Safety Corridors a Synthesis

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Background:
Safety Corridors Study

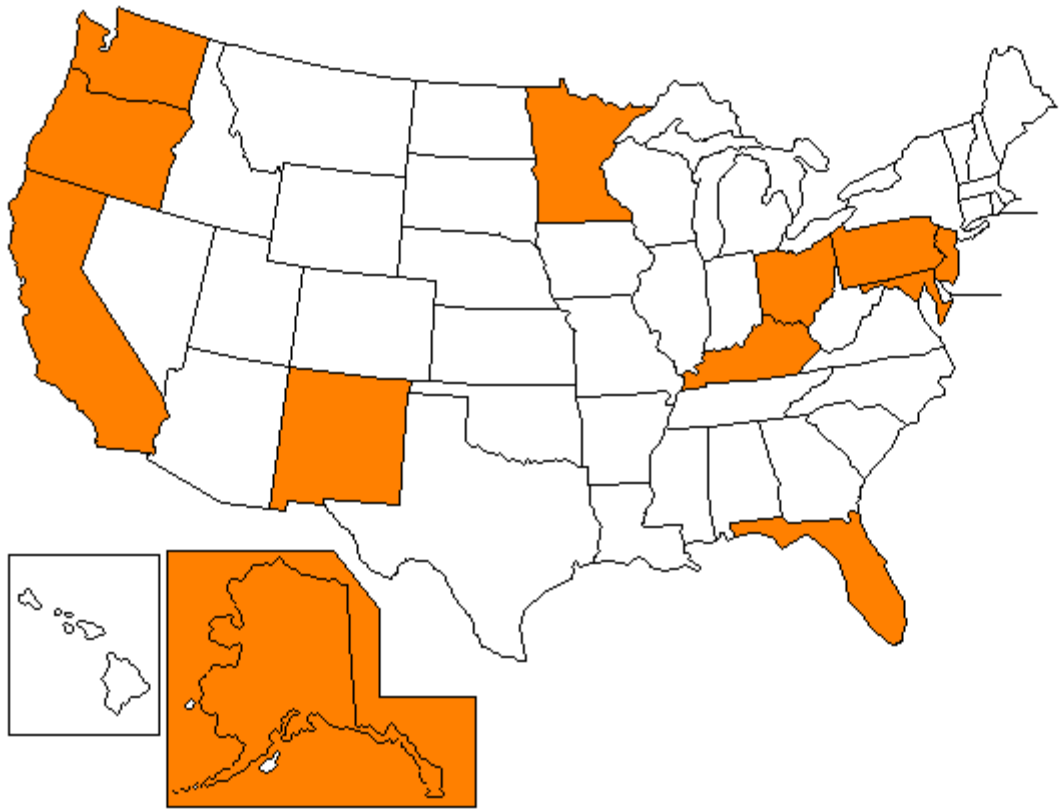
- Need grew from a four State Safety Summit
- Funding from Iowa, Kansas, Missouri DOTs and Midwest Transportation Consortium
- Goal: identify the most promising practices and programs to share among the four states
- States serve as a steering committee
- IADOT w/ Iowa State U. to do pilots

Approach:
Safety Corridors Study

- Identified 12 states w/ some sort of SC
- Not an engineering focus
  - Legal aspects
  - Enforcement
  - Community involvement
- Selection Criteria /Measures of Effectiveness
- Rural - 2 lane highway focus

The 12 States

Alaska
California
Florida
Kentucky
Minnesota
New Jersey
Ohio
New Mexico
Oregon
Pennsylvania
Virginia
Washington



Alaska

- Full Program:
  - “safety zones” like school or work zones
  - 4Es; 2 lanes; rural; 10 miles long
  - Road Safety Audits; incident response
  - Signing; legislation; double fines
  - Media campaigns; “light” on engineering

Alaska

- Alaska's criteria for designating a Safety Corridor are as follows:
  - Roadway with 2000 ADT or more.
  - 3-5 year fatal + major injury crash rate exceeding 110% of statewide average
  - The DOT must agree on a coordinated traffic control/patrol plan.
  - Agreed that plan will be effective in reducing crashes.
  - The local police define the amount of enforcement needed to increase safe driving and to provide ongoing enforcement.
  - No more than 10 safety zones at one time in Alaska.
  - The Safety Corridor should be no shorter than five miles long
  - The Safety Corridor is decommissioned when the fatal + major injury crash rate falls below statewide average for three years.

California

- Lead by the CHP
  - w/Task Force: CalTrans, Planning groups, EMS, legislative and citizen members
- < 50 miles long
- High 3 year crash/injury record
- Funding for six corridors per year
- Goal is a 10% reduction in crashes
- Must implement 2 solutions (enforcement & education)

Florida

- Community Traffic Safety Teams
  - 60 statewide
  - Facilitated by FDOT
  - 20 local members each
  - focusing on the driver behaviors and pedestrians
  - Statewide CTST Coalition to share information

Kentucky

- One Safety Corridor per District
  - more than one county in that district.
  - It must be of sufficient length for a corridor (> 50 miles).
  - It must have a relatively high traffic volume.
  - It must not be a full control of access highway.
  - It must have a higher number of crashes (total and injury/fatal).
  - It must have a high crash rate (total and injury/fatal).
  - It must be above a collector functional classification
- Road Safety Audit Conducted (video taped)
- Low-cost engineering solutions and enforcement strategies for locations along the SC.

