

# 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

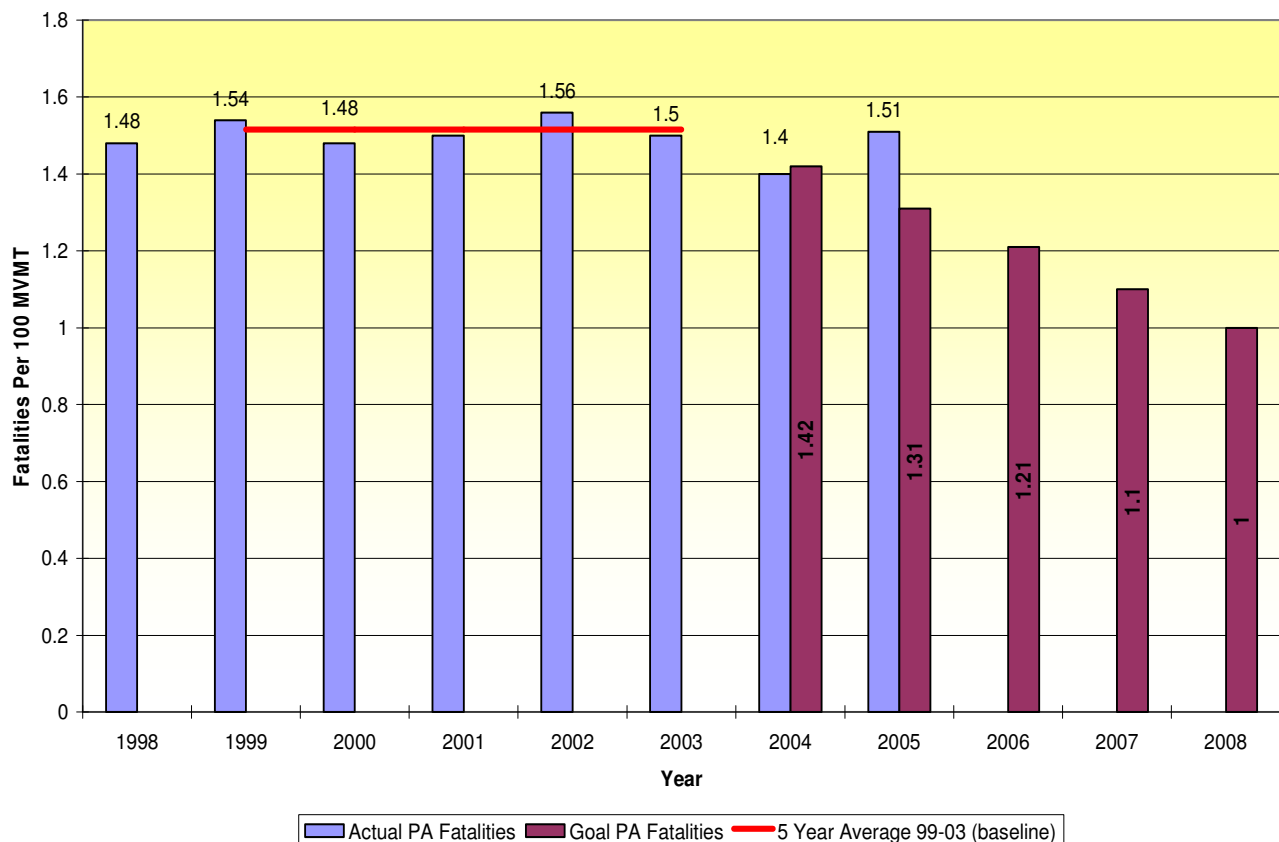
**Our vision** is to implement proven, widely accepted, cost-effective traffic safety improvement strategies to each of the identified safety focus areas and realize significant reductions in fatalities, major injuries, and economic loss to society. The goal is:

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

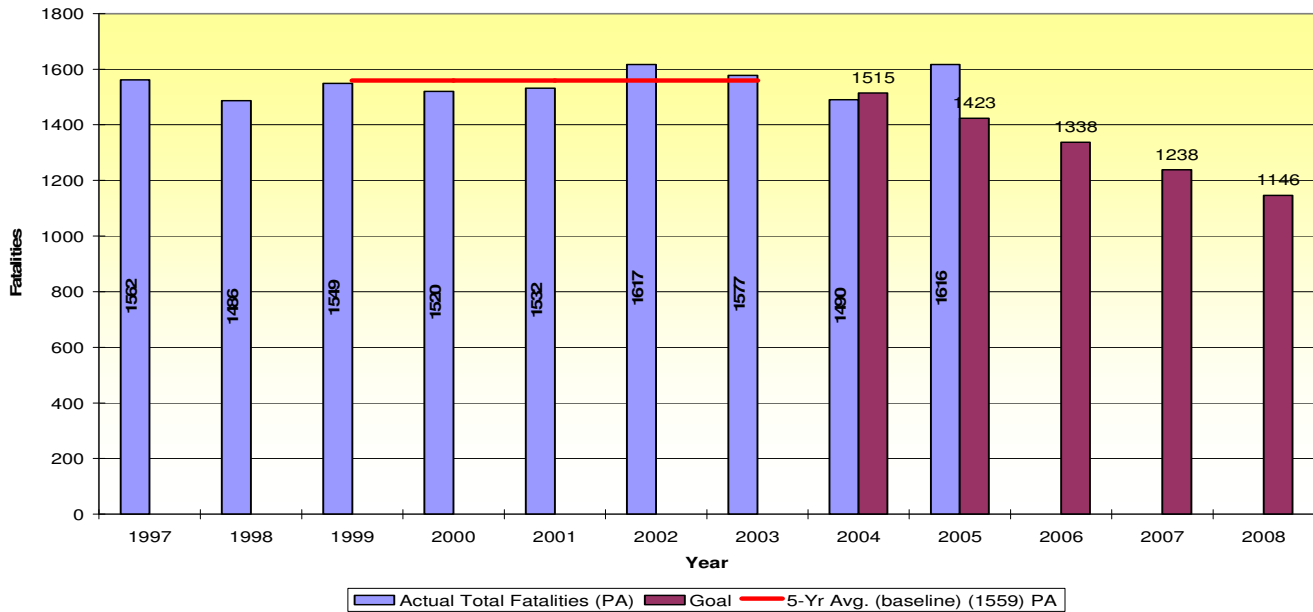
If this goal is reached by 2008, annual highway fatalities for Pennsylvania will total about 1,150, which would be by far the lowest level on record.

**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)

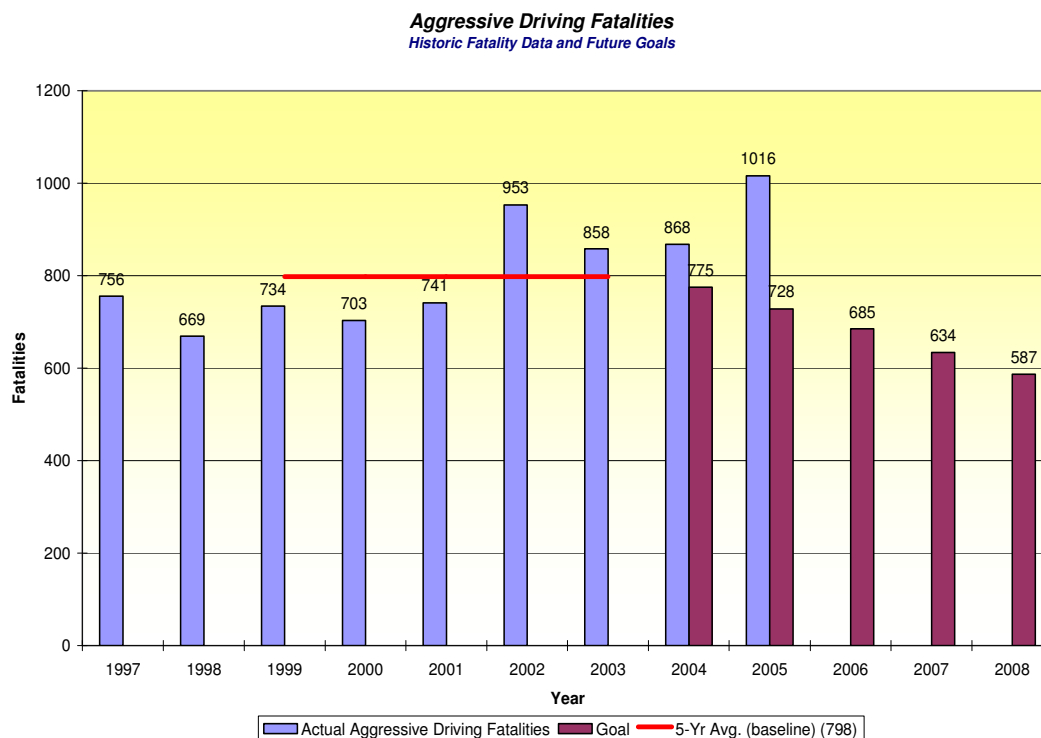
### "Vital Six" Safety Focus Areas:

- 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.



## Suggested Top Strategies for Reducing Aggressive Driving Fatalities:

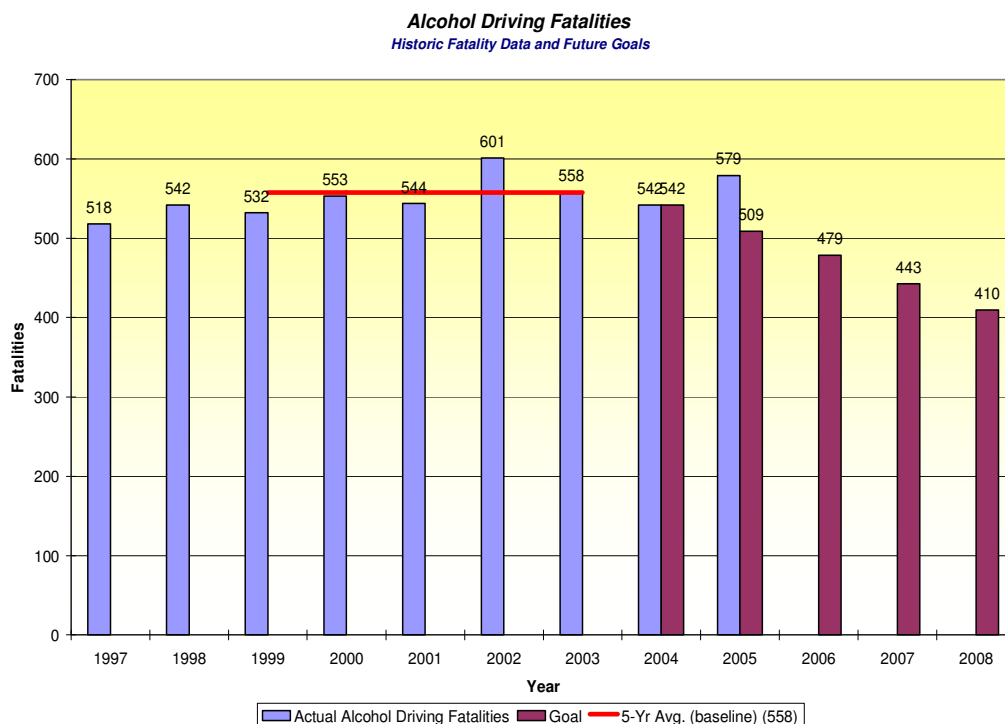
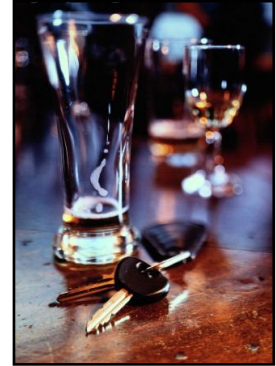
- Target enforcement in areas with a high rate of aggressive driving crashes
  - Problem Specific Policing / Selective Traffic Enforcement Programs
  - Implement “Smooth Operator” enforcement and public awareness program
- Expand ITS technologies (automated enforcement) and inform public about technology 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 radar<sup>1</sup>*

