

Several safety concerns were expressed during the public meeting- namely improvements to transit and technology, as well as reduced speeds and improved signage

Introduction

Federal transportation planning regulations specifically mandate that attention be given to safety and security in metropolitan transportation plans. Issues of safety and security are costly to individuals, communities, and all levels of government when they are not properly addressed in plans. The *Kanawha-Putnam 2045 Regional Transportation Plan* addresses these requirements primarily by identifying existing safety issues and incorporating them into the transportation recommendations and prioritization process. Chapter 8 evaluates safety and security by analyzing vehicular, pedestrian, and rail statistics. GIS maps provide a geographic overview of crashes throughout the region and aid in identifying high accident locations. The chapter concludes with recommended safety and security improvements.

Traffic Safety and Crash History

Traffic safety is a key component of any successful transportation plan and a critical consideration for community-wide mobility. Examining the crash history and traffic patterns can help identify locations where improvements in traffic safety may benefit the whole community.

The map on page 8-4 represents the relative density of crashes that occurred in the study area from 2013 to 2015. It is not surprising that many of the areas that show a higher density of crashes correspond to areas of high traffic volumes, interstate interchanges, and activity centers.

During the three-year period, 8,066 crashes were reported in locations across Kanawha and Putnam counties. Of these crashes, there were an average of 34 reported fatalities per year. Rear-end collisions were the most common type of collision, followed by single vehicle incidents. Based on the information available, 1.1% (91) of collisions involved a pedestrian or bicyclist. The table below provides greater detail about the manner of collision for all crashes.

Table 8-1: Manner of Collision – All Crashes 2013-2015

MANNER OF COLLISION	PERCENT
Angle	11.8 %
Head-on	2.4 %
Rear-end	32.7 %
Right angle	11.4 %
Sideswipe – opposite direction	3.4 %
Sideswipe – same direction	7.4 %
Single vehicle	30.1 %
Other	0.8 %

Crash Trends

According to the West Virginia Strategic Highway Safety Plan, 6,580 crashes with a serious injury occurred in the state in 2010. In 2014, the number of serious injury related crashes was 4,511—an approximate reduction of 30%. The table below summarizes serious injuries within the Kanawha-Putnam area; there has been a 16.5% decrease in serious injuries since 2010.

Table 8-2: Serious Injuries Car Crashes

YEAR	KANAWHA	PUTNAM	TOTAL
2010	155	49	204
2011	156	36	192
2012	120	52	172
2013	114	41	155
2014	132	38	170
Total	677	216	893

Fatalities

From 2010 to 2014, 168 roadway fatalities occurred in Kanawha and Putnam counties. Of these, 136 occurred in Kanawha County and 32 occurred in Putnam County. Single-car accidents accounted for the majority of the fatalities. While most of these accidents occurred on interstates, U.S. routes, or West Virginia routes, over one-third (33.2%) of the fatalities

occurred on county roads. When analyzed in GIS, it appears most of the fatalities occurred outside of downtown Charleston in areas where speeding is likely more prevalent and emergency services are less accessible.

Table 8-3: Car Crash Fatalities

YEAR	KANAWHA	PUTNAM	TOTAL
2010	27	4	31
2011	29	5	34
2012	26	11	37
2013	32	3	35
2014	22	9	31
Total	136	32	168

While crashes occurred all throughout the region, the highest concentrations generally existed at downtown intersections and along key commercial corridors—most often at the entrances to malls, restaurants, convenience stores, and gas stations. The following intersections represent examples of commercial locations with high crash frequencies.



