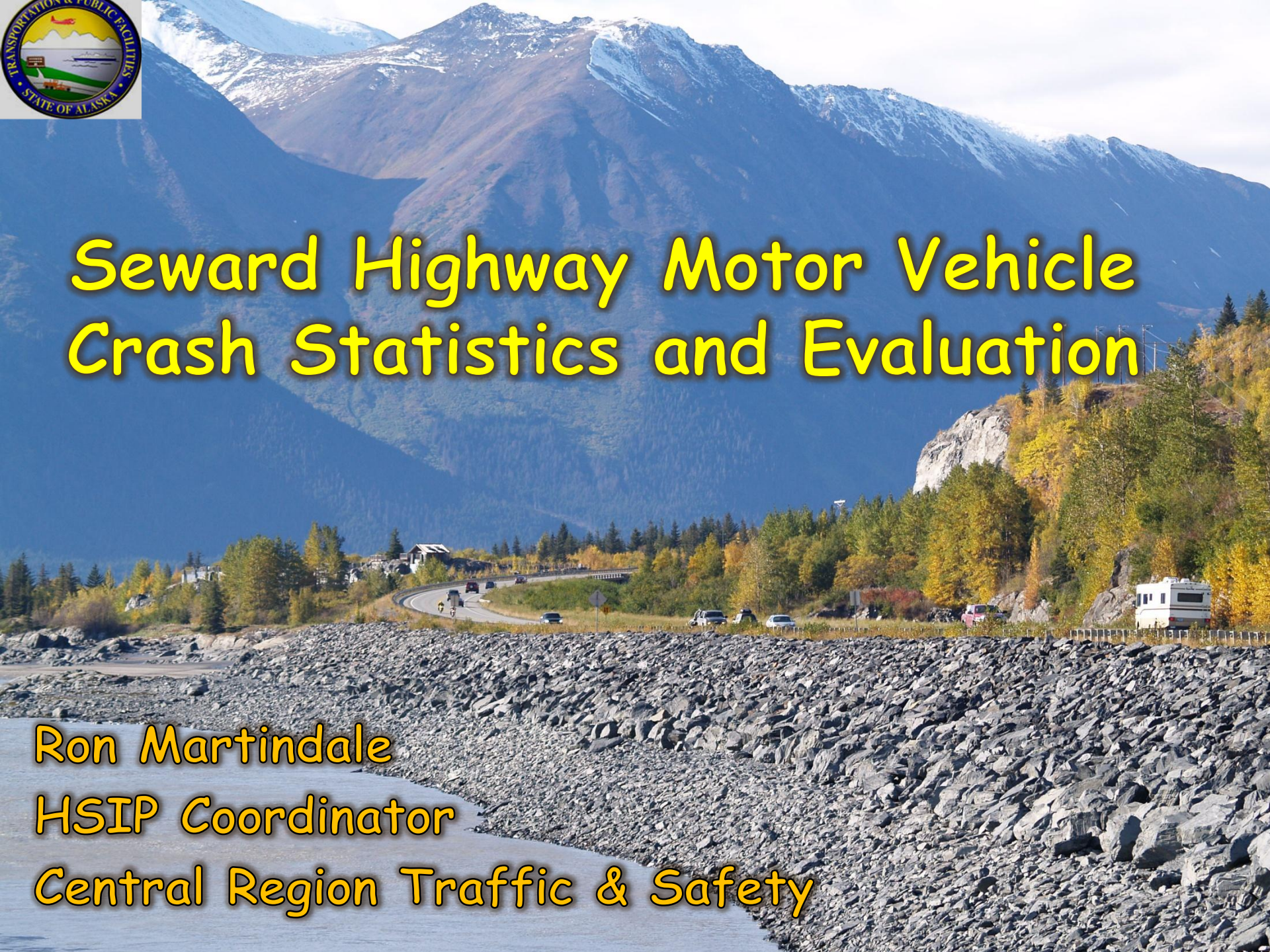

Seward Highway Motor Vehicle
Crash Statistics and Evaluation
Ron Martindale
HSIP Coordinator
Central Region Traffic & Safety

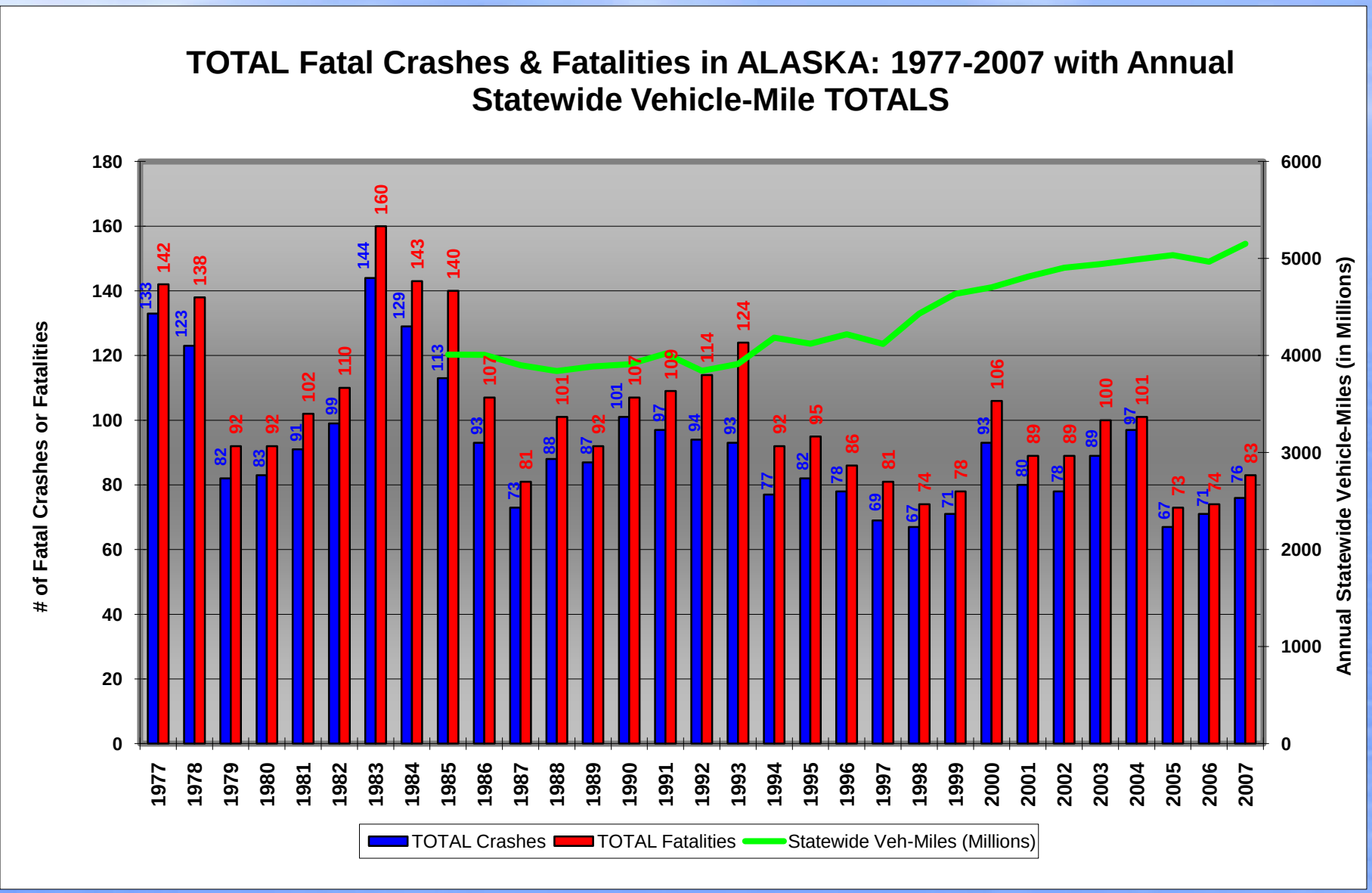
Who am I?

- DOT/PF Central Region Highway Safety Improvement Program Coordinator
- Highway Safety Analysis
- Annual Highway Safety Improvement Program – Crash Mitigation
- Statewide & Regional Crash Trends
- Crash Data Statistics and Analysis
- Traffic Safety Corridor Data Analysis

Central Region Crash Data Analysis

- All State routes in Central Region
- National Highway System Routes
- Other Principal Routes
- Other Borough and City Routes
  (As part of annual Highway Safety Improvement program)