<sup>1</sup> 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:

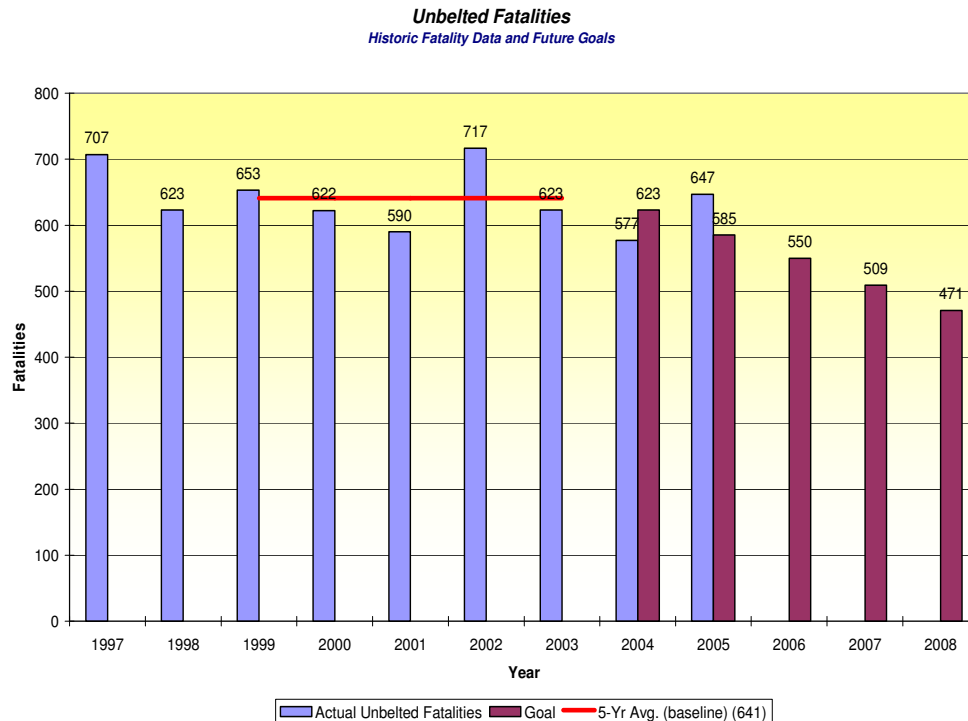
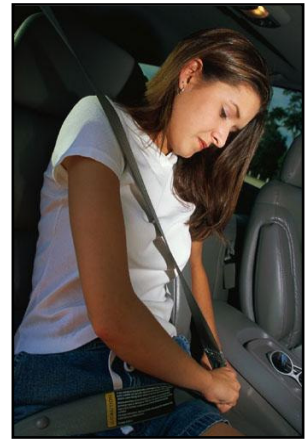
- Sustain high-visibility of DUI enforcement
- Sustain public information and education in combination with enforcement programs
- Sustain involvement with NHTSA Checkpoint Strike Force Effort
- Perform Screening and Brief Intervention (SBI) in the Hospital Emergency Room
- Provide education programs 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 Programs<sup>1</sup>*

<sup>1</sup> 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.



#### **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 law<sup>1</sup>*

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

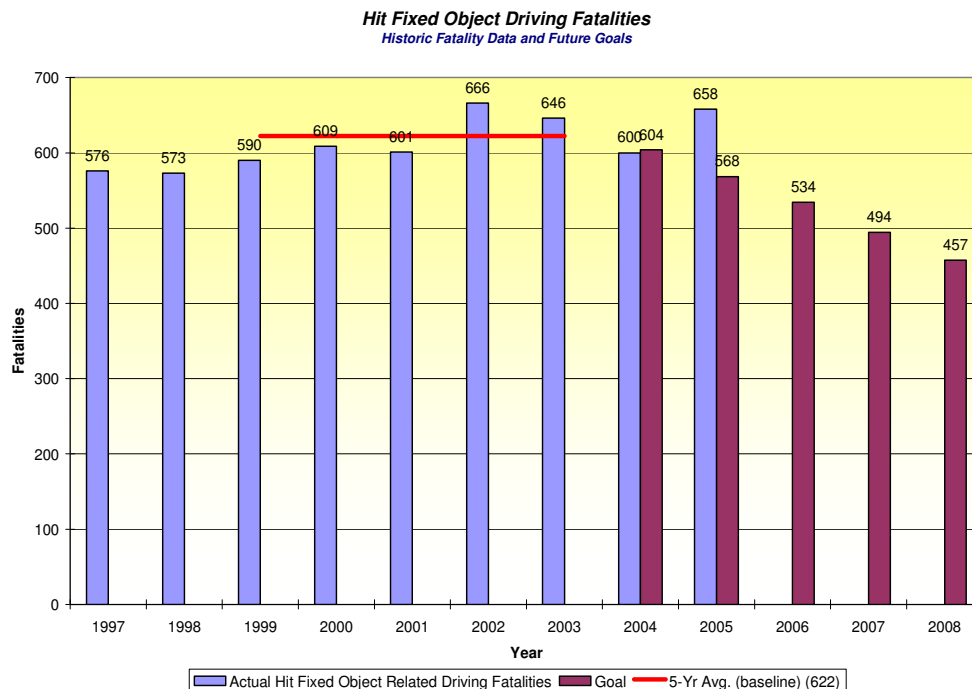
## 4. **Infrastructure Improvements** (Reducing Roadway Departure and Intersection Crashes)

*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 guidrails. 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*)

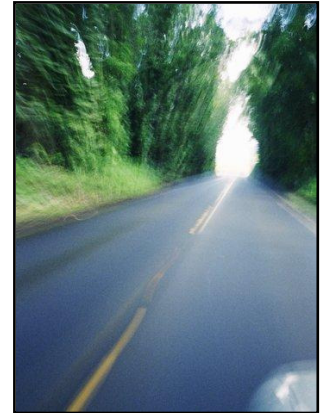
- Remove hazardous trees and prevent new growth
- Evaluate and implement traffic barrier improvements as well as other roadside improvements (to mitigate embankments, ditches, etc.)
- Implement traffic barrier policy and cultural changes recommended as per Federal Highway Administration (Independent 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)

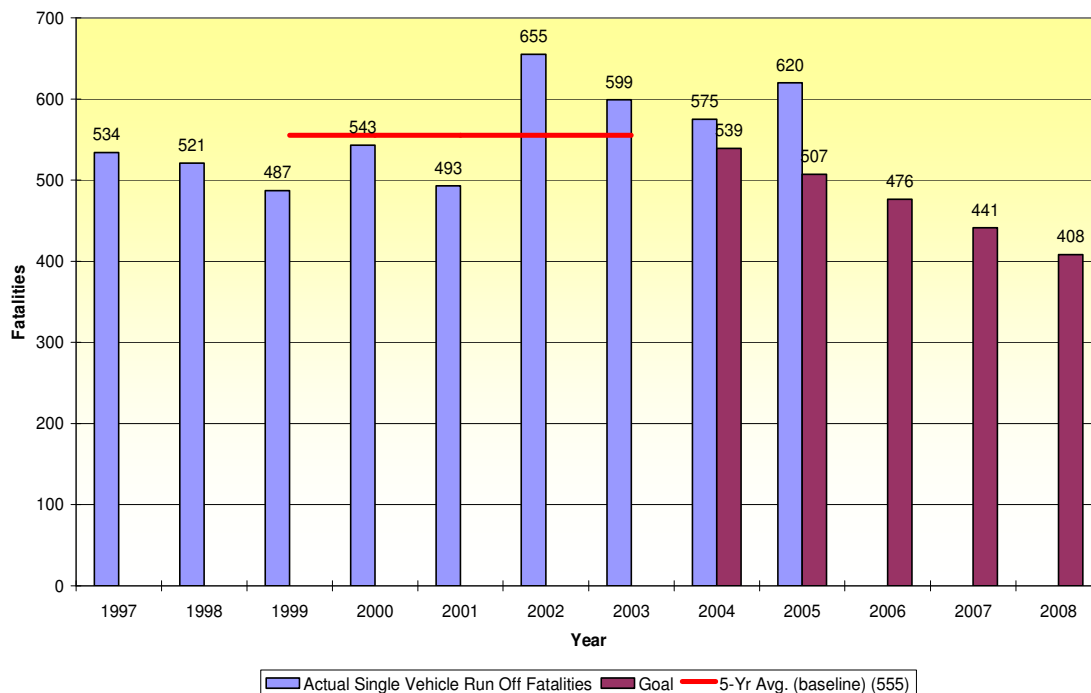
### 4.B - **Reducing Run-Off-Road Crashes:**

*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)

