

2014 Annual Report

Work Zone Traffic Control



Bureau of Maintenance and Operations
Highway Safety and Traffic Operations Division

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Introduction

This work zone report is compiled with results, graphs, and tables to illustrate work zone activities in the Commonwealth of Pennsylvania during calendar year 2014 and includes performance trends from previous years.

The first priority is to use this document as a basis for improving work zone safety and mobility.

Secondly, it will meet Federal Highway Administration (FHWA) obligations for the Work Zone Final Rule, and define performance and action items addressed in the previous year. This document is also a cornerstone for developing and improving planning efforts for the next year. It will help to identify what practices are effective in mitigating crash congestion and improving safety.

This information is being reported by the Bureau of Maintenance and Operations (BOMO), District Traffic Units' work zone personnel, and FHWA. The report contains the results of quality assurance reviews, Independent Oversight Program (IOP) process reviews, crash data, costs, accomplishments, and goals for the future.

Executive Summary

BOMO's Work Zone Traffic Control Unit goals are always striving to improve safety and mobility in work zones throughout Pennsylvania. Five primary functions are used in reaching these goals:

1. Evaluation of new traffic control devices and approval process
2. Training in work zone traffic control
3. Work with FHWA in developing new work zone traffic control standards and guidance for Districts
4. Publication and policy updates
5. Conduct QA reviews to evaluate how well traffic control standards are being followed

The following tables and graphs capture the 2014 Work Zone highlights:

- Work Zone QA Review scores
- Work Zone crash data from the Crash Information System
- PSP Assistance costs associated with construction/maintenance projects

Work Zone QA Performance

District	BOMO QA Staff (July 2014 – June 2015)		
	Number of QA's	Average Score (Max = 5.00)	Automatic Unsatisfactory*
1	26	4.74	2
2	32	4.75	1
3	36	4.83	1
4	25	4.57	0
5	28	4.65	3
6	27	4.48	4
8	38	4.75	2
9	25	4.76	0
10	23	4.74	1
11	17	4.82	2
12	25	4.74	4
Total	302	4.71	20
4.75-5.00=Very Good 4.25-4.74=Good 3.25-4.24=Fair 0.00-3.24=Failure			

* Automatic Unsatisfactory (Failure) does not count towards average score.

District	Central Office IOP QA Reviews*		
	Number of QA's	Average Score (Max = 100)	Failures
1	8	86.63	0
5	6	86.50	0
6	6	90.83	0
9	6	85.83	0
Total	26	87.44	0
85-100=Good 75-84=Fair 65-74=Poor 0-64=Failure			

* 2014 IOP Conducted In Department Districts 1, 5, 6, & 9.

Most Common Deficiencies Noted From All QA Reviews:

- Improper Flagger actions
- Incorrect set-ups
- Incorrect placement of shadow vehicles
- Inadequate buffer zone lengths
- Inadequate signing for closures and detours
- Poor condition of devices
- Inadequate management/accountability actions
- Lack of delineation of work area

Remedial Actions to Correct Deficiencies:

- BOMO's QA findings are discussed with the project manager, contractor, and work zone manager.
- A closeout conference is held with the construction unit and the traffic unit, and a formal written report is given to the Work Zone Manager for the correction of deficiencies.
- Maintain WZTC QA scores as a District metric and evaluate trends for improvement opportunities.
- Review details of fatal work zone crashes and determine/implement improvement opportunities.
- Continue training for maintenance crews and inspectors:
 - Publication 213 on proper traffic control setups.
 - Use examples of acceptable and unacceptable devices as shown in the 2009 PA Quality Guidelines for Temporary Traffic Control Devices.
 - Use deficiencies from recent Quality Assurance Reviews for learning opportunities.
 - Use recent crash experience for learning opportunities.

2014 Work Zone Independent Oversight Program

Action Plan

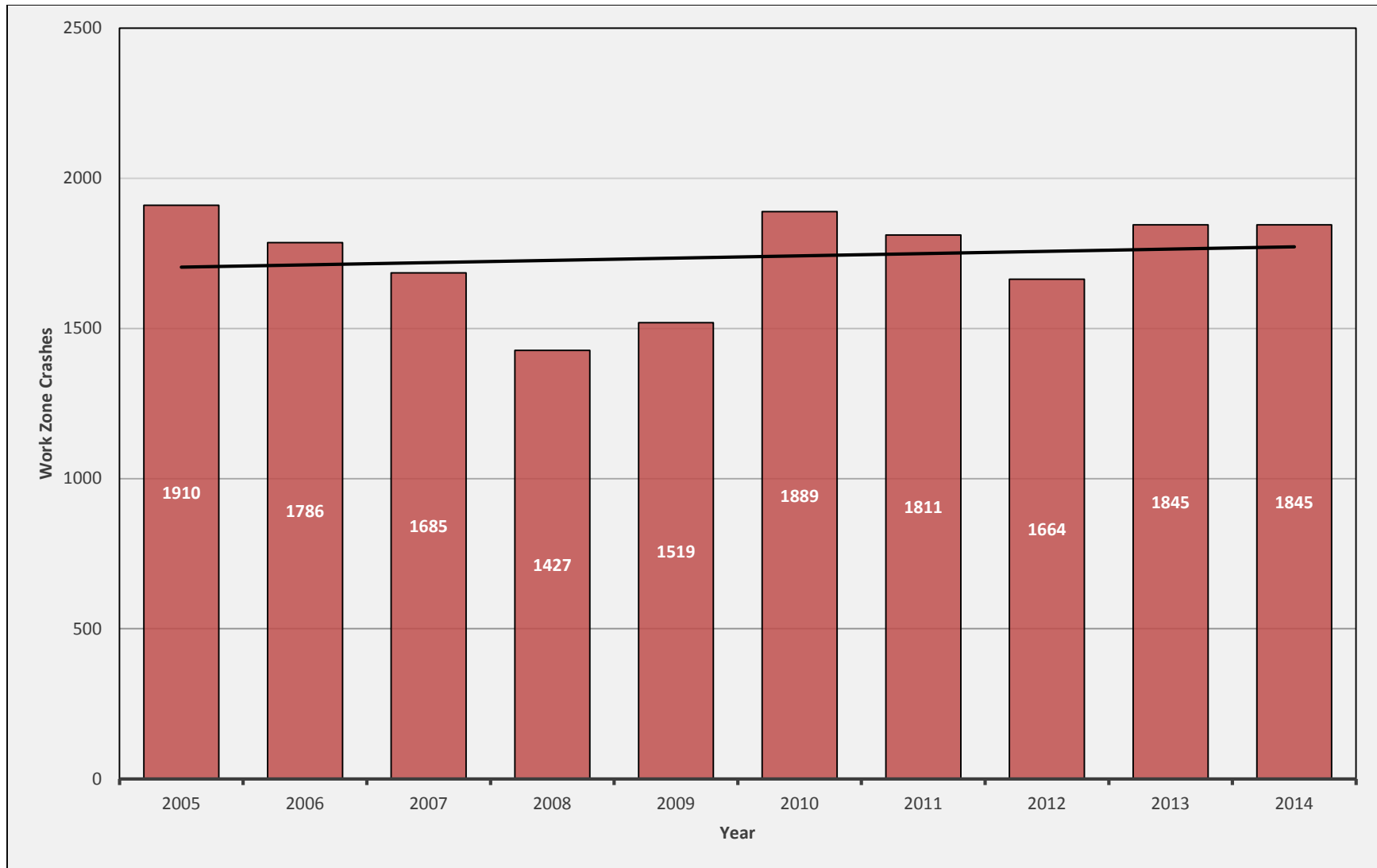
No.	2014 WZ IOP Findings / Recommendations	Owner / Support	Current Status / Actions to be Taken	Target Date	Closed Y/N
1	<p><u>FINDING:</u> The CS-901 form, Work Zone Traffic Control Compliance Checklist and Notification, is not used consistently.</p> <p><u>RECOMMENDATION:</u> PennDOT Bureau of Project Delivery (BOPD) should simplify the CS-901 documentation use and frequency guidelines detailed in the Project Office Manual (POM).</p> <p><u>FOLLOW-UP:</u></p>	Oswald	<p><u>ACTION:</u> BOPD will initiate a change to POM C.9.2 to add a WZTC Inspection and Documentation Frequency Table similar to Figure 5.</p>	12/31/14	N
2	<p><u>FINDING:</u> There is not consistency in acquiring crash reports from State and Local Police and forwarding them to the proper district personnel.</p> <p><u>RECOMMENDATION:</u> BOMO HSTOD should draft a form letter that the Districts can use to send to the State and local police in their areas to request cooperation in this regard. The Districts should send these letters out 30 days prior to the start of construction for each project. BOPD should address the importance of sending crash reports from the field office to the district office at the next ADE-Construction meeting. PennDOT should investigate whether the email distribution procedure identified above can be utilized on other projects or even expanded statewide.</p> <p><u>FOLLOW-UP:</u></p>	Briggs/ Oswald	<p><u>ACTION:</u> BOPD will address the importance of sending crash reports from the field office to the district office at the next ADE-Construction meeting.</p> <p>BOPD will contact Pennsylvania State Police (PSP) to coordinate the possible use of technology to better share and streamline the flow of information from crash reports. Pending PSP cooperation, BOPD will initiate a change to POM C.9.13 addressing the use of technology to better share and streamline the flow of information from crash reports, while ensuring that sensitive information on those reports is safeguarded.</p>	12/31/14	N