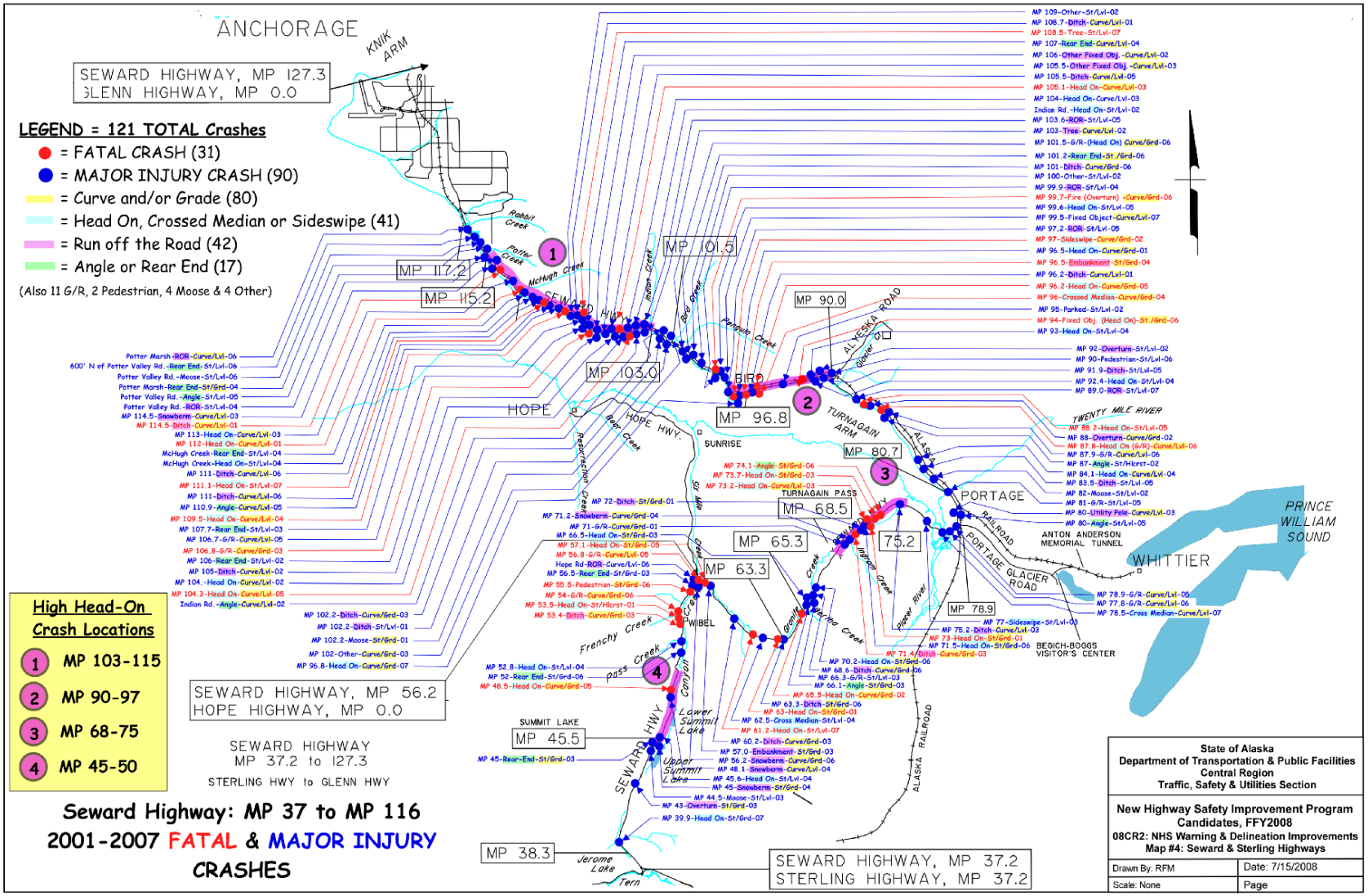
1977-2007 Statewide fatal Crashes



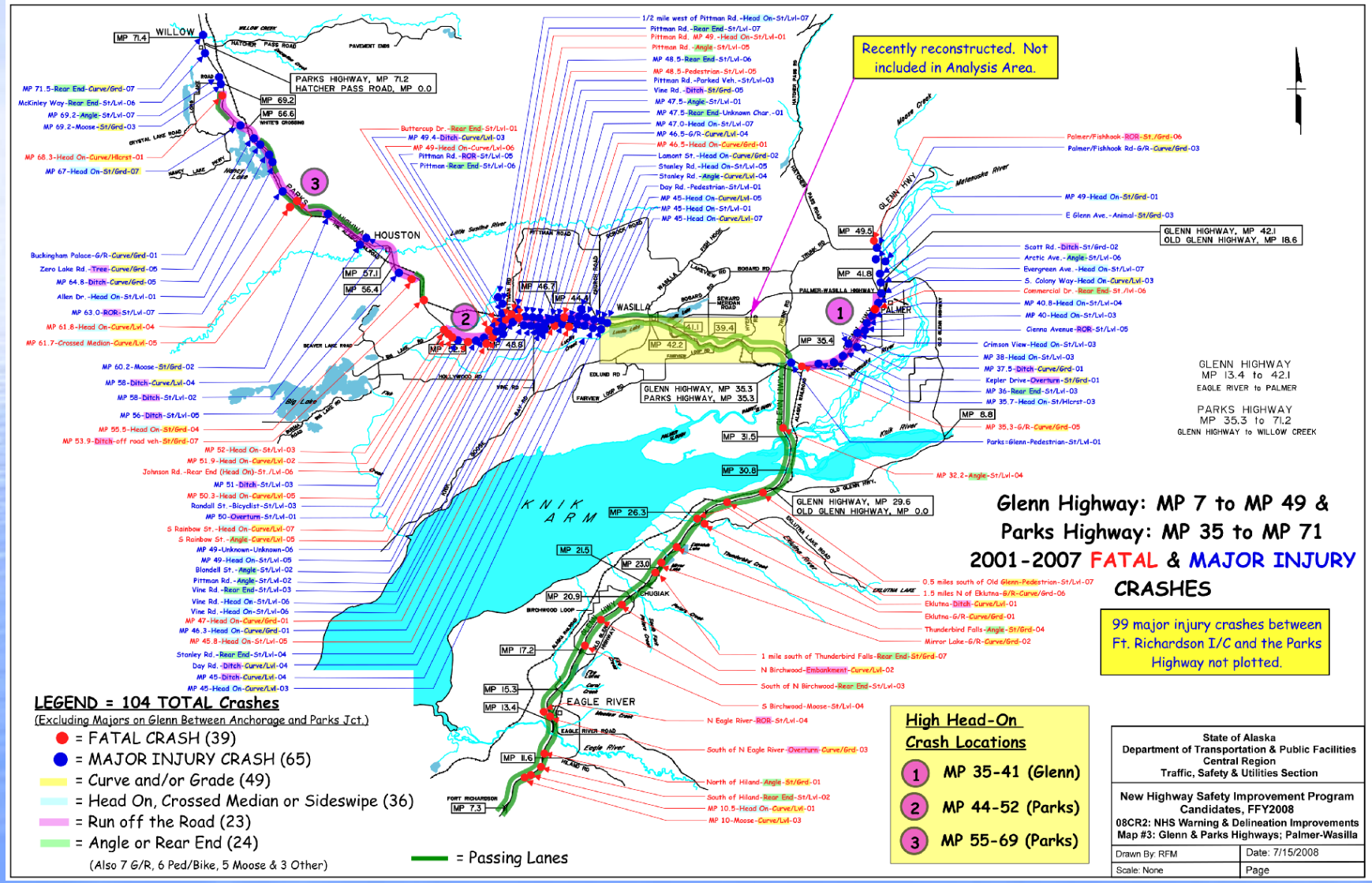
National Highway System Crash Analysis

- Monitor and evaluate crashes on National Highway System and other High-Speed, High Volume Routes in Central Region. Among them are:
  - Seward Highway
  - Sterling Highway
  - Parks Highway (to MP 163-Region Boundary)
  - Glenn Highway (top MP 118-Region Boundary)
  - Palmer/Wasilla Highway
  - Knik/Goose Bay Road
- Following are fatal & major injury crashes on NHS routes:

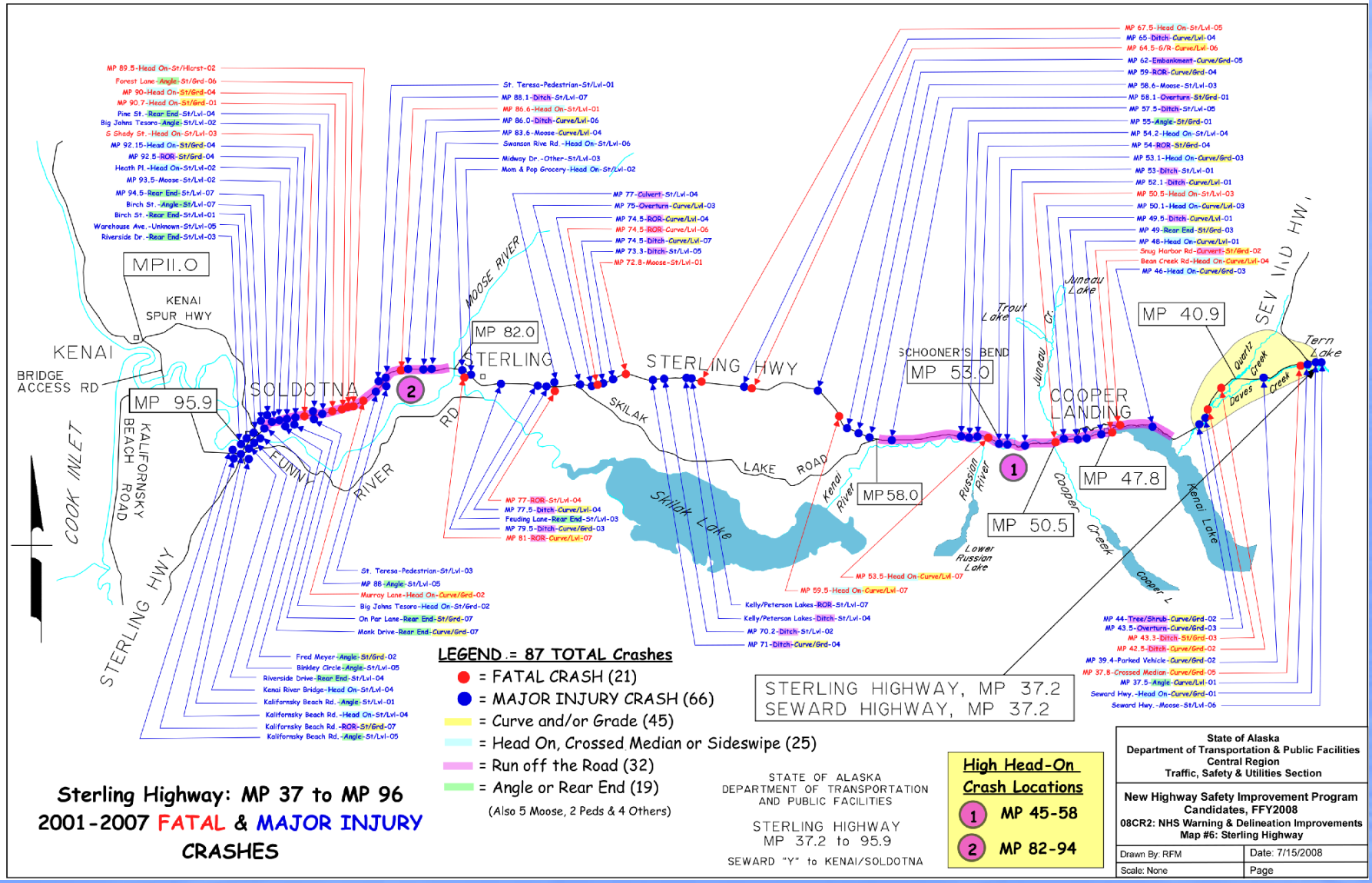
Seward Highway: Anchorage to Seward "Y"



Glenn & Parks Highways: Mat-Su



Sterling Highway: "Y" to Soldotna



Sterling Highway: MP 37 to MP 96
2001-2007 FATAL & MAJOR INJURY CRASHES

Analysis of Crashes on NHS and Other High Speed – High Volume Routes

- **Crash data is analyzed and mitigation recommendations are made including:**
  - **Highway Safety Improvement Program (HSIP).**
    - **The HSIP is "collision-based" crash mitigation program. Locations with an identifiable collision pattern for which a low cost quick turnaround engineering solution can be determined receive priority.**
  - **Incorporating Safety Features in Highway Rehabilitation or Reconstruction Projects.**
    - **Crash data is utilized during the development of highway upgrade projects and appropriate cost-effective safety improvements are incorporated into these projects.**
  - **Traffic Safety Corridor Designation**
    - **Crash data has been used to identify Traffic Safety Corridors within the Central Region. To date, 4 portions of state highways have been designated as Traffic Safety Corridors.**

Traffic Safety Corridor Designation

- The issue of driver safety has been receiving renewed attention due to continuing head-on fatal collisions on the heavily traveled segments of the Seward Highway along Turnagain Arm, on Parks Highway between Wasilla and Big Lake and the Sterling highway between Sterling and Soldotna.

- Senate Bill 26, "An act relating to the designation of traffic safety corridors" was passed by the Legislature and signed into law by the Governor on May 26, 2006 allowing DOT/PF and DPS to designate "Traffic Safety Corridors" on high crash routes in the State.

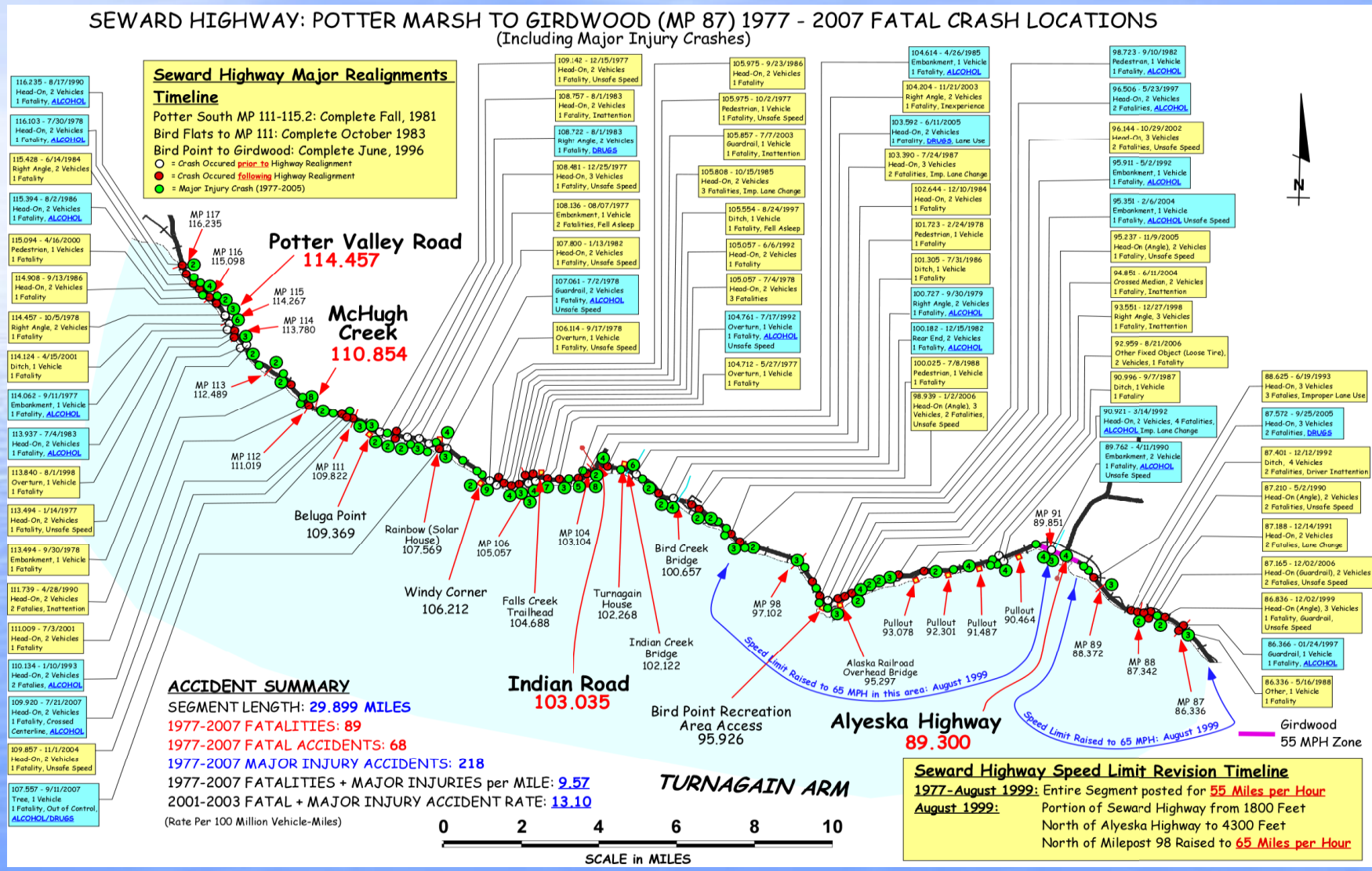
- Traffic Safety Corridor designation allows for double fines for all moving violations and is being implemented on routes with the highest number of fatal and major injury crashes in the state.