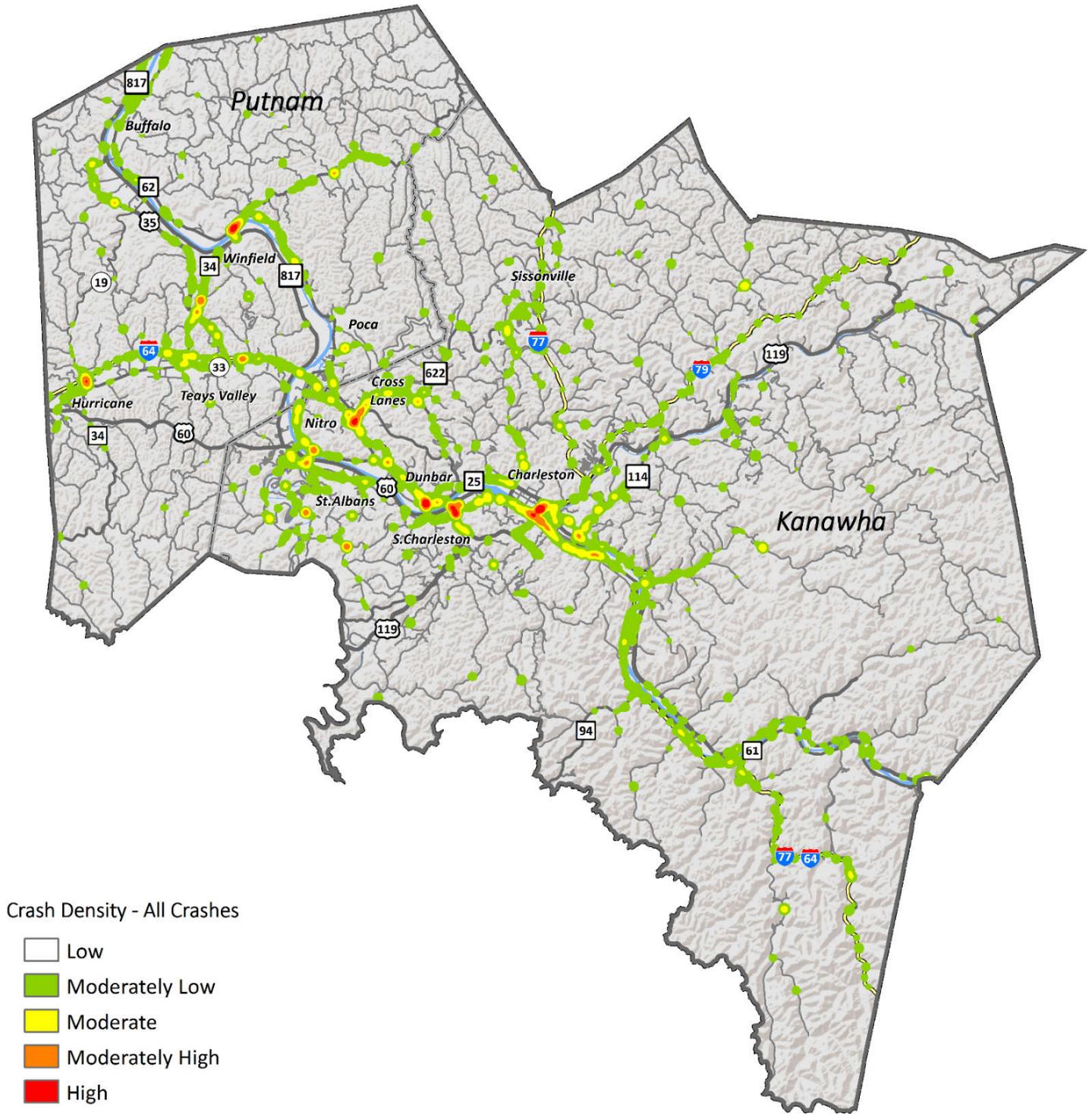
Stakeholders indicated that the I-64/I-77 interstate split (Charleston) is a high crash location. Source: Google Maps.

- *Teays Valley:* A high frequency of crashes occurred on WV 34, south of the I-64 interchange (near McDonalds and the TA Travel Center). The disconnection of pedestrian facilities in this area is also a safety issue.
- *I-64:* Stakeholders indicated that the I-64/I-77 interstate split (Charleston) is a high crash location. Safety issues are potentially compounded when drivers (often trucks) abruptly change lanes from the I-64/I-77 eastbound/southbound lanes (at the interstate split) to the I-77 northbound through lanes. Stakeholders also expressed major concern regarding I-64 between Institute and Cross Lanes. This section of interstate has a significant increase in grade and roadway geometry.
- *Downtown Charleston:* Crashes occurred throughout downtown, with high concentrations at the intersection of Pennsylvania Avenue and Lee Street, Washington Street East and Court Street, Washington Street East and Brooks Street, Washington Street East and Ruffner Street, and Washington Street East and Greenbrier Street.

While the *Kanawha-Putnam 2045 Regional Transportation Plan* does not offer specific recommendations for each of these locations (that level of analysis is beyond the scope of a regional transportation plan), the study team recommends that local governments consider signal improvements and access management strategies when evaluating these corridors and intersections.

Crash Density

Figure 8-1



Safety Performance Measures

MAP-21 and the FAST Act place a strong emphasis on transportation performance management in order to utilize system information to strategically decide on investments and policies to achieve national performance goals. National performance goals have been established for seven areas: safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. Currently, the Safety Final Rule has established five performance measures to report.

- Number of Fatalities
- Rate of Fatalities per 100 million Vehicle Miles Traveled
- Number of Serious Injuries
- Rate of Serious Injuries per 100 million Vehicle Miles Traveled
- Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries

Currently, RIC has coordinated with WVDOT on the selection of performance targets and will adopt the State's selected targets within 180 days of selection.