No.	2014 WZ IOP Findings / Recommendations	Owner / Support	Current Status / Actions to be Taken	Target Date	Closed Y/N
3	<p><u>FINDING:</u> Traffic control for accommodating and providing access to pedestrians during construction is not being implemented per requirements in DM-2 Section 6.14.</p> <p><u>RECOMMENDATION:</u> BOPD will address this issue at the next ADE Design meeting in order to raise awareness among the ADEs and their staffs. BOPD will assess the need for and provide additional training on pedestrian accommodations during construction. BOPD and BOMO will develop a Traffic Control Plan (TCP) checklist that covers this and other important elements of TCPs that can be used as a design tool during project development.</p> <p><u>FOLLOW-UP:</u></p>	Oswald	<p><u>ACTION:</u> BOPD contacted the projects to verify that the deficiencies have been corrected.</p> <ul style="list-style-type: none"> • SR 160-23M: Deficiencies corrected. Project completed on 11/30/13. • SR 27-A02: Deficiencies corrected. • SR 19-A08: Deficiencies corrected. Project to be complete on 7/31/14. • SR 145-001: Deficiencies corrected. Permanent sidewalk with ADA requirements complete. 	6/30/14	Y
			<p>BOPD will address the issue that accommodating and providing access to pedestrians during construction is not being implemented per requirements in DM-2 Section 6.14 or the MUTCD Chapter 6D at the next ADE Design meeting.</p>	12/31/14	N
			<p>BOPD and BOMO will develop a Traffic Control Plan (TCP) checklist that covers pedestrian accommodations during construction and other important elements of TCPs that can be used as a design tool during project development.</p>	12/31/14	N
			<p>BOMO will assess and develop additional training tools on pedestrian accommodations for project delivery staff.</p>	3/31/15	N
4	<p><u>FINDING:</u> PennDOT field staff expressed difficulty and concern with obtaining state police assistance on their projects.</p> <p><u>RECOMMENDATION:</u> PennDOT to work with PSP on revising the MOU.</p> <p><u>FOLLOW-UP:</u></p>	Briggs/ Oswald	<p><u>ACTION:</u> PennDOT will issue a memo to the Districts to reiterate the current policy and process. In addition, PennDOT will propose a revised MOU to leadership. If approved by PennDOT, it will be discussed with the PSP's Bureau of Patrol</p>	12/31/14	N

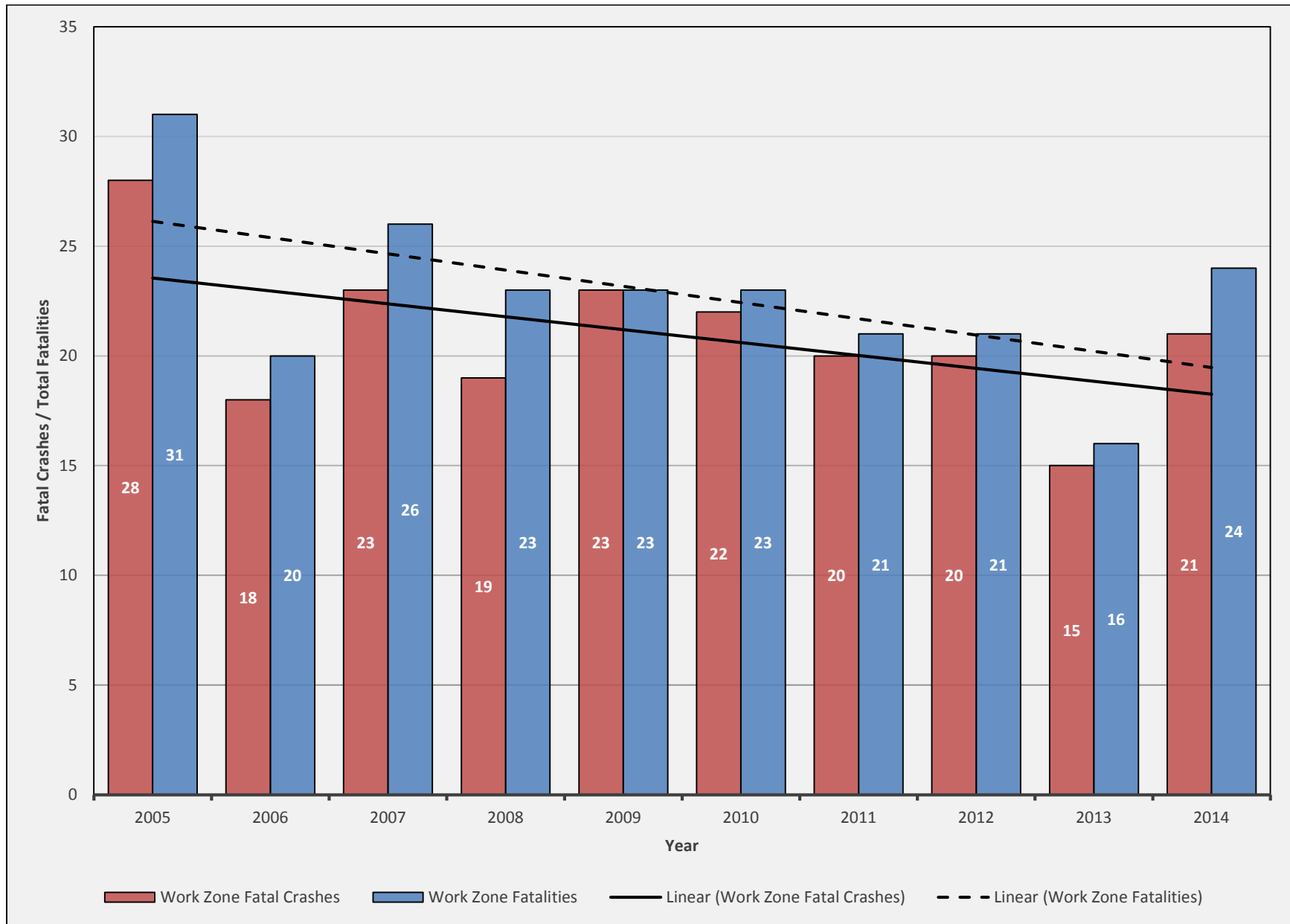
No.	2014 WZ IOP Findings / Recommendations	Owner / Support	Current Status / Actions to be Taken	Target Date	Closed Y/N
5	<p><u>FINDING:</u> BOMO HSTOD lacks personnel to coordinate training needs of PennDOT related to WZTC.</p> <p><u>RECOMMENDATION:</u> BOMO HSTOD should hire a training coordinator.</p> <p><u>FOLLOW-UP:</u></p>	Briggs	<p><u>ACTION:</u> PennDOT is currently awaiting the next round of formal interviews for a Civil Engineer Trainee to be placed in the Bureau of Maintenance and Operation. This staffer will be administratively responsible for all work zone-related trainings including the coordination of the course materials for those training curriculums. In the interim, PennDOT has hired a consultant to create the baseline for this position's responsibilities.</p>	9/30/14	N