Traffic Safety Corridor Designation

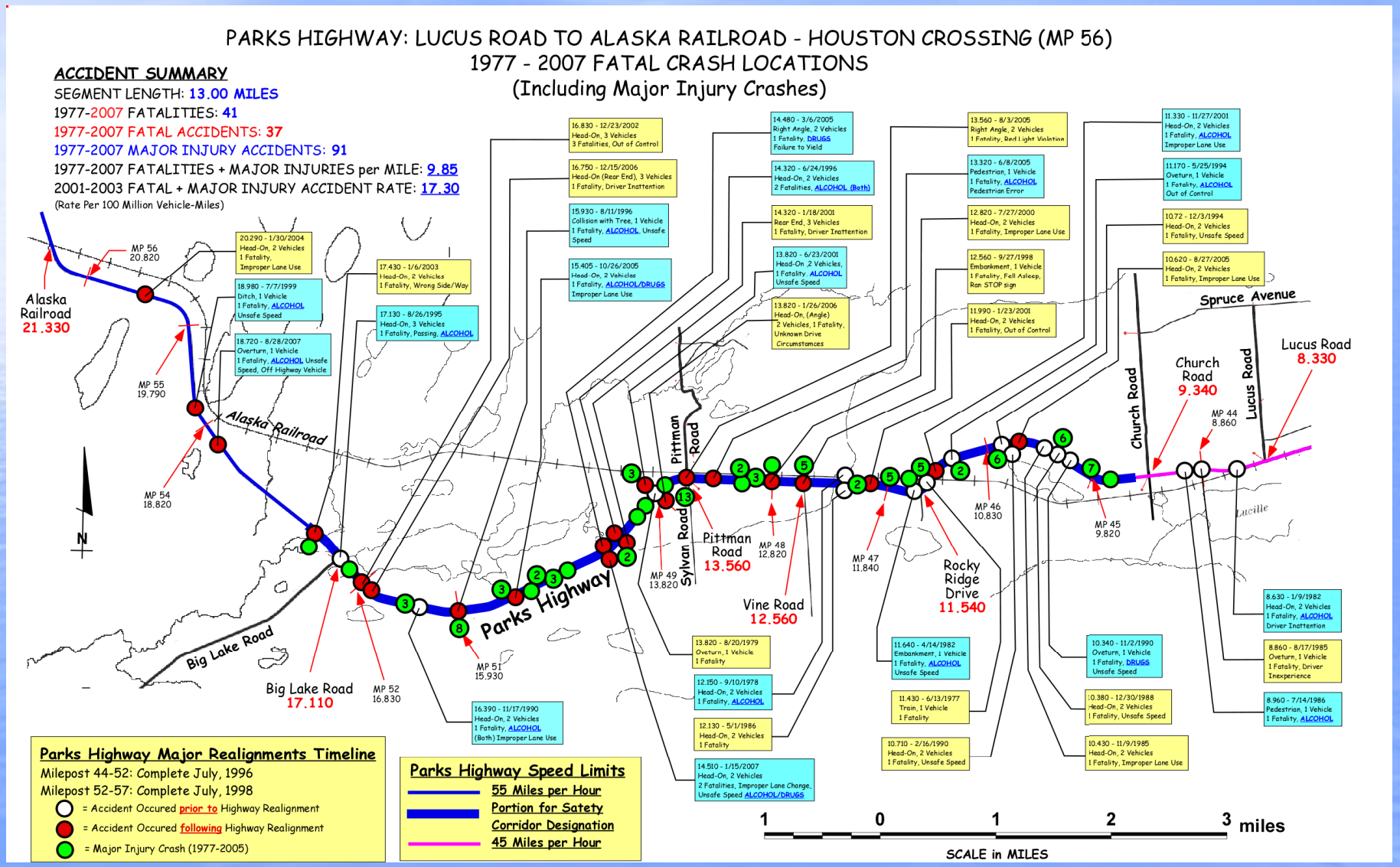
As a result of the legislation, Traffic Safety Corridors have been designated on the following routes:

- The Seward Highway between Potter and Girdwood was designated the first Traffic Safety Corridor in Alaska on May 26, 2006.
- The Parks Highway between Wasilla and Big Lake was designated a Traffic Safety Corridor on October 16, 2006.
- The Sterling Highway between Sterling and Soldotna is currently was designated a Traffic Safety Corridor in July, 2009.
- Knik/Goose Bay Road between MP 1 and MP 17 was designated a Traffic Safety Corridor in July, 2009.

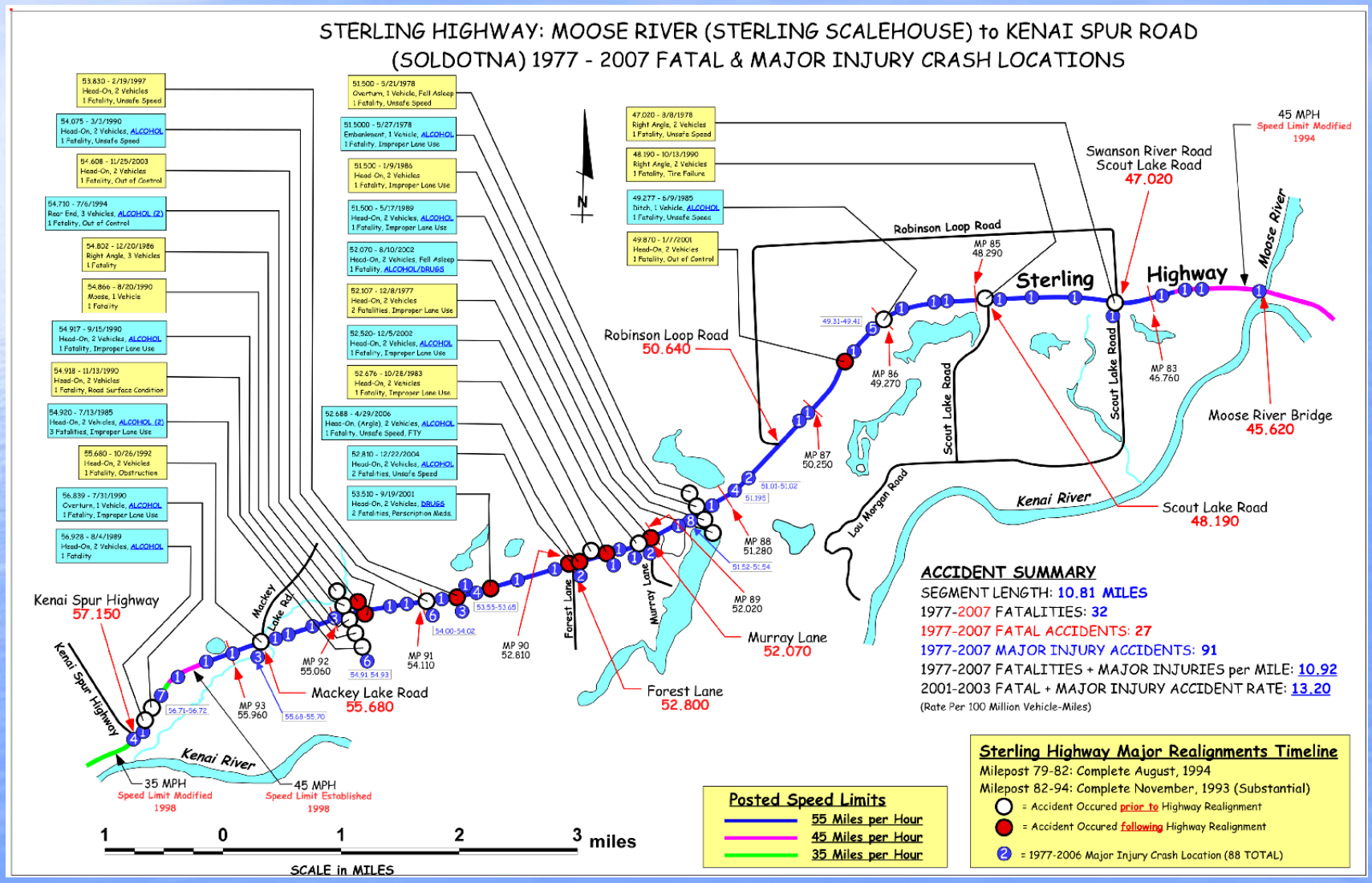
Traffic Safety Corridor Fatal & Major Injury Crashes on the Seward Highway



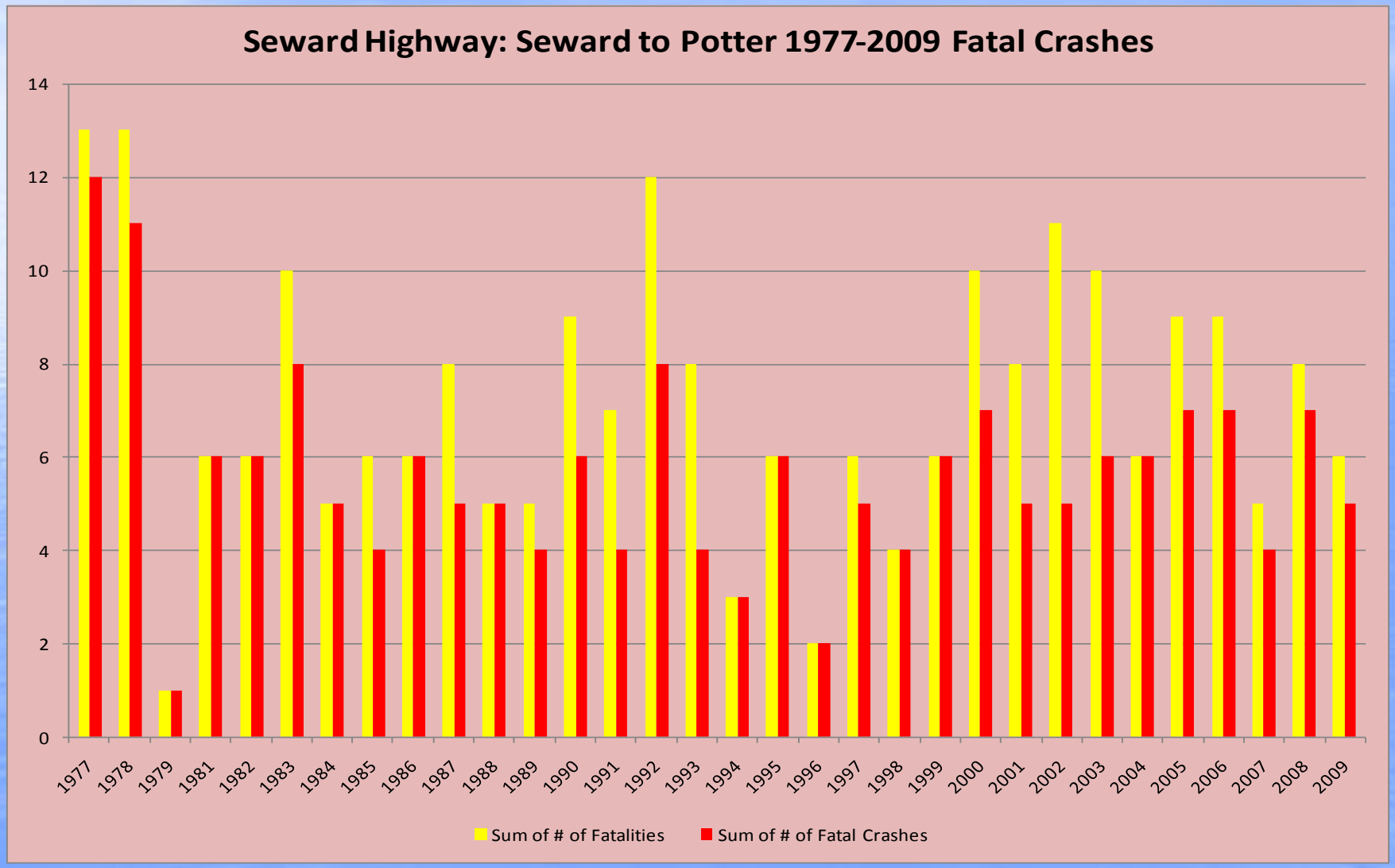
Traffic Safety Corridor Fatal & Major Injury Crashes on the Parks Highway



