

Commonwealth of Pennsylvania



Comprehensive Strategic Highway Safety Improvement Plan (CSHSIP)



one in a hundred million



October 2006

Thank You, Highway Safety Partners

The **Pennsylvania Department of Transportation (PENNDOT)** would like to thank the following public and private sector organizations for contributing to the development of Pennsylvania's Comprehensive Strategic Highway Safety Improvement Plan (CSHSIP). These groups are working together to implement highway safety improvement strategies from this plan. All involved parties remain committed to meeting or exceeding the statewide highway fatality reduction goal of one fatality per 100 million vehicle miles traveled.

- American Association of Retired Persons (AARP)
- PA Liquor Control Board
- PA Public Utilities Commission (PUC)
- Center for Injury Research and Control (CIRCL) – University of Pittsburgh
- Centre Region Planning Commission
- District Magistrates
- Delaware Valley Regional Planning Commission (DVRPC MPO)
- Federal Motor Carrier Safety Administration (FMCSA)
- Federal Highway Administration (FHWA)
- Governor's Policy Office
- PA House and Senate Transportation Committees
- Institute for Law Enforcement Education (ILEE)
- iTRANS Consulting Inc.
- Lancaster County Planning Commission (MPO)
- Lehigh Valley Planning Commission (LVPC MPO)
- Lock Haven City Police
- Mothers Against Drunk Driving (MADD)
- N. Central Regional Planning & Develop. Comm. (RPO)
- National Highway Traffic Safety Administration (NHTSA)
- North Central Highway Safety Network
- Northwest Rural Planning Organization (RPO)
- Operation Lifesaver
- PA American Automobile Association (AAA) Federation
- PA Alliance of Bikers Aimed Toward Education (ABATE)
- PA Automotive Association
- PA Chiefs of Police Association
- PA Department of Education
- PA Department of Health
- PA DUI Association
- PA General Assembly
- PA Motor Trucking Association (PMTA)
- PA Motorcycle Safety Program
- PA Pedal cycle and Pedestrian Advisory Comm. (PPAC)
- PA Safe Kids Coalition
- PA Senate
- PA State Assn. of Township Supervisors (PSATS)
- PA State Association of Boroughs (PSAB)
- PA State Police (PSP)
- PA Turnpike Commission (PTC)
- PA Commission on Crime and Delinquency (PCCD)

Pennsylvania’s Comprehensive Strategic Highway Safety Improvement Plan

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Introduction

PA has over 43,000 miles on the state-maintained roadway system and 77,000 miles of locally owned roadways. Due to its location in between the major metropolitan areas on the east coast and the Midwest United States, Pennsylvania's roadways carry a large amount of truck traffic, sometimes even as high 30% - 50% on certain interstate highways. Pennsylvania also has a significant amount of rural roadways, which exhibit fatality rates that are twice those on urban roadways.

Over the past several years, Pennsylvania has continued to average approximately 1,550 annual highway fatalities. Based on current data, 1 out of every 100 children born in PA this year will die in a highway crash during their lifetime. In fact, motor vehicle traffic crashes are the leading cause of death for all Americans between the ages of four and 34. Safety stakeholders need to do all they can to improve highway safety and reduce fatalities on our roadway system.

In 2003, leading national transportation organizations established the goal of reducing fatalities to the rate of one fatality per 100 million vehicle miles traveled. This ambitious objective, once attained, will translate to over 400 lives saved per year in Pennsylvania by 2008. Achieving this vision would reduce annual highway deaths to its lowest levels on record (Pennsylvania highway fatality statistics have been kept since 1931).

Comprehensive Approach

This plan has been developed to target high-fatality safety focus areas and to identify the strategies that have greatest opportunity for saving lives. This plan simply provides suggested prioritized strategies that could be deployed depending upon available resources. This plan also attempts to bring together the efforts of the many agencies, organizations, and stakeholders that have a role in highway safety. This plan provides the direction and strategies for reducing fatalities. Achieving the goal requires action from everyone, everyday, at every opportunity.

Safety is everyone's business.

Executive Summary

The Comprehensive Strategic Highway Safety Improvement Plan (CSHSIP) has been developed in order to identify priority Safety Focus Areas (SFAs) and strategies to reduce highway fatalities on Pennsylvania's roadways.

This plan details how, by 2008, we will reach our goal to reduce fatalities by 400 lives per year using a comprehensive approach to highway safety improvement that employs our best thinking, resources, and partners.

Pennsylvania's comprehensive approach was to engage state and national experts by conducting a Highway Safety Summit to gather input and establish a Highway Safety Steering Committee to develop the plan. Safety partners from both the public and private sector representing the 4 E's of highway safety (Engineering, Education, Enforcement, and Emergency Response) contributed to the development of our plan. Organizations instrumental in the creation of the CSHSIP are shown on page two of this document.

The "Vital Six" Safety Focus Areas have been chosen because implementing improvements in these areas will have the most impact on overall highway fatalities. The vital six focus areas are: **Reducing Aggressive Driving, Reducing Impaired (DUI) Driving, Increasing Seatbelt Usage, Safety Infrastructure Improvements (Roadway Departure and Intersection Crashes), Improving the Crash Records System, and Improving Pedestrian Safety.** Recognition of these vital safety focus areas will help decide allocation of funding and resources. Improvements in these vital categories will help us most to reach our goal.

We have identified, analyzed, and prioritized these areas and related strategies based on their cost effectiveness, potential to save lives, proven success, and acceptability by the public. Besides these six vital safety focus areas, we will continue to implement safety improvement strategies in the other important focus areas (see pages 21-41).

This plan is dynamic and will be revised as per direction of safety partner leadership.

Vision, Mission, and Goal

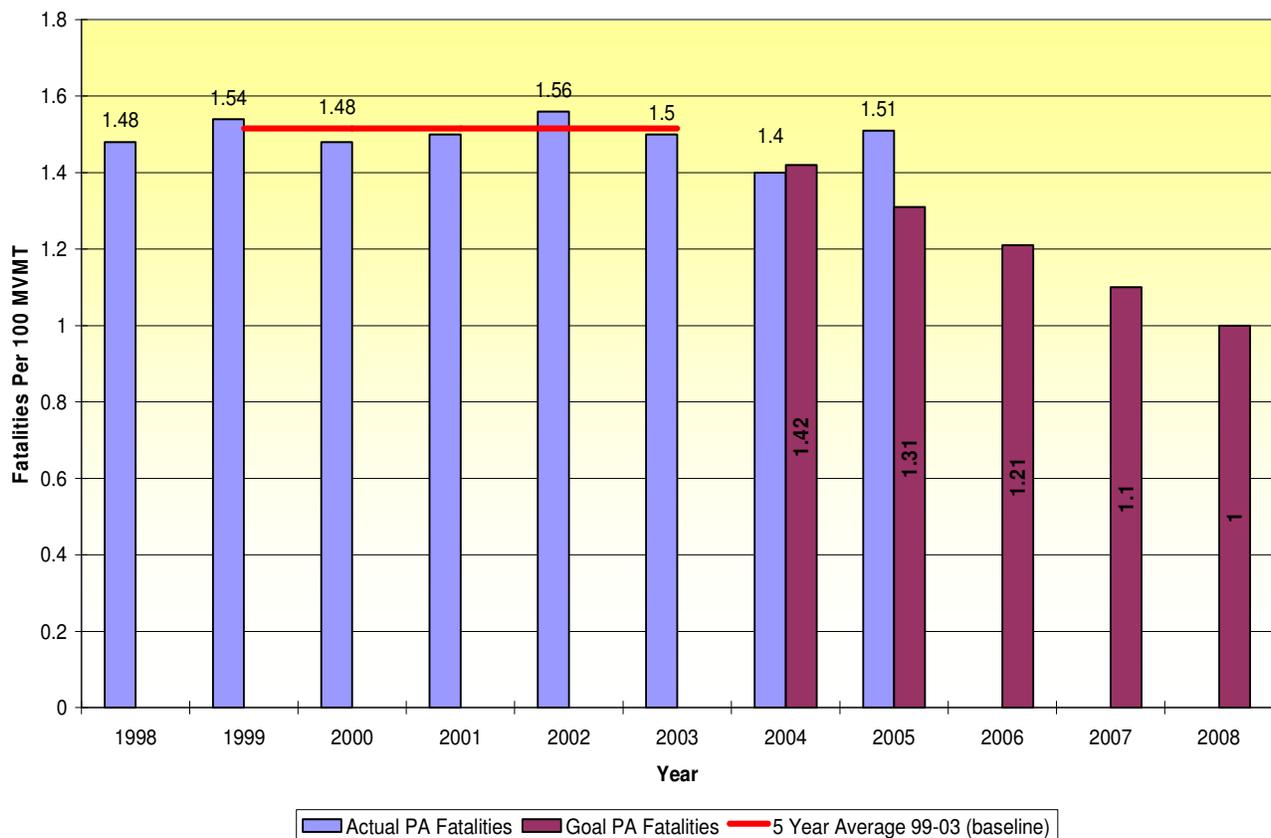
Our vision is to implement proven, widely accepted, cost-effective traffic safety improvement strategies to each of the identified safety focus areas and realize significant reductions in fatalities, major injuries, and economic loss to society. The goal is:

***One Fatality per 100 Million Vehicle-Miles Traveled by 2008
Saving 400 Lives per Year by 2008***

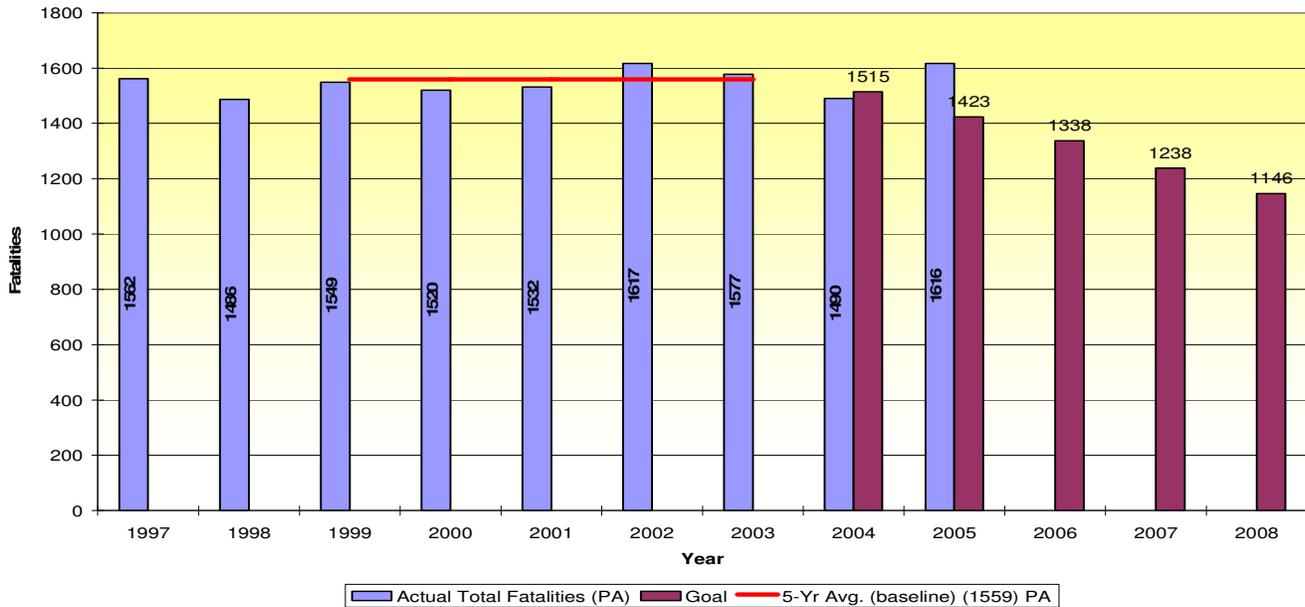
If this goal is reached by 2008, annual highway fatalities for Pennsylvania will total about 1,150, which would be by far the lowest level on record.

Our mission is to accomplish the goal stated in the vision by developing and implementing comprehensive road safety initiatives that lead to the reduction of crashes and fatalities in cooperation with the multi-agency leadership team (Multi Agency Safety Team, MAST) to create one of the safest roadway systems in the country.

Pennsylvania's Fatality Rates and Goals
Fatality Rates - Historical Rates and Future Goals



Total PA Fatalities
Historic Fatality Data and Future Goals



Pennsylvania’s “Vital Six” Safety Focus Areas

The “Vital Six” Safety Focus Areas were selected using the following criteria:

- Number of fatalities (based historic 5-year average)
- Potential for overall fatality reduction towards goal (with implementation of improvements)
- Cost effectiveness (cost/benefit)
- Ease of strategy implementation within focus area (easy wins)
- Resources available (time, money, people)

“Vital Six” Safety Focus Areas:

- Reducing Aggressive Driving
- Reducing Impaired (DUI) Driving
- Increasing Seatbelt Usage
- Safety Infrastructure Improvements
 (Reducing Roadway Departure and Intersection Crashes)
- Improving the Crash Records System
- Improving Pedestrian Safety

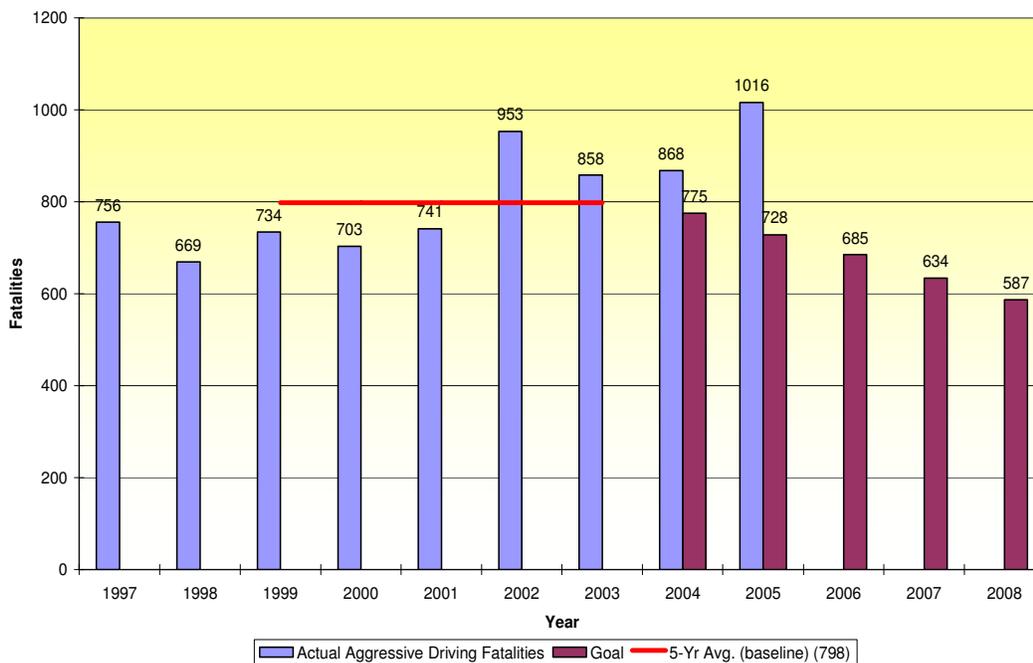
1. Reducing Aggressive Driving

Focus on enforcement...