Work Zone Crash Statistics

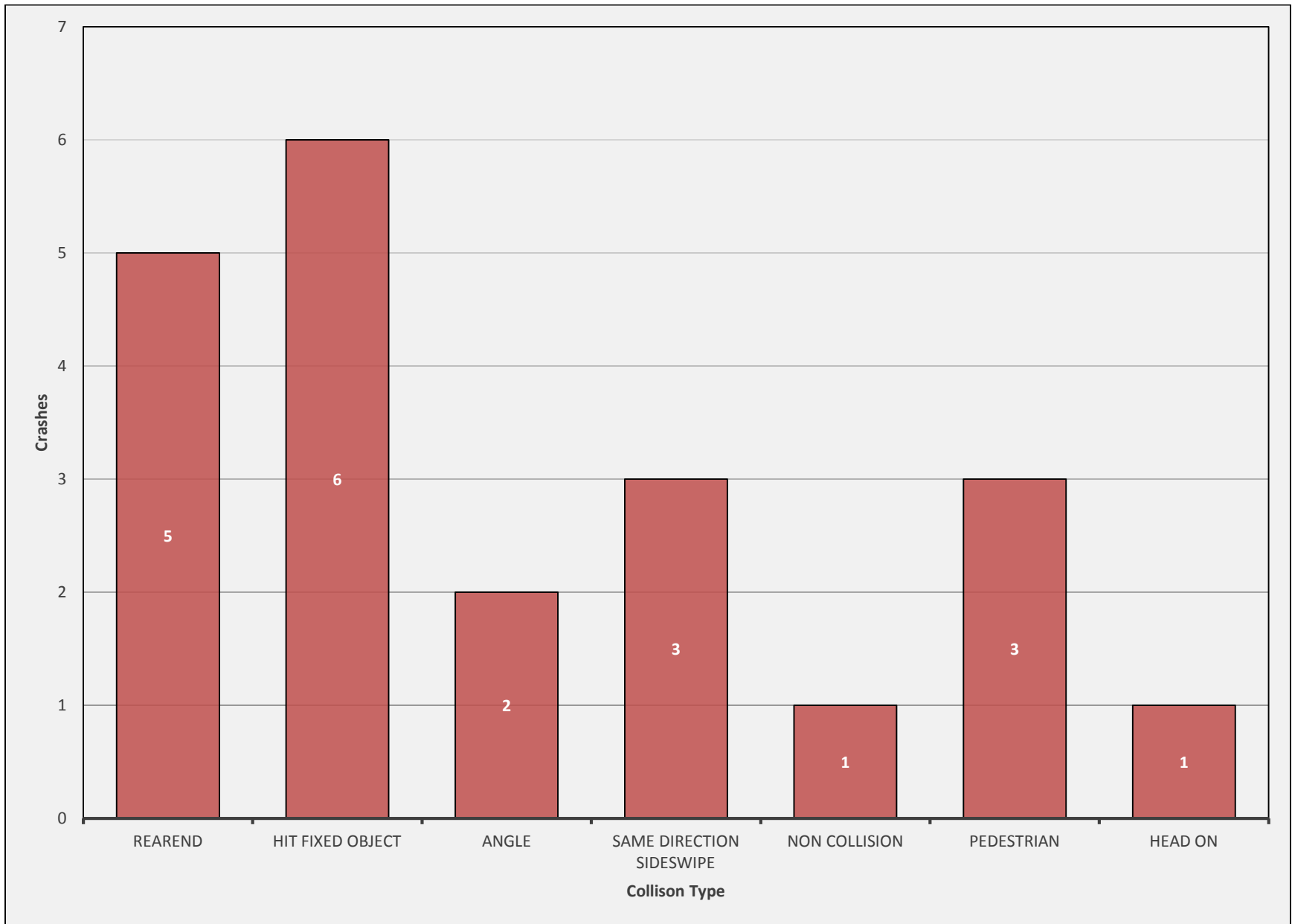
Number of Work Zone Crashes



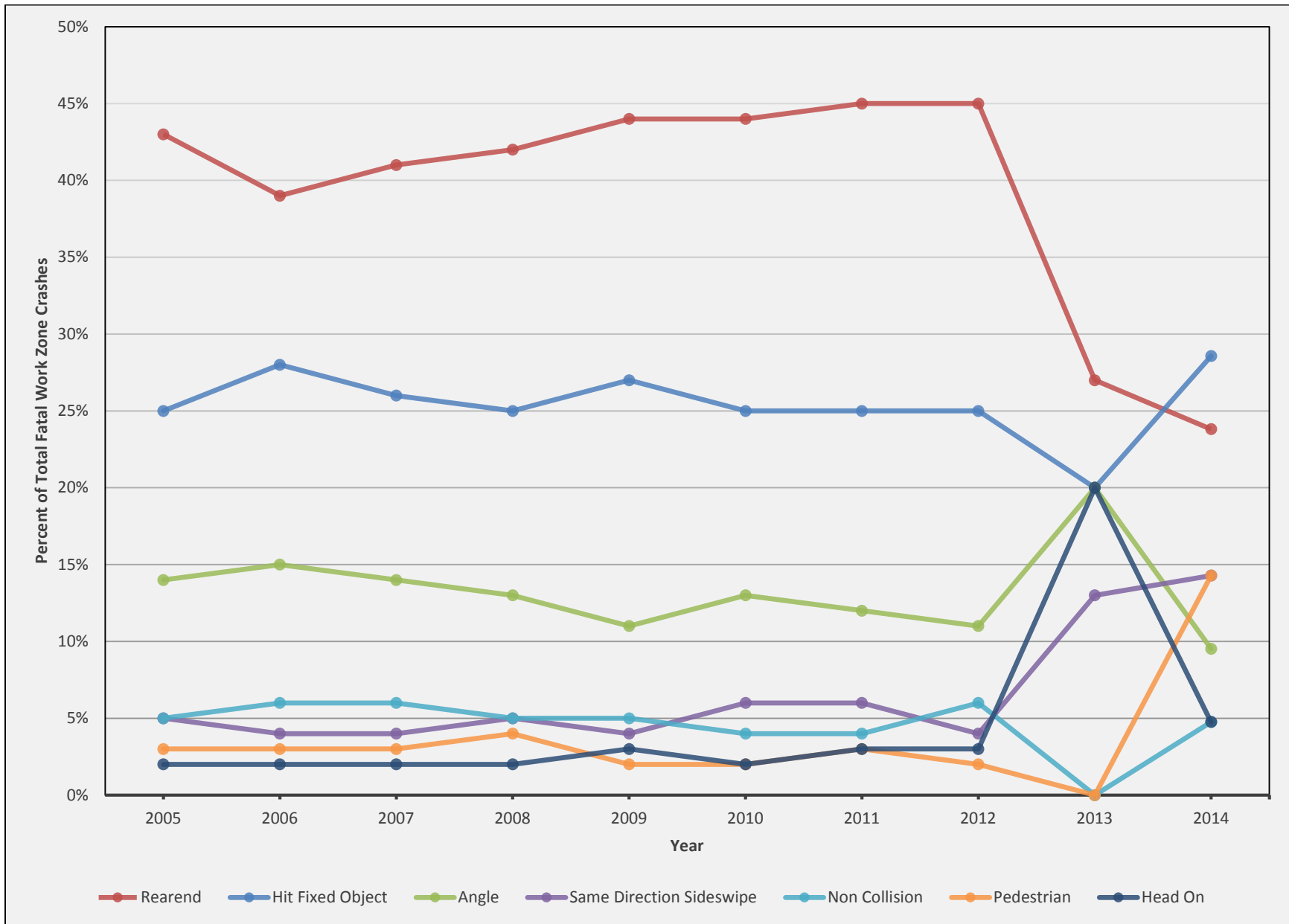
Fatal Work Zone Crashes (2005-2014)