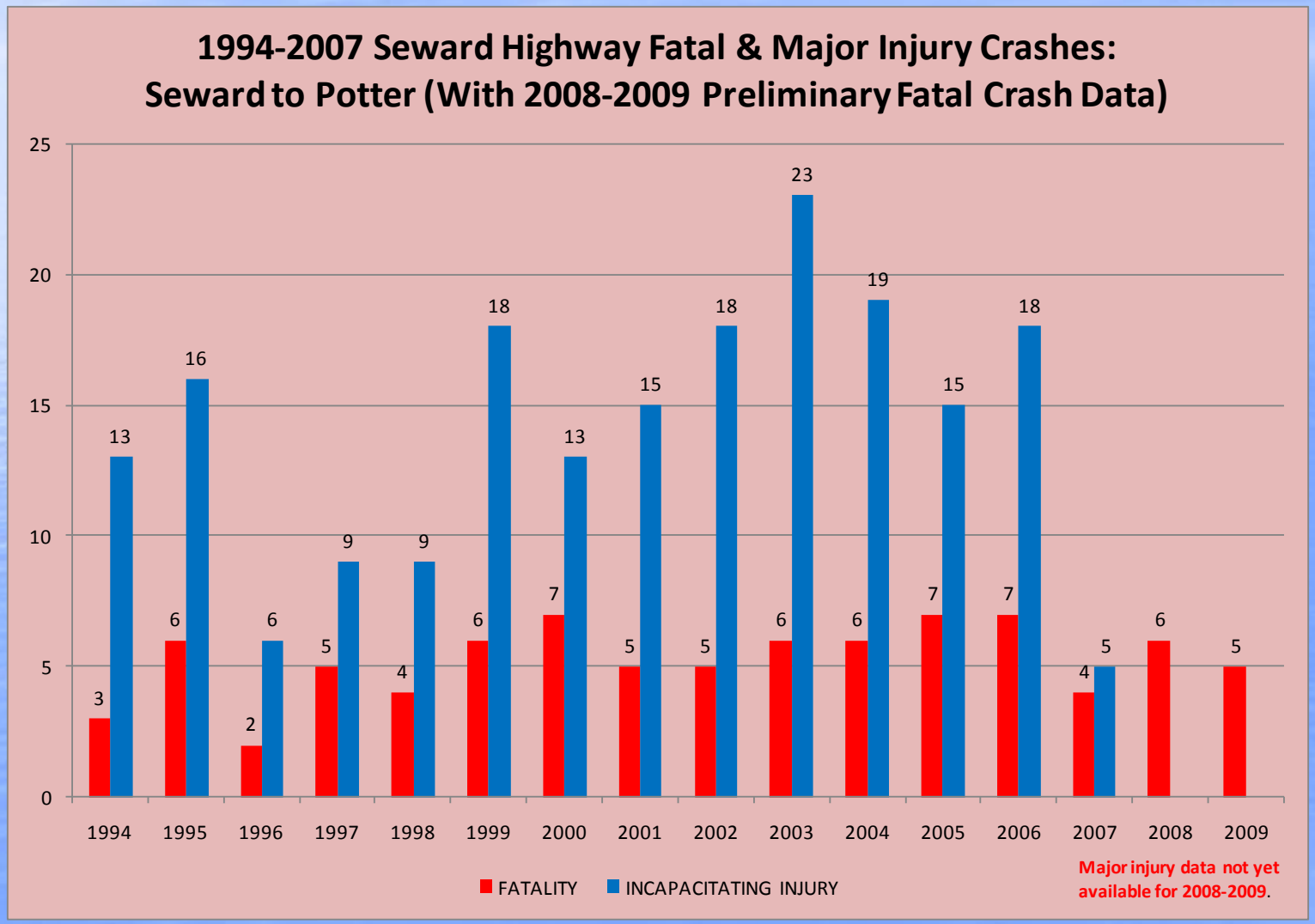
Traffic Safety Corridor Fatal & Major Injury Crashes on the Sterling Highway



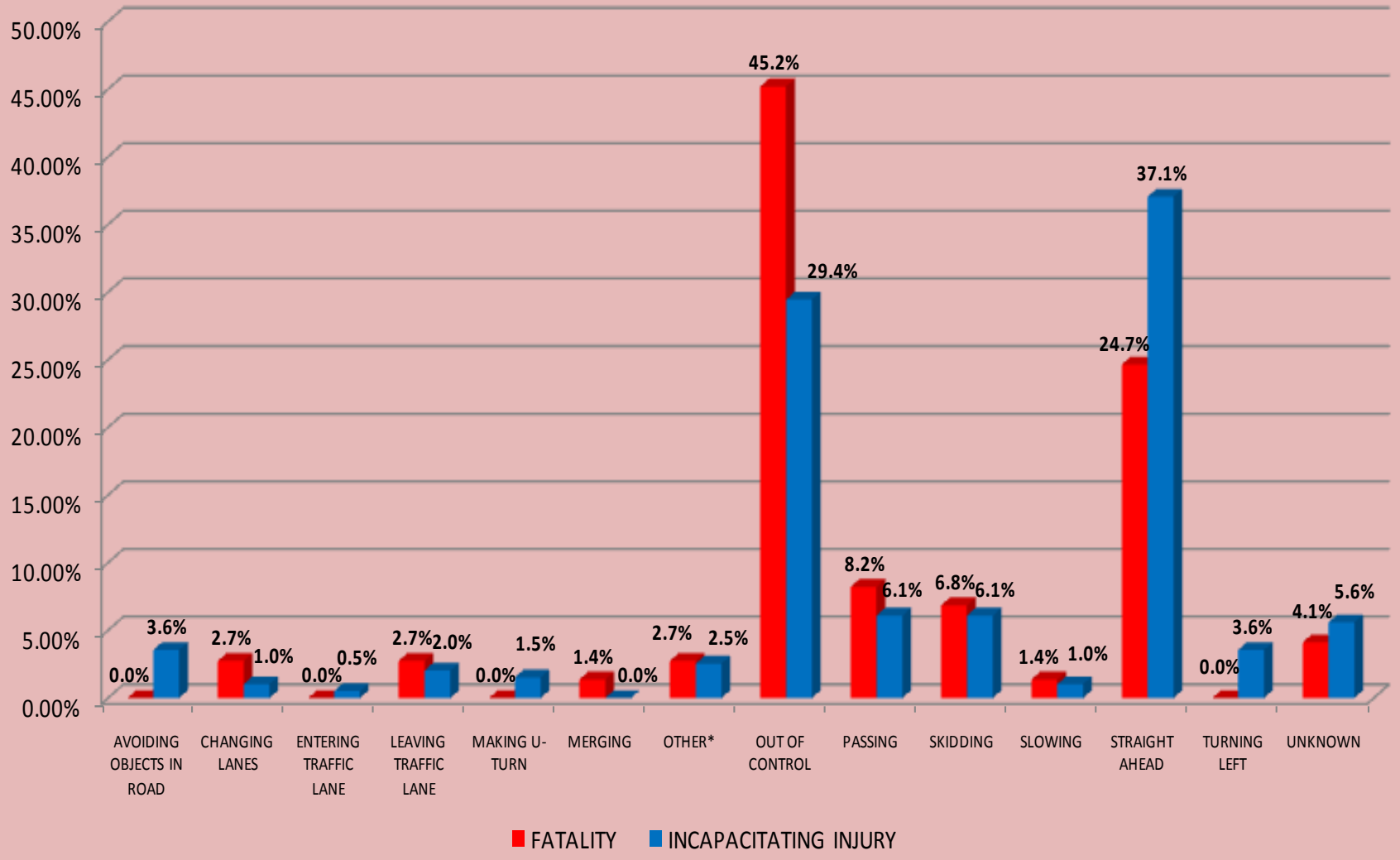
Seward Highway Fatal Crashes: Seward to Potter, 1977 - 2009



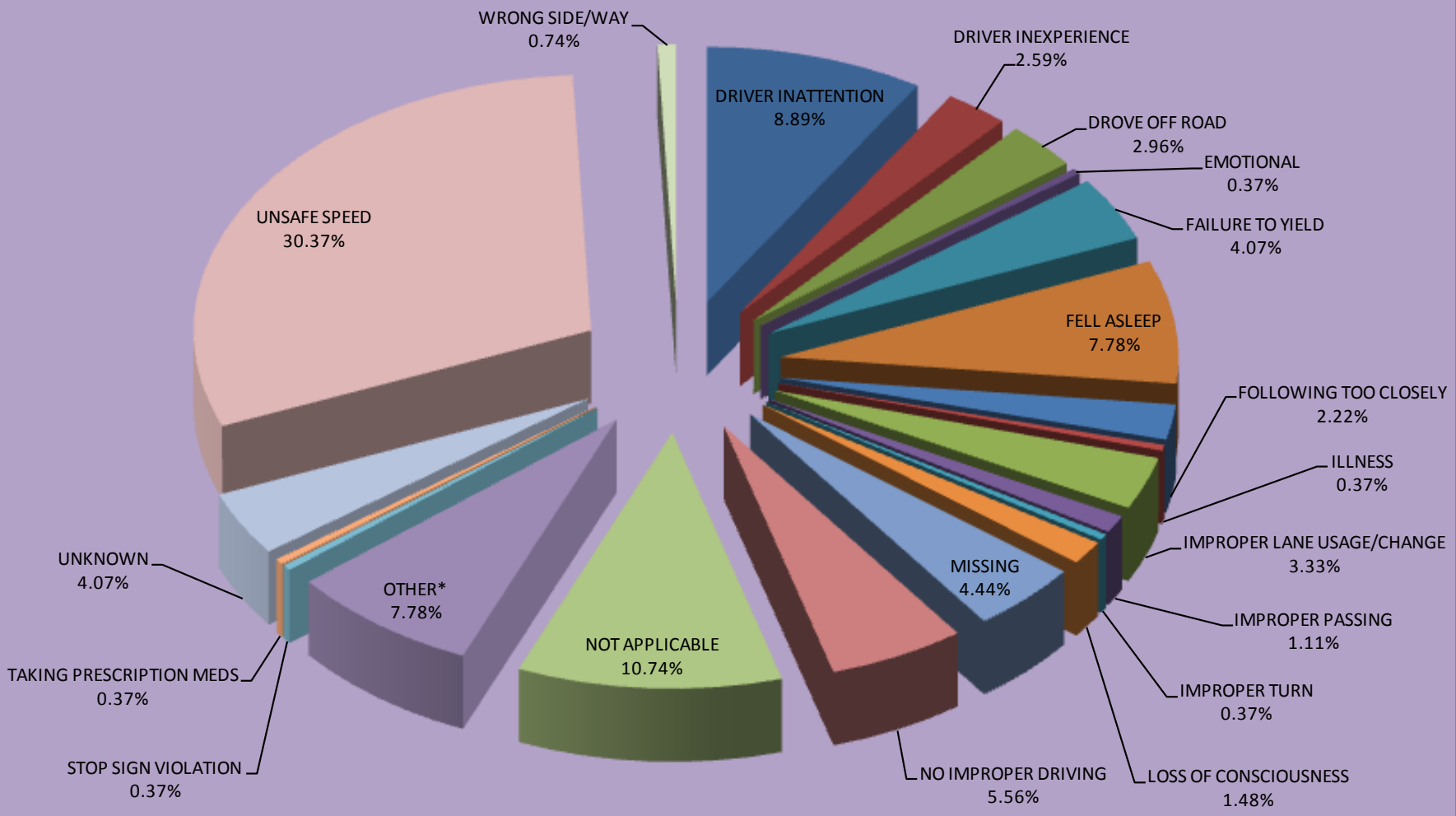
Seward Highway: Seward to Potter 1994-2007 Crash Analysis