Aggressive driving accounts for 51% of total fatalities, and out of those 30% are due to speeding-related factors. Examples of aggressive driving acts include speeding, red light running, and tailgating. Many of the strategies incorporate enforcement, education, and the use of technology to meet our goal.



Aggressive Driving Fatalities
Historic Fatality Data and Future Goals



Suggested Top Strategies for Reducing Aggressive Driving Fatalities:

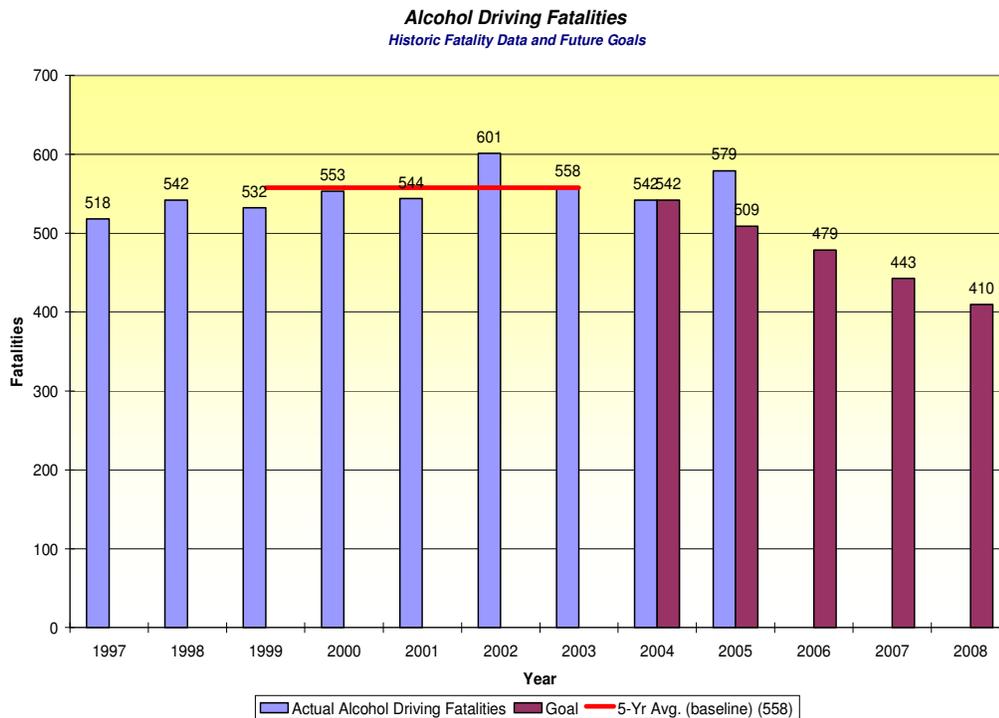
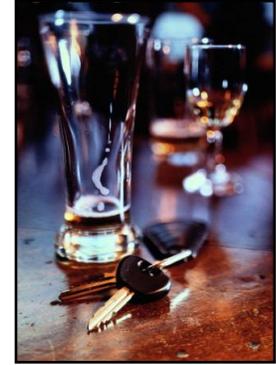
- Target enforcement in areas with a high rate of aggressive driving crashes
 - Problem Specific Policing / Selective Traffic Enforcement Programs
 - Implement “Smooth Operator” enforcement and public awareness program
- Expand ITS technologies (automated enforcement) and inform public about technology deployment
- Continue funding for aggressive driving enforcement training for law enforcement officers and the public
- *Consider legislation that defines aggressive driving as an enforceable offense and includes the expansion of automated enforcement*
- *Consider legislation that allows local police to use radar¹*

¹ Italic text denotes legislative strategies recommended by highway safety partners and does not constitute endorsement by agency leadership

2. Reducing Impaired (DUI) Driving

Focus on offenders...

On average, over 35% of all fatalities involve impaired driving. Meeting our goal will require actions that include enforcement, education, judicial, and legislative components.



Suggested Top Strategies for Reducing Impaired (DUI) Driving:

- Sustain high-visibility of DUI enforcement
- Sustain public information and education in combination with enforcement programs
- Sustain involvement with NHTSA Checkpoint Strike Force Effort
- Perform Screening and Brief Intervention (SBI) in the Hospital Emergency Room
- Provide education programs for District Justices and other groups such as law enforcement officers, hearing officers, breath test officers, prosecutors, and bar managers/bartenders
- Maintain DUI courts and expand courts in other areas
- Improve ignition interlock systems for convicted DUI offenders and continue to implement an ignition interlock QA program
- *Promote legislative enhancements to existing laws to ensure that a percentage of the fees collected from DUI offenders would help sustain Alcohol Highway Safety Programs¹*

¹ Italic text denotes legislative strategies recommended by highway safety partners and does not constitute endorsement by agency leadership

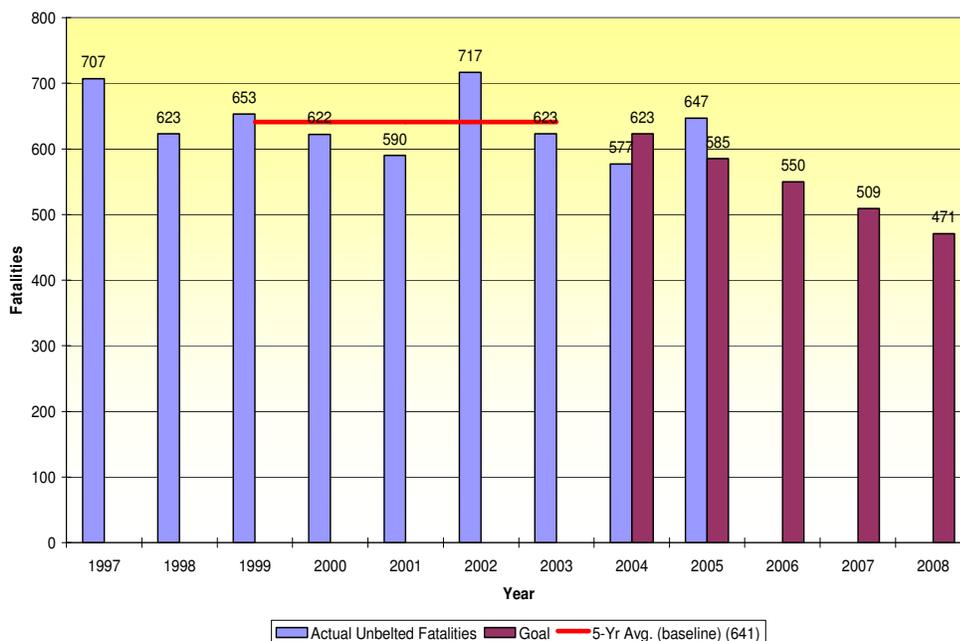
3. Increasing Seatbelt Usage

Focus on education and awareness...

Over 41% of total highway fatalities involved an unbelted occupant. For every 1 percent increase in seat belt usage in Pennsylvania, we can expect 8 to 12 lives to be saved annually. The 2005 statewide seat belt usage rate is 83%. Education and enforcement strategies will help us reach our seat belt usage rate goal of 90% by 2008.



Unbelted Fatalities
Historic Fatality Data and Future Goals



Suggested Top Strategies for Increasing Seatbelt Usage:

- Conduct high-profile enforcement campaigns combined with public education
- Continue with "Click it or Ticket" campaign
- Combine enforceability using belts, aggressive driving, DUI, nighttime enforcement
- Educate parents of young children who have outgrown child safety seats to advance them to booster seats
- Develop educational program materials for use in various community locations, including churches, teen centers, and elementary and secondary schools.
- Improve Public Information and Education (PI&E) programs to increase usage in communities with diverse populations
- Continue high-profile "child restraint inspection" events at community locations
- *Consider enacting primary seat belt law¹*

¹ Italic text denotes legislative strategies recommended by highway safety partners and does not constitute endorsement by agency leadership

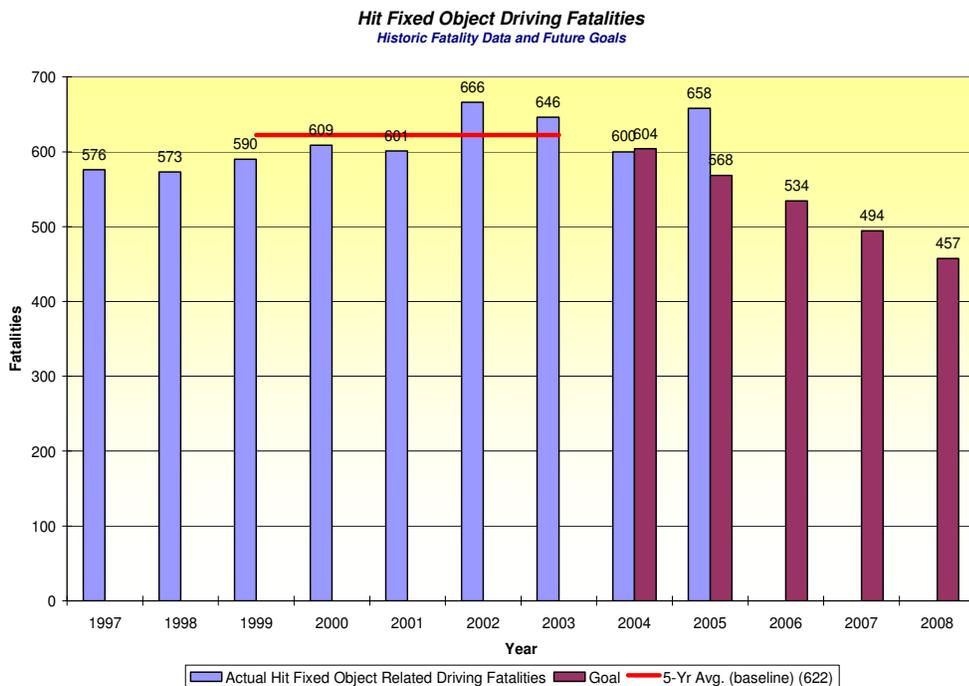
4. **Infrastructure Improvements** (Reducing Roadway Departure and Intersection Crashes)

Focus on infrastructure...

4.A - **Reducing the Severity and Frequency of Hit Fixed Object Crashes:**

Focus on hazard elimination...

An average of nearly 40% of highway fatalities on Pennsylvania roadways are the result of collisions with fixed objects – such as trees, utility poles, and guiderails. Our approach is to reduce or eliminate existing hazards, and to prevent the creation of new hazards.



Suggested Top Strategies for Infrastructure Improvements (at select locations): (Hit Fixed Object Crashes)

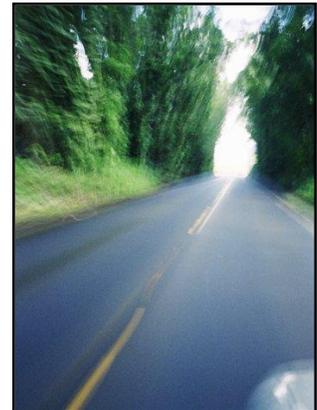
- Remove hazardous trees and prevent new growth
- Evaluate and implement traffic barrier improvements as well as other roadside improvements (to mitigate embankments, ditches, etc.)
- Implement traffic barrier policy and cultural changes recommended as per Federal Highway Administration (Independent Oversight Program)
- Relocate or reduce hazardous utility poles along high-crash corridors
- Improve nighttime visibility of fixed objects
- Protect bridge end walls
- Relocate aboveground utilities underground where possible

4. Infrastructure Improvements (Reducing Roadway Departure and Intersection Crashes) (continued)

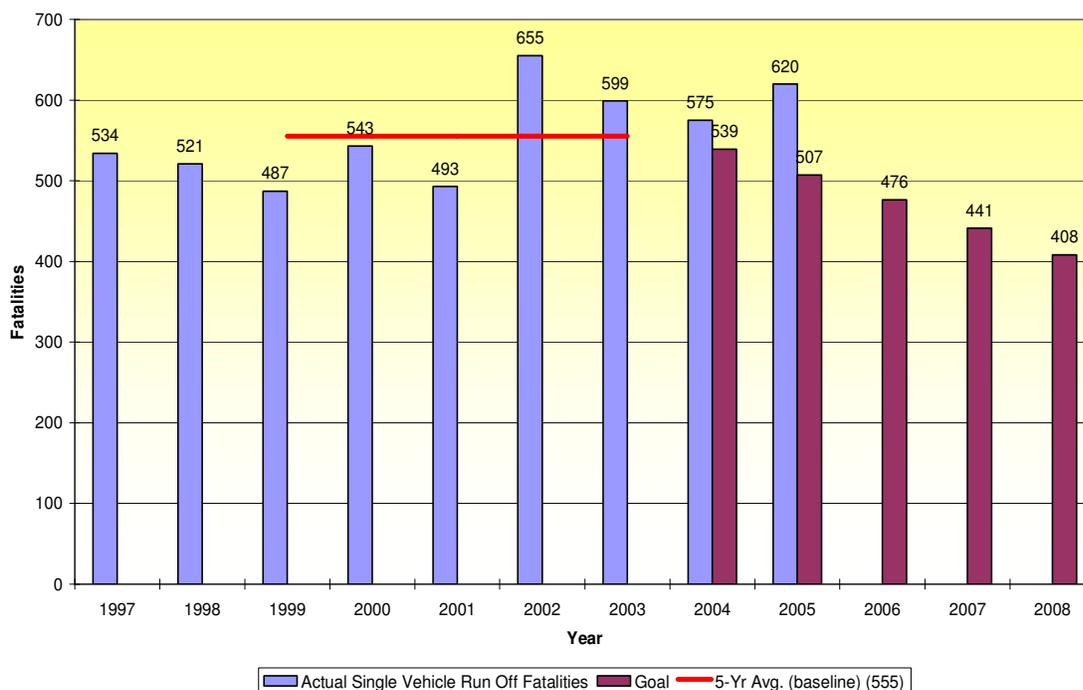
4.B - Reducing Run-Off-Road Crashes:

Focus on keeping the vehicle in the travel lane...

Every year, 36% fatalities occur (on average) in run-off-road crashes where the vehicle leaves its lane of travel. We will meet our goal by implementing a large number of low-cost safety improvements at targeted locations.



Single Vehicle Run-Off Fatalities
Historic Fatality Data and Future Goals



Suggested Top Strategies for Infrastructure Improvements (at select locations): (Run-Off-Road Crashes)

- Install shoulder rumble strips and centerline rumble strips
- Remove/relocate objects in hazardous road side locations
- Provide lighting of curves
- Enhance delineation on sharp curves on pavement and shoulder
- Improve/widen shoulder surfaces
- Eliminate shoulder drop-offs

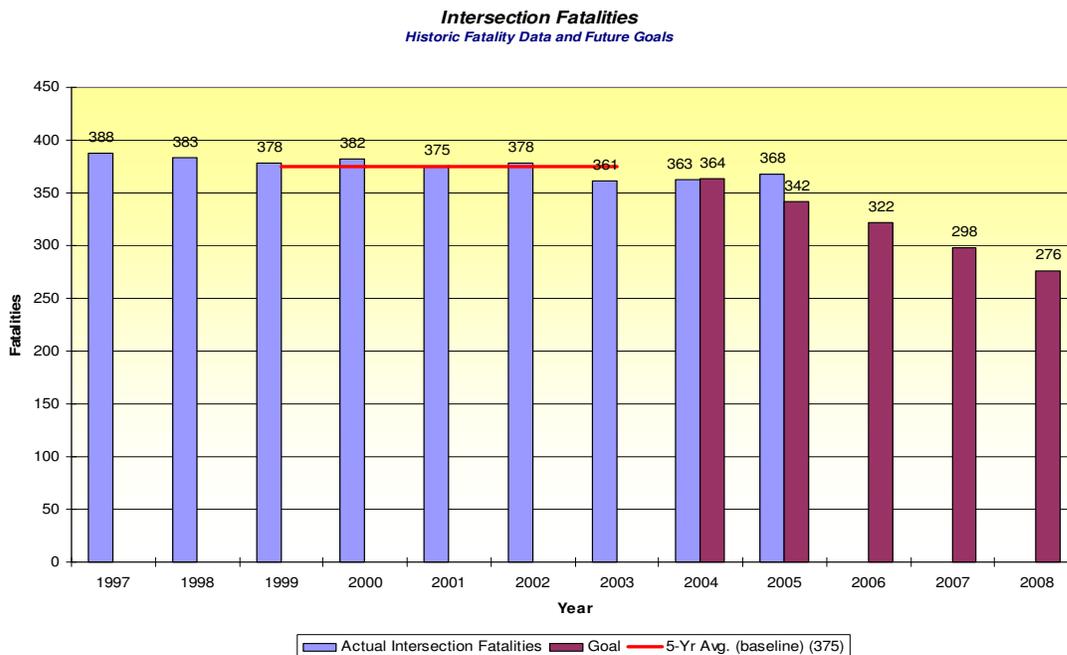
4. **Infrastructure Improvements** (Reducing Roadway Departure and Intersection Crashes) (continued)



4.C - **Improving Intersection Safety:**

Focus on efficient and safe Intersections...

On average, over 57,000 reportable crashes (40% of total) occur each year at intersections. This translates to an average of 24% of total fatalities. Reducing conflict points and possibilities for collisions within intersections will improve safety.



Suggested Top Strategies for Infrastructure Improvements (at select locations): *(Intersection Safety)*

- Improve signal design and intersection geometry
- Implement low-cost improvements at signalized intersections (examples include LED bulbs, reflectorized backplates, turning lanes, larger signs and signal heads, etc.)
- Improve signal timing and phasing and optimize clearance intervals
- Enhance coordination of closely spaced signals
- Convert intersections to roundabouts where possible
- Improve signing and delineation at signalized and stop controlled intersections
- Implement dynamic flashing beacons (and other ITS solutions) and apply rumble strips at stop-controlled approaches
- *Consider legislation that will allow for implementation of automated enforcement of intersection approach speeds and red-light running¹*

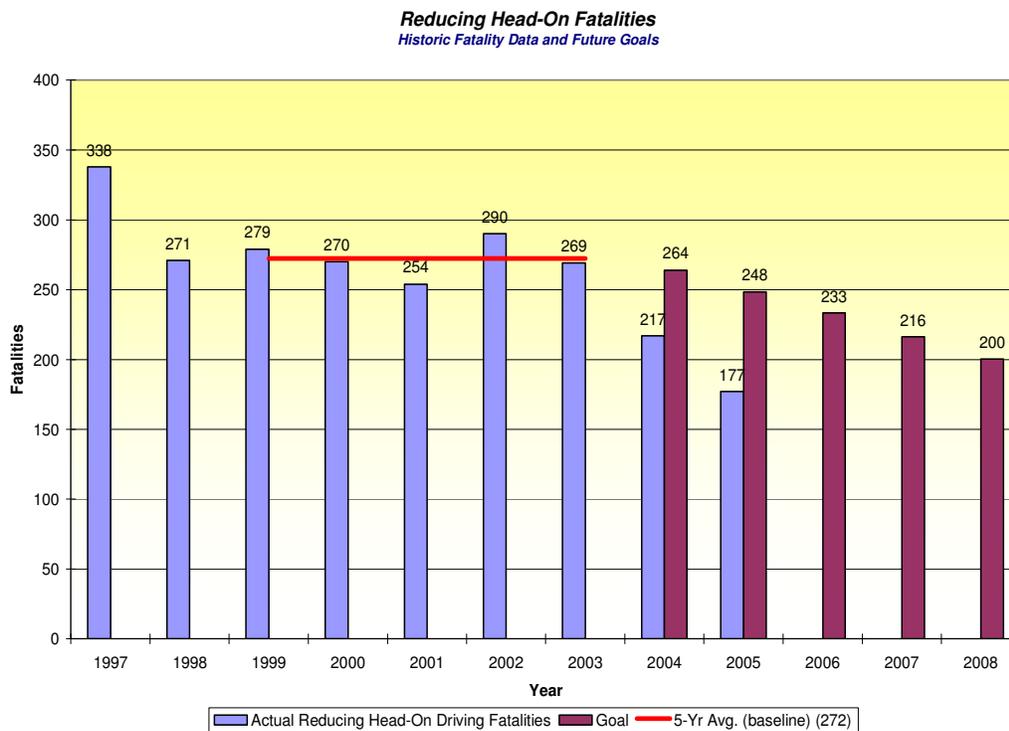
¹ Italic text denotes legislative strategies recommended by highway safety partners and does not constitute endorsement by agency leadership

4. Infrastructure Improvements (Reducing Roadway Departure and Intersection Crashes) (continued)

4.D - Reducing Head-On and Cross Median Crashes:

Focus on the centerline...

Head-on crashes are the most severe type of collision. On average, head-on crashes account for 17% of total fatalities, but only 4% of all reportable crashes in Pennsylvania. Meeting our goal will require safety improvements that will help prevent vehicles from crossing the centerline or median.



Suggested Top Strategies for Infrastructure Improvements (at select locations): (Head-On and Cross-Median Crashes)

- Install centerline rumble strips
- Enhance delineation of sharp curves
- Install median barriers for open medians on select multi-lane roads.
- Install shoulder rumble strips
- Reallocate total roadway width (decrease lane and shoulder width) to include a new, narrow "buffer median"
- Widen shoulders and narrow roadways

5. Improving Crash Records System

Focus on safety data...

Without good, accurate crash data, sound decisions about the direction of Pennsylvania's highway safety programs cannot be made. Accurate crash data are the backbone of an effective safety management system. The statewide crash data system provides the basic information that is necessary for efficient and successful highway safety efforts at the local, state, and federal levels of government. The statewide crash data system is used to perform problem identification, establish goals and performance measures (results), allocate resources, determine the progress of specific programs, and support the development and evaluation of highway and vehicle safety countermeasures. Our goal is to make our crash data timely, consistent, complete, accurate, accessible, and portable (able to be integrated with other data sources).

The form is a detailed reporting tool for police officers. It is divided into several main sections:

- Person Information:** Includes fields for Person Type (A), Seat Position (D), Safety Equipment One (E), Ejection (G), Sex (B), Injury Severity (C), Safety Equipment Two (F), and Ejection Path (H).
- People Information:** A section for recording details for multiple individuals involved in the crash, including Unit No., Person No., Date of Birth, Name/Address/Phone, and EMS Transport status.
- Crash Information:** Includes fields for EMS Agency, Medical Facility, and a grid for recording specific crash details.

Suggested Top Strategies for Improving Crash Records:

- Increase the electronic submission of crash records input by partners
- Implement a program for improving the quality of police prepared data
- Increase the capabilities and capacity in data analysis and statistical evaluation for improving quality and timeliness of crash reports
- Improve reliability and accessibility of local road crash information
- Implement top 3 recommendations of NHTSA Records Assessment:
 - Establish active Traffic Records Coordinating Committee (TRCC)
 - Develop strategic plan for crash data improvement
 - Implement crash data quality control program
- Improve data accessibility by partners and data users (CDART (Crash Data Analysis Retrieval Tool), Prophecy, CODES (Crash Outcome Data Evaluation System), etc.

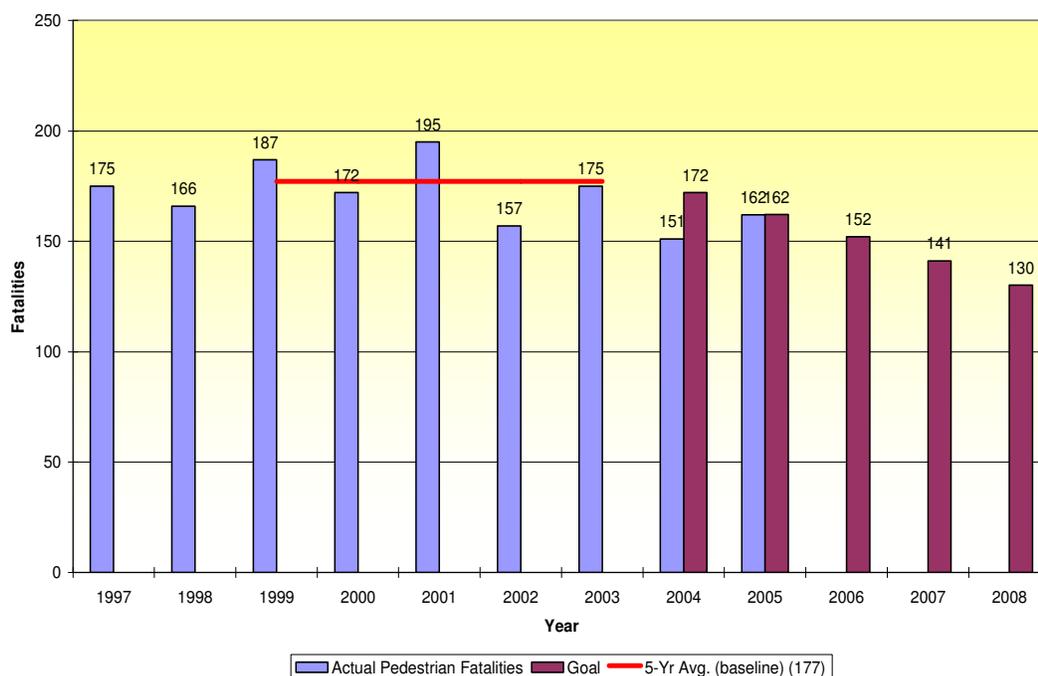
6. Improving Pedestrian Safety

Focus on accommodating pedestrians...

Pedestrian fatalities represent 11% of highway fatalities in PA, on average. Pedestrians are legitimate roadway users but are sometimes overlooked in the building and remodeling of transportation systems. Whether building new infrastructure or renovating existing facilities, plans should be made to accommodate pedestrians and other special users of the transportation system.



Pedestrian Fatalities
Historic Fatality Data and Future Goals



Suggested Top Strategies for Improving Pedestrian Safety:

- Implement safe-crossing designs for mid-block crossings
- Continue to deploy yield-to-pedestrian channelizing devices to communities across the commonwealth and measure their effectiveness.
- Continue to improve pedestrian safety in Transportation Enhancements, Hometown Streets and Safe Routes to Schools programs.
- Continue to provide education, outreach, and training to motivate a change in specific behaviors that can lead to fewer pedestrian injuries
- Continue to improve signal hardware for pedestrians (pedestrian signals and timing, accessible pedestrian signals, right turn on red restrictions, pedestrian countdown signals)
- *Promote legislation to establish a Universal Pedestrian Access component to all projects¹*

¹ Italic text denotes legislative strategies recommended by highway safety partners and does not constitute endorsement by agency leadership

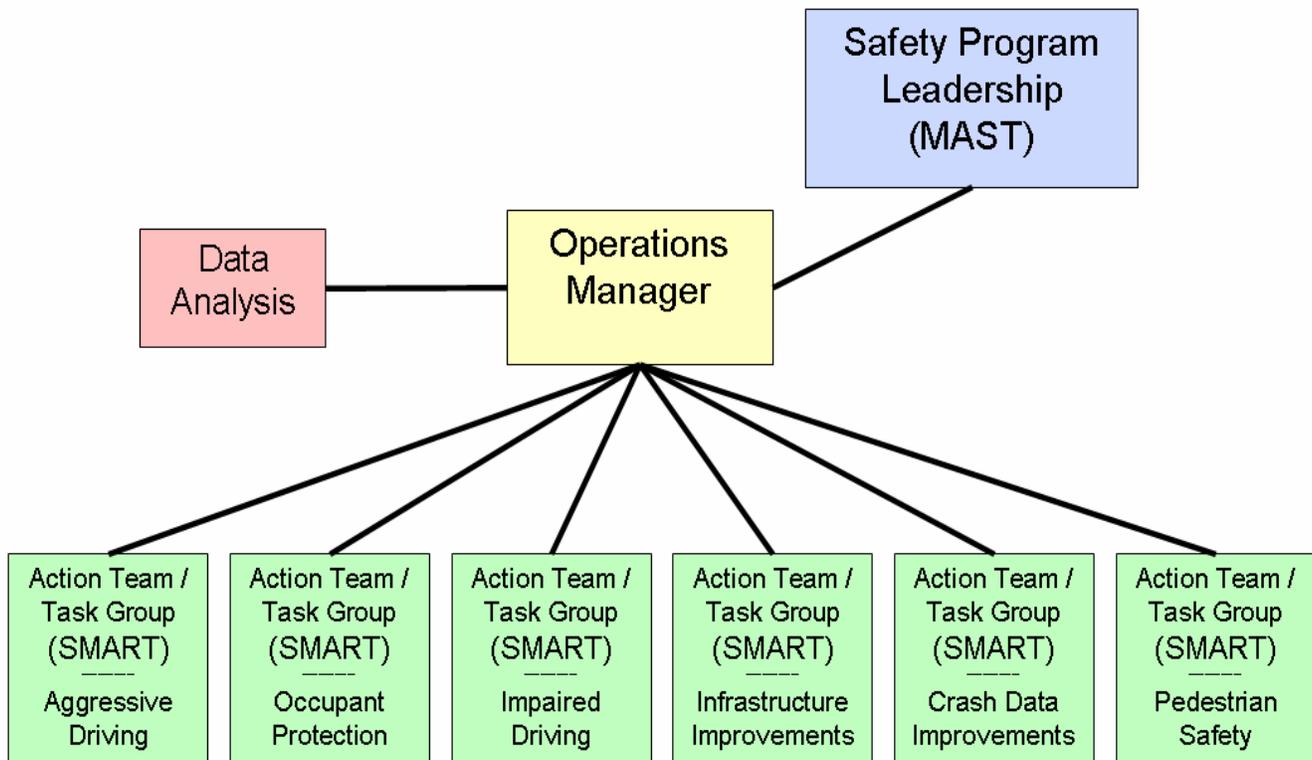
Plan Implementation

The CSHSIP identifies the most effective Safety Focus Areas and strategies for implementation or continued improvement. In addition, the plan helps coordinate the efforts of all agencies, organizations, and stakeholders that have a role in highway safety. In order for the plan to be successful, it must translate to accountable actions and be periodically evaluated for results and modified to continually improve performance.

Agencies and individual project owners will be identified and action teams will be established. For the state agencies, “Memoranda of Understanding” (MOUs) will be established to clarify which agencies are accountable to achieve prescribed results.

The diagram below describes the organizational structure of the individuals and teams charged with implementation of the CSHSIP. The roles and responsibilities of the teams accountable for implementing specific actions (SMART – Safety Multi Agency Roads Team) and the leadership team (MAST – Multi Agency Safety Team) are described in more detail on the following pages.

CSHSIP Implementation Organizational Structure (Integrated Safety Management System)





The Multi Agency Safety Team (MAST), which includes leadership from various state agencies, will fulfill the following functions:

- Approve the Comprehensive Strategic Highway Safety Improvement Plan prior to submission to FHWA
- Oversee implementation of the plan and Memoranda of Understanding (MOUs)
- Prepare quarterly summary of achievements and successes for the Governor's Office
- Enforce accountability for deficient areas by reviewing actions/reports from task groups, i.e. general oversight of task / action teams such as the Safety Multi Agency Roads Teams (SMART)
- Evaluate plan / initiate redirection of priorities, and request revisions to the plan



The Safety Multi Agency Roads Teams (SMART) will comprise working level managers and representatives from various agencies (shown on page 2) encompassing the “4E’s” of highway safety (Engineering, Education, Enforcement and Emergency Response).

The SMART groups will be responsible for implementing the strategies in the plan by functioning as the action teams / task groups. Cost effective strategies that greatly improve safety will be selected and managed by these teams. They will be provided with clear direction, funding, and human resources to accomplish their goals.

The primary responsibilities of the SMART groups are:

- Write detailed action plans with timelines and measures of success
- Implement aggressive highway safety countermeasures and confirm results
- Identify roadblocks to implementation of actions and report to MAST
- Incorporate additional proven strategies not included in CSHSIP
- Prepare quarterly progress reports for MAST
- Use pertinent data analysis and results to adjust action plans

A complete list of all possible strategies including the innovative strategies that were recorded during the highway safety steering committee meetings (for all SFA’s) will be made available to the SMART groups.

Summary Table of Vital Six Safety Focus Areas

The goal fatality values for the vital six safety focus areas are shown in the table below. The rankings shown in the table were influenced by the votes taken at the Safety Summit and by input received from the Highway Safety Steering Committee. By achieving dramatic improvements in these vital six categories, we will be able to reach our goal.

Vital Six Safety Focus Areas:

Summary of Safety Focus Areas - Priorities	PA's Priority Ranking	Crash Category	Total Fatalities in All Crashes (PA)							
			Actual Avg. 1999 - 2003	Actual 2004	Goal 2004	Actual 2005	Goal 2005	Goal 2006	Goal 2007	Goal 2008
Summary - In order of Priority Ranking										
Reducing Aggressive Driving-Related Crashes	1	Aggressive Driving-related	798	868	775	1016	728	685	634	587
Reducing Impaired (DUI) Driving	2	Alcohol-related	558	542	542	579	509	479	443	410
Increasing Seatbelt Usage and Proper Infant/Child Restraint	3	Unbelted Occupant	641	578	623	647	585	550	509	471
Reducing the Severity and Frequency of Hit Fixed Object Crashes (with utility poles, trees, guiderail, etc.)	4a	Hit Fixed Object Crashes	622	600	604	658	568	534	494	457
Reducing Run-off-the-Road Crashes	4b	Run-off-the road Crashes (single vehicle)	555	575	539	620	507	476	441	408
Improving Intersection Safety	4c	Total Intersection Crashes	375	363	364	368	342	322	298	276
Reducing Head-On and Cross-Median Crashes	4d	Head-on crashes	272	217	264	177	248	233	216	200
Improving the Crash Records System and other Information/Decision Support Systems	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Improving Pedestrian Safety	6	Pedestrians	177	151	172	162	162	152	141	130

The annual goal fatality values shown in the table above can be met with deployment of the strategies shown in the detailed table that begins on the next page. These targeted annual fatality levels need to be achieved to stay on track to meet the 1.0 fatality rate goal by 2008. The strategies, measurements, and possible owners identified on the following pages were identified by the Highway Safety Steering Committee, which is comprised of representatives our highway safety partners as shown on page 2.

Although the "Vital Six" Safety Focus Areas are the top priorities for Pennsylvania, we will continue to implement safety initiatives in the other safety focus areas.

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
1	Reducing Aggressive Driving Related Crashes	1. Target enforcement in areas with a high rate of aggressive driving crashes (Problem Specific Policing / Selective Traffic Enforcement Programs)	<ul style="list-style-type: none"> • Number corridors implemented • Number enforcement waves 	PENNDOT, PSP, Local Police, grantees, NHTSA
		2. Implement "Smooth Operator Program" to combat aggressive driving	<ul style="list-style-type: none"> • Number counties participating in Smooth Operator Program • Number corridors implemented • Number enforcement waves • Program effectiveness (such as speed reduction, number of citations, reduced crashes) 	
		4. Expand ITS technologies including the distribution of public awareness information	<ul style="list-style-type: none"> • Number TASE programs • Number RLR camera sites • Number PI&E license renewal insertions 	PENNDOT - BHSTE, ITS, PSP, Municipalities
		5. Continue funding for aggressive driving enforcement training for law enforcement officers and the public	<ul style="list-style-type: none"> • Money spent (grant) for PSP training • Number officers trained 	DJ.s, PENNDOT, PSP, Grantees
		6. Consider legislation that defines aggressive driving as an enforceable offense and includes the expansion of automated enforcement	<ul style="list-style-type: none"> • Date legislation enacted 	PENNDOT and partners, PA Legislature
		7. Consider legislation that allows local police to use radar	<ul style="list-style-type: none"> • Date legislation enacted 	PA Legislature, PSP, local police
2	Reducing Impaired (DUI) Driving	1. Sustain high-visibility of DUI enforcement	<ul style="list-style-type: none"> • Number checkpoints conducted • Number roving patrols • Number Cops-In-Shops • Number Police department participation • Number enforcement contacts • Number arrests • Recidivism rate • Number DUI crashes/fatalities 	Law Enforcement, PSP, PENNDOT, PLCB, Dept. of Ed, NHTSA, LCB, Grantees,

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		2. Sustain public information and education in combination with enforcement programs	<ul style="list-style-type: none"> • Number media events • Number press releases • Number people reached by media 	Law Enforcement, PSP, PENNDOT, PLCB, Dept. of Ed, NHTSA, LCB, Grantees
		3. Sustain involvement with NHTSA Checkpoint Strike Force Effort	<ul style="list-style-type: none"> • Number of regional operations completed • Use of new NHTSA TAG line incorporated in PA • Support NHTSA media buy with PA effort 	Law Enforcement, PSP, PENNDOT
		4. Perform Screening and Brief Intervention (SBI) in the Hospital Emergency Room, etc.	<ul style="list-style-type: none"> • Number roadside breath tests • Number hospitals participating in the SBI program 	Law Enforcement, PSP, PENNDOT, PA Department of Health
		5. Provide Education programs for District Justices (DJ)	<ul style="list-style-type: none"> • Audit of charges of disposition placed before a DJ (underage) • Track ratio of citation to conviction • Number adult charges brought and charges issued 	DA's, PENNDOT Districts, PA DUI Assoc, ILEE, PSP, Dept. of Ed, Municipal Officer Training, AOPC
		6. Educate judges, law enforcement officers, hearing officers, breath test officers, prosecutors, and bar managers/bar tenders, etc.	<ul style="list-style-type: none"> • Number officers, prosecutors, judges trained • Number presentations • Conviction ratios versus acquittals 	DA's, PENNDOT Districts, PA DUI Assoc, ILEE, PSP, Dept. of Ed, Municipal Officer Training, AOPC
		7. Maintain DUI courts and expand courts in other areas	<ul style="list-style-type: none"> • Number counties with DUI court • Number clients • Number graduates • Number dropouts • Track long-term results 	PENNDOT, NHTSA, District Attorneys, County DA's, President Judges, PCCD, County Courts
		8. Improve ignition interlock systems for convicted DUI offenders and consider implementing an ignition interlock QA program	<ul style="list-style-type: none"> • Number devices installed, ordered • Machine enhancements attached to improve overall safety • Number installed, ordered • Number trips prevented with high BAC 	PENNDOT, County Probation Offices

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		9. Promote legislative enhancements to existing laws to ensure that a percentage of the fees collected from DUI offenders would help sustain Alcohol Highway Safety Programs	<ul style="list-style-type: none"> • Date legislation enacted 	County Probation Offices, PA legislature
3	Increasing Seatbelt Usage and Proper Infant /Child Restraint	1. Conduct high-profile enforcement campaigns combined with public education	<ul style="list-style-type: none"> • Number operations • Seat belt usage rate • Number contacts • Number citations • Number warnings • Number counties or sites • Number specific enforcement events (waves) • Ratio specific events to seat belts • Money spent for media buy • Number earned media events 	PENNDOT - BHSTE, Districts, PSP, Local Police, Local Officials Buckle Up PA NHTSA, FHWA, Grantees, Legislature, DJ's
		2. Continue with "Click it or Ticket" campaign		
		3. Combine enforceability using belts, aggressive driving, and DUI including nighttime enforcement		
		4. Educate parents of young children who have outgrown child safety seats to advance them to booster seats		
		5. Develop educational program materials for use in various community locations, including churches, teen centers, and elementary and secondary schools.	<ul style="list-style-type: none"> • Number presentations • Observational survey • Percentage increase/decrease in citations • Number citations issued with insufficient child restraints • Number crashes involving insufficient child restraints • Number of CPS experts trained • Number booster / child seats distributed / loaned • Number child seat check up events • Number child seats checked • Number hospitals participating in the program 	PENNDOT, TIPP Comp. Program, Grantees, PSP, Buckle Up PA

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		6. Improve Public Information and Education (PI&E) programs to increase usage in communities with diverse populations	<ul style="list-style-type: none"> • Determine baseline usage rates • Observational survey in communities • Money spent on PI&E events • Number media events • Number outreach programs in the communities with needs 	PENNDOT, Safe Kids, Grantees, Dept. of Ed, School Districts, Buckle Up PA, Governor's Office - Latino Council, CISP
		7. Continue high-profile "child restraint inspection" events at community locations	<ul style="list-style-type: none"> • Number events • Number technicians trained • Number seats checked • Observation rate • Booster seat violation record • Number seats loaned out 	PENNDOT - BHSTE, Districts, PSP, Safe Kids, TIPP
		8. Consider enacting primary seat belt law	<ul style="list-style-type: none"> • Date law is enacted • Bill passed Committee 	PA Legislature
4	Infrastructure Improvements (Reducing roadway departure and intersection crashes)			
4.A	Reducing the Severity and Frequency of Hit Fixed Object	1. Remove Hazardous Trees/prevent tree growth	<ul style="list-style-type: none"> • Number trees removed that were involved in fatal and serious crashes • Number fatalities involving trees • Money spent to remove trees/other objects • Number activities • Person-hours dedicated • Number set plans measured by each county and district 	PENNDOT, FHWA, Municipalities, DCNR, Partners (MPOs, RPOs)
		2. Evaluate and implement traffic barrier improvements as well as other roadside improvements (to mitigate embankments, ditches, etc.)	<ul style="list-style-type: none"> • Number fatalities involving hit traffic barrier as "first 	PENNDOT, FHWA, Municipalities, Partners (MPOs,

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		3. Implement recommendations of the Federal Highway Administration/PENNDOT Independent Oversight Program (process review) report on traffic barrier installation	<ul style="list-style-type: none"> harmful event” • Money spent on upgrades • Inventory of substandard cable guide rail and end treatment • Miles of barriers replaced with “Clear space” 	RPOs)
		4. Relocate hazardous poles/reduce the number of poles along corridors	<ul style="list-style-type: none"> • Number fatalities involving utility poles – any event in crash • Number poles removed/relocated that were involved in fatal and serious injury crashes • Number of crashes involving poles – any event • PA rank in nation on “Hit poles/fixed objects 	Utility companies, PUC, PENNDOT, FHWA, Municipalities, legislators, Partners (MPO, RPOs)
		5. Improve nighttime visibility of fixed objects	<ul style="list-style-type: none"> • Number fatal accidents involving night-time poles or trees <p>Money spent on delineation (reflectorization)</p>	Utility companies, PUC, PENNDOT, FHWA, Municipalities, legislators, Partners (MPO, RPOs)
		6. Protect bridge end walls	<ul style="list-style-type: none"> • Number bridge ends unprotected • Number bridge ends improved with adequate protection 	PENNDOT, FHWA, Municipalities, Partners, MPOs, RPOs
		7. Relocate Utilities underground where possible	<ul style="list-style-type: none"> • Number of utility poles removed for underground utilities 	PENNDOT, FHWA, Municipalities, Utility companies, PUC, legislators, Partners, MPOs, RPOs
4.B	Reducing Run-Off-Road Crashes	1. Install shoulder rumble strips and center rumble strips	<ul style="list-style-type: none"> • Number miles of rumble strips • Number crashes before/after • Percentage eligible miles with rumble strips installed 	PENNDOT, Municipalities, MPOs, RPOs

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		2. Improve compliance with PENNDOT policies regarding crash damaged poles (See Hit Fixed Object Safety Focus Area)	<ul style="list-style-type: none"> Number crash damaged poles removed / relocated 	PENNDOT, Municipalities, Utilities
		3. Provide lighting of curves	<ul style="list-style-type: none"> Number curves improved (delineation & lighting) Number miles of wider edge lines Reduction of crashes at curves, C/B (cost/benefit) Before/after improvement assessment 	PENNDOT, Municipalities, MPOs, RPOs
		4. Enhance delineation on sharp curves on pavement and shoulder		
		5. Improve/widen shoulder surfaces	<ul style="list-style-type: none"> Number miles shoulder widened Before/after crash analysis 	PENNDOT, Municipalities, Developers, Utilities, MPOs, RPOs
		6. Eliminate shoulder drop-offs	<ul style="list-style-type: none"> Number miles of shoulder drop improvements Number of locations Measure against a key standard e.g. > 4 inches eliminated in 6 months 	PENNDOT, Municipalities (Maintenance)
4.C	Improving Intersection Safety	1. Improve signal and intersection geometry	<ul style="list-style-type: none"> Number intersections improved Number projects and locations with fatal crash clusters Money directed at intersections Percentage safety improvement budget money directed at intersection safety 	PENNDOT, Municipalities, LTAP, Partners (MPOs, RPOs)
		2. Implement low-cost improvements at signalized intersections (examples include LED bulbs, reflectorized backplates, turning lanes, larger signs and signal heads, etc.)	<ul style="list-style-type: none"> Number LED signals implemented Number reflectorized backplates implemented Severity/number of intersection crashes 	PENNDOT, Municipalities, LTAP, Partners (MPOs, RPOs)
		3. Improve signal timing & phasing and optimize clearance intervals		
		4. Enhance coordination of closely spaced signals		
		5. Convert intersections to roundabouts	<ul style="list-style-type: none"> Number intersections converted to Roundabouts 	PENNDOT, Municipalities, LTAP, Partners, MPOs, RPOs