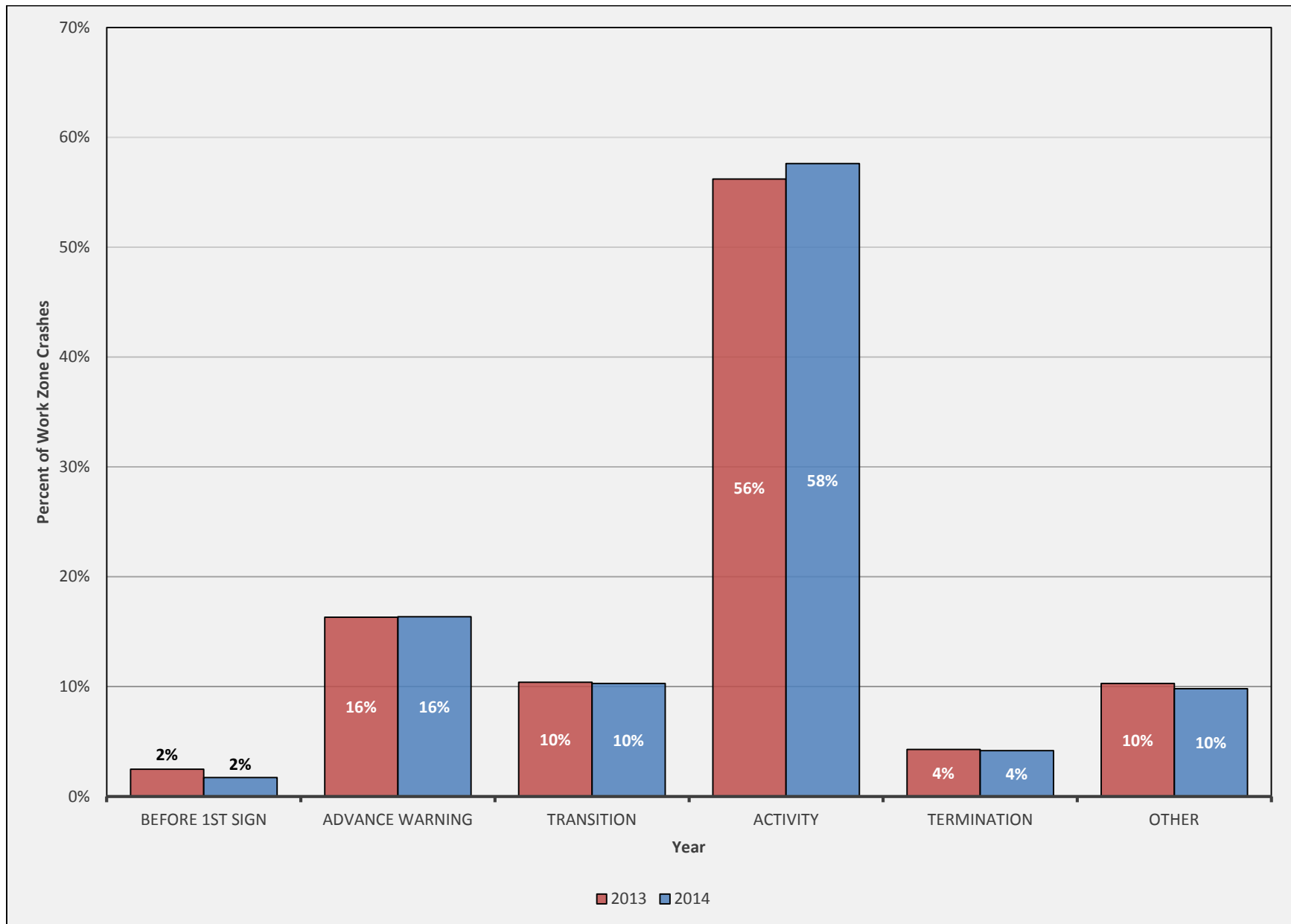
Type of Fatal Work Zone Crashes



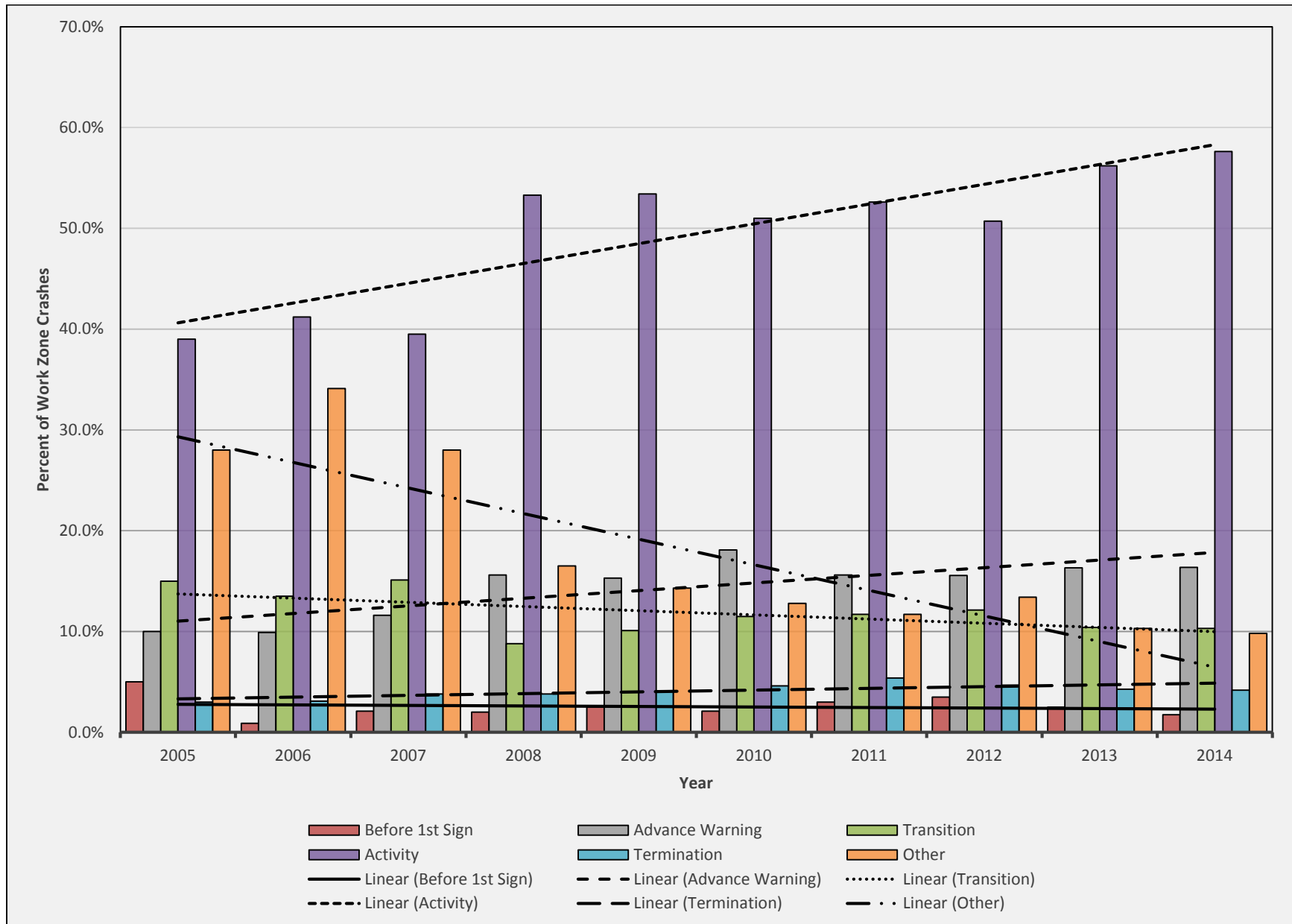
Type of Fatal Work Zone Crashes Trend (2005-2014)