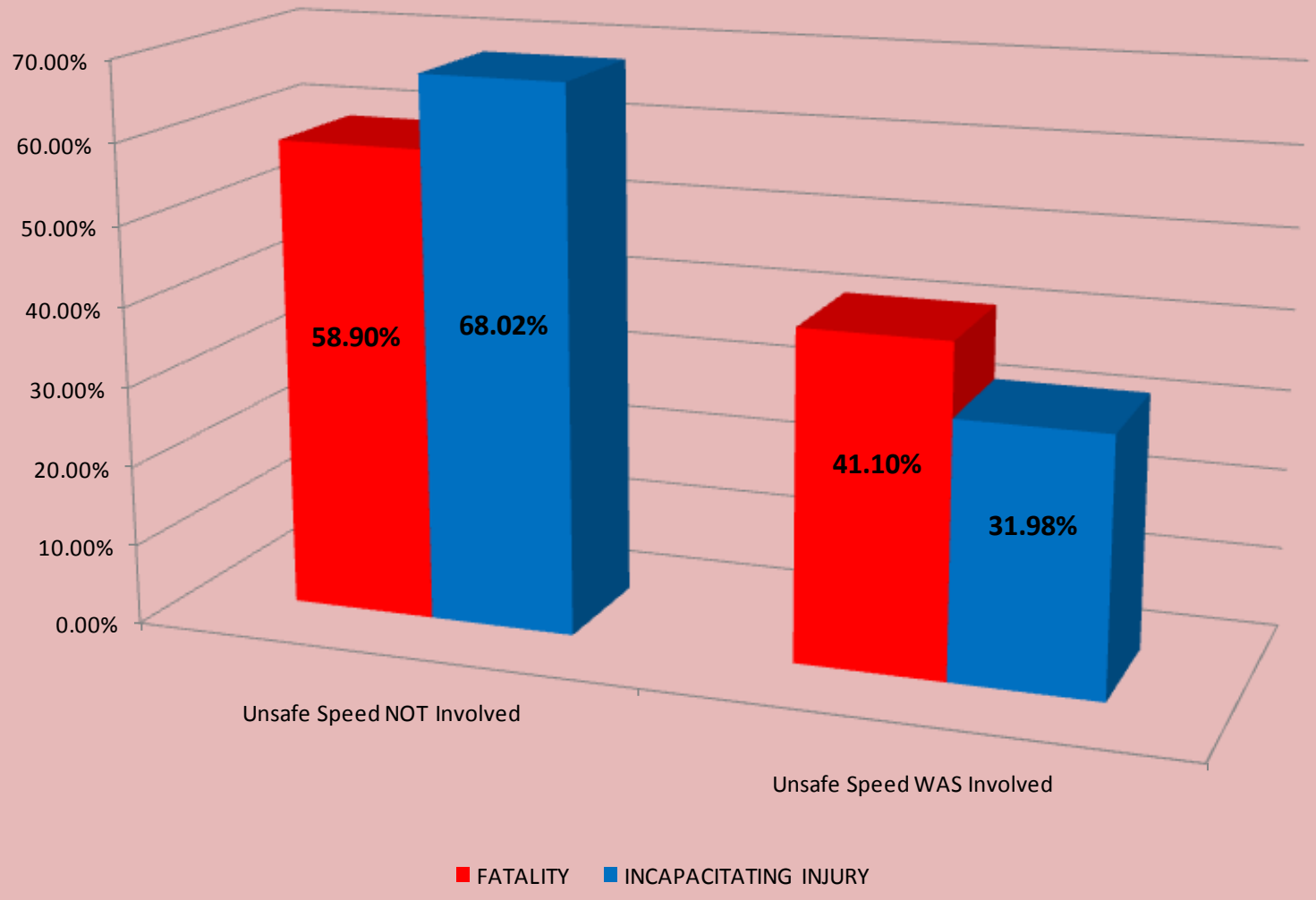
Seward Highway: Seward to Potter 1994-2007 Fatal & Major Injury Crashes by Driver #1 Action



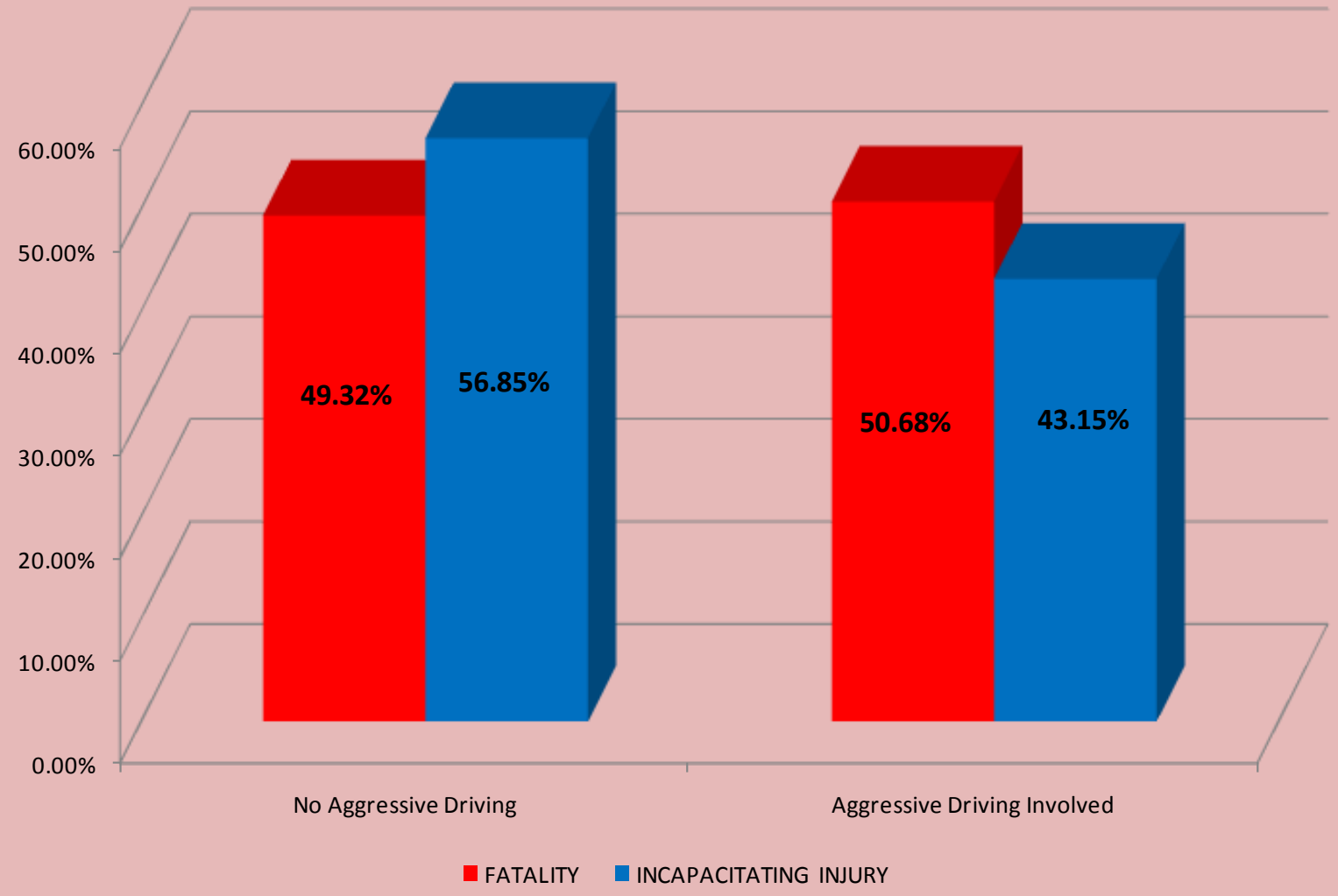
Seward Highway: Seward to Potter 1994-2007 Fatal & Major Injury Crashes by Human Contribiting Factor for Driver #1



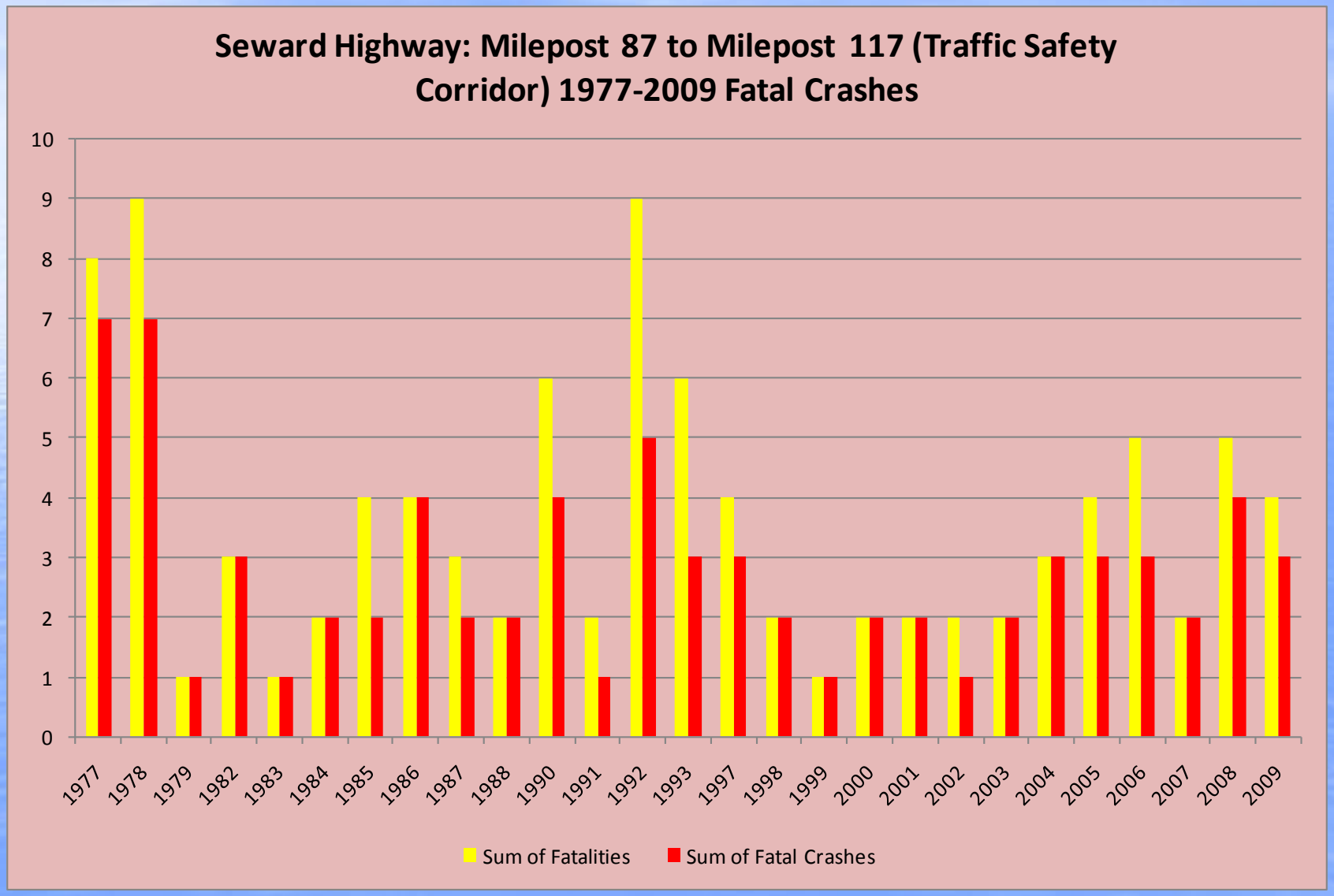
Seward Highway: Seward to Potter 1994-2007 Fatal & Major Injury Crashes by Unsafe Speed Factor