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		6. Improve signing and delineation at signalized and stop controlled intersections	<ul style="list-style-type: none"> • Money spent on improved delineation • Number intersections which received enhanced delineation 	PENNDOT, Municipalities, LTAP, Partners, MPOs, RPOs
		7. Implement dynamic flashing beacons; apply rumble strips at unsignalized stop approaches	<ul style="list-style-type: none"> • Money spent on improved approach dynamics (beacons, rumble strips) • Number intersections which received improved approach dynamics (beacons, rumble strips) 	PENNDOT, Municipalities, LTAP, Partners, MPOs, RPOs
		8. Consider legislation that will allow for implementation of automated enforcement of intersection approach speeds and red-light running (collect data for pilot projects)	<ul style="list-style-type: none"> • Date law enacted • Number Devices employed • Number automatic citations written • Money value automatic written citations • Trends for these types of citations/violations • Number of red light running crashes 	PENNDOT, Municipalities, LTAP Partners, MPOs, RPOs, Legislature
4.D	Reducing Head-On and Cross-Median Crashes	1. Install centerline rumble strips	<ul style="list-style-type: none"> • Number miles with rumble strips • Number crash sites before and after addition of rumble strips • Percentage of eligible miles installed with rumble strips 	PENNDOT, Municipalities, Partners, MPOs, RPOs
		2. Enhance delineation of sharp curves	<ul style="list-style-type: none"> • Number curves improved • Before and after results in crashes • Reduction in crashes on curves overall 	PENNDOT, Municipalities, Partners, MPOs, RPOs
		3. Install median barriers for open medians on multi-lane roads.	<ul style="list-style-type: none"> • Number "New Miles" with barrier • Number Cross-Median crashes • Number Cross-Median fatal • Number Crashes on divided highways 	PENNDOT, Municipalities, Partners, MPOs, RPOs

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		4. Install shoulder rumble strips	<ul style="list-style-type: none"> • Number miles with rumble strips • Number crash sites before and after addition of rumble strips • Percentage eligible miles with rumble strips installed 	PENNDOT, Municipalities, Partners, MPOs, RPOs
		5. Reallocate total roadway width (lane and shoulder) to include a narrow "buffer median."	<ul style="list-style-type: none"> • Number miles improved with wider shoulders or "buffer median" 	PENNDOT, Municipalities, Partners, MPOs, RPOs
		6. Widen shoulders, widen narrow roadways, examine relationship between lane width versus crash rate	<ul style="list-style-type: none"> • Number fatals and crashes before/after 	
5	Improving Crash Records System and Other Information / Decision Support Systems	1. Increase the electronic submission of crash records input by partners	<ul style="list-style-type: none"> • Number police agencies approved for FTP • Number cases submitted electronically 	Local Police, PENNDOT
		2. Implement a program for improving the quality of police prepared data	<ul style="list-style-type: none"> • QA/QC program in place • Error rate on processed police crash reports 	PENNDOT, Police Departments
		3. Increase the capabilities and capacity in data analysis and statistical evaluation for improving quality and timeliness of crash reports	<ul style="list-style-type: none"> • Increase output analysts by two by July 2007 	PENNDOT
		4. Improve reliability and accessibility of local road crash information	<ul style="list-style-type: none"> • Improve quality of local road crash data (GIS) in 20% of the counties each year • Number counties with GIS mapping coordinate system for local road crashes 	PENNDOT
		5. Implement top 3 recommendations of NHTSA Records Assessment (including development of strategic plan for data improvement) <ul style="list-style-type: none"> • Establish active Traffic Records Coordinating Committee (TRCC) • Develop strategic plan for crash data improvement • Implement crash data quality control program 	<ul style="list-style-type: none"> • Implement first three recommendations by September 2006 	PENNDOT, Department of Health, PSP, local police

**Vital Six Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		6. Improve data accessibility by partners and data users (CDART, Prophecy, Codes, etc.)	<ul style="list-style-type: none"> • Develop requirements by June 2006 • Implement internet portal by October 2007 	PENNDOT & Partners
6	Improving Pedestrian Safety	1. Implement safe-crossing designs for mid-block crossings	<ul style="list-style-type: none"> • Number of mid-block crossing facilities installed • Number of mid-block m.v.-ped crashes reduced at selected problem locations 	PENNDOT - Districts; Municipalities
		2. Continue to deploy yield-to-pedestrian channelizing devices to communities across the commonwealth and measure their effectiveness.	<ul style="list-style-type: none"> • Number of units deployed per year (target is 400) 	PENNDOT - Districts, local Police, Municipalities (school districts), State Agencies
		3. Continue to improve pedestrian safety in Transportation Enhancements (TE), Hometown Streets (HS) and Safe Routes to Schools (SR2S) programs	<ul style="list-style-type: none"> • \$ spent on pedestrian safety projects in TE, HS, SR2S programs 	PENNDOT - Districts; Municipalities, MPOs, RPOs
		4. Continue to provide education, outreach, and training to motivate a change in specific behaviors that can lead to fewer pedestrian injuries	<ul style="list-style-type: none"> • Pedestrian crash/fatality rates • Number pedestrian safety road shows • Number pedestrian safety sites addressed by LTAP 	PENNDOT Districts, Municipalities, LTAP, Grantees
		5. Continue to improve signal hardware for pedestrians (pedestrian signals and timing, accessible pedestrian signals, right turn on red restrictions, pedestrian countdown signals)	<ul style="list-style-type: none"> • Number of Improved intersections • M.V./Pedestrian crash rate reduction 	PENNDOT Districts, Municipalities
		6. <i>Promote legislation to establish a Universal Pedestrian Access component to all projects</i>	<ul style="list-style-type: none"> • <i>Date law enacted</i> 	<i>PA Legislators</i>
		5. Implement at grade separated highway-rail grade crossings, targeting crossing locations that remain unsafe even with gates, flashers, and targeted enforcement	<ul style="list-style-type: none"> • Number grade separations accomplished 	PENNDOT, Municipalities, PUC, Railroads

Summary Table of Other Safety Focus Areas

The goal fatality values for the remaining safety focus areas (not vital six) are shown in the table below. The rankings shown in the table were influenced by the votes taken at the Safety Summit and by input received from the Highway Safety Steering Committee.

It is important to note that safety initiatives will continue to be implemented in these remaining safety focus areas in addition to those strategies implemented under the vital six.

Summary of Safety Focus Areas - Priorities	PA's Priority Ranking	Crash Category	Total Fatalities in All Crashes (PA)							
			Actual Avg. 1999 - 2003	Actual 2004	Goal 2004	Actual 2005	Goal 2005	Goal 2006	Goal 2007	Goal 2008
Enhancing Safety on Local Roads	7	Local Road Crashes	271	234	263	239	247	233	215	199
Improving Younger Driver Safety	8	In crashes w/drivers 16-17 yrs.	104	92	101	89	95	89	83	76
Improving Heavy Truck Safety	9	Heavy Truck-related	193	183	188	186	176	166	153	142
Reducing Crashes Involving Inattentive or Drowsy Drivers	10	Distracted and Drowsy Driver-related (total)	68	95	66	26	62	58	54	50
Improving Motorcycle Safety and Increasing Motorcycle Awareness	11	Motorcyclists (& their passengers)	136	158	132	205	124	117	108	100
Improving Older Driver Safety and Mobility	12	In crashes w/drivers 65 yrs+	282	271	274	307	257	242	224	207
Improving Bicycle Safety	13	Bicyclists	18	14	17	18	16	15	14	13
Improving Emergency Response Time	14	Fatalities due to poor EMS response time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Improving Work Zone Safety	15	Work Zone Crashes	27	15	26	30	25	23	21	20
Reducing Vehicle-Train Crashes	16	Vehicle-Train Crashes	3	0	3	4	3	3	2	2
Increasing Safety Enhancements in Vehicles	N/A	Vehicle Failure-related	14	4	14		13	12	11	10
Enhancing Driver Education and Licensing Programs	N/A	Unlicensed Drivers and drivers with a suspended / revoked license (total)	N/A	N/A	N/A		N/A	N/A	N/A	N/A
Increasing Driver Safety Awareness	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A
Implementing an Integrated Safety Management System	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A
		Overall Fatality Rate (per 100 MVT)	1.52	1.40	1.42	1.31	1.31	1.21	1.10	1.00
		Total Fatalities	1559	1490	1515	1616	1423	1338	1238	1146
		Fatality Reduction Needed to meet goal	N/A		44		136	221	321	413

Other Safety Focus Areas:

By implementing strategies in these safety focus areas along with those in the vital six, we will be able to make significant safety improvements as we strive to reach our goal.

These targeted annual fatality levels need to be achieved to stay on track to meet the 1.0 fatality rate goal by 2008. The strategies, measurements, and possible owners identified on the following pages were identified by the Highway Safety Steering Committee, which is comprised of representatives our highway safety partners as shown on page 2.

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
7	Enhancing Safety on Local Roads	1. Continue to provide funding and promote low-cost safety improvement projects on local roads	<ul style="list-style-type: none"> • Number local road projects completed • Money spent on local road projects • Ratio expenditure on local roads vs. all others or totals • Money and percentage increase over prior years 	Municipalities, PENNDOT (Municipal Services), MPOs, RPOs, LTAP
		2. Implement local agency Safety Management Systems	<ul style="list-style-type: none"> • Number MPOs, RPOs implementing system 	Municipalities, PENNDOT (Planning), MPOs, RPOs
		3. <i>Secure dedicated funding for safety on local roads</i>	<ul style="list-style-type: none"> • <i>Number local road projects completed</i> • <i>Money spent on local road projects</i> 	<i>Legislature, PENNDOT (Municipal Services), FHWA</i>
		4. Implement local comprehensive programs to reduce aggressive driving, reduce DUI crashes, increase seat belt use, etc.	<ul style="list-style-type: none"> • Number MPOs, RPOs participating 	NHTSA, PENNDOT, Municipalities, MPOs, RPOs
		5. Improve quality of and access to local road crash data (also see Crash Records System) and improve GIS reporting & capabilities for local roads (also see Crash Record System)	<ul style="list-style-type: none"> • Number counties with GIS mapping coordinate system for local road crashes • Number MPO/RPO with access to CDART (crash data) 	PENNDOT, Law Enforcement, Municipalities, MPOs, RPOs
8	Improving Younger Driver Safety	1. Implement enhancements to comprehensive graduated licensing system	<ul style="list-style-type: none"> • Determine if implementation of enhancements / legislation resulted in reduction of crashes, fatalities and injuries involving young drivers • Determine if restrictive passenger legislation resulted in fewer crashes, fatalities and injuries • Identify if suggestions have been made for program enhancements based on fatality reductions 	Legislators, PENNDOT BDL & BHSTE, Dept. of Ed.
		2. <i>Consider safety legislation that will restrict the maximum number of passengers in vehicles of younger drivers</i>		
		3. Analyze fatality statistics to determine which components of the graduated licensing law are effective at reducing crashes and make recommendations for program enhancements		
		4. Implement an evaluation system for drivers moving from the provisional to the regular license stage		

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		5. Expand enforcement targeting young drivers	<ul style="list-style-type: none"> Determine if expanded enforcement effort result in fewer crashes, fatalities and injuries 	PSP, Local Police, "Smooth Operator", District Justices
		6. Implement public information and education campaigns targeted at improving the safety of younger drivers	<ul style="list-style-type: none"> Determine if implementation results in fewer crashes, fatalities and injuries 	PENNDOT - BHSTE, BDL, AAA, Dept. of Ed, Grantees
		7. Continue real-world comprehensive testing (young driver's knowledge and skills)	<ul style="list-style-type: none"> Determine if implementation of real-world testing resulted in fewer crashes, fatalities and injuries 	PENNDOT - BHSTE, BDL
9	Improving Heavy Truck Safety	1. Expand highway corridors for enhanced enforcement	<ul style="list-style-type: none"> Number corridors with enhanced enforcement Number citations issued 	FMCSA, Law Enforcement, PENNDOT, PUC, Local Municipalities, Magistrates
		2. Continue to deploy advanced enforcement techniques and technologies	<ul style="list-style-type: none"> Number advanced technologies deployed 	FMCSA, Law Enforcement, PENNDOT, PUC, Local Municipalities, Magistrates
		3. Enhance training of police officers to improve overall enforcement of moving violations	<ul style="list-style-type: none"> Number officers trained 	FMCSA, Law Enforcement, PENNDOT, PUC, Local Municipalities, Magistrates
		4. Continue to improve rest area facilities (with additional parking) and increase number of pull-off areas	<ul style="list-style-type: none"> Number rest areas added Number rest areas with improved capacity Number parking spaces added on pull-off areas 	PENNDOT; PA. Turnpike
		5. Continue to expand roadside inspection programs and inspection sites on designated highways	<ul style="list-style-type: none"> Number roadside inspections Number roadside citations 	Law enforcement, PUC, FMCSA, PSP, PA Turnpike, FHWA