Minnesota

- Toward Zero Death (TZD) initiative
  - 4E approach
  - Corridor safety coalitions (like FL)
  - low-cost alternatives to traditional engineering solutions
- 27 counties w/$2M from MnDOT

New Jersey

- 13 Urban corridors / 10 miles in length
- Selection is a three step process
  - Scan for six or more fatal crashes is performed
  - Roadways with six or more fatal crashes are analyzed in 10 mile segments for 1,000 or more total crashes over the previous three years
  - Crash rate is calculated by roadway cross-sectional type
- Conduct a Road Safety Audit
- Safety Corridors carry double fines

New Mexico

- The six basics of the program are:
  - 5 year crash history on a moving 5 mile stretch
  - Crash investigation
  - Review of the engineering and law enforcement initiative so as not to overlap efforts
  - Approval from the district engineer
  - A public awareness campaign
  - A review of the equipment and signage.
- Safety Corridor eligible for doubled fines

Ohio

- Most statistically rigorous MOE's: analyze the most recent five-year crash data over two-mile sections of similar roadways using these four statewide statistics:
  - Crash rate per million vehicle miles traveled (MVMT)
  - Five-year average crash density per mile
  - Fatal crash rate per 100 MVMT
  - Five-year average fatal crash density per mile
- Analyze countermeasure effectiveness
  - simple before and after crash count comparison
  - combined with an Empirical Bayesian approach

Oregon

- Leader in Safety Corridors (since 1989)
- Corridor Citizen Advisory Commission
- ODOT S-C Program Manager
  - Headquarters: guidelines, approves plans
  - Districts: engineering, local coordination
- Intermediate step in more permanent safety infrastructure improvements

Oregon

- To designate a Safety Corridor:
  - 3 year avg. fatal + serious injury crash rate at or above 110% of the latest statewide 3 year avg. for similar roads.
  - The state and/or local law enforcement will commit to making the corridor a patrol priority.
  - The initial designation team agrees that the length of roadway is **manageable** from an enforcement and education standpoint. Rural sections may be longer than urban sections.

Oregon

- The decommissioning process is handled by the initial designation team and is considered if **any one** of the following criteria is met:
  - 3 year average fatal plus serious injury crash rate is at or below 100% compared to the three year average for similar roadways.
  - Any of the remaining designation criteria are not met.
  - Minimum requirements within Safety Corridor program guidelines are not being performed.
  - A continued lack of activity or investment in the Safety Corridor.
- However, a local stakeholder group may ‘adopt’ the Safety Corridor once it is decommissioned assuming that the group provides meaningful local investment into improving the safety of the roadway

Pennsylvania

- Legislation for “double fines”
- 6 pilot locations
- speeding reduced by 2-14%
- Enforcement critical as “warning signs do not change motorist behavior”

Virginia

- Implemented for the Interstate System
- Selection criteria are as follows:
  - The crash rate must exceed 125% of the regional average
  - The Equivalent Property Damage Only frequency must exceed 150% of the regional avg.(PDO=1, injury=8, fatal=20).
  - The truck-involved crash rate exceeds overall regional rate.
  - The rate and EPDO frequency are then normalized by dividing by the maximum rate or EPDO in the region, and then the measures are added to rank / establish priorities
- Speed & crash reduction are the MOEs

Washington

- Established full program
- Statewide Champion for the Safety Corridors is LTAP coordinator
- DOT and Gov. Hwy. Safety Office
- 402 funds set aside (enforcement/education)
- Very active local Safety Corridor team
- Decommissioned after 2 years

Conclusions / Characteristics

- Multi-disciplined
  - *most states also included Emergency medical providers (the 4th E).*
- Limited Number
  - *limit the number of corridors*
  - *pilot corridors should be developed first*
- Crash Data
  - *should be consistently used for selection and evaluation*

Conclusions / Characteristics

- Champion
  - *key to the success of a program*
- Safety Action Plan
  - *use a multi-disciplined task force*
  - *meets regularly for continual review of the plan and strategies*
- Legislation
  - *establish corridor limits*
  - *permits increased fines*

Conclusions / Characteristics

- Special Signage
  - *fines doubled, special speed limits, lights on for safety*
- Road Safety Audit
  - *ensures a multi-disciplined effort*
- Minimal Engineering
  - *signage, center-line and edge-line rumble stripes/strips*

Conclusions / Characteristics

- Length
  - *not important*
  - *homogenous characteristics throughout*
- Decommissioning
  - *is important*
- Selection Criteria and MOEs
  - *should be more statistically rigorous*

Conclusions / