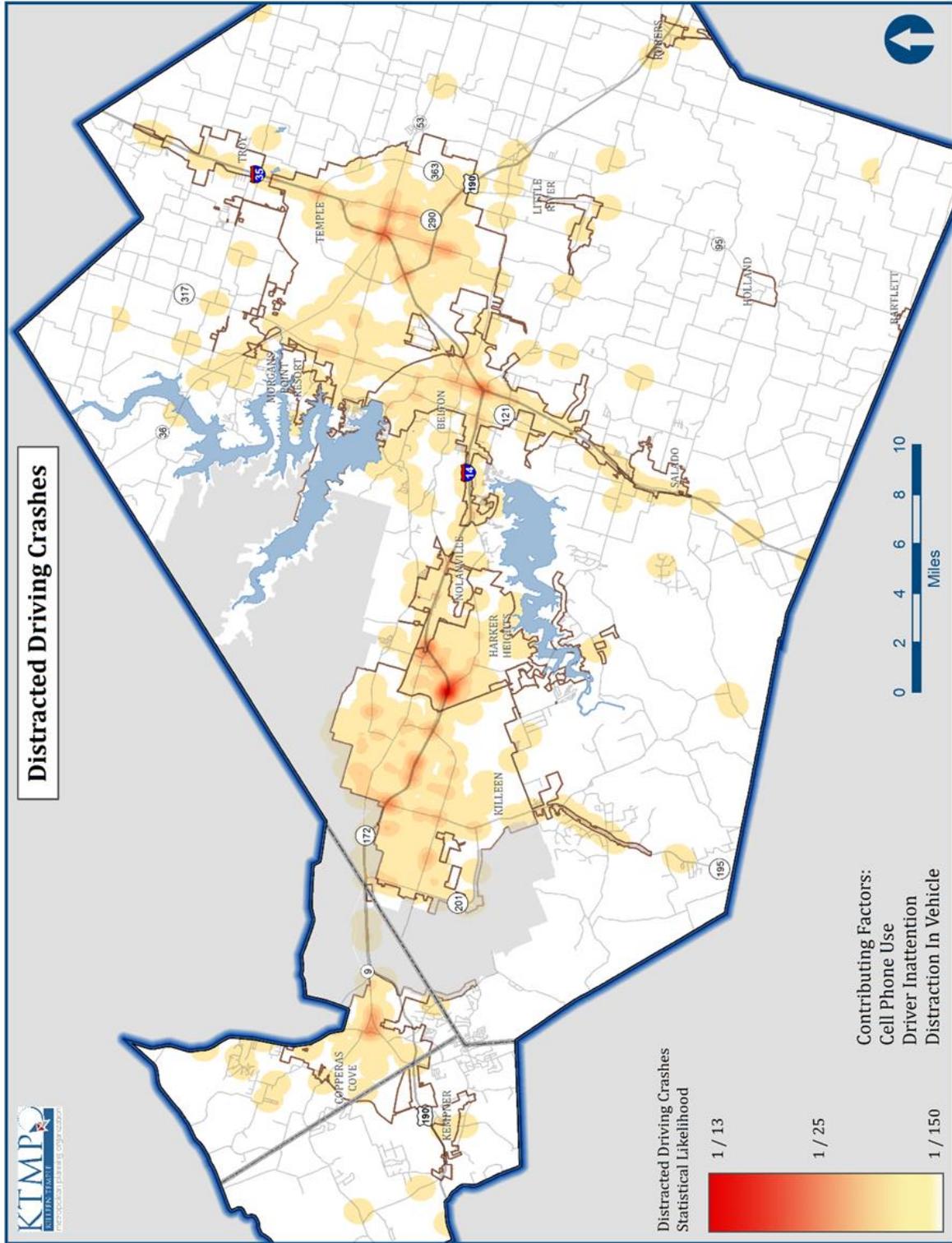


Exhibit 8.6: Impaired Driver Crashes Hotspot Map

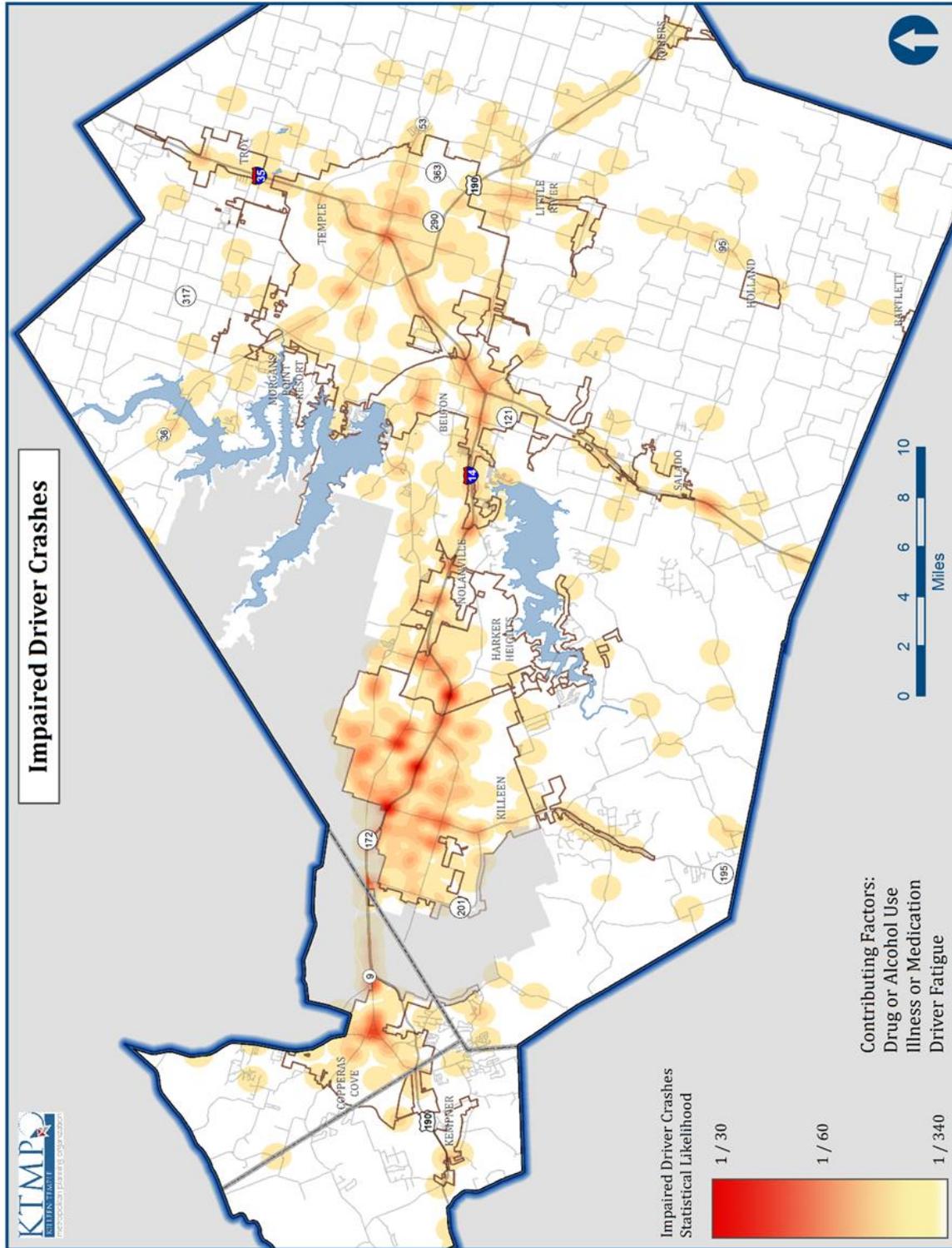