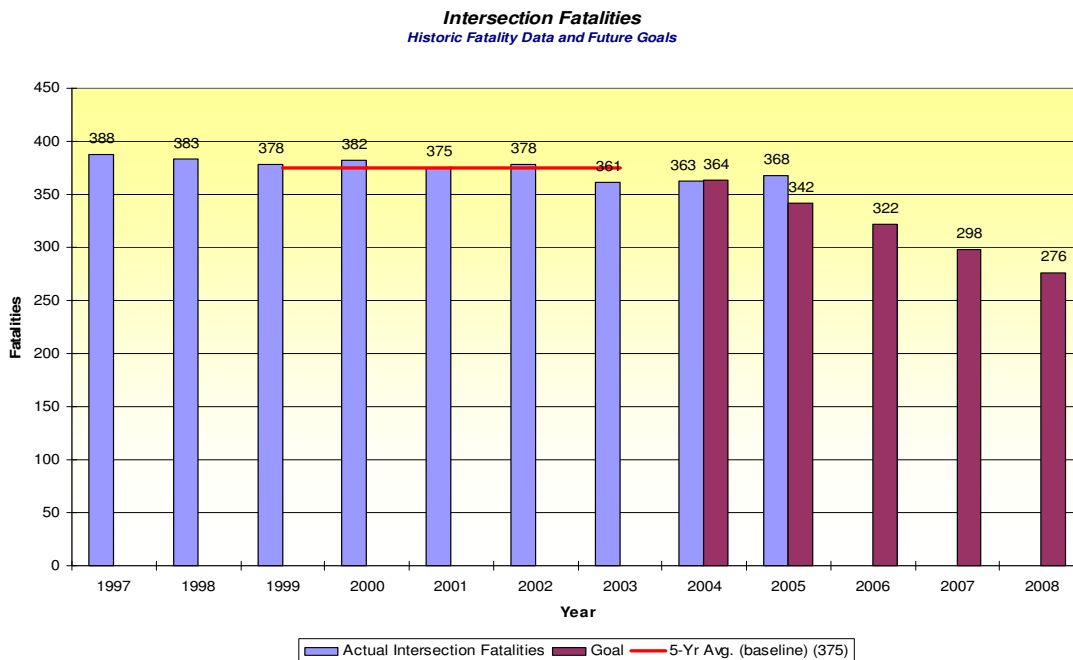
- Install shoulder rumble strips and centerline rumble strips
- Remove/relocate objects in hazardous road side locations
- Provide lighting of curves
- Enhance delineation on sharp curves on pavement and shoulder
- Improve/widen shoulder surfaces
- Eliminate shoulder drop-offs

## 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 running<sup>1</sup>*

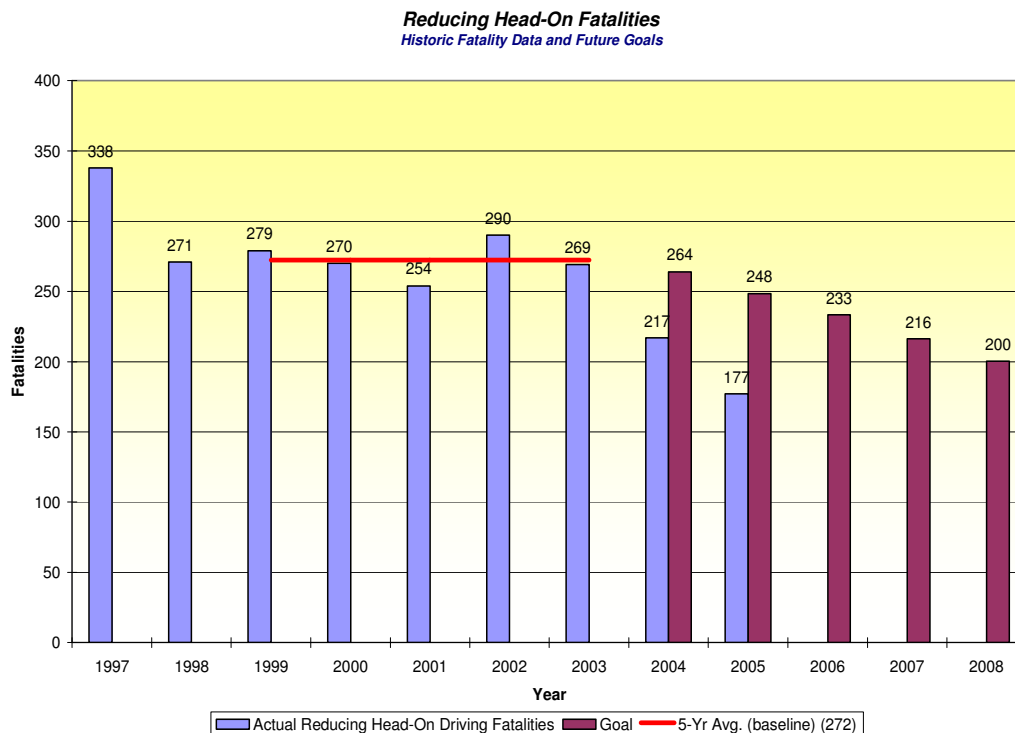
<sup>1</sup> *Italic text denotes legislative strategies recommended by highway safety partners and does not constitute endorsement by agency leadership*

## 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).

**COMMONWEALTH OF PENNSYLVANIA  
POLICE CRASH REPORTING FORM**

Page:  Crash Number:

AA 45 3 1 Police Use Only

**A Person Type:**  
00=Driver  
01=Passenger  
02=Pedestrian  
03=Other  
04=Unknown

**B Sex:**  
F=Female  
M=Male  
U=Unknown

**C Injury Severity:**  
0=Not Injured  
1=Minor Injury  
2=Moderate Injury  
3=Major Injury  
4=Killed  
9=Unknown

**D Seat Position:**  
00=Not A Passenger/Occupant  
01=Driver - All Vehicles  
02=Front Seat Middle Position  
03=Front Seat Right Side  
04=Second Row - Left Side Or Motorcycle Passenger  
05=Second Row - Middle Position  
06=Second Row - Right Side  
07=Third Row Or Greater - Left Side  
08=Third Row Or Greater - Middle Position  
09=Third Row Or Greater - Right Side  
10=Sleeper Section Of Truckcab  
11=In Other Enclosed Passenger Or Cargo Area (Back Of Pickup, Etc.)  
12=Trailing Unit  
13=Riding On Vehicle Exterior  
14=Bus Passenger  
15=Other  
99=Unknown

**E Safety Equipment One:**  
01=None Used / Not Applicable  
02=Shoulder Belt Used  
03=Lap Belt Used  
04=Lap And Shoulder Belt Used  
05=Child Safety Seat Used  
06=Motorcycle Helmet Used  
07=Bicycle Helmet Used  
10=Safety Belt Used Improperly  
11=Child Safety Seat Used Improperly  
12=Helmet Used Improperly  
99=Restraint Used, Type Unknown  
99=Unknown

**F Safety Equipment Two:**  
01=None Used / Not Applicable  
02=Front Air Bag Deployed (For This Seat)  
03=Side Air Bag Deployed (For This Seat)  
04=Other Type Air Bag Deployed  
05=Multiple Air Bags Deployed  
06=Motorcycle Eye Protection  
07=Bicyclist Wearing Elbow/Knee/Pads  
10=Air Bag Not Deployed, Switch On  
11=Air Bag Not Deployed, Switch Off  
12=Air Bag Not Deployed, Unk Switch Setting  
13=Air Bag Removed (Prior To Crash)  
14=Unknown If Air Bag Deployed  
99=Unknown

**G Ejection:**  
0=Not Ejected / Not Applicable  
1=Not Ejected  
2=Totally Ejected  
3=Partially Ejected  
9=Unknown

**H Ejection Path:**  
0=Not Ejected / Not Applicable  
1=Through Side Door Opening  
2=Through Side Window  
3=Through Windshield  
4=Through Back Door  
5=Through Back Door Tailgate Opening  
6=Through Roof Opening (Sunroof/Convertible Top Down)  
7=Through Roof Opening (Convertible Top Up)  
9=Unknown

**I Extrication:**  
0=Not Applicable  
1=Not Extricated  
2=Extricated By Mechanical Means  
3=Extricated By Non - Mechanical Means  
8=Other  
9=Unknown

EMS Agency:  Medical Facility:

| Unit No                                                          | Person No            | Delete?              | Date of Birth (MM-DD-YYYY) | A                    | B                    | C                    | D                    | E                    | F                    | G                    | H                    | I                    |
|------------------------------------------------------------------|----------------------|----------------------|----------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
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| Name / Address / Phone <input type="text"/>                      |                      |                      |                            |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| EMS Transport <input type="radio"/> Yes <input type="radio"/> No |                      |                      |                            |                      |                      |                      |                      |                      |                      |                      |                      |                      |

| Unit No                                                          | Person No            | Delete?              | Date of Birth (MM-DD-YYYY) | A                    | B                    | C                    | D                    | E                    | F                    | G                    | H                    | I                    |
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| Name / Address / Phone <input type="text"/>                      |                      |                      |                            |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| EMS Transport <input type="radio"/> Yes <input type="radio"/> No |                      |                      |                            |                      |                      |                      |                      |                      |                      |                      |                      |                      |

| Unit No                                                          | Person No            | Delete?              | Date of Birth (MM-DD-YYYY) | A                    | B                    | C                    | D                    | E                    | F                    | G                    | H                    | I                    |
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| Name / Address / Phone <input type="text"/>                      |                      |                      |                            |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| EMS Transport <input type="radio"/> Yes <input type="radio"/> No |                      |                      |                            |                      |                      |                      |                      |                      |                      |                      |                      |                      |

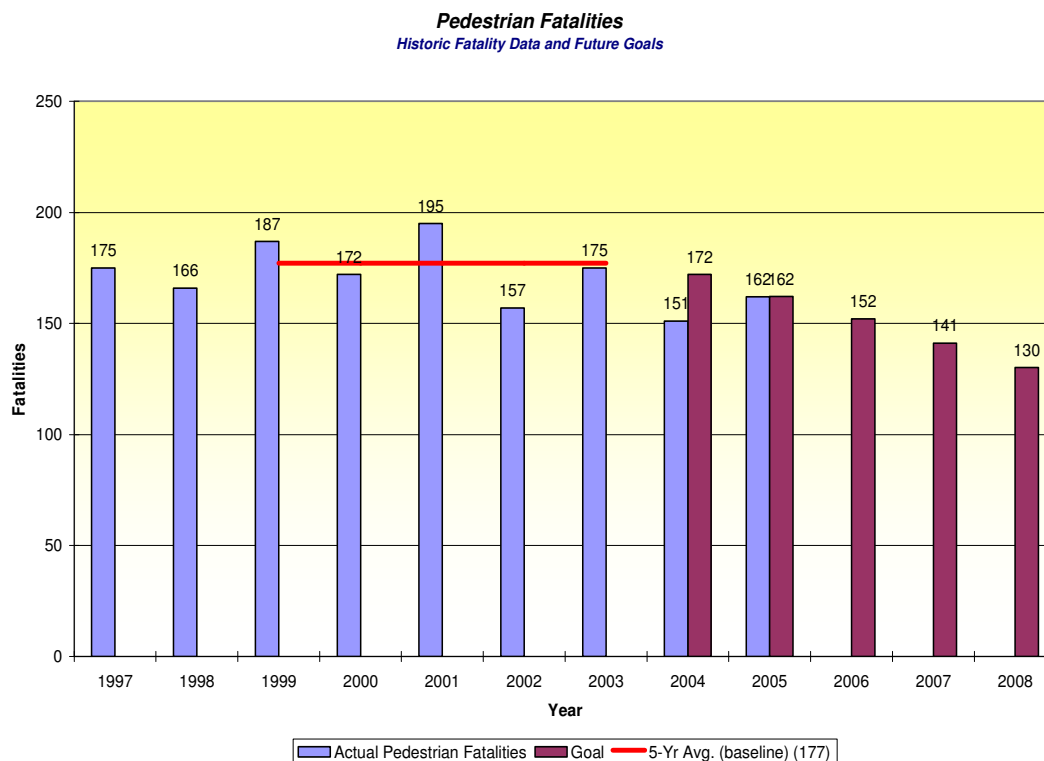
### Suggested Top Strategies for Improving Crash Records:

- 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.