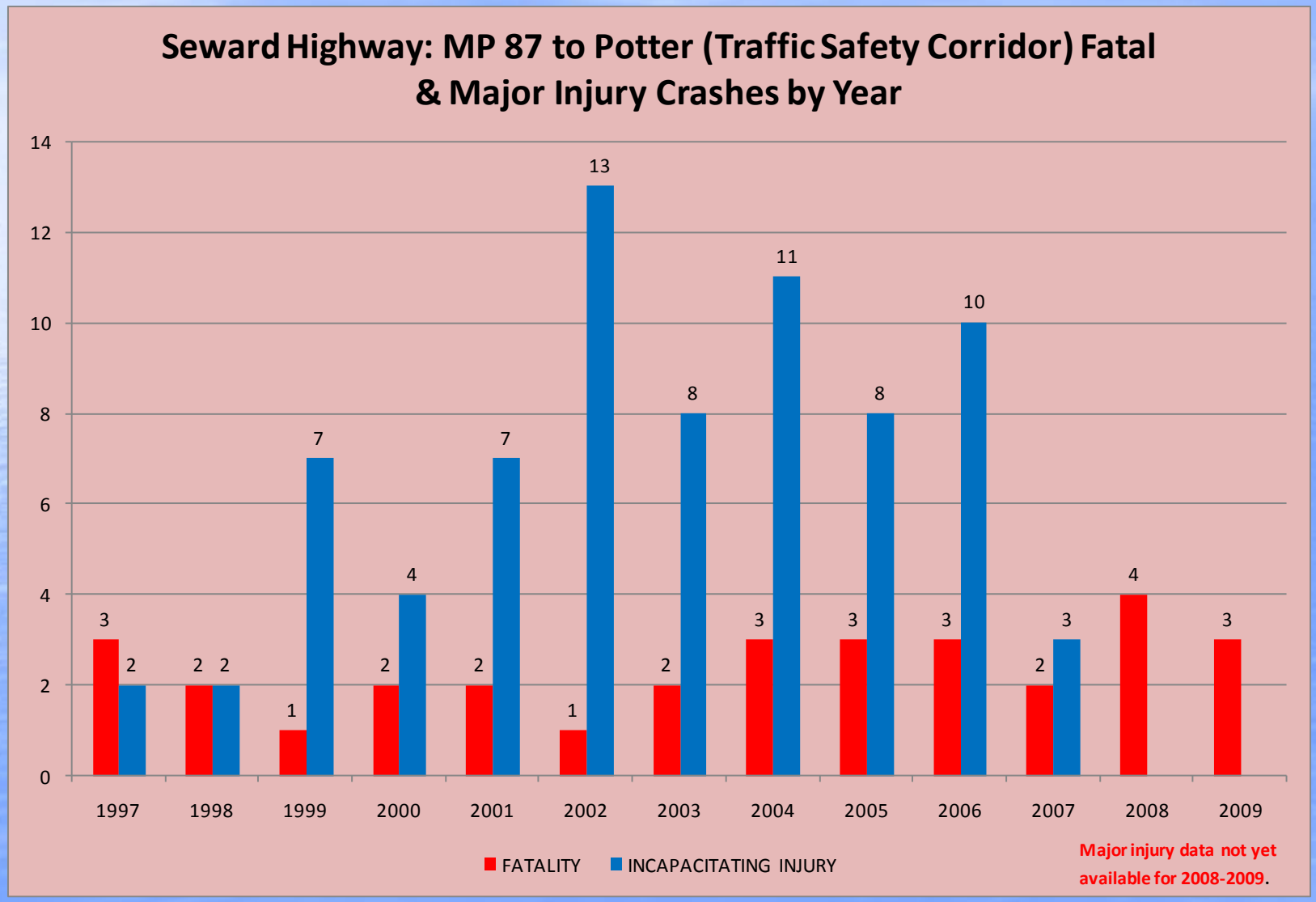
Seward Highway: Seward to Potter 1994-2007 Fatal & Major Injury Crashes by Aggressive Driving



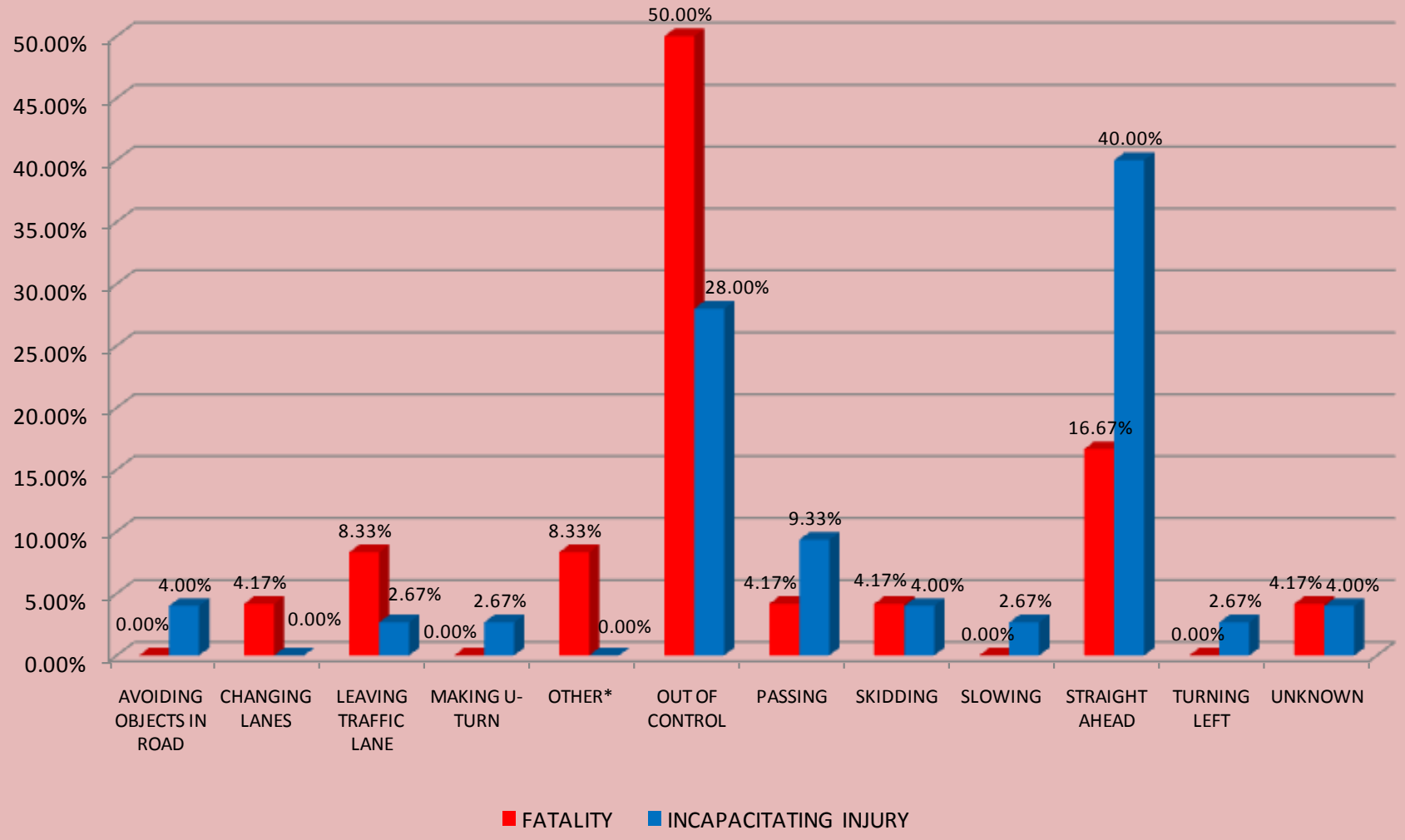
Seward Highway Traffic Safety Corridor (MP 87-117) Crash Analysis



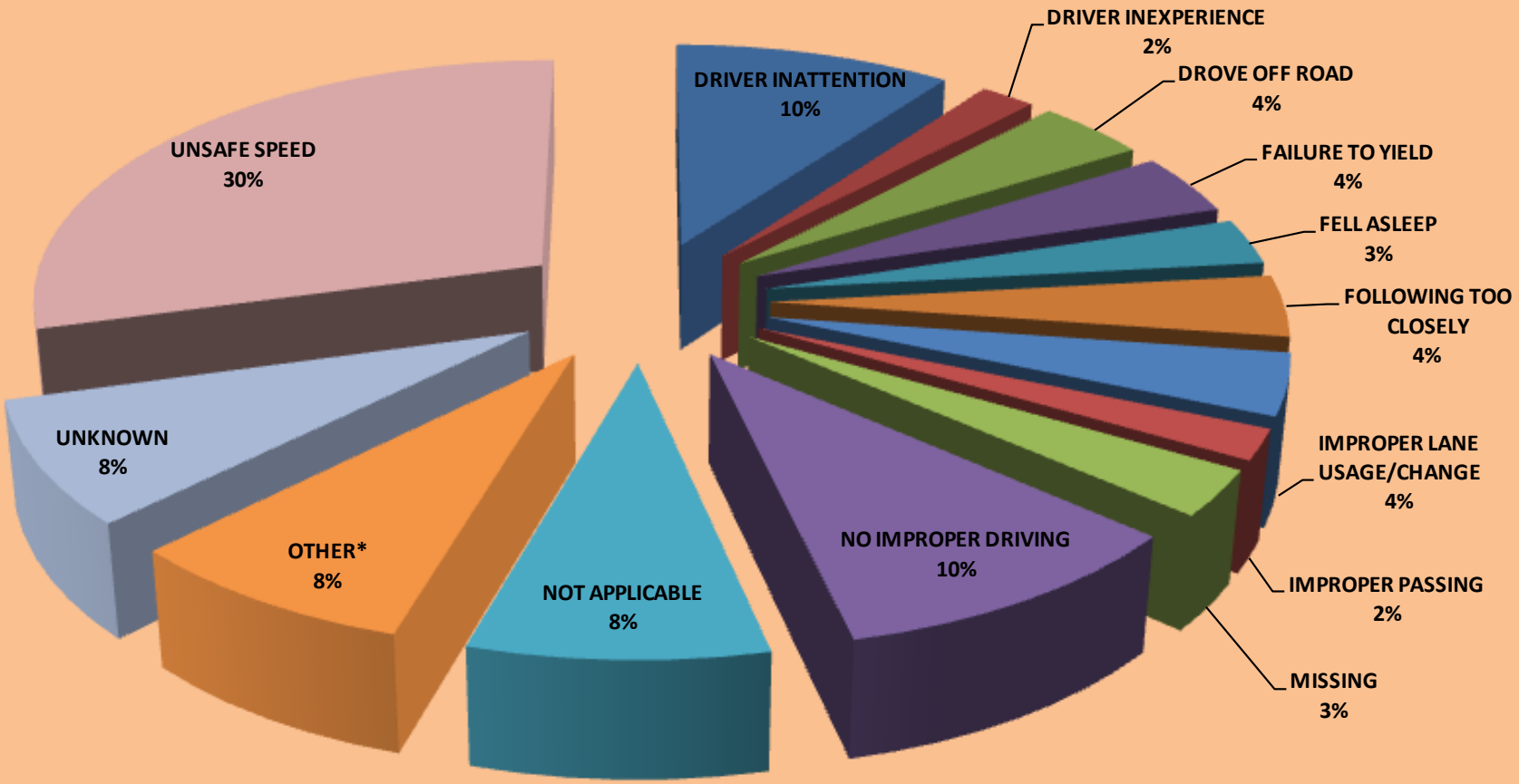
Seward Highway Traffic Safety Corridor (MP 87-117) Crash Analysis