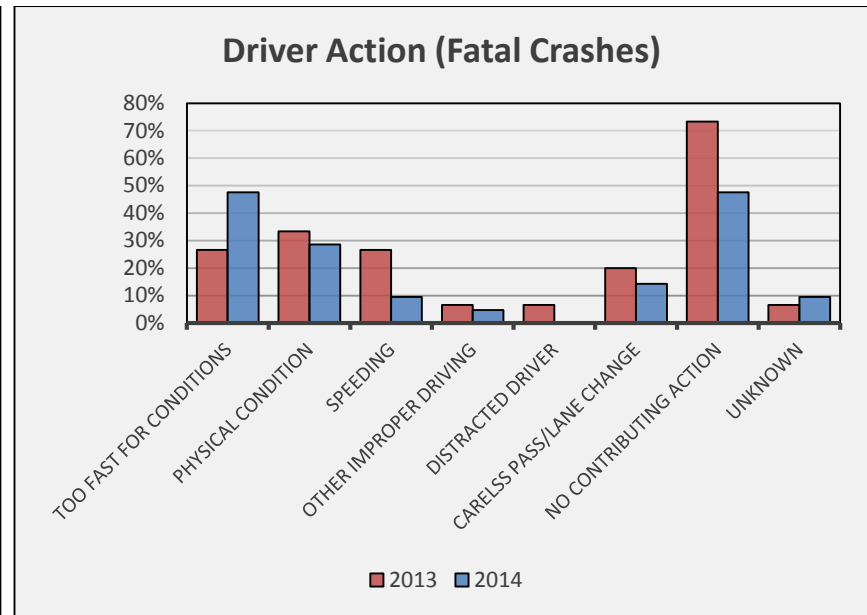
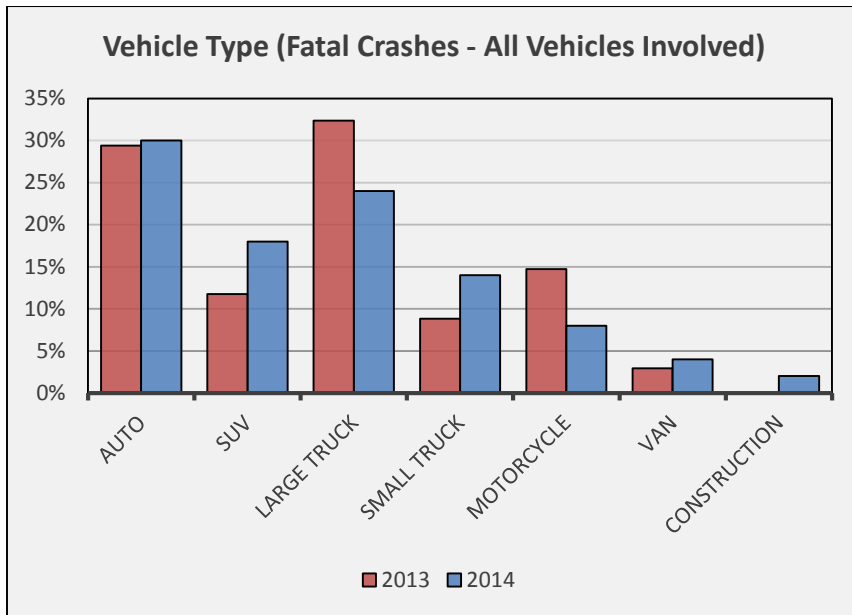
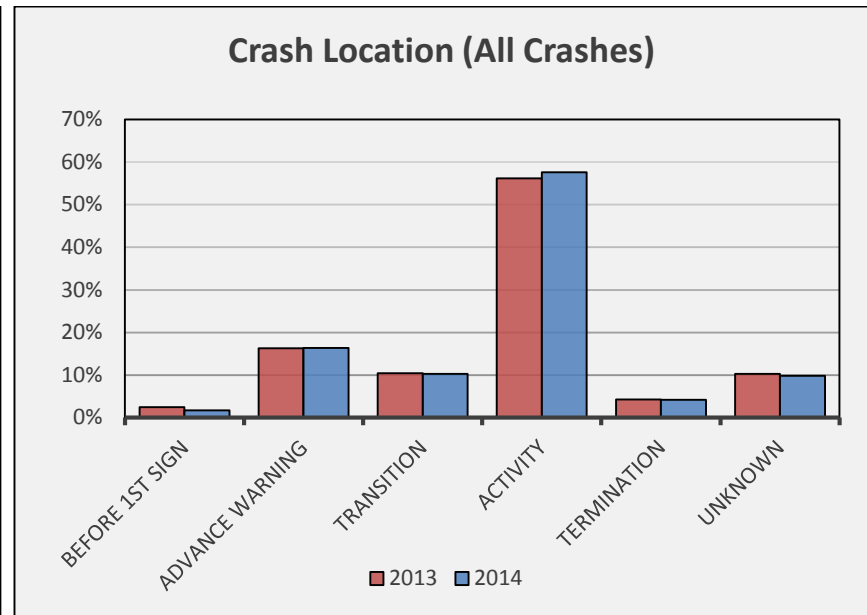
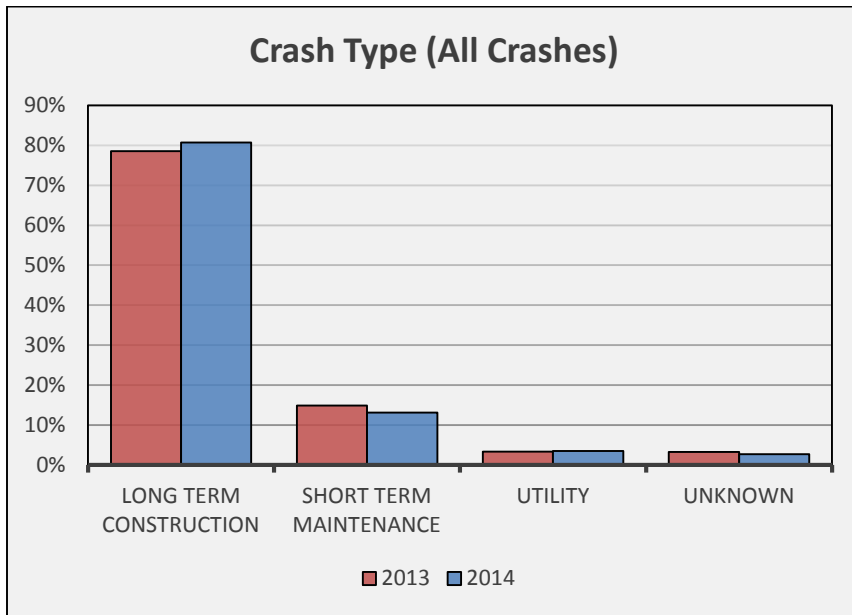
Location of Crashes within Work Zone



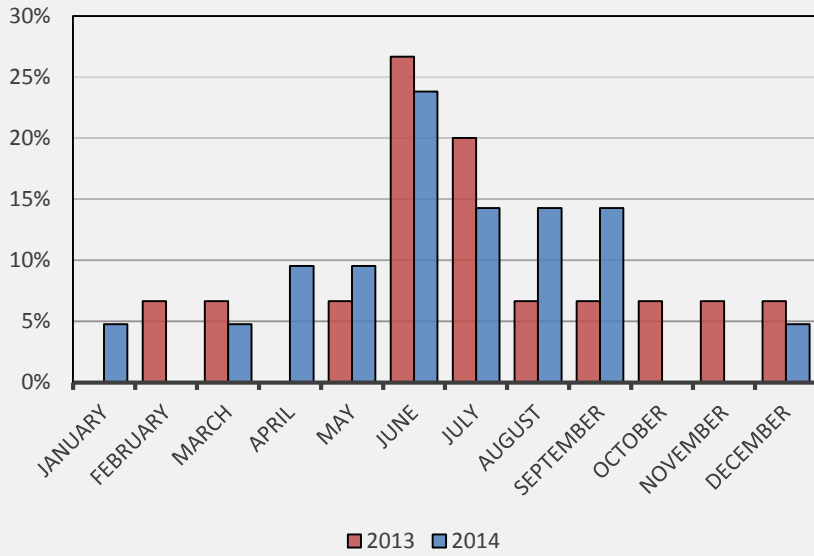
Location of Crashes within Work Zone Trend (2005-2014)