### 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 projects<sup>1</sup>*

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

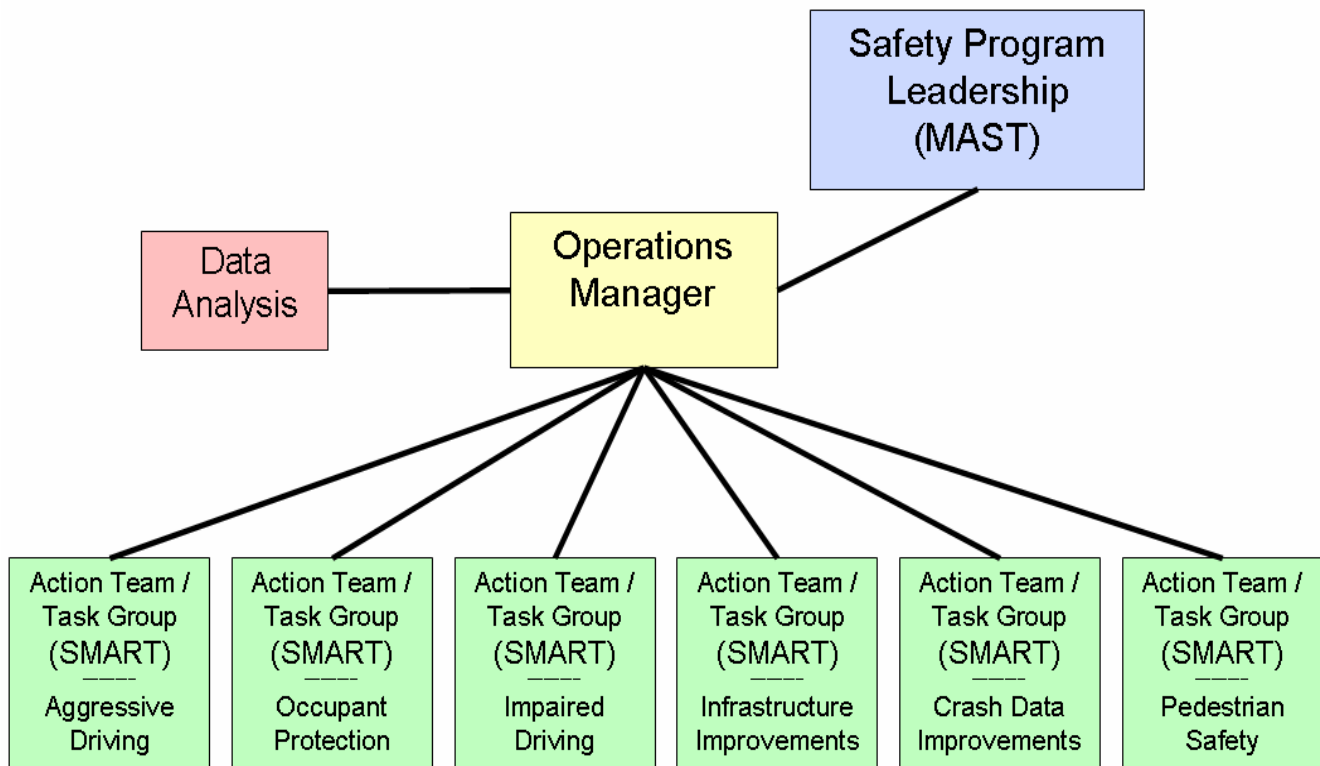
## Plan Implementation

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       |
|                                                                                                              |                       | 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 | <u>1.</u> 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"> <li>• Number corridors implemented</li> <li>• Number enforcement waves</li> </ul>                                                                                                                                                                                                                     | PENNDOT, PSP, Local Police, grantees, NHTSA                             |
|          |                                             | <u>2.</u> Implement "Smooth Operator Program" to combat aggressive driving                                                                                | <ul style="list-style-type: none"> <li>• Number counties participating in Smooth Operator Program</li> <li>• Number corridors implemented</li> <li>• Number enforcement waves</li> <li>• Program effectiveness (such as speed reduction, number of citations, reduced crashes)</li> </ul>                                                |                                                                         |
|          |                                             | <u>4.</u> Expand ITS technologies including the distribution of public awareness information                                                              | <ul style="list-style-type: none"> <li>• Number TASE programs</li> <li>• Number RLR camera sites</li> <li>• Number PI&amp;E license renewal insertions</li> </ul>                                                                                                                                                                        | PENNDOT - BHSTE, ITS, PSP, Municipalities                               |
|          |                                             | <u>5.</u> Continue funding for aggressive driving enforcement training for law enforcement officers and the public                                        | <ul style="list-style-type: none"> <li>• Money spent (grant) for PSP training</li> <li>• Number officers trained</li> </ul>                                                                                                                                                                                                              | DJ.s, PENNDOT, PSP, Grantees                                            |
|          |                                             | <u>6.</u> Consider legislation that defines aggressive driving as an enforceable offense and includes the expansion of automated enforcement              | <ul style="list-style-type: none"> <li>• Date legislation enacted</li> </ul>                                                                                                                                                                                                                                                             | PENNDOT and partners, PA Legislature                                    |
|          |                                             | <u>7.</u> Consider legislation that allows local police to use radar                                                                                      | <ul style="list-style-type: none"> <li>• Date legislation enacted</li> </ul>                                                                                                                                                                                                                                                             | PA Legislature, PSP, local police                                       |
| 2        | Reducing Impaired (DUI) Driving             | <u>1.</u> Sustain high-visibility of DUI enforcement                                                                                                      | <ul style="list-style-type: none"> <li>• Number checkpoints conducted</li> <li>• Number roving patrols</li> <li>• Number Cops-In-Shops</li> <li>• Number Police department participation</li> <li>• Number enforcement contacts</li> <li>• Number arrests</li> <li>• Recidivism rate</li> <li>• Number DUI crashes/fatalities</li> </ul> | 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                                                                            |
|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
|          |           | <u>2.</u> Sustain public information and education in combination with enforcement programs                                                 | <ul style="list-style-type: none"> <li>• Number media events</li> <li>• Number press releases</li> <li>• Number people reached by media</li> </ul>                                                                                            | Law Enforcement, PSP, PENNDOT, PLCB, Dept. of Ed, NHTSA, LCB, Grantees                          |
|          |           | <u>3.</u> Sustain involvement with NHTSA Checkpoint Strike Force Effort                                                                     | <ul style="list-style-type: none"> <li>• Number of regional operations completed</li> <li>• Use of new NHTSA TAG line incorporated in PA</li> <li>• Support NHTSA media buy with PA effort</li> </ul>                                         | Law Enforcement, PSP, PENNDOT                                                                   |
|          |           | <u>4.</u> Perform Screening and Brief Intervention (SBI) in the Hospital Emergency Room, etc.                                               | <ul style="list-style-type: none"> <li>• Number roadside breath tests</li> <li>• Number hospitals participating in the SBI program</li> </ul>                                                                                                 | Law Enforcement, PSP, PENNDOT, PA Department of Health                                          |
|          |           | <u>5.</u> Provide Education programs for District Justices (DJ)                                                                             | <ul style="list-style-type: none"> <li>• Audit of charges of disposition placed before a DJ (underage)</li> <li>• Track ratio of citation to conviction</li> <li>• Number adult charges brought and charges issued</li> </ul>                 | DA's, PENNDOT Districts, PA DUI Assoc, ILEE, PSP, Dept. of Ed, Municipal Officer Training, AOPC |
|          |           | <u>6.</u> Educate judges, law enforcement officers, hearing officers, breath test officers, prosecutors, and bar managers/bar tenders, etc. | <ul style="list-style-type: none"> <li>• Number officers, prosecutors, judges trained</li> <li>• Number presentations</li> <li>• Conviction ratios versus acquittals</li> </ul>                                                               | DA's, PENNDOT Districts, PA DUI Assoc, ILEE, PSP, Dept. of Ed, Municipal Officer Training, AOPC |
|          |           | <u>7.</u> Maintain DUI courts and expand courts in other areas                                                                              | <ul style="list-style-type: none"> <li>• Number counties with DUI court</li> <li>• Number clients</li> <li>• Number graduates</li> <li>• Number dropouts</li> <li>• Track long-term results</li> </ul>                                        | PENNDOT, NHTSA, District Attorneys, County DA's, President Judges, PCCD, County Courts          |
|          |           | <u>8.</u> Improve ignition interlock systems for convicted DUI offenders and consider implementing an ignition interlock QA program         | <ul style="list-style-type: none"> <li>• Number devices installed, ordered</li> <li>• Machine enhancements attached to improve overall safety</li> <li>• Number installed, ordered</li> <li>• Number trips prevented with high BAC</li> </ul> | PENNDOT, County Probation Offices                                                               |

|                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------|
| <p align="center"><b>Vital Six Safety Focus Areas:</b><br/> <b>Strategies, Possible Measures, and Responsible Agencies</b></p> |
|--------------------------------------------------------------------------------------------------------------------------------|