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		6. Improve driver awareness of heavy truck characteristics through distribution of public information and education materials with vehicle registration renewals	<ul style="list-style-type: none"> Number publications distributed Number items added to the driver's manual Total number "no zone" demonstrations Number "no zone" demonstrations at elementary schools 	PENNDOT BDL, Dept. of Ed
		7. Continue to include truck-car information in the Pennsylvania Driver's Manual	<ul style="list-style-type: none"> Number items added to the driver's manual 	PENNDOT BDL, Dept. of Ed
		8. Encourage Drivers Education programs to incorporate "no zone" into high school curriculum	<ul style="list-style-type: none"> Total number "no zone" demonstrations Number "no zone" demonstrations at elementary schools 	PENNDOT BDL, Trucking Industry, Dept. of Ed, PMTA, PSP, School Districts
		9. Expand the use of trucking industry to educate, train, and test truck drivers on defensive driving and dealing with fatigue through trucking industry	<ul style="list-style-type: none"> Number trucking companies with fatigue management programs 	PENNDOT, FMCSA, PMTA, Carriers
10	Reducing Crashes Involving Inattentive or Drowsy Drivers	1. Implement centerline rumble strips (CLRS) on Two-lane Rural Roadways (see Head-On Crashes)	<ul style="list-style-type: none"> Miles CLRS installed 	PENNDOT-BHSTE, Districts, Municipalities
		2. Expand shoulder (SRS) or edge line rumble (ERS) strips on rural interstates, urban interstates, and other rural undivided roadways (with adequate shoulders) (see ROR)	<ul style="list-style-type: none"> Miles ERS installed Miles SRS installed 	PENNDOT - BHSTE, Districts, Municipalities, PTC
		3. Use innovative road striping to improve driver alertness	<ul style="list-style-type: none"> Number sites installed Number miles treated 	PENNDOT-BHSTE, Districts, Municipalities
		4. Expand public information and education campaign to emphasize and raise the public's and commercial truck drivers' awareness of the dangers of drowsy driving	<ul style="list-style-type: none"> Money spent on drowsy driving PI&E Number of contacts made 	PENNDOT - BHSTE, FMCSA, PSP, Local PDs, PMTA, AARP, AAA, PDE
		5. For trucking industry, implement fatigue management programs and driver work scheduling	<ul style="list-style-type: none"> Number trucking companies with programs 	PENNDOT, PSP, PMTA, FMCSA
11	Improving Motorcycle Safety and Increasing Motorcycle Awareness	1. Promote programs to discourage drinking and motorcycling	<ul style="list-style-type: none"> Number psa's Number posters distributed at motorcycle events & to dealers 	Law Enforcement, PENNDOT

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		<p>2. Continue to implement public information and education and earned media campaigns</p>	<ul style="list-style-type: none"> • Number billboards • Number items on website • Number psa's • Number posters distributed at community events, number to car dealers • Number bumper stickers distributed 	PENNDOT - BHSTE, BDL; PDE, NHTSA, ABATE, CTSP
		<p>3. Continue to incorporate motorcycle awareness messages in driver training course, driver handbooks/manuals, licensing tests, and the PA non-commercial Driver's Manual</p>		
		<p>4. Expand the number of training sites and the number of students trained in comprehensive rider education and skill testing for novice riders</p>	<ul style="list-style-type: none"> • Number sites added • Number students trained • Number recurring students trained • Number rider Coaches recruited to Training sites 	PENNDOT
		<p>5. <i>Encourage the development, adoption, and reinstatement of the helmet law and evaluate impact of helmet repeal law</i></p>	<ul style="list-style-type: none"> • <i>Date law enacted</i> • <i>Date evaluation complete</i> 	<i>Legislature, PENNDOT</i>
		<p>6. Create a joint task force to identify hazards/areas of concern to motorcyclists and highway professionals.</p>	<ul style="list-style-type: none"> • Task force is formed within one year • Number times the task force meets 	PENNDOT - BHSTE, BDL; PDE, NHTSA, ABATE, CTSP

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
12	Improving Older Driver Safety and Mobility	1. Continue to provide enhanced pavement markings, including higher contrast, raised, or wider longitudinal markings. Enhanced (larger) signing, backplates at signals, and other low-cost infrastructure enhancements that improve older driver safety	<ul style="list-style-type: none"> • Number roads, corridors, counties with enhancements • Number and type enhancements including bigger street signs & advance signs • Number crashes and fatalities related to crossovers, intersections, other older driver-specific areas • Number signs reviewed and updated • Percentage deficient signs • Percentage system having nighttime reviews • Number crashes, fatalities involving older drivers • Percentage system with high level delineation 	PENNDOT Districts, Municipalities
		2. Increase availability of alternative transportation modes for the elderly who are no longer able to drive	<ul style="list-style-type: none"> • # of annual elderly riders using alternative transportation 	PENNDOT, Transit agencies
		3. Continue to require physicians to report any physical ailments that could hinder an individual's driving ability	<ul style="list-style-type: none"> • Number or percentage of physicians regularly reporting to PENNDOT 	PENNDOT, physicians
		4. Continue to provide educational and training opportunities to the older driver population. [AARP'S 55 Alive/Mature Driving class, AAA's Safe Driving for Mature Operators program, and the National Safety Council's Coaching the Mature Driver.] Promote those opportunities	<ul style="list-style-type: none"> • Number of contacts made through educational programs 	PENNDOT, AARP

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies	
		5. Reduce intersection skew angle (see intersection SFA)	<ul style="list-style-type: none"> • Money spent or # of sites improved for intersection improvements at targeted older driver crash locations 	PENNDOT, Municipalities, Partners, MPOs, RPOs	
13	Improving Bicycle Safety	1. Increase public awareness through expanded public education and marketing campaigns	<ul style="list-style-type: none"> • Number communities with local bicyclist PI&E programs 	PENNDOT - Districts, BHSTE; Pa.. Department of Health; local police, PDE, local EMS, Bike Clubs, medical community, Partners, MPOs, RPOs	
		2. Educate community professionals on effective ways to promote safe bicycling	<ul style="list-style-type: none"> • Number communities with share-the-road programs 		
		3. Expand school and community programs that teach bicycle safety to children and adult bicyclists	<ul style="list-style-type: none"> • Number school districts that teach bicycle safety • Number bicycle rodeo events 	PENNDOT - Districts, BHSTE; Pa. Department of Health; Pa. SAFE KIDS; Pa. Department of Education, citizens interest groups, local EMS, schools, EMS, Partners, MPOs, RPOs	
		4. Include safe bicycling and sharing the road concepts in drivers education programs	<ul style="list-style-type: none"> • Number school districts that teach share the road concepts • Correct response rate to b/p questions on the written drivers exam 		PENNDOT, PDE, Schools, Partners, MPOs, RPOs
		5. Continue to create tools that can be used at the state and local levels to promote bicycle-helmet use	<ul style="list-style-type: none"> • Number children under age 12 involved in crashes not wearing a helmet 		
				6. Continue to assist communities in enforcing bicycle safety laws	<ul style="list-style-type: none"> • Number programs • Effectiveness of programs in reducing mv-bike crashes
14	Improving Emergency Response Time				

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
14.A	Emergency Rural Services	<u>1.</u> Develop models to optimize EMS staffing patterns to include recruitment and retention strategies	<ul style="list-style-type: none"> • Number new people certified • Percentage recertified • Percentage calls that met staffing requirements 	Department of Health; Ambulance Association; Municipalities
		<u>2.</u> Install global positioning equipment on EMS vehicles to allow for quicker crash location identification, and implement a rural coordinate addressing system to improve emergency workers' ability to locate rural locations	<ul style="list-style-type: none"> • Response time (en route to "on scene" – with no increase in speed) • Number vehicles with GPS 	Department of Health
		<u>3.</u> Improve compliance of rural 911 centers with FCC wireless phase 2 capability	<ul style="list-style-type: none"> • Percent PSAPs that are compliant • Time-To-Dispatch of EMS unit 	FCC, NHTSA, Counties/PSAPs
		<u>4.</u> Integrate support of EMS into rural hospital finance plans	<ul style="list-style-type: none"> • Number hospitals with EMS support in finance plans 	CMMS, PA Department of Health
		<u>5.</u> Continue to include local EMS/911 personnel when planning or implementing response plans	<ul style="list-style-type: none"> • Reduced response time • Number communities including emergency personnel when forming response plans 	PA DOH, PENNDOT, MPO, RPO
14.B	Emergency Incident Management	<u>1.</u> Establish Traffic Management Centers (TMC), Regional Traffic Management Centers (RTMC), and a Statewide Traffic Management Center (STMC) in accordance with the Transportation Management Approach (TMS), the Transportation Systems Operation Plan (TSOP), and the regional ITS Architectures	<ul style="list-style-type: none"> • Percentage of PA covered by Traffic Management Centers established in accordance with requirements? 	PENNDOT, MPO, RPO
		<u>2.</u> Use VMS/HAR to enable corridor incident management. Strategically place signs and transmitters at interchanges where alternate routes can be taken	<ul style="list-style-type: none"> • Number Secondary crashes • Number Primary crashes (e.g. weather warnings) • Delay do to congestion (queue reduction) • Number Covered corridors 	PENNDOT, MPO, RPO

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		3. Implement traffic incident management and highway scene safety training: 1) <i>Pennsylvania Highway Incident Management and</i> 2) <i>A Multi-Agency Approach Highway Incident Scene Safety & Traffic Control</i>	<ul style="list-style-type: none"> • Number OIC's trained in traffic management 	PENDOT, MPO, RPO
		4. Continue and expand Freeway Service Patrols around major metropolitan areas during rush hour	<ul style="list-style-type: none"> • Miles of highway patrolled • Number responses • Number crashes • Reduction in congestion 	PENDOT MPO, RPO
		5. Require first responder training for all public safety emergency response personnel, including police and freeway service patrols.	<ul style="list-style-type: none"> • Percentage PSAPs that are compliant • Time-To-Dispatch of EMS unit 	FCC, US DOT, State legislature, PSAPs
		6. Require first responder training for all freeway service patrols and PENNDOT highway maintenance personnel	<ul style="list-style-type: none"> • Requirement for training (Y/N) • Number persons trained 	DOH, PEMA, PSP, PENNDOT
		7. Implement an incident reporting software system that connects key agencies to coordinate and conform to criteria set forth by the Pennsylvania Emergency Incident Reporting System (PEIRS)	<ul style="list-style-type: none"> • Staff access to PEIRS data (Yes/No) 	PEMA, OA-OIT
15	Improving Work Zone Safety	1. Increase/continue work zone enforcement	<ul style="list-style-type: none"> • Number projects with dedicated work zone enforcement • Number crashes in work zones 	PSP, Municipal Law Enforcement, PENNDOT
		2. Conduct annual WZ safety reviews and implement recommendations of review team	<ul style="list-style-type: none"> • Number reviews completed • Number of recommendations implemented 	PENNDOT, FHWA, Local municipalities
		3. Implement variable speed limits (VSL) / technology assisted speed enforcement (TASE) pilot (NCHRP 3-59) - use these technologies to detect queues and improve traffic flow	<ul style="list-style-type: none"> • Number VSL sites deployed in work zones • Number TASE sites deployed in work zones 	PSP, Municipal Law Enforcement, PENNDOT
		4. Add transverse rumble strips within and prior to work zones	<ul style="list-style-type: none"> • Number sites improved with transverse rumble strips 	PENNDOT, Local Municipalities

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
16	Reducing Vehicle-Train Crashes	<p>1. Develop a systematic program for SAFETEA-LU 148 Grade Crossing Safety Program to identify project location, funding formula, implementation priorities and annual report for FHWA. Sustain aggressive federal-aid rail-highway crossing safety program.</p>	<ul style="list-style-type: none"> • Number crossings without active warning devices • Number crossings without gates • Database implementation measures in place – proposal date, budget approved date, ownership • Data supply in place – who does it, agreements made • Number crossings improved 	PENNDOT, PUC, FHWA, MPO
		<p>2. Implement an at “Grade Crossing Closure” program</p>	<ul style="list-style-type: none"> • Number of “At Grade Crossings” closed 	PENNDOT, Municipalities, Railroads, PUC
		<p>3. Continue to publicize the dangers of highway-rail grade crossings using Operation Lifesaver's materials and services. Improve information included in driver education, commercial driver's license training, and licensing to reflect safe practices for approaching and traversing highway-rail crossings.</p>	<ul style="list-style-type: none"> • Number of Operation Lifesaver presentations (now required to be a minimum of 4 per year per person with 100 people certified to deliver) • Number participants on Operation Lifesaver presentations • Number PSAs • Number Web site hits in Operation Lifesaver org • Number of Driver's Ed classes and Mature Driver classes utilizing Operation Lifesaver materials 	Operation Lifesaver, Education
		<p>4. Expand traffic signal preemption systems for intersections near railroad grade crossings. Routinely inspect railroad pre-emption sites and implement a continuing program for both corrective action and modernization of the traffic signal and railroad devices & systems</p>	<ul style="list-style-type: none"> • Number new installations (preemption systems) • Number sites inspected per year • Existence of valid maintenance plans (including verifications made and corrective actions -- at municipal level) 	PENNDOT, Municipalities, PUC

**Other Safety Focus Areas:
Strategies, Possible Measures, and Responsible Agencies**

Priority	SFA Title	Suggested Strategies	Possible Performance Measures	Responsible Agencies
		<p>5. Implement at grade separated highway-rail grade crossings, targeting crossing locations that remain unsafe even with gates, flashers, and targeted enforcement</p>	<ul style="list-style-type: none"> • Number grade separations accomplished 	PENNDOT, Municipalities, PUC, Railroads

Each year, PENNDOT publishes an annual State of Highway Safety Summary Report that will help us check our progress towards the overall goal and within each Safety Focus Area (SFA).

For each of the SFA's shown above, summary fatality data charts (similar to those shown in this plan for the vital six SFA's) and detailed tables of crash data are given in PENNDOT's annual State of Highway Safety Summary Report.

Electronic copies of this report are available on CD-ROM. Please contact PENNDOT, Bureau of Highway Safety and Traffic Engineering, Safety Management Division at 717-787-6853 for more information.

List of Pennsylvania's Section 148 Candidate Safety Projects

The new federal transportation funding bill (SAFETEA-LU) has provided for a new standalone core program – the Highway Safety Improvement Program (Section 148). The Highway Safety Improvement Program (HSIP) provides approximately \$1.3 Billion per year nationally and approximately \$41 million for safety improvement projects and rail-grade crossing improvement projects in Pennsylvania. This list below shows candidate safety projects in Pennsylvania that could use Section 148 funds in the current Federal Fiscal Year (FFY 2007) that began on October 1, 2006. A data-driven approach was taken to the selection of these candidate safety projects.