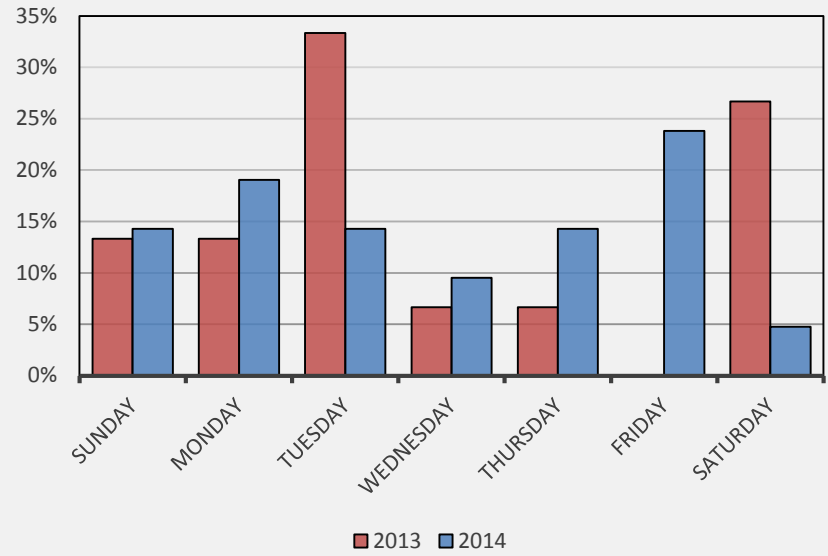
Summary of Work Zone Crashes (2013-2014)



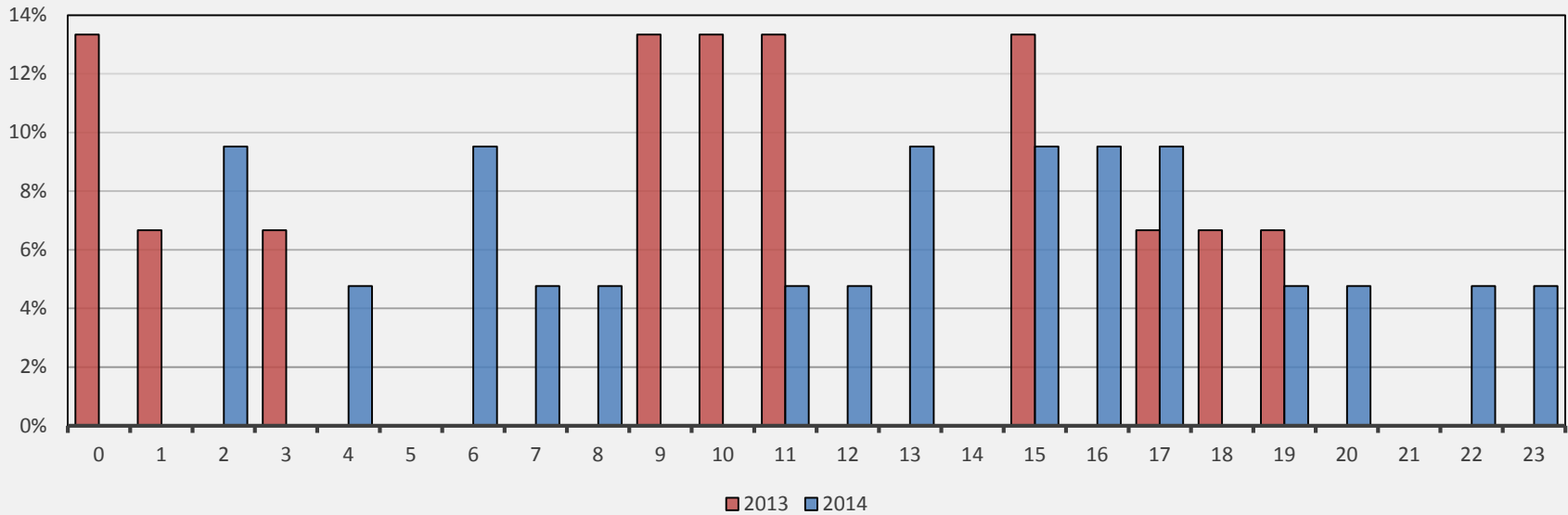
Month (Fatal Crashes)

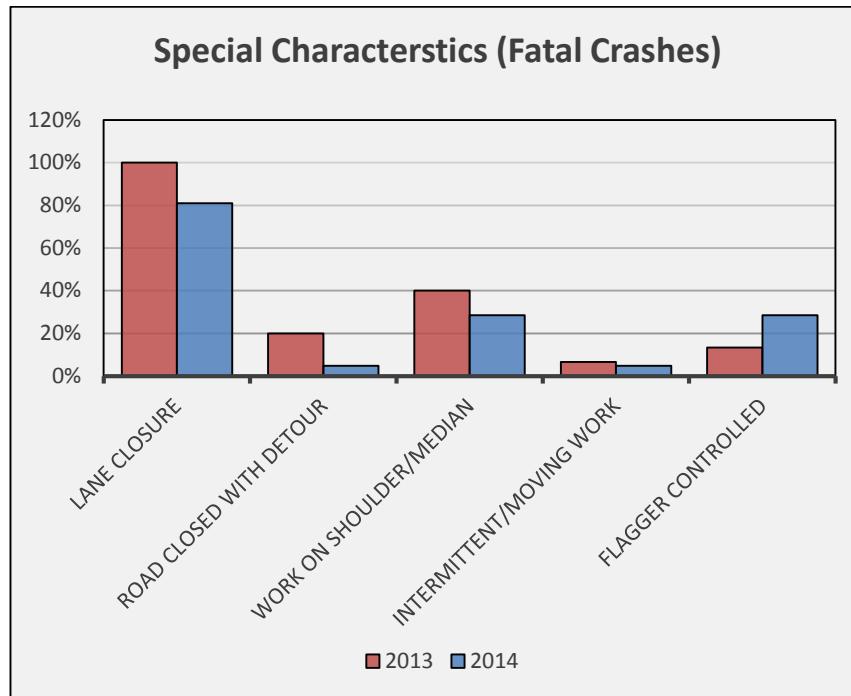
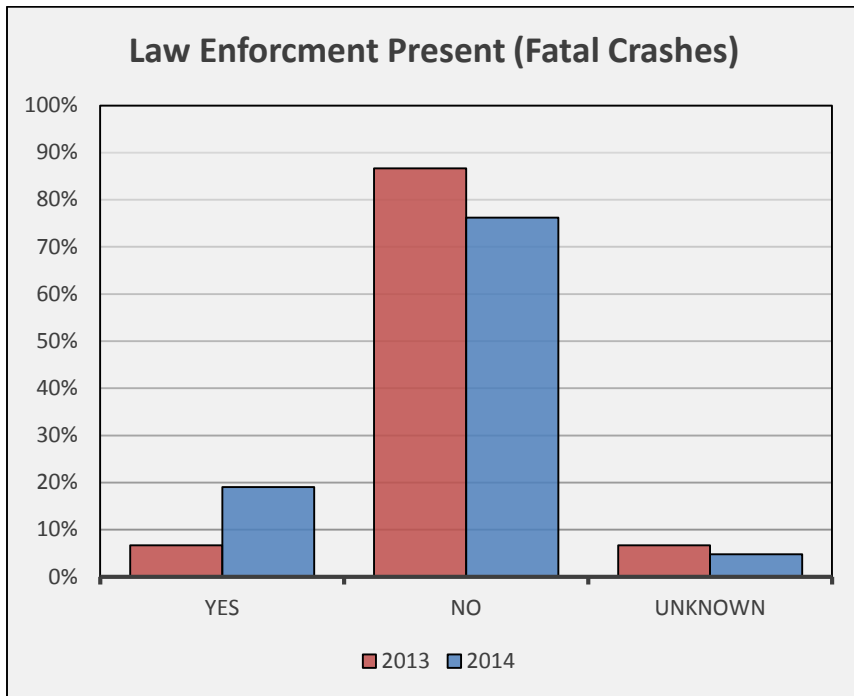
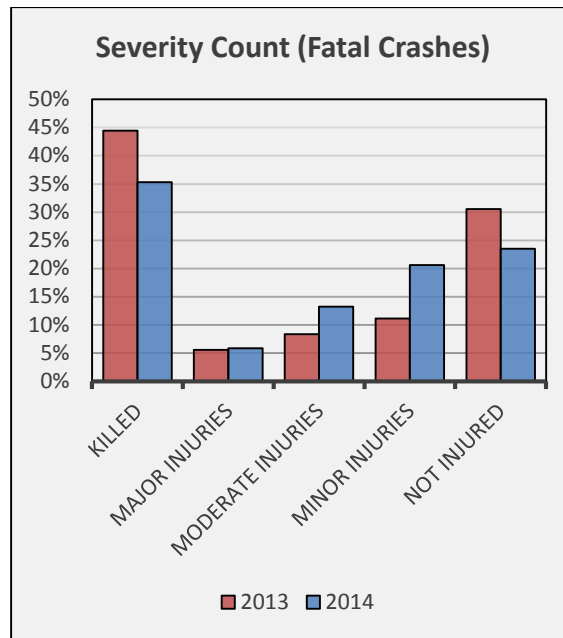
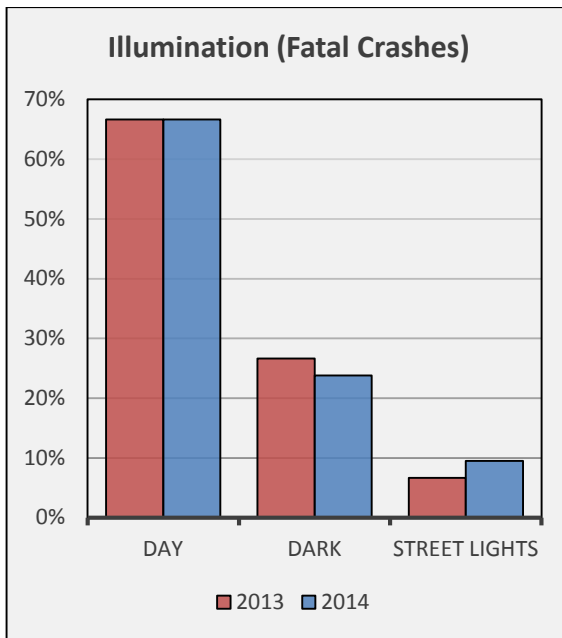
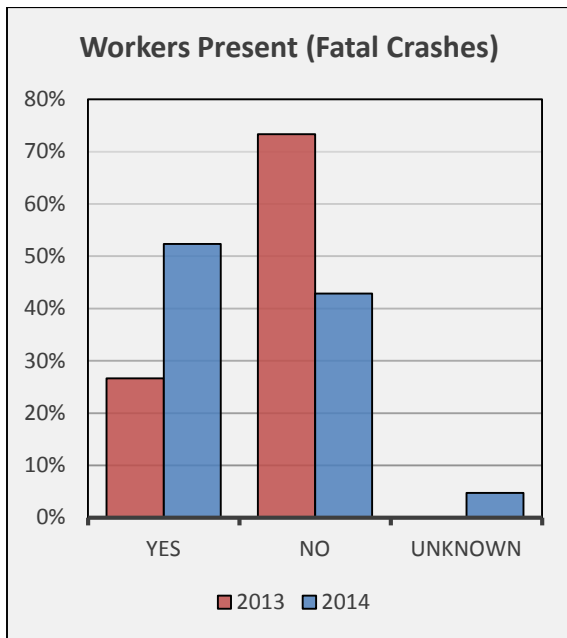