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

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

| Priority | SFA Title                                                                         | Suggested Strategies                                                                                                                          | Possible Performance Measures                                                                                                                                                                                                                                                                                                                  | Responsible Agencies                                                                                                |
|----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|          |                                                                                   | <u>6.</u> Improve Public Information and Education (PI&E) programs to increase usage in communities with diverse populations                  | <ul style="list-style-type: none"> <li>Determine baseline usage rates</li> <li>Observational survey in communities</li> <li>Money spent on PI&amp;E events</li> <li>Number media events</li> <li>Number outreach programs in the communities with needs</li> </ul>                                                                             | PENNDOT, Safe Kids, Grantees, Dept. of Ed, School Districts, Buckle Up PA, Governor's Office - Latino Council, CISP |
|          |                                                                                   | <u>7.</u> Continue high-profile "child restraint inspection" events at community locations                                                    | <ul style="list-style-type: none"> <li>Number events</li> <li>Number technicians trained</li> <li>Number seats checked</li> <li>Observation rate</li> <li>Booster seat violation record</li> <li>Number seats loaned out</li> </ul>                                                                                                            | PENNDOT - BHSTE, Districts, PSP, Safe Kids, TIPP                                                                    |
|          |                                                                                   | <u>8.</u> Consider enacting primary seat belt law                                                                                             | <ul style="list-style-type: none"> <li>Date law is enacted</li> <li>Bill passed Committee</li> </ul>                                                                                                                                                                                                                                           | PA Legislature                                                                                                      |
| 4        | Infrastructure Improvements (Reducing roadway departure and intersection crashes) |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                     |
| 4.A      | Reducing the Severity and Frequency of Hit Fixed Object                           | <u>1.</u> Remove Hazardous Trees/prevent tree growth                                                                                          | <ul style="list-style-type: none"> <li>Number trees removed that were involved in fatal and serious crashes</li> <li>Number fatalities involving trees</li> <li>Money spent to remove trees/other objects</li> <li>Number activities</li> <li>Person-hours dedicated</li> <li>Number set plans measured by each county and district</li> </ul> | PENNDOT, FHWA, Municipalities, DCNR, Partners (MPOs, RPOs)                                                          |
|          |                                                                                   | <u>2.</u> Evaluate and implement traffic barrier improvements as well as other roadside improvements (to mitigate embankments, ditches, etc.) | <ul style="list-style-type: none"> <li>Number fatalities involving hit traffic barrier as "first</li> </ul>                                                                                                                                                                                                                                    | 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                                                                     |
|----------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|          |                               | <b>3.</b> Implement recommendations of the Federal Highway Administration/PENNDOT Independent Oversight Program (process review) report on traffic barrier installation | <ul style="list-style-type: none"> <li>harmful event"</li> <li>• Money spent on upgrades</li> <li>• Inventory of substandard cable guide rail and end treatment</li> <li>• Miles of barriers replaced with "Clear space"</li> </ul>                                                                                                    | RPOs)                                                                                    |
|          |                               | <b>4.</b> Relocate hazardous poles/reduce the number of poles along corridors                                                                                           | <ul style="list-style-type: none"> <li>• Number fatalities involving utility poles – any event in crash</li> <li>• Number poles removed/relocated that were involved in fatal and serious injury crashes</li> <li>• Number of crashes involving poles – any event</li> <li>• PA rank in nation on "Hit poles/fixed objects"</li> </ul> | Utility companies, PUC, PENNDOT, FHWA, Municipalities, legislators, Partners (MPO, RPOs) |
|          |                               | <b>5.</b> Improve nighttime visibility of fixed objects                                                                                                                 | <ul style="list-style-type: none"> <li>• Number fatal accidents involving night-time poles or trees</li> </ul> <p>Money spent on delineation (reflectorization)</p>                                                                                                                                                                    | Utility companies, PUC, PENNDOT, FHWA, Municipalities, legislators, Partners (MPO, RPOs) |
|          |                               | <b>6.</b> Protect bridge end walls                                                                                                                                      | <ul style="list-style-type: none"> <li>• Number bridge ends unprotected</li> <li>• Number bridge ends improved with adequate protection</li> </ul>                                                                                                                                                                                     | PENNDOT, FHWA, Municipalities, Partners, MPOs, RPOs                                      |
|          |                               | <b>7.</b> Relocate Utilities underground where possible                                                                                                                 | <ul style="list-style-type: none"> <li>• Number of utility poles removed for underground utilities</li> </ul>                                                                                                                                                                                                                          | PENNDOT, FHWA, Municipalities, Utility companies, PUC, legislators, Partners, MPOs, RPOs |
| 4.B      | Reducing Run-Off-Road Crashes | <b>1.</b> Install shoulder rumble strips and center rumble strips                                                                                                       | <ul style="list-style-type: none"> <li>• Number miles of rumble strips</li> <li>• Number crashes before/after</li> <li>• Percentage eligible miles with rumble strips installed</li> </ul>                                                                                                                                             | 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                                       |
|----------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|          |                               | <u>2.</u> Improve compliance with PENNDOT policies regarding crash damaged poles (See Hit Fixed Object Safety Focus Area)                                                        | <ul style="list-style-type: none"> <li>Number crash damaged poles removed / relocated</li> </ul>                                                                                                                                                                              | PENNDOT, Municipalities, Utilities                         |
|          |                               | <u>3.</u> Provide lighting of curves                                                                                                                                             | <ul style="list-style-type: none"> <li>Number curves improved (delineation &amp; lighting)</li> <li>Number miles of wider edge lines</li> <li>Reduction of crashes at curves, C/B (cost/benefit)</li> <li>Before/after improvement assessment</li> </ul>                      | PENNDOT, Municipalities, MPOs, RPOs                        |
|          |                               | <u>4.</u> Enhance delineation on sharp curves on pavement and shoulder                                                                                                           |                                                                                                                                                                                                                                                                               |                                                            |
|          |                               | <u>5.</u> Improve/widen shoulder surfaces                                                                                                                                        | <ul style="list-style-type: none"> <li>Number miles shoulder widened</li> <li>Before/after crash analysis</li> </ul>                                                                                                                                                          | PENNDOT, Municipalities, Developers, Utilities, MPOs, RPOs |
|          |                               | <u>6.</u> Eliminate shoulder drop-offs                                                                                                                                           | <ul style="list-style-type: none"> <li>Number miles of shoulder drop improvements</li> <li>Number of locations</li> <li>Measure against a key standard e.g. &gt; 4 inches eliminated in 6 months</li> </ul>                                                                   | PENNDOT, Municipalities (Maintenance)                      |
| 4.C      | Improving Intersection Safety | <u>1.</u> Improve signal and intersection geometry                                                                                                                               | <ul style="list-style-type: none"> <li>Number intersections improved</li> <li>Number projects and locations with fatal crash clusters</li> <li>Money directed at intersections</li> <li>Percentage safety improvement budget money directed at intersection safety</li> </ul> | PENNDOT, Municipalities, LTAP, Partners (MPOs, RPOs)       |
|          |                               | <u>2.</u> 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"> <li>Number LED signals implemented</li> <li>Number reflectorized backplates implemented</li> <li>Severity/number of intersection crashes</li> </ul>                                                                                        | PENNDOT, Municipalities, LTAP, Partners (MPOs, RPOs)       |
|          |                               | <u>3.</u> Improve signal timing & phasing and optimize clearance intervals                                                                                                       |                                                                                                                                                                                                                                                                               |                                                            |
|          |                               | <u>4.</u> Enhance coordination of closely spaced signals                                                                                                                         |                                                                                                                                                                                                                                                                               |                                                            |
|          |                               | <u>5.</u> Convert intersections to roundabouts                                                                                                                                   | <ul style="list-style-type: none"> <li>Number intersections converted to Roundabouts</li> </ul>                                                                                                                                                                               | 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                                            |
|----------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|          |                                           | <b>6.</b> Improve signing and delineation at signalized and stop controlled intersections                                                                                          | <ul style="list-style-type: none"> <li>• Money spent on improved delineation</li> <li>• Number intersections which received enhanced delineation</li> </ul>                                                                                                                                                       | PENNDOT, Municipalities, LTAP, Partners, MPOs, RPOs             |
|          |                                           | <b>7.</b> Implement dynamic flashing beacons; apply rumble strips at unsignalized stop approaches                                                                                  | <ul style="list-style-type: none"> <li>• Money spent on improved approach dynamics (beacons, rumble strips)</li> <li>• Number intersections which received improved approach dynamics (beacons, rumble strips)</li> </ul>                                                                                         | PENNDOT, Municipalities, LTAP, Partners, MPOs, RPOs             |
|          |                                           | <b>8.</b> 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"> <li>• Date law enacted</li> <li>• Number Devices employed</li> <li>• Number automatic citations written</li> <li>• Money value automatic written citations</li> <li>• Trends for these types of citations/violations</li> <li>• Number of red light running crashes</li> </ul> | PENNDOT, Municipalities, LTAP Partners, MPOs, RPOs, Legislature |
| 4.D      | Reducing Head-On and Cross-Median Crashes | <b>1.</b> Install centerline rumble strips                                                                                                                                         | <ul style="list-style-type: none"> <li>• Number miles with rumble strips</li> <li>• Number crash sites before and after addition of rumble strips</li> <li>• Percentage of eligible miles installed with rumble strips</li> </ul>                                                                                 | PENNDOT, Municipalities, Partners, MPOs, RPOs                   |
|          |                                           | <b>2.</b> Enhance delineation of sharp curves                                                                                                                                      | <ul style="list-style-type: none"> <li>• Number curves improved</li> <li>• Before and after results in crashes</li> <li>• Reduction in crashes on curves overall</li> </ul>                                                                                                                                       | PENNDOT, Municipalities, Partners, MPOs, RPOs                   |
|          |                                           | <b>3.</b> Install median barriers for open medians on multi-lane roads.                                                                                                            | <ul style="list-style-type: none"> <li>• Number "New Miles" with barrier</li> <li>• Number Cross-Median crashes</li> <li>• Number Cross-Median fatal</li> <li>• Number Crashes on divided highways</li> </ul>                                                                                                     | 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                             |
|----------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
|          |                                                                                 | <u>4.</u> Install shoulder rumble strips                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Number miles with rumble strips</li> <li>Number crash sites before and after addition of rumble strips</li> <li>Percentage eligible miles with rumble strips installed</li> </ul> | PENNDOT, Municipalities, Partners, MPOs, RPOs    |
|          |                                                                                 | <u>5.</u> Reallocate total roadway width (lane and shoulder) to include a narrow "buffer median."                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Number miles improved with wider shoulders or "buffer median"</li> </ul>                                                                                                          | PENNDOT, Municipalities, Partners, MPOs, RPOs    |
|          |                                                                                 | <u>6.</u> Widen shoulders, widen narrow roadways, examine relationship between lane width versus crash rate                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Number fatalities and crashes before/after</li> </ul>                                                                                                                             |                                                  |
| 5        | Improving Crash Records System and Other Information / Decision Support Systems | <u>1.</u> Increase the electronic submission of crash records input by partners                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Number police agencies approved for FTP</li> <li>Number cases submitted electronically</li> </ul>                                                                                 | Local Police, PENNDOT                            |
|          |                                                                                 | <u>2.</u> Implement a program for improving the quality of police prepared data                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>QA/QC program in place</li> <li>Error rate on processed police crash reports</li> </ul>                                                                                           | PENNDOT, Police Departments                      |
|          |                                                                                 | <u>3.</u> 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"> <li>Increase output analysts by two by July 2007</li> </ul>                                                                                                                           | PENNDOT                                          |