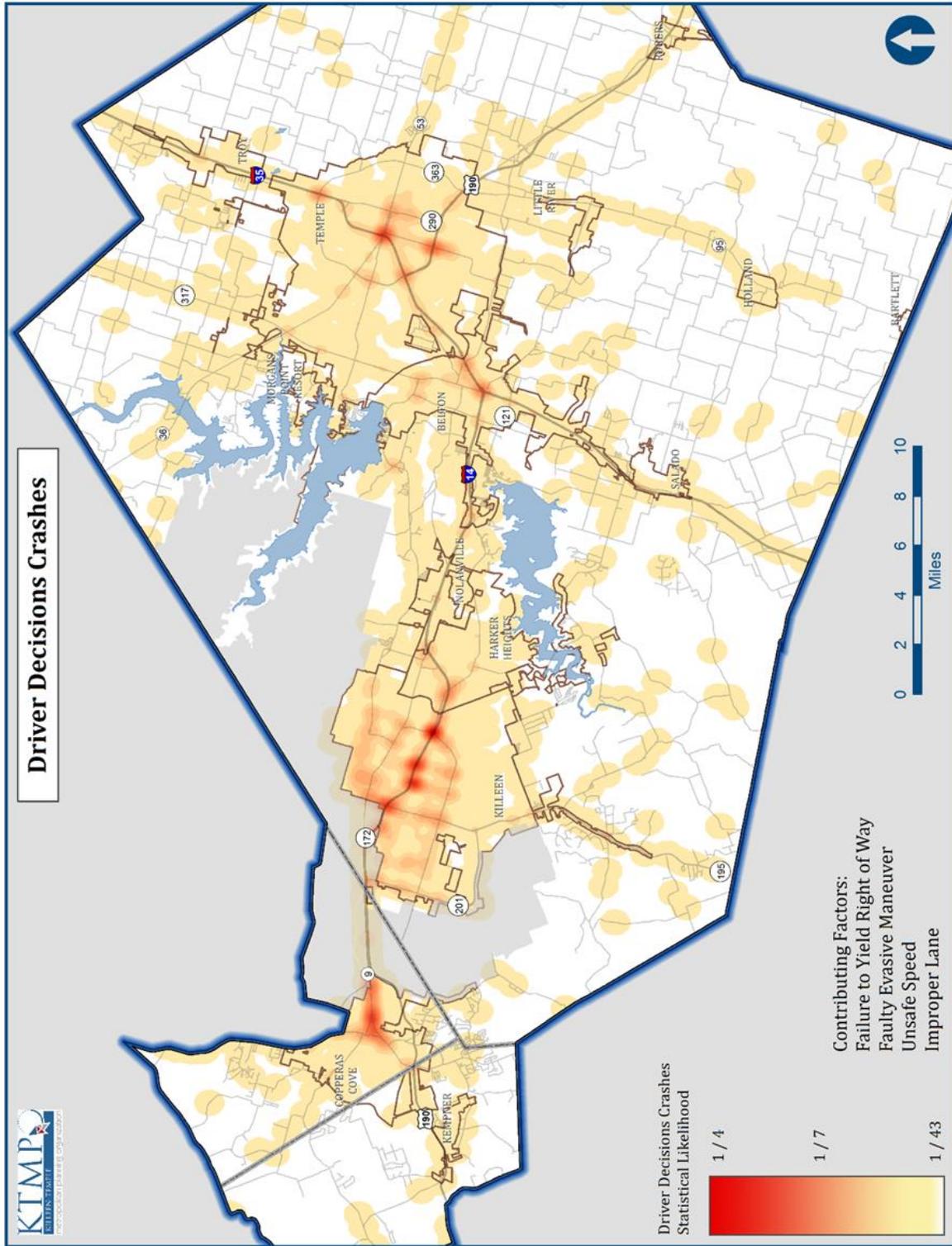