Day (Fatal Crashes)



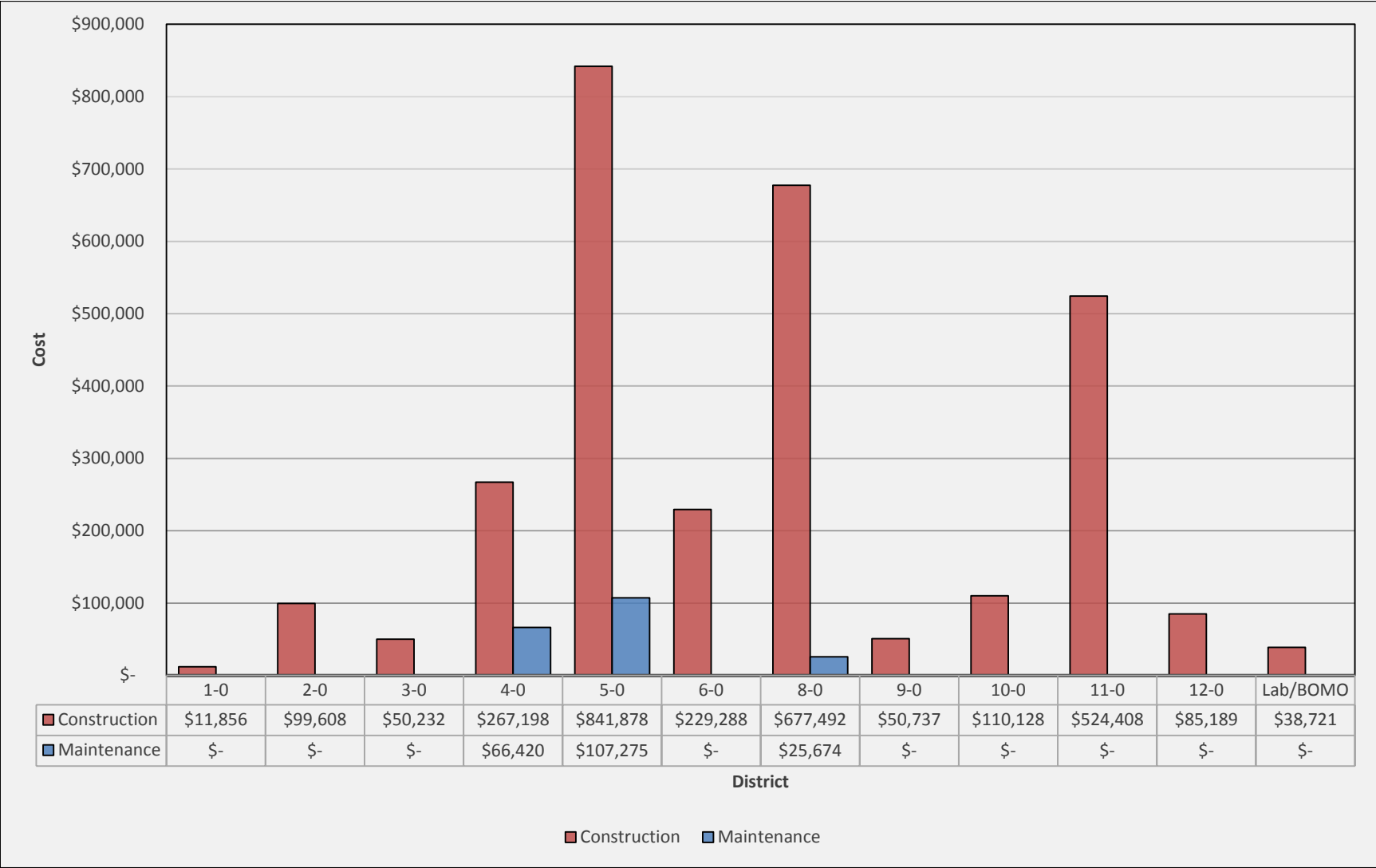
Hour (Fatal Crashes)