|          |                                                                                 | <u>4.</u> Improve reliability and accessibility of local road crash information                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Improve quality of local road crash data (GIS) in 20% of the counties each year</li> <li>Number counties with GIS mapping coordinate system for local road crashes</li> </ul>     | PENNDOT                                          |
|          |                                                                                 | <u>5.</u> Implement top 3 recommendations of NHTSA Records Assessment (including development of strategic plan for data improvement) <ul style="list-style-type: none"> <li>Establish active Traffic Records Coordinating Committee (TRCC)</li> <li>Develop strategic plan for crash data improvement</li> <li>Implement crash data quality control program</li> </ul> | <ul style="list-style-type: none"> <li>Implement first three recommendations by September 2006</li> </ul>                                                                                                                | 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                                                                 |
|----------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|          |                             | <u>6.</u> Improve data accessibility by partners and data users (CDART, Prophecy, Codes, etc.)                                                                                             | <ul style="list-style-type: none"> <li>Develop requirements by June 2006</li> <li>Implement internet portal by October 2007</li> </ul>                                                   | PENNDOT & Partners                                                                   |
| 6        | Improving Pedestrian Safety | <u>1.</u> Implement safe-crossing designs for mid-block crossings                                                                                                                          | <ul style="list-style-type: none"> <li>Number of mid-block crossing facilities installed</li> <li>Number of mid-block m.v.-ped crashes reduced at selected problem locations</li> </ul>  | PENNDOT - Districts; Municipalities                                                  |
|          |                             | <u>2.</u> Continue to deploy yield-to-pedestrian channelizing devices to communities across the commonwealth and measure their effectiveness.                                              | <ul style="list-style-type: none"> <li>Number of units deployed per year (target is 400)</li> </ul>                                                                                      | PENNDOT - Districts, local Police, Municipalities (school districts), State Agencies |
|          |                             | <u>3.</u> 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"> <li>\$ spent on pedestrian safety projects in TE, HS, SR2S programs</li> </ul>                                                                        | PENNDOT - Districts; Municipalities, MPOs, RPOs                                      |
|          |                             | <u>4.</u> 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"> <li>Pedestrian crash/fatality rates</li> <li>Number pedestrian safety road shows</li> <li>Number pedestrian safety sites addressed by LTAP</li> </ul> | PENNDOT Districts, Municipalities, LTAP, Grantees                                    |
|          |                             | <u>5.</u> 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"> <li>Number of Improved intersections</li> <li>M.V./Pedestrian crash rate reduction</li> </ul>                                                         | PENNDOT Districts, Municipalities                                                    |
|          |                             | <u>6.</u> <i>Promote legislation to establish a Universal Pedestrian Access component to all projects</i>                                                                                  | <ul style="list-style-type: none"> <li><i>Date law enacted</i></li> </ul>                                                                                                                | <i>PA Legislators</i>                                                                |
|          |                             | <u>5.</u> 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"> <li>Number grade separations accomplished</li> </ul>                                                                                                  | 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                      |                             |                                                                           | Total Fatalities in All Crashes (PA) |                |              |                |              |              |              |              |
|-----------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------|--------------------------------------|----------------|--------------|----------------|--------------|--------------|--------------|--------------|
|                                                                 |                             |                                                                           | Actual<br>Avg.<br>1999 -<br>2003     | Actual<br>2004 | Goal<br>2004 | Actual<br>2005 | Goal<br>2005 | Goal<br>2006 | Goal<br>2007 | Goal<br>2008 |
| Summary - In order of Priority Ranking                          | PA's<br>Priority<br>Ranking | Crash Category                                                            |                                      |                |              |                |              |              |              |              |
| 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                         |                                                                           | 14                                   | 4              | 14           |                | 13           | 12           | 11           | 10           |
|                                                                 |                             | Vehicle Failure-related                                                   |                                      |                |              |                |              |              |              |              |
| 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 | <u>1.</u> Continue to provide funding and promote low-cost safety improvement projects on local roads                                                                                    | <ul style="list-style-type: none"> <li>Number local road projects completed</li> <li>Money spent on local road projects</li> <li>Ratio expenditure on local roads vs. all others or totals</li> <li>Money and percentage increase over prior years</li> </ul>                                                                                                                                                  | Municipalities, PENNDOT (Municipal Services), MPOs, RPOs, LTAP |
|          |                                 | <u>2.</u> Implement local agency Safety Management Systems                                                                                                                               | <ul style="list-style-type: none"> <li>Number MPOs, RPOs implementing system</li> </ul>                                                                                                                                                                                                                                                                                                                        | Municipalities, PENNDOT (Planning), MPOs, RPOs                 |
|          |                                 | <u>3.</u> <i>Secure dedicated funding for safety on local roads</i>                                                                                                                      | <ul style="list-style-type: none"> <li><i>Number local road projects completed</i></li> <li><i>Money spent on local road projects</i></li> </ul>                                                                                                                                                                                                                                                               | <i>Legislature, PENNDOT (Municipal Services), FHWA</i>         |
|          |                                 | <u>4.</u> Implement local comprehensive programs to reduce aggressive driving, reduce DUI crashes, increase seat belt use, etc.                                                          | <ul style="list-style-type: none"> <li>Number MPOs, RPOs participating</li> </ul>                                                                                                                                                                                                                                                                                                                              | NHTSA, PENNDOT, Municipalities, MPOs, RPOs                     |
|          |                                 | <u>5.</u> 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"> <li>Number counties with GIS mapping coordinate system for local road crashes</li> <li>Number MPO/RPO with access to CDART (crash data)</li> </ul>                                                                                                                                                                                                                          | PENNDOT, Law Enforcement, Municipalities, MPOs, RPOs           |
| 8        | Improving Younger Driver Safety | <u>1.</u> Implement enhancements to comprehensive graduated licensing system                                                                                                             | <ul style="list-style-type: none"> <li>Determine if implementation of enhancements / legislation resulted in reduction of crashes, fatalities and injuries involving young drivers</li> <li>Determine if restrictive passenger legislation resulted in fewer crashes, fatalities and injuries</li> <li>Identify if suggestions have been made for program enhancements based on fatality reductions</li> </ul> | Legislators, PENNDOT BDL & BHSTE, Dept. of Ed.                 |
|          |                                 | <u>2.</u> <i>Consider safety legislation that will restrict the maximum number of passengers in vehicles of younger drivers</i>                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                |
|          |                                 | <u>3.</u> Analyze fatality statistics to determine which components of the graduated licensing law are effective at reducing crashes and make recommendations for program enhancements   |                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                |
|          |                                 | <u>4.</u> 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                                                    |
|----------|------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|          |                              | <u>5.</u> Expand enforcement targeting young drivers                                                               | <ul style="list-style-type: none"> <li>Determine if expanded enforcement effort result in fewer crashes, fatalities and injuries</li> </ul>                                        | PSP, Local Police, "Smooth Operator", District Justices                 |
|          |                              | <u>6.</u> Implement public information and education campaigns targeted at improving the safety of younger drivers | <ul style="list-style-type: none"> <li>Determine if implementation results in fewer crashes, fatalities and injuries</li> </ul>                                                    | PENNDOT - BHSTE, BDL, AAA, Dept. of Ed, Grantees                        |
|          |                              | <u>7.</u> Continue real-world comprehensive testing (young driver's knowledge and skills)                          | <ul style="list-style-type: none"> <li>Determine if implementation of real-world testing resulted in fewer crashes, fatalities and injuries</li> </ul>                             | PENNDOT - BHSTE, BDL                                                    |
| 9        | Improving Heavy Truck Safety | <u>1.</u> Expand highway corridors for enhanced enforcement                                                        | <ul style="list-style-type: none"> <li>Number corridors with enhanced enforcement</li> <li>Number citations issued</li> </ul>                                                      | FMCSA, Law Enforcement, PENNDOT, PUC, Local Municipalities, Magistrates |
|          |                              | <u>2.</u> Continue to deploy advanced enforcement techniques and technologies                                      | <ul style="list-style-type: none"> <li>Number advanced technologies deployed</li> </ul>                                                                                            | FMCSA, Law Enforcement, PENNDOT, PUC, Local Municipalities, Magistrates |
|          |                              | <u>3.</u> Enhance training of police officers to improve overall enforcement of moving violations                  | <ul style="list-style-type: none"> <li>Number officers trained</li> </ul>                                                                                                          | FMCSA, Law Enforcement, PENNDOT, PUC, Local Municipalities, Magistrates |
|          |                              | <u>4.</u> Continue to improve rest area facilities (with additional parking) and increase number of pull-off areas | <ul style="list-style-type: none"> <li>Number rest areas added</li> <li>Number rest areas with improved capacity</li> <li>Number parking spaces added on pull-off areas</li> </ul> | PENNDOT; PA. Turnpike                                                   |
|          |                              | <u>5.</u> Continue to expand roadside inspection programs and inspection sites on designated highways              | <ul style="list-style-type: none"> <li>Number roadside inspections</li> <li>Number roadside citations</li> </ul>                                                                   | 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                                                     |
|----------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
|          |                                                                 | <b>6.</b> 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"> <li>Number publications distributed</li> <li>Number items added to the driver's manual</li> <li>Total number "no zone" demonstrations</li> <li>Number "no zone" demonstrations at elementary schools</li> </ul> | PENNDOT BDL, Dept. of Ed                                                 |
|          |                                                                 | <b>7.</b> Continue to include truck-car information in the Pennsylvania Driver's Manual                                                                                          | <ul style="list-style-type: none"> <li>Number items added to the driver's manual</li> </ul>                                                                                                                                                        | PENNDOT BDL, Dept. of Ed                                                 |
|          |                                                                 | <b>8.</b> Encourage Drivers Education programs to incorporate "no zone" into high school curriculum                                                                              | <ul style="list-style-type: none"> <li>Total number "no zone" demonstrations</li> <li>Number "no zone" demonstrations at elementary schools</li> </ul>                                                                                             | PENNDOT BDL, Trucking Industry, Dept. of Ed, PMTA, PSP, School Districts |
|          |                                                                 | <b>9.</b> 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"> <li>Number trucking companies with fatigue management programs</li> </ul>                                                                                                                                       | PENNDOT, FMCSA, PMTA, Carriers                                           |
| 10       | Reducing Crashes Involving Inattentive or Drowsy Drivers        | <b>1.</b> Implement centerline rumble strips (CLRS) on Two-lane Rural Roadways (see Head-On Crashes)                                                                             | <ul style="list-style-type: none"> <li>Miles CLRS installed</li> </ul>                                                                                                                                                                             | PENNDOT-BHSTE, Districts, Municipalities                                 |
|          |                                                                 | <b>2.</b> 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"> <li>Miles ERS installed</li> <li>Miles SRS installed</li> </ul>                                                                                                                                                 | PENNDOT - BHSTE, Districts, Municipalities, PTC                          |
|          |                                                                 | <b>3.</b> Use innovative road striping to improve driver alertness                                                                                                               | <ul style="list-style-type: none"> <li>Number sites installed</li> <li>Number miles treated</li> </ul>                                                                                                                                             | PENNDOT-BHSTE, Districts, Municipalities                                 |
|          |                                                                 | <b>4.</b> 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"> <li>Money spent on drowsy driving PI&amp;E</li> <li>Number of contacts made</li> </ul>                                                                                                                          | PENNDOT - BHSTE, FMCSA, PSP, Local PDs, PMTA, AARP, AAA, PDE             |
|          |                                                                 | <b>5.</b> For trucking industry, implement fatigue management programs and driver work scheduling                                                                                | <ul style="list-style-type: none"> <li>Number trucking companies with programs</li> </ul>                                                                                                                                                          | PENNDOT, PSP, PMTA, FMCSA                                                |
| 11       | Improving Motorcycle Safety and Increasing Motorcycle Awareness | <b>1.</b> Promote programs to discourage drinking and motorcycling                                                                                                               | <ul style="list-style-type: none"> <li>Number psa's</li> <li>Number posters distributed at motorcycle events &amp; to dealers</li> </ul>                                                                                                           | Law Enforcement, PENNDOT                                                 |