Exhibit 8.7: Driver Decisions Crashes Hotspot Map



SAFETY PERFORMANCE MEASURES:

The FAST Act builds upon the MPOs requirement to establish safety performance measures. This requirement required MPOs to establish their own safety performance measures or support performance measures established by the State. The target is to achieve a 2% reduction from the original trend line projection in 2022 for total number of traffic fatalities, total number of incapacitating injuries, death rate, injury rate, and total number of non-motorized fatalities and serious injuries. KTMPO staff used CRIS data to produce heat maps to further evaluate whether KTMPO sets their own performance measures or support the performance measures established by the State.

Looking at the crash data, KTMPO decided to support the safety performance measures established by the Texas Department of Transportation. By supporting the State's safety targets, KTMPO plans on doing the following:

- Work with the state and safety stakeholders to address areas of concern for fatalities or serious injuries within the MPO planning area; Coordinate with the state and include in the Metropolitan Transportation Plan (MTP) the safety performance measures and targets for all public roads in the metropolitan area;
- Integrate into the planning process the safety goals, objectives, performance measures and targets described in other state safety transportation plans and processes such as applicable portions of the Highway Safety Implementation Plan (HSIP);
- Include a description in the Transportation Improvement Program (TIP) of the anticipated effect of the TIP toward achieving HSIP targets in the MTP, linking investment priorities in the TIP to those safety targets.
- Use data to identify areas that have shown a concentration of accidents and continue to use crash rates as one of our scoring criteria to select projects that support the statewide goals.
- Use this information as part of our public outreach efforts to educate drivers about ways they can drive more safely and reduce accidents.

Some recommendations may be made to reduce the recurrence of crashes at particular locations, such as:

- Upgrades to existing transportation infrastructure
- Modification or implementation of safety infrastructure
- Creation of alternative routes to alleviate congestion

- Public campaigns promoting a particular safety issue
- Requirement of the use of motorcycle and bicycle safety gear
- An assessment of the transportation network to determine driver decisions

The improvement of transportation safety is an ongoing process that requires collaboration with all transportation decision makers in the KTMPO region. Continuing efforts will assist this process as new issues are discovered or updated data can be obtained to inform new decisions.

A large part of safety on the roads involves the attention and attitude of the transportation users. Successful safety programs also incorporate a public education element to help the KTMPO public make informed decisions in its driving behavior. KTMPO will continue to push information from national and state safety organizations and keep the public aware of safety issues in our region via online social media methods and in line with the public involvement process.

SECURITY

The transportation system is vital however disasters or attacks can affect the vitality of the system due to its large spread and accessibility. Effective management is important for the system's preparedness and ability to respond and recover from an event in order to maintain the well-being of the transportation system users.

Coordination Efforts

Security planning starts at the local, municipality level, and progresses up to the state, and eventually, federal level. Coordination amongst the cities, neighboring counties, and the state must occur because the geographic extent of a disaster cannot be predicted. KTMPO works closely with the Homeland Security division of the Central Texas Council of Governments (CTCOG) to increase awareness of the transportation system's role in the security of the region's citizens. CTCOG's Homeland Security division works with the Emergency Management Coordinators of all counties of the CTCOG region and serves as a central clearinghouse for the emergency and evacuation plans of each county. At the MPO level, the information from these plans allows transportation planners to assess the ability of the system to respond to an event as the plan details. The following routes are considered the major evacuation routes of the KTMPO region: **IH 35, US 190, US 190/SH 36, SH 95, FM 93, and FM 2268**. Bell County's plan, specifically Annex E, details potential evacuation areas with hazardous material locations and evacuation routes as

shown below in Exhibit 8.8.