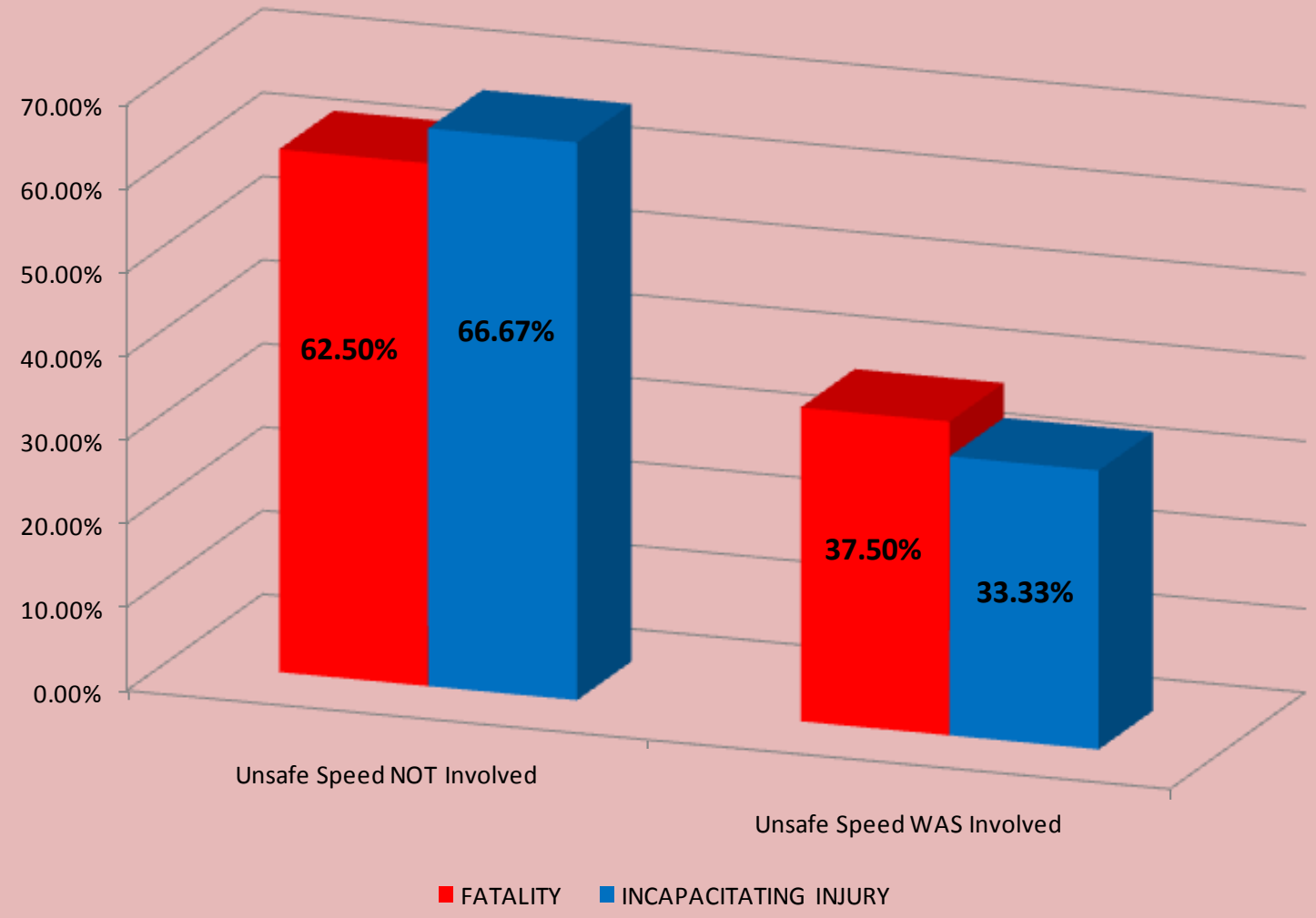
Seward Highway: MP 87 to Potter (Traffic Safety Corridor) Fatal & Major Injury Crashes by Driver #1 Action



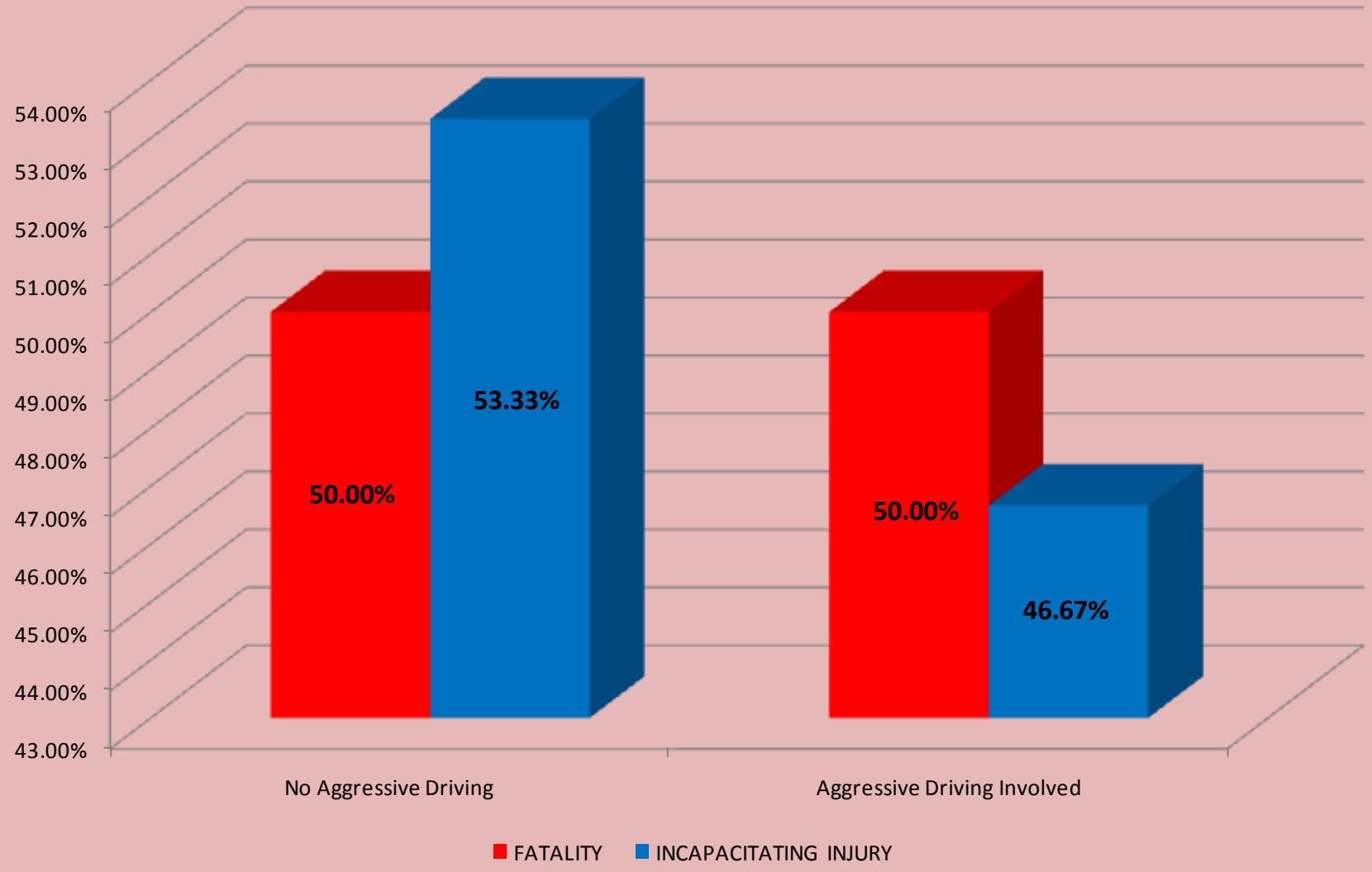
Seward Highway: MP 87 to Potter (Traffic Safety Corridor) Fatal & Major Injury Crashes by Human Contributing Factor for Driver #1



Seward Highway: MP 87 to Potter (Traffic Safety Corridor) Fatal & Major Injury Crashes by Unsafe Speed Factor



Seward Highway: MP 87 to Potter (Traffic Safety Corridor) Fatal & Major Injury Crashes by Aggressive Driving



Major Points from the Seward Highway TSC (MP 87-117) Crash Data Analysis

- Fatal crashes have remained fairly steady while major injury crashes peaked in 2002 and have dropped since.
- Unsafe speed & driver inattention are the major human factors cited in crashes within the corridor. Unsafe speed was involved in over 37% of fatal crashes and 33% of major injury crashes.
- Over 50% of the vehicles involved in fatal & major injury crashes in the corridor were out of control or skidding.
- Less than 10% of the vehicles were recorded as passing another vehicle at the time of the crash.
- Alcohol and/or drugs were involved in over 37% of the fatal crashes.

Major Points from the Seward Highway TSC (MP 87-117) Crash Data Analysis

- Head-On crashes accounted for 28% of the fatal and major injury crashes in the corridor.
- Single vehicle crashes including “run-off-the-road”, “ditch”, “embankment”, “Overturning” and other fixed object crashes accounted for over 32% of fatal and major injury crashes in the corridor.
- Rear end crashes accounted for over 9% of the fatal and major injury crashes in the corridor.
- Aggressive driving (speed, unsafe lane change, failure to yield, following too closely, etc. accounted for 50% of the fatal crashes and nearly 47% of the major injury crashes.

Seward Highway TSC Highway User Types

- Recreational/Sightseeing Users –These can be both short and long distance travelers who generally drive at lower speeds. The Seward Highway is a National Scenic Byway.
- Commuters – These are generally higher speed, shorter distance travelers.
- Commercial Vehicles (Doubles, fuel haulers, commercial buses, etc.) – These are generally higher speed, long distance travelers.
- Wintertime Skiers – These are generally higher speed shorter distance travelers.
- Local Sports Fishermen – These are generally higher speed long distance travelers.
- Bicyclists-Pedestrians - including the Arctic Bicycle Club, and significant pedestrian activity associated with wildlife viewing, seasonal hooligan fishing, etc.

Seward Highway TSC (MP 87-117) Traffic Volumes

- 2007 Annual Average Daily Traffic (AADT) volumes at Potter Section House were over 9300.
- Traffic volumes have increased nearly 300% between 1977 and 2007.
- July traffic volumes are nearly 175% of the AADT (16,300) while January traffic volumes are 63% of the AADT (6200).
- Traffic volumes during busy summer weekends in July have reached 22,400, over two times the average daily traffic volume on this route.
- Nearly 1800 vehicles were recorded in a one hour period on a 4th of July weekend in 2007.

Seward Highway TSC Highway Observations

- Increased traffic volumes, particularly during summer months, sometimes difficult winter driving conditions, and a diverse mix of roadway users along with a lack of passing opportunities, caused in part by the higher traffic volumes, may contribute to poor driver behavior, driver distraction and a higher incidence of head on type crashes.
- These poor driver behaviors can make the driving task hazardous for people traveling this segment who encounter other drivers not concentrating on the driving task or not obeying the traffic control devices including the posted speed limit and no passing striping.
- Generally, the crash data does not lead to easy engineering solutions, including those that may appear to be straightforward at first glance.
- Education and enforcement is part of the solution.

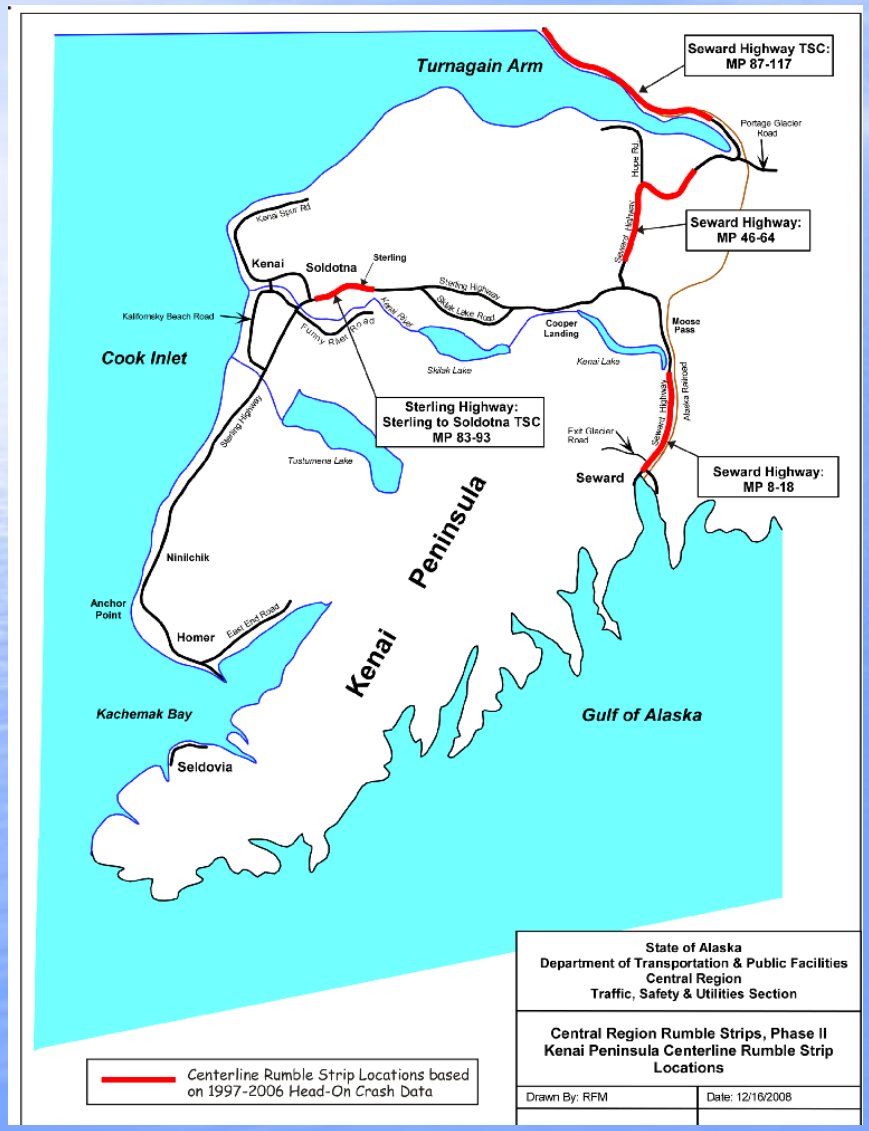
What are we doing to increase Highway Safety?