Public Input

Key stakeholders and members of the public also voiced concerns about safety and security in the region. In general, the public emphasized the need for additional bicycle and pedestrian facilities, expressing that sidewalks and designated bicycle lanes would improve safety and enhance connectivity. These groups specifically mentioned safety concerns about the following locations:

- US 35 at the Buffalo Bridge: Trucks frequently crash here.
- There were several comments regarding safety in school zones; there is a need for speed reductions, but significant traffic congestion occurs.
- CR 33 along Teays Valley has several sight distance issues and many subdivision entrances.
- I-64 between Institute and Cross Lanes has a significant increase in grade and curves; this causes tractor trailer crashes during inclement weather.
- King Street, Institute Area: For several years, there have been concerns about pedestrian safety along King Street, which borders Shawnee Park. The park is in the process of planning a major renovation that will transform the park into a multi-sport complex. This will greatly change the look of not only the park, but



Photo Credit: WV Metro News

also the entire community. It would be practical to study additional pedestrian facilities during the park renovation.

Rail Safety

In 2011-2012, RIC conducted the **St. Albans Railroad Crossing Study**, evaluating existing deficiencies at thirty-nine (39) intersections, seven (7) at-grade rail crossings, and six (6) grade-separated rail crossings. Following a thorough analysis of existing conditions of highway traffic, train volumes, travel times, and crash data, the study team proposed three alternatives. The 3rd Street underpass (Alternative 2) proposed to eliminate horizontal and vertical clearance restrictions at the existing 3rd Street underpass and was selected as the preferred choice for improvements. Since then, in 2015, the 3rd Street underpass was involved in an additional study—the **St. Albans Third Street Corridor Study**. The 3rd Street study proposed a separate pedestrian facility under the existing railroad. Providing a safer, more attractive pedestrian facility will discourage pedestrians from crossing the railroad illegally, which is common at this location. Removing the existing sidewalk from the roadway will allow for wider travel lanes and a longer turn lane.

The West Virginia State Rail Plan recently incorporated a study of grade crossing incidents throughout the state. The study identified the following locations of grade crossings with multiple incidents in the study area from 2003 to 2012: B Street and Drumheller Drive in St. Albans and 16th Street in Dunbar. The table below examines the last decade of rail-highway crashes in Kanawha and Putnam counties. There were no accidents reported in 2015 or 2016.

Table 8-4: Identified Grade Crossings with Multiple Incidents

CITY	LOCATION	DATE	FATALITIES	INJURIES	CAUSE
St. Albans	Drumheller Drive	6/6/2009	0	0	Auto struck by train
St. Albans	Drumheller Drive	10/9/2009	0	0	Auto stalled on crossing
St. Albans	B Street	2/21/2010	1	0	Pedestrian struck by train
Bancroft	Rt 62	1/10/2012	0	0	Semi truck did not stop at crossing
Nitro	WV 25	3/22/2012	0	0	Vehicle stopped on crossing
Pratt	Center St	2/8/2013	0	1	Vehicle ran down crossing gate
Hurricane	Dog Food Crossing	7/9/2013	0	0	Tractor trailer did not stop
Charleston	12th St	12/11/2013	0	1	Driver did not stop
Hurricane	Dog Food Crossing	2/15/2014	0	0	Vehicle stopped then proceeded
Riverbend	Riverbend Blvd	6/10/2014	0	0	Vehicle struck side of train
Belle	Dupont Ave	7/15/2014	0	0	Vehicle struck side of train
Buffalo	Private Crossing	8/19/2014	1	0	Vehicle did not stop

Recommendations

The majority of the RTP fiscally constrained projects encourage improvements in vehicular and pedestrian safety. In prioritizing projects, the study team considered public and stakeholder comments as well as crash locations to determine the projects' impacts on safety. The study team awarded higher scores to those proposed projects that correspond to high accident locations, with the reasoning being that those roadway improvements can potentially help reduce the frequency and/or severity of crashes. The following recommended projects shown in Table 8-5 have a particularly high geographic correlation of high crash locations.

Table 8-5: Areas with High Geographic Correlation of High Crash Locations

PROJECT ID	ROADWAY	DESCRIPTION
KC-4	US 119 (Corridor G)	Widen from MacCorkle Ave to Lucado Rd to improve operations
CL-8	Goff Mtn Rd/Big Tyler Rd (WV 622)	Widen from 3 to 5 lanes from Old Goff Mountain Rd to the traffic signal at Kroger
KC-6	US 119 (Corridor G)	Widen from Emerald Rd to Jefferson Rd to improve operations
KC-5	US 119 (Corridor G)	Widen from Lucado Rd to Emerald Rd to improve operations
KC-8D	Dupont Ave (US 60)	Add center turn lane west through London for approximately one mile, reducing risk of rear-end collisions and improving traffic flow