Flood Monitoring

The KTMPO region is susceptible to flooding. When heavy rain storms occur, flooded roadways can cause which creates an ineffective way to transport goods, services, and people. Due to the flooding, monitoring was recently enhanced in flood prone areas to gauge water levels, providing advanced notice for thoroughfare closure and evacuation. In the MPO area, USGS has established 11 monitors, which are described below:

- Belton Lake Near Belton Dam;
- Leon River North of FM 817 (Charter Oak Drive);
- Nolan Creek at South Peneolope St.;
- Lampasas River at SH 195;
- Stillhouse Hollow Lake Near Dam;
- Chalk Ridge Falls Park;
- Lampasas River at IH-35;
- Salado Creek East of FM 2268 (Main St.);
- Little River at SH 95;
- North Elm Creek at FM 485;
- Lampasas River at US 190.

Additional locations in the rural areas are currently utilized by emergency responders and planners involved in flood mitigation.

Scenario Planning

CTCOG's Homeland Security division have outlined a Threat and Hazard Identification and Risk Assessment to estimate the impact to people and infrastructure in the event of natural and/or man-made disasters. An analysis was performed to predict the people involved, infrastructure damage, and roadways affected. The assessments outline the description, impacts, and desired outcome. The various scenarios that were looked at include the following:

- Severe flooding of Nolan Creek;
- A strong tornado hitting the Killeen urbanized area;
- A train derailment that causes HAZMAT materials to leak in Lampasas County;
- An active shooter situation on Ft. Hood and at Metroplex Hospital;
- Wildfires across Coryell County and Ft. Hood.

For the Critical Transportation Core Capability, the description is to prove transportation

(including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services into the affected areas. The desired outcome is to have an active response within 6 hours of the incident. By having a response to potential disasters can minimize impacts on the transportation system.

Fort Hood

Fort Hood makes a concerted effort to ensure the safety and security of the military community, both on-post and in the surrounding area. They employ various levels of Force Protection conditions, and in the most threatening emergencies they will elect to seal the facility from all traffic, in or out. This notification is pushed out to local law enforcement and other emergency communications outlets. KTMPO is willing to assist in public messaging to inform local motorists when such a lockdown takes place, in order to prevent excessive congestion that may form at the Access Control Points from backing up onto local streets and highways.

DRAFT

Exhibit 8.8: Potential Evacuation Areas (Hazardous Materials)

ID	Name	Description	Hazard	Estimated Population	Evacuation Routes	Estimated Evacuation Time
E-1	Holland	Best Butane Company, 100 Fannin St.	Butane	500 Homes, 1100 People	Hwy 95, FM 2268 (other routes to be selected based on wind conditions)	3 hours
E-2	Heidenheimer	Blue Bonnet Grain and Storage	Numerous fertilizer chemicals	100 Homes, 950 people	Hwy 36, FM 93 (other routes to be selected based on wind conditions)	3 hours
E-3	Temple, Troy, Belton, Nolanville, Harker Heights, Killeen	BNSF Railroad, cross county railroad system	Transportation of multi-hazard chemicals	will vary by location	To be selected based on wind conditions	5 hours
E-4	Brazos Cooperative	Fertilizer	Farm chemicals	will vary due to wind direction	FM 817 & River Road	4 hours
E-5	Belton	Brazos River Authority, 2406 E 6th, Waste Treatment Plant	Chlorine	7000 homes 14,600 people	E. 6th, IH 35 South, IH 35 North	6 hours
E-6	Holland	Chemical Supply Co., 901 Lexington	Chlorine, Calcium Hypochlorite	100 homes, 950 people	Hwy 95 (other routes to be determined at time of evacuation)	5 hours
E-7	Pendleton	Lone Star Gas Co., Bell County Pipeline Distributor	Natural and other gases	Number will be determined by location and wind direction	Refer to company pipeline maps	TBD
E-8	Pendleton	Pendleton Agri. Supply	Agri chemicals	150 Homes, 350 People	IH 35 South and North	4 hours
E-9	Pendleton Water Supply	Pendleton water supply, water distributor	Chlorine	150 Homes, 350 People	IH 35 North and South	TBD