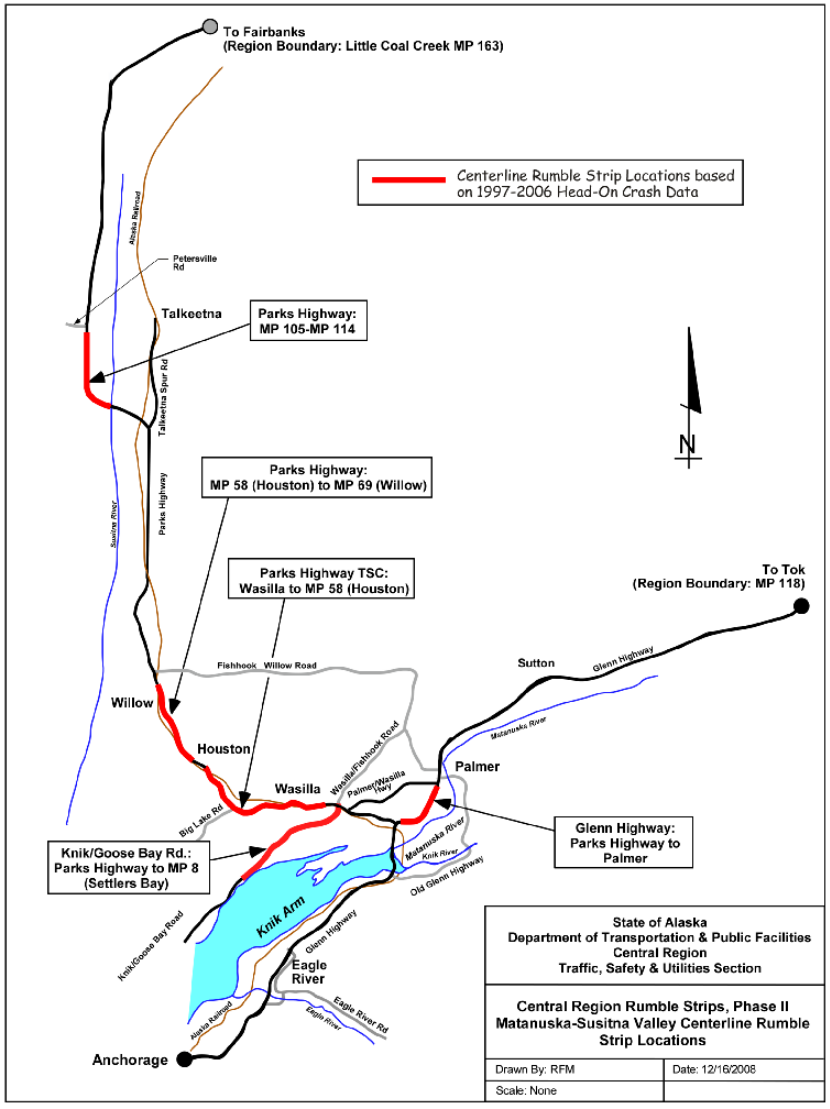
- Traffic Safety Corridors
  - Seward Highway Traffic Safety Corridor established May, 2006. Extended to MP 87 in 2007.
- Bureau of Highway Patrol
  - DOT has provided financial support as well as crash data analysis to identify high crash corridors and crash characteristics including crash severity, highest crash months, days and times, human factors, driver impairment, number of vehicles, etc.
- Alaska Highway Safety Office (AHSO)
  - AHSO has provided funding for many enforcement and education activities.

What are we doing to increase Highway Safety?

- Highway Safety Projects
  - Central Region Rumble Strips, Phase II
    - Continuous Centerline rumble strips in the Seward Highway Traffic Safety Corridor and at other high head-on crash locations on the Seward Highway between the Sterling Highway Junction and Ingram Creek.
    - Replacement of shoulder rumble strips lost to pavement overlays.
    - Project currently bidding. Expect contract award in September with work beginning in the Spring of 2010.

Central Region Rumble Strips, Phase II - Centerline Locations

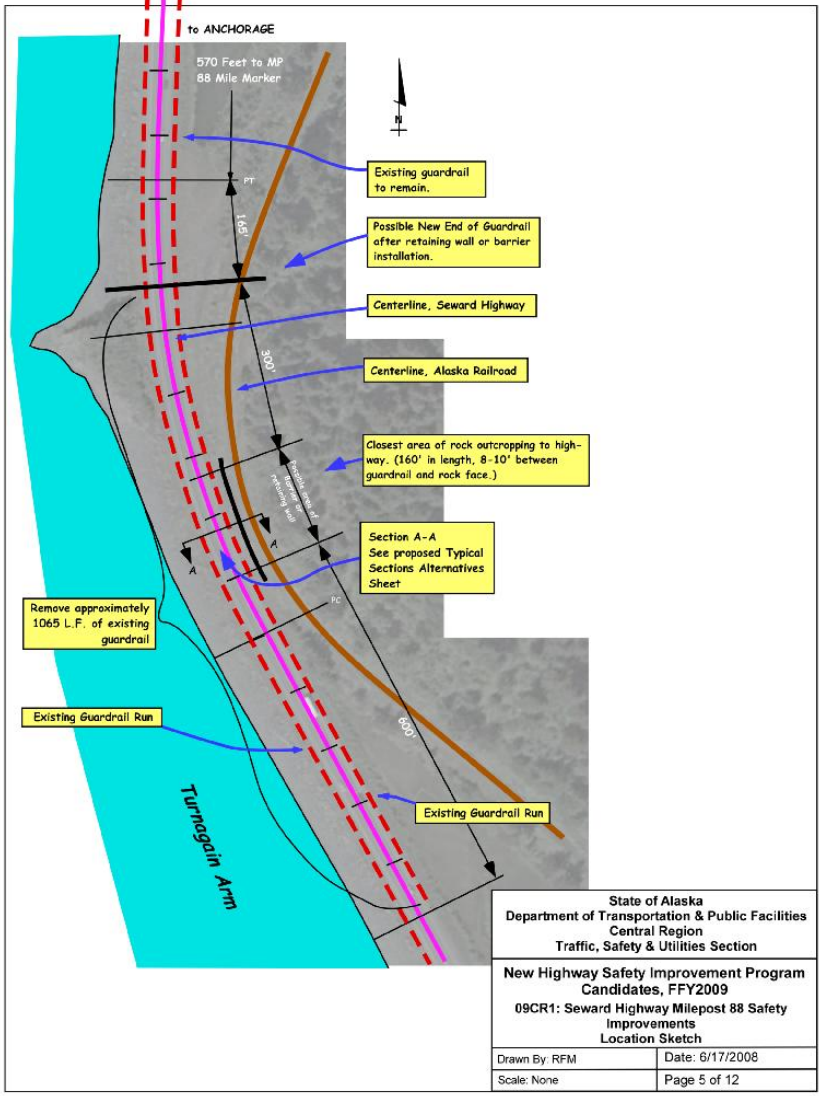




What are we doing to increase Highway Safety?

- Highway Safety Projects
  - **Seward Highway MP 88 Safety Improvements**
    - **Elimination of the guardrail on the inside of the curve and creating additional recovery are by installing a retaining wall or concrete barrier against the railroad embankment**
    - **Possible use of new MUTCD warning signs and/or oversize signs with additional emphasis for this curve.**
    - **Installation of transverse rumble strips in advance of the curve or a similar queue to get drivers attention.**

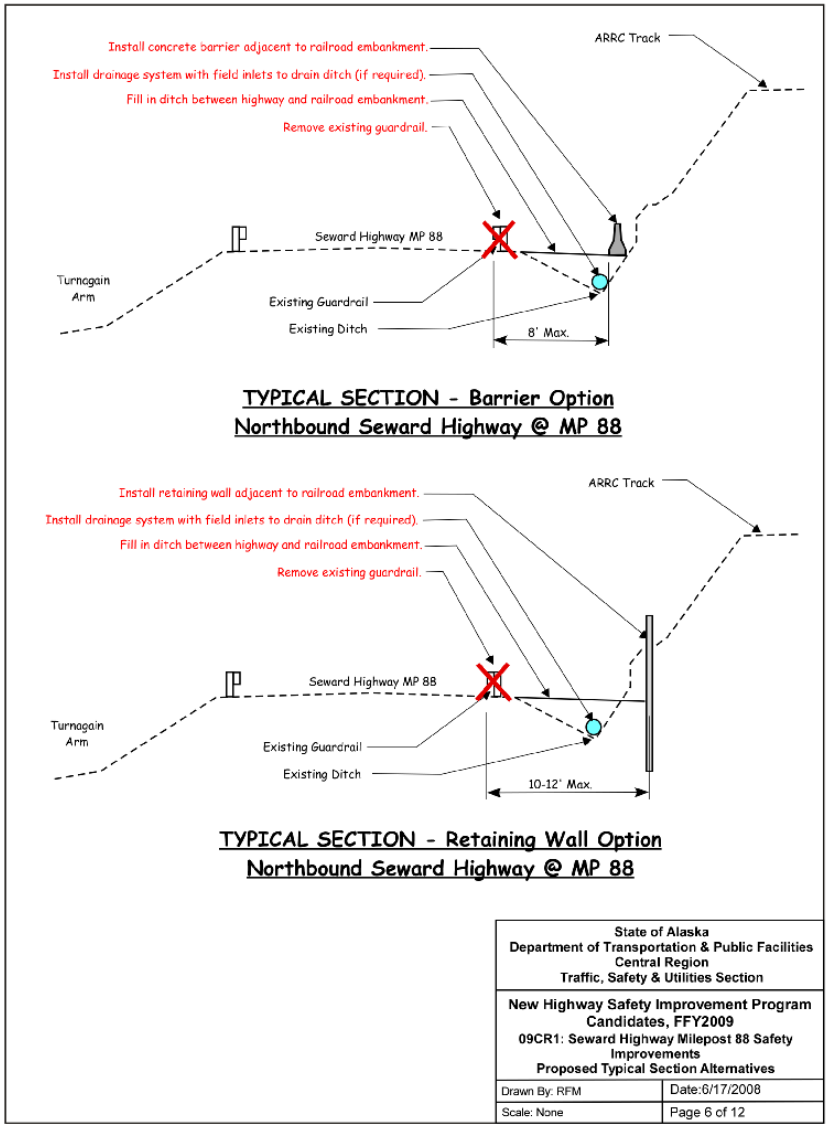
Seward Highway MP 88 Safety Improvements



State of Alaska
Department of Transportation & Public Facilities
Central Region
Traffic, Safety & Utilities Section

New Highway Safety Improvement Program Candidates, FFY2009
09CR1: Seward Highway Milepost 88 Safety Improvements
Location Sketch

Drawn By: RFM	Date: 6/17/2008
Scale: None	Page 5 of 12



State of Alaska
Department of Transportation & Public Facilities
Central Region
Traffic, Safety & Utilities Section

New Highway Safety Improvement Program Candidates, FFY2009
09CR1: Seward Highway Milepost 88 Safety Improvements
Proposed Typical Section Alternatives

Drawn By: RFM	Date:6/17/2008
Scale: None	Page 6 of 12

What are we doing to increase Highway Safety?

- Highway Safety Projects
  - National Highway System Warning and Delineation Project
    - Install chevron alignment signs on the sharpest horizontal curves with a run-off-the-road crash pattern.
    - Install rigid roadside delineators on other horizontal curves where chevron alignment signs have not been designated.
    - Install new or improved advance curve warning signs on all horizontal curves where the safe speed is at or below the posted speed limit.

To Summarize

- The pattern of crashes on this corridor do not lend themselves to a particular solution.
- The solution for reducing crashes on the Seward Highway is a combination of the 3 E's (Engineering, Education & Enforcement) and available funding.

Ron Martindale
HSIP Coordinator
Central Region