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
69889	1	Crawford	Curve Realignment	89	50	1000	60	2000
47489	1			27	110	1000	220	0
1945	1	Venango	Horiz./Vert. Realignment	322	460	0	480	1000
57836	1	Erie	Add 5th Lane, Intersection improvements	5	400	0	480	399
68138	1	Erie	Install sidewalks	19	340	0	390	0
75039	1	Erie	Safety Study	6	Erie Rural-Urban Corridor			
75964	1	Erie		8	SR 8/Parade St Study			
75877	1	Erie	CCIP	20	530	700	590	413
75874	1	Mercer	CCIP	58	730	1000	760	1778
1935	1	Mercer	Widening, Signal@Dutch	3014	30	1000	40	1829
47509	1	Mercer	Add Left-turn Lane	208	160	0	160	0
	2	Cameron	Delineation	120	10	0	40	0
	2			120	50	0	60	0
	2			120	250	0	260	0
	2			120	560	0	580	0
	2	Centre	Truck Pull off, cure re-alignment	350	60	1056	70	1395
	2	Centre	Left turn lanes	26	70	21000	80	200
	2			45	140	0	140	200
	2	Centre	Left turn phasing and signal updates	3014	140	1287		
	2			3018	70	1370		
	2		Left turn phasing and signal updates	3014	190	331		
	2			45	240	0		

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF		
	2	Centre	Center line rumble strips	26	30	0	40	0		
	2			26	30	0	40	0		
	2			144	150	0	160	0		
	2			144	230	0	250	0		
	2			322	600	0	610	0		
	2			322	640	0	650	0		
	2			322	780	0	790	0		
	2			350	10	0	20	0		
	2			350	60	0	80	0		
	2			550	140	0	150	0		
	2			3014	90	0	100	0		
	2			Centre	ITS Countermeasure	322	537	0		
	2			Clearfield	Cut oververtical	219	660	0		
	2	3011	160			1961				
	2	Clearfield	Signal improvement	322	470	1368				
	2			1004	90	132				
	2			8016	250	659				
	2	Clearfield	Center line rumble strips	53	540	0	550	0		
	2			119	10	0	30	0		
	2			219	490	0	500	0		
	2			219	830	0	840	0		
	2			219	860	0	870	0		
	2			219	890	0	910	0		
	2			255	30	0	40	0		
	2			255	70	0	80	0		
	2			255	130	0	140	0		
	2			255	330	0	330	1813		
	2			830	20	0	20	3688		
	2			879	400	0	410	0		
	2			1004	80	0	90	0		
	2			1010	10	0	20	0		
	2			4011	10	0	20	0		
	2			4011	30	0	40	0		
	2			4014	130	0	130	3344		
	2			4019	30	0	40	2560		
	2	Clinton	Install signal	150	230	1421				

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	*2	Clinton	Intersection improvements	220	30	0		
	*2			2008	50	0		
	2	Clinton	Center line rumble strips	64	150	0	160	0
	2			120	660	0	670	0
	2			150	30	0	40	0
	2			220	210	0	220	0
	2			477	10	0	20	0
	2			664	40	0	50	0
	2			2012	100	0	110	0
	2	Elk	Resurfacing	948	10	0	70	0
	2			948	170	0	180	0
	2	Elk	Center line rumble strips	120	50	0	60	0
	2			120	410	0	420	0
	2			219	590	0	600	0
	2			255	190	0	200	0
	2			948	140	0	150	0
	2			948	300	0	310	0
	2			948	320	0	330	0
	2			2007	150	0	160	0
	2			4003	30	0	40	0
	2	Elk	Incorporate CCTV and dynamic message board	219	230	0	330	0
	2	Juniata	Center lane for left turns	3002	120	0	130	0
	2	Juniata	Update signal	35	730	0		
	2	Juniata	Centerline rumble strips	35	570	0	580	0
	2			35	710	0	720	0
	2			74	10	0	20	0
	2			74	30	0	40	0
	2			75	290	0	300	0
	2			75	620	0	630	0
	2			333	160	0	180	0
	*2	Juniata	Alignment	333	170	0	180	0
	2	McKean	Highway lighting	446	80	1800	90	500
	2	McKean	Sight distance	4005	10	0	10	500
	2			770	150	2000	160	500
	2	McKean	Center line rumble strips	46	520	0	540	0

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	2			219	190	0	200	0
	2			219	450	0	460	0
	2			346	460	0	470	0
	2			446	170	0	180	0
	2			770	180	0	190	0
	2			770	200	0	210	0
	2			770	220	0	230	0
	2			4005	10	0	20	0
	2	Mifflin	Signal/intersection improvements	22	20	0	30	1000
	2	Mifflin	Signal/intersection improvements	22	20	0	31	1000
	2	Mifflin	Signal/intersection improvements	747	10	0	10	138
	2	Mifflin	Curve signing (flashing device)	322	83	0	93	0
	2	Mifflin	Centerline rumble strips	22	30	0	40	0
	2	Mifflin	Centerline rumble strips	22	31	0	41	0
	2	Mifflin	Centerline rumble strips	103	556	0	556	1635
	2	Mifflin	Centerline rumble strips	522	12	0	10	138
	2	Mifflin	Centerline rumble strips	522	200	0	210	0
	2	Mifflin	Centerline rumble strips	522	280	0	290	0
	2	Mifflin	Centerline rumble strips	655	290	0	300	0
	2	Mifflin	Centerline rumble strips	1005	40	0	50	0
	2	Potter	Delineation	6	180	0	210	0
	2	Potter	Delineation	44	760	0	780	0
	2	Potter	Delineation	44	820	0	830	0
	2	Potter	Delineation	49	140	0	150	0
	2	Potter	Delineation	144	340	0	350	0
	2	Potter	Delineation	449	70	0	80	0
	2	Potter	Delineation	872	250	0	260	0
	2	Potter	Centerline rumble strips	6	180	0	210	0
	2	Potter	Centerline rumble strips	44	760	0	780	0
	2	Potter	Centerline rumble strips	44	820	0	830	0
	2	Potter	Centerline rumble strips	49	140	0	150	0
	2	Potter	Centerline rumble strips	144	340	0	350	0
	2	Potter	Centerline rumble strips	449	70	0	80	0
	2	Potter	Centerline rumble strips	872	250	0	260	0
76482	3	Bradford	3-R Construction	220	0140	0000	0160	0000
73941	3	Columbia	Flashing Beacon	4009	0070	0288		

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
73468	3	Columbia	Signal / Bridge	42	0550	0550	0560	1000
74938	3	Lycoming	Slide repair, G. R. upgrade	44	0640	0879	0640	2569
75038	3	Lycoming	Acceleration lanes	220	0140	0000	0200	0000
76489	3	Northumberland	Pedestrian X-ing Device	147	0600	1633	0600	2195
70367	3	Northumberland	CCIP	61	0510	0000	0580	2908
76490	3	Sullivan	3-R Construction	42	0060	0000	0110	0000
76491	3	Tioga	Intersection lighting	15	0424	0508	0434	0769
76492	3	Union	Intersection study	15	0190	1681		
76486	3	Union	Center Turn Lane	15	0030	1000	0050	1100
76493	3	Union	4-R Construction - Phase I	1004	0080	1560	0100	0300
77421	3	Tioga	Bridge de-icing	15	0212		0213	
77087	3	SEDA-COG Various locations	Cable guiderail upgrade					
62960	4	Lackawanna	INTERSECTION AND RAMP IMPROVEMENTS	6	554	0	554	3232
67906	4	Lackawanna	REPLACE PRECAST PARAPETS	81	1791	0	1791	2693
70234	4	Lackawanna	INTERCHANGE IMPROVEMENT	81	1840	0	1840	2640
8204	4	Lackawanna	SIGNALIZED COORIDOR IMPROVEMENT	6011	250	1520	270	1439
8204	4	Lackawanna	SIGNALIZED COORIDOR IMPROVEMENT	6011	250	1520	270	1439
8204	4	Lackawanna	SIGNALIZED COORIDOR IMPROVEMENT	6011	250	1520	270	1439
62969	4	Luzerne	INSTALL ROCK FENCE	309	490	0	490	1988
62969	4	Luzerne	INSTALL ROCK FENCE	309	490	0	490	1988
62969	4	Luzerne	INSTALL ROCK FENCE	309	490	0	490	1988
62969	4	Luzerne	INSTALL ROCK FENCE	309	490	0	490	1988
72406	4	Luzerne	SIGNALIZED INTERSECTION AND ROADWAY IMPROVEMENTS	315	150	1316	161	100
67913	4	Luzerne	REPLACE PRECAST PARAPETS	2033	10	0	10	3195
68137	4	Luzerne	SIGNALIZED INTERSECTION IMPROVEMENT	309	401	0	401	2720
68137	4	Luzerne	SIGNALIZED INTERSECTION IMPROVEMENT	309	401	0	401	2720
68137	4	Luzerne	SIGNALIZED INTERSECTION IMPROVEMENT	309	401	0	401	2720
75659	4	Susquehanna	REPLACE PRECAST PARAPETS	81	2125	101	2125	317

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
75660	4	Susquehanna	REPLACE PRECAST PARAPETS	81	2115	608	2115	656
75662	4	Susquehanna	REPLACE PRECAST PARAPETS	81	2111	2443	2111	2620
75664	4	Susquehanna	REPLACE PRECAST PARAPETS	81	2111	1651	2111	1801
67911	4	Wayne	REPLACE PRECAST PARAPETS	191	430	0	430	3608
67912	4	Wayne	REPLACE PRECAST PARAPETS	507	60	0	60	2026
67914	4	Wayne	REPLACE PRECAST PARAPETS	3041	60	0	60	3641
51000	4	Wyoming	CORRIDOR IMPROVEMENT	29	280	1436	300	1806
	5	Berks	183/Schaefferstown Road. R/W, realign, auxiliary lane, signalize.	183	290	2650	290	2650
				4016	110	381	110	381
	5	Berks	Tenth Mile Location Markers 35 miles X 2.	78	82	0	435	1197
	5	Berks	183/Strausstown Rd (Old 22). Upgrade beacon, add advanced flashing warning devices on four approaches, pavement markings.	183	370	200	370	200
				4018	100	2700	100	2700
	5	Berks	222Bus/Park Rd. Realign, restripe, median break, signalize	2005	161	500	161	500
				1010	10	0	10	0

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	5	Berks	Long Lane. Tree cutting, excavating, shoulders	1021	280	0	290	3642
				1024	60	0	60	100
	5	Berks	excavating, embankment, shoulders, GR, UP	12	130	580	140	0
	5	Berks	Dries Road. Signalize	1010	20	0	20	0
	5	Berks	Oley intersection. Reconfigure, signalize.	73	220	0	220	0
				662	190	3576	190	3576
	5	Berks	tree cutting, excavating, shoulders	3023	80	871	80	2002
	5	Berks		3008	50	200	60	2437
	5	Carbon	I-80 at TP. Lengthen ramp, rumble strips (white topping), flashing warning device	8004	500	0	500	752
	5	Carbon	truck escape ramp	93	20	0	20	0
	5	Carbon	from 902 to 209. Widen, center left turn lane	443	134	0	140	3806
	5	Carbon	I-80 Ramp. From TP to I-80. Widening, traffic responsive signal	940	80	1950	80	1950
				8004	250	0	250	1037
	5	Carbon	Auxiliary lanes, change signal. [current local project only signalizes]	534	292	0	292	0
				903	290	0	290	0
	5	Carbon	SR 2007 (Harrey Rd) to Beltzville. Signalize. [may not need w/ new 903 TP interchange]	209	340	1500	340	1500
				2007	70	0	70	0
	5	Carbon	TP ramp to 209N. Signalize [may not need w/ new 903 TP interchange]	209	341	869	341	869
	5	Carbon	Tenth Mile Location Markers. 10 miles X 2	80	2728	0	2825	2358

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	5	Monroe	Tenth Mile Location Markers from Tannersville to NJ. 12 miles X 2	80	2970	0	3105	0
	5	Monroe	From Northampton Co to 209. Median barrier or high tension GR. 5 miles	33	10	0	101	2695
	5	Monroe	From 209 to I-80. Median barrier or high tension GR. 3 miles	33	130	0	181	3408
	5	Monroe	Stroudsburg, base of Fox Hill. Signalize	191 611	90 110	0 0	90 110	0 0
	5	Monroe	Hollow Rd at River Rd. Excavate rock, widen, shoulder, groove pavement.	2023	10	100	10	500
	5	Monroe	611 / 715 intersection. Add capacity via r/w, excavate rock, build additional thru and auxiliary lanes.	611	280	0	280	2000
	5	Monroe	State Road, Chestnuthill Twp. Realign, Superelevate, rumble strips.	3016	100	1890	100	2456
	5	Monroe	Chipperfield Drive. trees, excavation, superelevation, shoulders, GR	2011	70	0	70	2310
	5	Monroe	East at 611. Remove trees, excavation, shoulders	715	250	0	250	2000
	5	Monroe	Tenth Mile Location Markers. 16 miles X 2 13 X 2 9 miles X 2	80 380 33	2830 10 10	0 0 0	2970 131 191	0 0 0
	5	Schuylkill	Tunnel Rd. All new signal upgrade.	61	390	0	391	0
	5	Schuylkill	Brick Hill Rd. Interim signal until Deer Lake North done	61 2014	140 40	0 2060	140 40	0 2060
	5	Schuylkill	61/895. Interim signal until Deer Lake North done.	61 895	100 420	0 2621	100 420	0 2621

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	5	Schuylkill	Liberty. Jug handles and/or widen bridge, left turn stand-by lane, realign Adams Rd., signalize [use \$1.5M earmark, plus \$2.5M safety = 4M]	61	170	0	170	0
	5	Schuylkill	Brick Hill Rd. to Liberty. Median barrier.	61	140	0	161	2578
	5	Schuylkill	Greenview. Widen bridge, left turn stand by lane, signalize.	61	190	0	190	0
	5	Schuylkill	Liberty to SR 443. Median barrier.	61	170	0	201	2091
	5	Schuylkill	Darkwater, 4100'. Shoulder widening/ upgrading, median barrier, attenuators.	61	432	2300	470	0
	5	Schuylkill	125 and Paradise Road. Turn lane, signalize	125/3002	30	0	30	0
	5	Schuylkill	Tenth Mile Location Markers. 42 miles X 2	81	967	0	1391	2982
	5	Schuylkill	Pottsville downtown. Add capacity via turning lanes at signals, access management.	61	340	0	361	0
	5	Schuylkill	Tunnel Rd. All new signal upgrade.	61	390	0	391	0
	5	Schuylkill	Brick Hill Rd. Interim signal until Deer Lake North done	61 2014	140 40	0 2060	140 40	0 2060
	5	Schuylkill	61/895. Interim signal until Deer Lake North done.	61 895	100 420	0 2621	100 420	0 2621
	5	Schuylkill	Liberty. Jug handles and/or widen bridge, left turn stand-by lane, realign Adams Rd., signalize [use \$1.5M earmark, plus \$2.5M safety = 4M]	61	170	0	170	0
	5	Schuylkill	Brick Hill Rd. to Liberty. Median barrier.	61	140	0	161	2578
	5	Monroe	Tenth Mile Location Markers from Tannersville to NJ. 12 miles X 2	80	2970	0	3105	0

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	5	Monroe	From Northampton Co to 209. Median barrier or high tension GR. 5 miles	33	10	0	101	2695
	5	Monroe	From 209 to I-80. Median barrier or high tension GR. 3 miles	33	130	0	181	3408
	5	Carbon	I-80 at TP. Lengthen ramp, rumble strips (white topping), flashing warning device	8004	500	0	500	752
	5	Carbon	truck escape ramp	93	20	0	20	0
	5	Schuylkill	Greenview. Widen bridge, left turn stand by lane, signalize.	61	190	0	190	0
	5	Schuylkill	Liberty to SR 443. Median barrier.	61	170	0	201	2091
	5	Schuylkill	Darkwater. 4100'. Shoulder widening/ upgrading, median barrier, attenuators.	61	432	2300	470	0
	5	Carbon	from 902 to 209. Widen, center left turn lane	443	134	0	140	3806
	5	Carbon	I-80 Ramp. From TP to I-80. Widening, traffic responsive signal	940	80	1950	80	1950
				8004	250	0	250	1037
	5	Monroe	Stroudsburg, base of Fox Hill. Signalize	191	90	0	90	0
				611	110	0	110	0
	5	Monroe	Hollow Rd at River Rd. Excavate rock, widen, shoulder, groove pavement.	2023	10	100	10	500
	5	Carbon	Auxiliary lanes, change signal. [current local project only signalizes]	534	292	0	292	0
				903	290	0	290	0
	5	Carbon	SR 2007 (Harrety Rd) to Beltzville. Signalize. [may not need w/ new 903 TP interchange]	209	340	1500	340	1500
				2007	70	0	70	0
	5	Carbon	TP ramp to 209N. Signalize [may not need w/ new 903 TP interchange]	209	341	869	341	869