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

| Priority | SFA Title | Suggested Strategies                                                                                                                                                            | Possible Performance Measures                                                                                                                                                                                                                         | Responsible Agencies                          |
|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
|          |           | <b>2.</b> Continue to implement public information and education and earned media campaigns                                                                                     | <ul style="list-style-type: none"> <li>Number billboards</li> <li>Number items on website</li> <li>Number psa's</li> <li>Number posters distributed at community events, number to car dealers</li> <li>Number bumper stickers distributed</li> </ul> | PENNDOT - BHSTE, BDL; PDE, NHTSA, ABATE, CTSP |
|          |           | <b>3.</b> Continue to incorporate motorcycle awareness messages in driver training course, driver handbooks/manuals, licensing tests, and the PA non-commercial Driver's Manual |                                                                                                                                                                                                                                                       |                                               |
|          |           | <b>4.</b> Expand the number of training sites and the number of students trained in comprehensive rider education and skill testing for novice riders                           | <ul style="list-style-type: none"> <li>Number sites added</li> <li>Number students trained</li> <li>Number recurring students trained</li> <li>Number rider Coaches recruited to Training sites</li> </ul>                                            | PENNDOT                                       |
|          |           | <b>5.</b> <i>Encourage the development, adoption, and reinstatement of the helmet law and evaluate impact of helmet repeal law</i>                                              | <ul style="list-style-type: none"> <li><i>Date law enacted</i></li> <li><i>Date evaluation complete</i></li> </ul>                                                                                                                                    | Legislature, PENNDOT                          |
|          |           | <b>6.</b> Create a joint task force to identify hazards/areas of concern to motorcyclists and highway professionals.                                                            | <ul style="list-style-type: none"> <li>Task force is formed within one year</li> <li>Number times the task force meets</li> </ul>                                                                                                                     | 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 | <u>1.</u> 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"> <li>• Number roads, corridors, counties with enhancements</li> <li>• Number and type enhancements including bigger street signs &amp; advance signs</li> <li>• Number crashes and fatalities related to crossovers, intersections, other older driver-specific areas</li> <li>• Number signs reviewed and updated</li> <li>• Percentage deficient signs</li> <li>• Percentage system having nighttime reviews</li> <li>• Number crashes, fatalities involving older drivers</li> <li>• Percentage system with high level delineation</li> </ul> | PENNDOT Districts, Municipalities |
|          |                                            | <u>2.</u> Increase availability of alternative transportation modes for the elderly who are no longer able to drive                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• # of annual elderly riders using alternative transportation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PENNDOT, Transit agencies         |
|          |                                            | <u>3.</u> Continue to require physicians to report any physical ailments that could hinder an individual's driving ability                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Number or percentage of physicians regularly reporting to PENNDOT</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PENNDOT, physicians               |
|          |                                            | <u>4.</u> 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"> <li>• Number of contacts made through educational programs</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | PENNDOT, AARP                     |

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

| Priority | SFA Title                         | Suggested Strategies                                                                                            | Possible Performance Measures                                                                                                                                                                | Responsible Agencies                                                                                                                                                      |
|----------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                   | <u>5.</u> Reduce intersection skew angle (see intersection SFA)                                                 | <ul style="list-style-type: none"> <li>• Money spent or # of sites improved for intersection improvements at targeted older driver crash locations</li> </ul>                                | PENNDOT, Municipalities, Partners, MPOs, RPOs                                                                                                                             |
| 13       | Improving Bicycle Safety          | <u>1.</u> Increase public awareness through expanded public education and marketing campaigns                   | <ul style="list-style-type: none"> <li>• Number communities with local bicyclist PI&amp;E programs</li> </ul>                                                                                | PENNDOT - Districts, BHSTE; Pa.. Department of Health; local police, PDE, local EMS, Bike Clubs, medical community, Partners, MPOs, RPOs                                  |
|          |                                   | <u>2.</u> Educate community professionals on effective ways to promote safe bicycling                           | <ul style="list-style-type: none"> <li>• Number communities with share-the-road programs</li> </ul>                                                                                          |                                                                                                                                                                           |
|          |                                   | <u>3.</u> Expand school and community programs that teach bicycle safety to children and adult bicyclists       | <ul style="list-style-type: none"> <li>• Number school districts that teach bicycle safety</li> <li>• Number bicycle rodeo events</li> </ul>                                                 | PENNDOT - Districts, BHSTE; Pa. Department of Health; Pa. SAFE KIDS; Pa. Department of Education, citizens interest groups, local EMS, schools, EMS, Partners, MPOs, RPOs |
|          |                                   | <u>4.</u> Include safe bicycling and sharing the road concepts in drivers education programs                    | <ul style="list-style-type: none"> <li>• Number school districts that teach share the road concepts</li> <li>• Correct response rate to b/p questions on the written drivers exam</li> </ul> |                                                                                                                                                                           |
|          |                                   | <u>5.</u> 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"> <li>• Number children under age 12 involved in crashes not wearing a helmet</li> </ul>                                                                    | Dept. of Health, PENNDOT, Safe Kids, police, local EMS, Partners, MPOs, RPOs                                                                                              |
|          |                                   | <u>6.</u> Continue to assist communities in enforcing bicycle safety laws                                       | <ul style="list-style-type: none"> <li>• Number programs</li> <li>• Effectiveness of programs in reducing mv-bike crashes</li> </ul>                                                         | PENNDOT, Dept. of health, local police, Partners, MPOs, RPOs                                                                                                              |
| 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"> <li>• Number new people certified</li> <li>• Percentage recertified</li> <li>• Percentage calls that met staffing requirements</li> </ul>                                                   | 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"> <li>• Response time (en route to "on scene" – with no increase in speed)</li> <li>• Number vehicles with GPS</li> </ul>                                                                     | Department of Health                                        |
|          |                               | <u>3.</u> Improve compliance of rural 911 centers with FCC wireless phase 2 capability                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Percent PSAPs that are compliant</li> <li>• Time-To-Dispatch of EMS unit</li> </ul>                                                                                                   | FCC, NHTSA, Counties/PSAPs                                  |
|          |                               | <u>4.</u> Integrate support of EMS into rural hospital finance plans                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Number hospitals with EMS support in finance plans</li> </ul>                                                                                                                         | 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"> <li>• Reduced response time</li> <li>• Number communities including emergency personnel when forming response plans</li> </ul>                                                              | 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"> <li>• Percentage of PA covered by Traffic Management Centers established in accordance with requirements?</li> </ul>                                                                        | PENDOT, 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"> <li>• Number Secondary crashes</li> <li>• Number Primary crashes (e.g. weather warnings)</li> <li>• Delay do to congestion (queue reduction)</li> <li>• Number Covered corridors</li> </ul> | PENDOT, MPO, RPO                                            |

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

| Priority | SFA Title                  | Suggested Strategies                                                                                                                                                                                                            | Possible Performance Measures                                                                                                                                           | Responsible Agencies                    |
|----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|          |                            | <b>3.</b> Implement traffic incident management and highway scene safety training: 1) <i>Pennsylvania Highway Incident Management</i> and 2) <i>A Multi-Agency Approach Highway Incident Scene Safety &amp; Traffic Control</i> | <ul style="list-style-type: none"> <li>• Number OIC's trained in traffic management</li> </ul>                                                                          | PENDOT, MPO, RPO                        |
|          |                            | <b>4.</b> Continue and expand Freeway Service Patrols around major metropolitan areas during rush hour                                                                                                                          | <ul style="list-style-type: none"> <li>• Miles of highway patrolled</li> <li>• Number responses</li> <li>• Number crashes</li> <li>• Reduction in congestion</li> </ul> | PENDOT, MPO, RPO                        |
|          |                            | <b>5.</b> Require first responder training for all public safety emergency response personnel, including police and freeway service patrols.                                                                                    | <ul style="list-style-type: none"> <li>• Percentage PSAPs that are compliant</li> <li>• Time-To-Dispatch of EMS unit</li> </ul>                                         | FCC, US DOT, State legislature, PSAPs   |
|          |                            | <b>6.</b> Require first responder training for all freeway service patrols and PENNDOT highway maintenance personnel                                                                                                            | <ul style="list-style-type: none"> <li>• Requirement for training (Y/N)</li> <li>• Number persons trained</li> </ul>                                                    | DOH, PEMA, PSP, PENNDOT                 |
|          |                            | <b>7.</b> 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"> <li>• Staff access to PIERS data (Yes/No)</li> </ul>                                                                                 | PEMA, OA-OIT                            |
| 15       | Improving Work Zone Safety | <b>1.</b> Increase/continue work zone enforcement                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Number projects with dedicated work zone enforcement</li> <li>• Number crashes in work zones</li> </ul>                        | PSP, Municipal Law Enforcement, PENNDOT |
|          |                            | <b>2.</b> Conduct annual WZ safety reviews and implement recommendations of review team                                                                                                                                         | <ul style="list-style-type: none"> <li>• Number reviews completed</li> <li>• Number of recommendations implemented</li> </ul>                                           | PENNDOT, FHWA, Local municipalities     |
|          |                            | <b>3.</b> 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"> <li>• Number VSL sites deployed in work zones</li> <li>• Number TASE sites deployed in work zones</li> </ul>                         | PSP, Municipal Law Enforcement, PENNDOT |
|          |                            | <b>4.</b> Add transverse rumble strips within and prior to work zones                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Number sites improved with transverse rumble strips</li> </ul>                                                                 | 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 | <u>1.</u> 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.                                                      | <ul style="list-style-type: none"> <li>• Number crossings without active warning devices</li> <li>• Number crossings without gates</li> <li>• Database implementation measures in place – proposal date, budget approved date, ownership</li> <li>• Data supply in place – who does it, agreements made</li> <li>• Number crossings improved</li> </ul>                                                                                                       | PENNDOT, PUC, FHWA, MPO                 |
|          |                                | <u>2.</u> Implement an at “Grade Crossing Closure” program                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Number of “At Grade Crossings” closed</li> </ul>                                                                                                                                                                                                                                                                                                                                                                     | PENNDOT, Municipalities, Railroads, PUC |
|          |                                | <u>3.</u> 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. | <ul style="list-style-type: none"> <li>• Number of Operation Lifesaver presentations (now required to be a minimum of 4 per year per person with 100 people certified to deliver)</li> <li>• Number participants on Operation Lifesaver presentations</li> <li>• Number PSAs</li> <li>• Number Web site hits in Operation Lifesaver org</li> <li>• Number of Driver's Ed classes and Mature Driver classes utilizing Operation Lifesaver materials</li> </ul> | Operation Lifesaver, Education          |
|          |                                | <u>4.</u> 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                                  | <ul style="list-style-type: none"> <li>• Number new installations (preemption systems)</li> <li>• Number sites inspected per year</li> <li>• Existence of valid maintenance plans (including verifications made and corrective actions -- at municipal level)</li> </ul>                                                                                                                                                                                      | PENNDOT, Municipalities, PUC            |