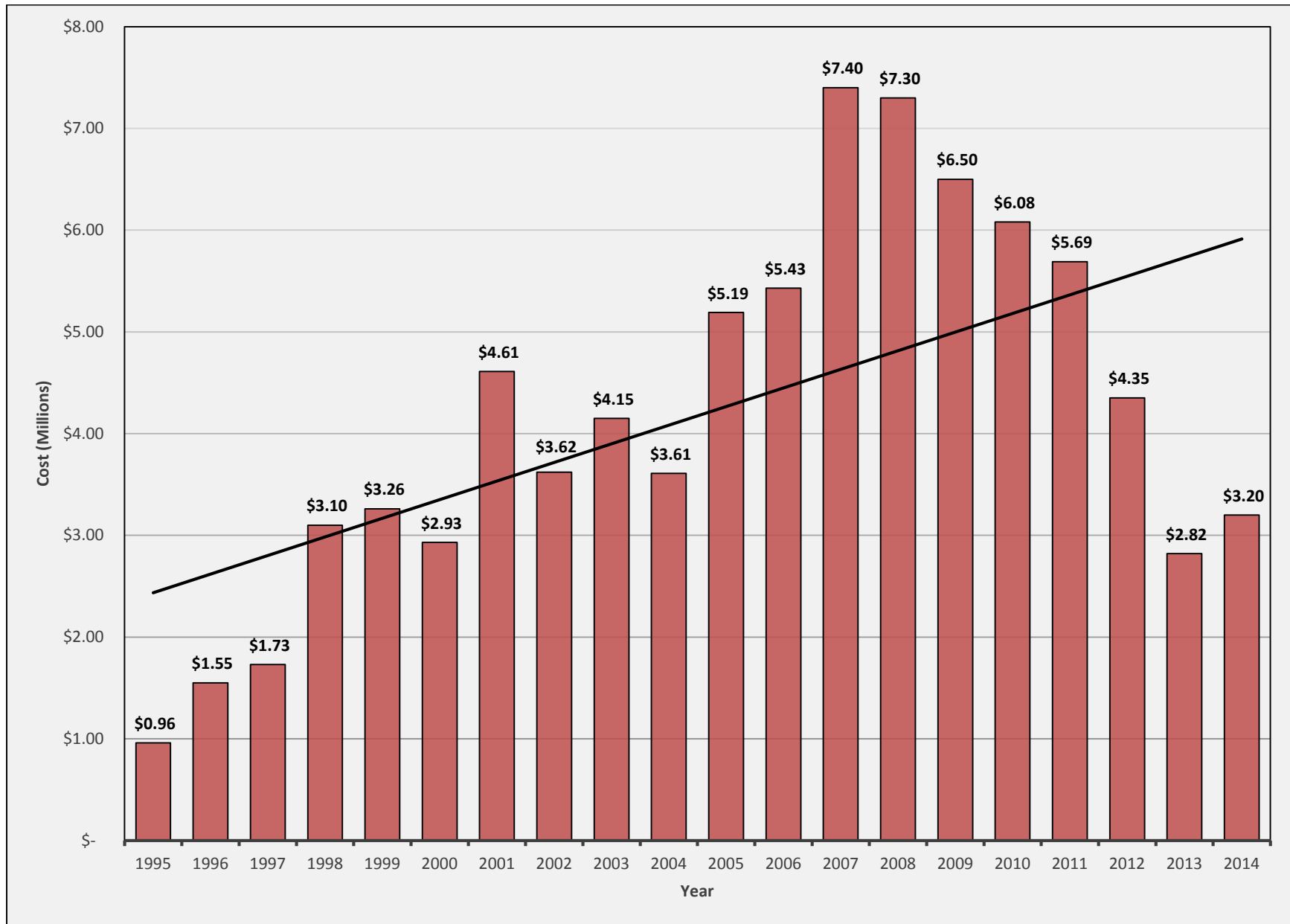


Pennsylvania State Police Assistance

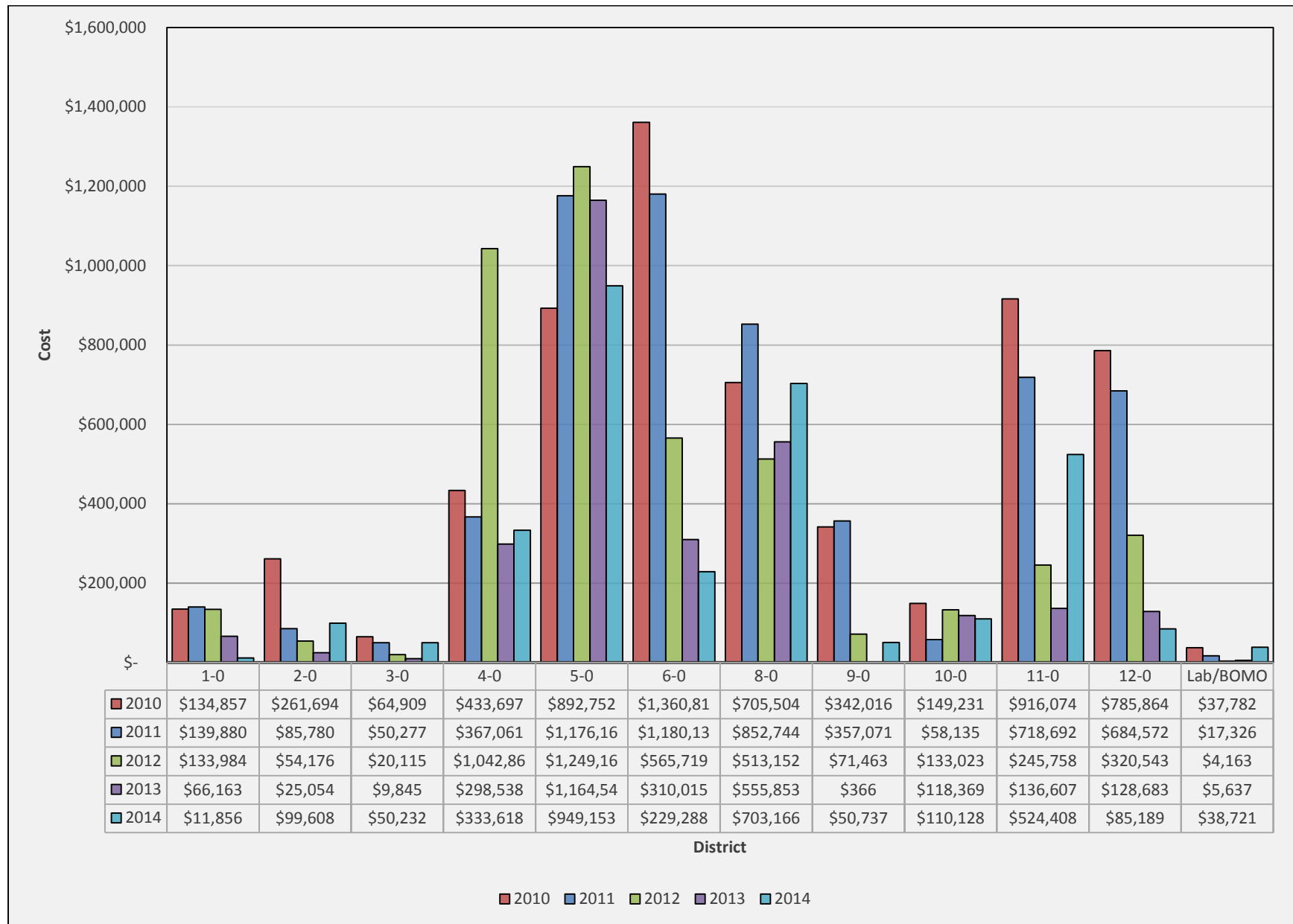
Pennsylvania State Police Assistance Costs by District



Pennsylvania State Police Assistance Cost Trend (1995-2014)



Pennsylvania State Police Assistance Cost Trend by District (2010-2014)



Summary

This report confirms the Department's activity in addressing safety and mobility in work zones. A quick summary of the positive action the Department is taking includes:

- Publication 213 Updates
- Work Zone Traffic Control Training
- BOMO's extensive QA program
- The Department and FHWA have established an Independent Oversight Program for work zone traffic control
- Automated Speed Enforcement
- Work Zone Traffic Control Manager Policy
- FHWA Work Zone Safety Implementation Plan
- Advanced Queue Warning System

While the Department is aggressively addressing safety and mobility in work zones, opportunities exist for improvements. As always, the Department strives to make work zones safe for all and continues to implement the work zone safety and mobility policy.