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	5	Monroe	611 / 715 intersection. Add capacity via r/w, excavate rock, build additional thru and auxiliary lanes.	611	280	0	280	2000
	5	Monroe	State Road, Chestnuthill Twp. Realign, Superelevate, rumble strips.	3016	100	1890	100	2456
	5	Monroe	Chipperfield Drive. trees, excavation, superelevation, shoulders, GR	2011	70	0	70	2310
	5	Monroe	East at 611. Remove trees, excavation, shoulders	715	250	0	250	2000
	5	Schuylkill	125 and Paradise Road. Turn lane, signalize	125/3002	30	0	30	0
	5	Schuylkill	Tenth Mile Location Markers. 42 miles X 2	81	967	0	1391	2982
	5	Schuylkill	Pottsville downtown. Add capacity via turning lanes at signals, access management.	61	340	0	361	0
	5	Carbon	Tenth Mile Location Markers. 10 miles X 2	80	2728	0	2825	2358
	5	Monroe	Tenth Mile Location Markers. 16 miles X 2	80	2830	0	2970	0
			13 X 2	380	10	0	131	0
			9 miles X 2	33	10	0	191	0
	5	Lehigh	Shimmersville Hill. Flashing warning devices, pavement superelevation, pavement grooving, rumble strips, GR, UP relocation, replace head walls with inlets, install shoulders, remove trees.	100	10	0	20	2000
	5	Northampton	611 Canal lock curve. Flashing warning device, rock excavation, median barrier style retaining wall, shoulders.	611	40	1000	40	2000
	5	Lehigh	Claussville Rd. R/W, widen, reconfigure approaches, auxiliary lanes on 100, signalize	100	230	0	230	0
				4003	130	0	130	0

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	5	Lehigh	R/W, widen, auxiliary lanes on 309, signalize.	100 309	130 460	0 0	130 460	0 0
	5	Lehigh	Kernsville Rd at Jordan Rd. (iron bridge). Replace headwalls with inlets, replace concrete gutter with pipe, tree removal, attenuate bridge, GR upgrade, regrading to eliminate GR, UP set back & removal, swale & shoulder grading, embankment removal. Replace headwalls with inlets seg 130 to 200.	4003	190	0	190	3184
	5	Lehigh	Shantz / Adams Rd. Flashing warning devices	3012	40	0	40	0
	5	Lehigh	Shantz at 863 int and curves. Excavation, pavement superelevate, shoulders, ELRS, flashing warning device, beacon, GR.	3012 863	10 10	1000 500	10 10	1000 500
	5	Lehigh	Flashing warning Devices	222 863	20 10	0 0	20 10	0 0
	5	Lehigh	222 & Shantz, signalize	222 3012	10 10	1000 0	10 10	1000 0
	5	Northampton	611. Drainage, remove curbs, shoulders, GR, UP	611	130	1000	150	1300

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	5	Lehigh	Tilghman St Interchange. Interchange lighting, median GR, signing.	309 1002	230 120	0 1000	241 120	1000 2000
	5	Lehigh	Tilghman St Interchange. Embankment, lengthen 309 off-ramps, sign structure, shoulder.	309 1002	230 120	0 1000	241 120	1000 2000
	5	Lehigh	Excavate rock, shoulder, correct drainage	145	260	0	270	0
	5	Northampton	Newburg Rd/Country Club int. Signalize	3020	120	0	120	0
	5	Northampton	Martins Creek curves and 1004 intersection. Realign, auxiliary lane, pavement grooving, superelevate, flashing warning devices.	611	390	0	390	300
	5		median GR at select areas	78	610	0	750	1000
	5	Lehigh	Cedar Crest between Tilghman and 22. Curbing, pavement build up, restriping for center turn lane, UP relocation.	1019	60	0	70	0
	5	Lehigh	Cedar Crest between 222 and I-78. Curbing, pavement build up, restriping for center turn lane, UP relocation.	1019	20	0	20	3805
	5	Lehigh	Cedar Crest between Broadway and 222. Curbing, pavement build up, restriping for center turn lane, UP relocation.	1019	30	0	40	785
	6	Bucks	Roundabout Eval / Signal Imp	202	214	1900	220	500
	6	Bucks		413	530	14	550	0
	6	Bucks		263	190	1000	190	2500
	6	Bucks	Add LT lane/signal imp	2006	110	1640	120	1766

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	6	Bucks		2020	10	1567	10	2481
	6	Bucks	New Signal /LT lanes	232	270	0	270	2105
	6	Bucks		1003	20	0	30	4566
14613	6	Chester	realignment - signal imp. or roundabout	41	100	0	100	2118
14613	6	Chester		3026	340	0	340	1316
15438	6	Delaware	Softening Curve	1034	60	2068	60	3642
	6	Delaware	Signal @ hepburn/harvey / realign / ERS	1	30	2584	40	625
	6	Delaware	CLRS, ERS, Signing, signal upgrade	1019	10	0	90	0
	6	Montgomery	Left Turn Lane SB Susquehana/Signal Imp	2038	20	0	30	316
	6	Montgomery		2017	90	600		
	6	Montgomery	Shoulder	2001	40	0	80	0
	6	Philadelphia	Signal Imp/Bridge Ends	2016	10	0	100	0
70247	6	Philadelphia	Henry Ave - Left turn lane /Signal Imp	4001	20	0	100	2820
	6	Philadelphia	ERS, replace GR with Median Barrier and protect bridge/wall	1	90	0	120	1500
	*6	Montgomery		663	160	100	280	528
	*6	Chester		10	90	0	220	528
	*6	Chester		10	290	5280	490	1519
	*6	Chester		896	10	941	90	3409
	*6	Bucks		412	10	0	160	1459
36111	6	Delaware	RR Grade Crossing WD	School Lane	None	None		
36707	6			Edmonds Ave.(M)	None	None		
48856	6			Huey Ave	None	None		
48857	6			Rosemont Ave.	None	None		
36716	6			Turner Ave (N)	None	None		
36718	6			Shadeland Ave.	None	None		
36706	6			Irvington Ave.	None	None		
36686	6			Fairfax Ave	None	None		

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
36710	6			Windermere Ave.	None	None		
48861	6			2005	90	0	90	997
36717	6			Turner Ave (S)	None	None		
36685	6			2019	10	269	10	564
36708	6			Edmonds Ave (S)	None	None		
36698	6			2007	30	900	30	1200
	8	Adams	Signal with ITS assistance, LT lane	94	90	1674	90	1674
	8	Adams	Left turn lanes	194	120	0	120	0
	8	Cumberland		944	500	0	500	0
	8	Dauphin		22	660	0	661	0
	8	Dauphin	Lane shifting, shoulder improvement	2019	10	0	20	0
	8	Dauphin	Realign intersection	3024	10	1646	10	1646
	8	Franklin	Left turn lanes	16	330	0	330	0
	8	Franklin	Realign intersection	316	250	0	250	27
	8	Franklin		997	100	885	100	885
	8	Franklin	Signal, left turn lanes	533	60	0	60	0
	8	Franklin	Shave bank, straighten curve	3002	160	260	170	110
	8	Lancaster	Over vertical removal, shave bank	72	380	0	380	0
	8	Lancaster	Left turn lanes	222	530	0	530	0
	8	Lancaster	Signal and Left turn lane	272	590	0	590	0
	8	Lancaster		441	100	388	100	618
	8	Lancaster	Over vertical removal, shave bank	2029	170	1784	180	0
	8	Lancaster	Remove over-vertical	4001	100	0	110	0
	8	Lebanon	Signal and Left turn lane	22	10	887	10	887
	8	Lebanon	Left turn lanes	72	50	0	50	0
	8	Perry		34	40	0	40	0
	8	Perry		34	70	0	70	0
	8	Perry	Roundabout	74	180	0	180	0
	8	York	Signalize	74	1130	2211	1130	2211
	8	York	Pave with high quality material	851	650	3	720	790
	8	York	Signalize	3048	30	1613	30	1613

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
57395	9	Bedford	Intersection improvements, including left turn lanes. Intersection of I-70 & SR 1013 with US 30 just east of Breezewood in East Providence Township, Bedford County.	30	650	0	650	2562
57396	9	Somerset	Add turn lanes and signals ON PA 601 North Center Avenue in Somerset Township	601	100	0	100	3255
57390	9	Bedford	Construction of left turn lane. Intersection of US 30 & PA 56, Bedford Township, Bedford County.	30	260	874	260	1719
23196	9	Blair	Widen road to 5 lanes from Kettle Street to 2nd Street. Coordinate traffic signals at Kettle Street with 2nd Street and Pleasant Valley/Valley View at 7th Street.	1001	180	1990	200	450
70294	9	Blair	Construct center turn lane to remove left-turning vehicles from travel lanes and define access points.	3013	60	1962	80	1450
21630	9	Blair	Roadway relocation between two sharp curves.	4019	110	555	130	500
22146	9	Blair	Add lane, addition of left-turn lanes	1001	50	1405	80	1115
22671	9	Cambria	Highway restoration and turn lane improvements including traffic signals	53	130	72	130	1332
62253	9	Cambria	Realignment of curves, relocation of SR 1021	1021	40	0	40	2411
75565	10	Armstrong	Intersection improvement	268/1038	10	0	14	0
23662	10	Armstrong		422/Mushroom Farm Road	10	2609	20	810
70114	10	Butler		68/3027 (Hartmann Rd. Intersestion)	100	690	100	1690
75894	10	Clarion		208/338 Intersection	220	1014	-	-
25827	10	Indiana	Intersection Improvement (Power Plant Road)	3013/3008	30	1885	30	2885
51227	10	Jefferson	Intersection improvement	119/T-841 Intersection	200	697	210	500

MPMS #	DISTRICT	COUNTY	PROJECT DESCRIPTION	ROUTE	BEG_SEG	BEG_OFF	END_SEG	END_OFF
	11	Allegheny	Impact Attenuators	VAR.	VAR.	VAR.	VAR.	VAR.
	11	Beaver	Signal / Flasher	30	50	0	50	100
	11	Beaver	New Signal	151	190	500	190	700
	11	Lawrence	Ramp realignment	8008	10	3000	10	4700
	11	Allegheny	Left turn lanes/signal Connor@Terrace	3038	40	1100	40	1600
	11	Allegheny	Left turn lanes/signal Connor@Oregon Trail	3038	50	1000	50	1400
	11	Allegheny	Left turn lanes/signal 910/Wexford Run	910	30	900	30	1400
	12	Fayette	Intersection Improvement	21	300	1445		
	12	Fayette		119	620	1545		
	12	Fayette	Curve Improvement	4010	110	0	110	2282
	12	Fayette		119	130	30	130	2822
	12	Fayette		119	240	528	240	3009
	12	Greene	Intersection Improvement	1008	10	0		
	12	Greene	Curve Improvement	1011	80	200	80	1289
	12	Washington	Intersection Improvement	980	90	2210		
	12			88	290	270		
	12			1009	220	2105		
	12	Washington	Curve Improvement	8011	500	0	500	856
	12			1032	20	1745	20	2195
	12	Westmoreland	Intersection Improvement	56	240	0		
	12			366	62	610		
	12	Westmoreland	Curve Improvement	130	202	735	202	1617
	12			356	212	946	212	2385
	12			130	192	300	192	1971
* Indicates a High Risk Rural Road Project								

Glossary of Acronyms and Abbreviations

4 Es : Engineering, Education, Enforcement, Emergency Response

AASHTO: American Association of State Highway Transportation Officials

AAA: American Automobile Association

AARP: American Association of Retired Persons

ABATE: Alliance of Bikers Aimed Toward Education

AOPC: Administration Office of PA Courts

BAC: Blood Alcohol Content

BDL: Bureau of Driver Licensing

BHSTE: Bureau Highway Safety & Traffic Engineering

C/B: Cost Benefit Ratio

CDART: Crash Data Analysis Retrieval Tool (CDART is PENNDOT's web-based crash data system)

CIRCL: Center for Injury Research & Control

CRPC: Centre Region Planning Commission

CLRS: Center Line Rumble Strips

CMMS: Centers for Medicare and Medicaid Services

CPS: Child Passenger Safety

CSHSIP: Comprehensive Strategic Highway Safety Improvement Plan

DA: District Attorney

DCNR: Department of Conservation & Natural Resources

DJ: District Justice

DUI: Driving Under the Influence

EMS: Emergency Medical Services

ERS: Edge Rumble Strips

FHWA: Federal Highway Administration

FMSCA: Federal Motor Carrier Safety Administration

FTP: File Transfer Protocol

GIS: Geographic Information Systems

ILEE: Institute for Law Enforcement Educations

ITS: Intelligent Transportation Systems

LCB: Liquor Control Board

LED: Light Emitting Diode

LTAP: Local Technical Assistance Program

MAST: Multi-Agency Safety Team

MOU: Memo Of Understanding

MPO: Metropolitan Planning Organization

MV: Motor Vehicle

NCHRP: National Cooperative Highway Research Program

NHTSA: National Highway Traffic Safety Administration

OA: Governor's Office of Administration

OA-OIT: Office for Information Technology

OIC: Operations Information Center

PCCD: PA Commission on Crime and Delinquency

PENNDOT: PA Department of Transportation

PI&E: Public Information and Education

PLCB: PA Liquor Control Board

PMTA: PA Motor Trucking Association

PPAC: PA Pedalcycle & Pedestrian Advisory Committee

PSA: Public Service Announcements

PSAB: PA State Association of Boroughs

PSATS: PA State Assn. of Township Supervisors

PSP: PA State Police

PTC: PA Turnpike Commission

PUC: Public Utilities Commission

QA/QC: Quality Control / Quality Assurance

RLR: Red Light Running

RPO: Rural Planning Organizations

RTMC: Regional Traffic Management Center
SASTE

SBI: Screening and Brief Intervention (substance abuse related intervention by medical staff)

SFA: Safety Focus Area

SMART: Safety Multi-Agency Roads Team

SRS: Shoulder Rumble Strips

STMC: Statewide Traffic Management Center

TASE: Technology Assisted Enforcement

TBD: To Be Decided

TIPP: Traffic Injury Prevention Project

TMC: Traffic Management Center

TSOP: Transportation Systems Operation Plan

USDOT: United States Department of Transportation

VMS/HAR: Variable Message Signs / Highway Advisory Radio

VSL: Variable Speed Limit

WZ: Work Zone

For more information, please contact Pennsylvania's Comprehensive Strategic Highway Safety Improvement Plan (CSHSIP) Operations Manager:

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