|                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------|
| <p align="center"><b>Other Safety Focus Areas:<br/>Strategies, Possible Measures, and Responsible Agencies</b></p> |
|--------------------------------------------------------------------------------------------------------------------|

| Priority | SFA Title | Suggested Strategies                                                                                                                                                     | Possible Performance Measures                                                           | Responsible Agencies                    |
|----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------|
|          |           | <u>5.</u> 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"> <li>Number grade separations accomplished</li> </ul> | 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        |          |                                  | 22    | 20      | 0       | 31      | 1000    |
|        | 2        |          |                                  | 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        |          |                                  | 22    | 31      | 0       | 41      | 0       |
|        | 2        |          |                                  | 103   | 556     | 0       | 556     | 1635    |
|        | 2        |          |                                  | 522   | 12      | 0       | 10      | 138     |
|        | 2        |          |                                  | 522   | 200     | 0       | 210     | 0       |
|        | 2        |          |                                  | 522   | 280     | 0       | 290     | 0       |
|        | 2        |          |                                  | 655   | 290     | 0       | 300     | 0       |
|        | 2        |          |                                  | 1005  | 40      | 0       | 50      | 0       |
|        | 2        | Potter   | Delineation                      | 6     | 180     | 0       | 210     | 0       |
|        | 2        |          |                                  | 44    | 760     | 0       | 780     | 0       |
|        | 2        |          |                                  | 44    | 820     | 0       | 830     | 0       |
|        | 2        |          |                                  | 49    | 140     | 0       | 150     | 0       |
|        | 2        |          |                                  | 144   | 340     | 0       | 350     | 0       |
|        | 2        |          |                                  | 449   | 70      | 0       | 80      | 0       |
|        | 2        |          |                                  | 872   | 250     | 0       | 260     | 0       |
|        | 2        | Potter   | Centerline rumble strips         | 6     | 180     | 0       | 210     | 0       |
|        | 2        |          |                                  | 44    | 760     | 0       | 780     | 0       |
|        | 2        |          |                                  | 44    | 820     | 0       | 830     | 0       |
|        | 2        |          |                                  | 49    | 140     | 0       | 150     | 0       |
|        | 2        |          |                                  | 144   | 340     | 0       | 350     | 0       |
|        | 2        |          |                                  | 449   | 70      | 0       | 80      | 0       |
|        | 2        |          |                                  | 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        | Berk        | 183/Schaefferstown Road. R/W, realign, auxiliary lane, signalize.                                                         | 183   | 290     | 2650    | 290     | 2650    |
|        |          |             |                                                                                                                           | 4016  | 110     | 381     | 110     | 381     |
|        | 5        | Berk        | Tenth Mile Location Markers 35 miles X 2.                                                                                 | 78    | 82      | 0       | 435     | 1197    |
|        | 5        | Berk        | 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        | Berk        | 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,<br>excavating, shoulders                                                | 1021  | 280     | 0       | 290     | 3642    |
|        |          |        |                                                                                                  | 1024  | 60      | 0       | 60      | 100     |
|        | 5        | Berks  | excavating, embankment,<br>shoulders, GR, UP                                                     | 12    | 130     | 580     | 140     | 0       |
|        | 5        | Berks  | Dries Road. Signalize                                                                            | 1010  | 20      | 0       | 20      | 0       |
|        | 5        | Berks  | Oley intersection.<br>Reconfigure, signalize.                                                    | 73    | 220     | 0       | 220     | 0       |
|        |          |        |                                                                                                  | 662   | 190     | 3576    | 190     | 3576    |
|        | 5        | Berks  | tree cutting, excavating,<br>shoulders                                                           | 3023  | 80      | 871     | 80      | 2002    |
|        | 5        | Berks  |                                                                                                  | 3008  | 50      | 200     | 60      | 2437    |
|        | 5        | Carbon | I-80 at TP. Lengthen ramp,<br>rumble strips (white topping),<br>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,<br>center left turn lane                                                 | 443   | 134     | 0       | 140     | 3806    |
|        | 5        | Carbon | I-80 Ramp. From TP to I-80.<br>Widening, traffic responsive<br>signal                            | 940   | 80      | 1950    | 80      | 1950    |
|        |          |        |                                                                                                  | 8004  | 250     | 0       | 250     | 1037    |
|        | 5        | Carbon | Auxiliary lanes, change signal.<br>[current local project only<br>signalizes]                    | 534   | 292     | 0       | 292     | 0       |
|        |          |        |                                                                                                  | 903   | 290     | 0       | 290     | 0       |
|        | 5        | Carbon | SR 2007 (Harrety Rd) to<br>Beltzville. Signalize.<br>[may not need w/ new 903 TP<br>interchange] | 209   | 340     | 1500    | 340     | 1500    |
|        |          |        |                                                                                                  | 2007  | 70      | 0       | 70      | 0       |
|        | 5        | Carbon | TP ramp to 209N. Signalize<br>[may not need w/ new 903 TP<br>interchange]                        | 209   | 341     | 869     | 341     | 869     |
|        | 5        | Carbon | Tenth Mile Location Markers.<br>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<br>611      | 90<br>110        | 0<br>0      | 90<br>110          | 0<br>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<br>13 X 2<br>9 miles X 2                                      | 80<br>380<br>33 | 2830<br>10<br>10 | 0<br>0<br>0 | 2970<br>131<br>191 | 0<br>0<br>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<br>2014      | 140<br>40        | 0<br>2060   | 140<br>40          | 0<br>2060   |
|        | 5        | Schuylkill | 61/895. Interim signal until Deer Lake North done.                                                      | 61<br>895       | 100<br>420       | 0<br>2621   | 100<br>420         | 0<br>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<br>[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 | Greenville. 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<br>2014 | 140<br>40  | 0<br>2060 | 140<br>40  | 0<br>2060 |
|        | 5        | Schuylkill | 61/895. Interim signal until Deer Lake North done.                                                                                               | 61<br>895  | 100<br>420 | 0<br>2621 | 100<br>420 | 0<br>2621 |
|        | 5        | Schuylkill | Liberty. Jug handles and/or widen bridge, left turn stand-by lane, realign Adams Rd., signalize<br>[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<br>8004 | 80<br>250  | 1950<br>0 | 80<br>250  | 1950<br>1037 |
|        | 5        | Monroe     | Stroudsburg, base of Fox Hill. Signalize                                                | 191<br>611  | 90<br>110  | 0<br>0    | 90<br>110  | 0<br>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<br>903  | 292<br>290 | 0<br>0    | 292<br>290 | 0<br>0       |
|        | 5        | Carbon     | SR 2007 (Harrety Rd) to Beltzville. Signalize. [may not need w/ new 903 TP interchange] | 209<br>2007 | 340<br>70  | 1500<br>0 | 340<br>70  | 1500<br>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<br>309  | 130<br>460 | 0<br>0      | 130<br>460 | 0<br>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<br>863 | 10<br>10   | 1000<br>500 | 10<br>10   | 1000<br>500 |
|        | 5        | Lehigh      | Flashing warning Devices                                                                                                                                                                                                                                                                               | 222<br>863  | 20<br>10   | 0<br>0      | 20<br>10   | 0<br>0      |
|        | 5        | Lehigh      | 222 & Shantz, signalize                                                                                                                                                                                                                                                                                | 222<br>3012 | 10<br>10   | 1000<br>0   | 10<br>10   | 1000<br>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<br>1002 | 230<br>120 | 0<br>1000 | 241<br>120 | 1000<br>2000 |
|        | 5        | Lehigh      | Tilghman St Interchange. Embankment, lengthen 309 off-ramps, sign structure, shoulder.                                          | 309<br>1002 | 230<br>120 | 0<br>1000 | 241<br>120 | 1000<br>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        | New Signal /LT lanes                                           | 2020               | 10      | 1567    | 10      | 2481    |
|        | 6        | Bucks        |                                                                | 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 /<br>realign / ERS                     | 1                  | 30      | 2584    | 40      | 625     |
|        | 6        | Delaware     | CLRS, ERS, Signing, signal<br>upgrade                          | 1019               | 10      | 0       | 90      | 0       |
|        | 6        | Montgomery   | Left Turn Lane SB<br>Susquehanna/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<br>/Signal Imp                      | 4001               | 20      | 0       | 100     | 2820    |
|        | 6        | Philadelphia | ERS, replace GR with Median<br>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<br>Ave.(M) | None    | None    |         |         |
| 48856  | 6        |              |                                                                | Huey Ave           | None    | None    |         |         |
| 48857  | 6        |              |                                                                | Rosemont<br>Ave.   | None    | None    |         |         |
| 36716  | 6        |              |                                                                | Turner Ave (N)     | None    | None    |         |         |
| 36718  | 6        |              |                                                                | Shadeland<br>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. Intersection) | 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<br>Connor@Terrace      | 3038  | 40      | 1100    | 40      | 1600    |
|                                            | 11       | Allegheny    | Left turn lanes/signal<br>Connor@Oregon Trail | 3038  | 50      | 1000    | 50      | 1400    |
|                                            | 11       | Allegheny    | Left turn lanes/signal<br>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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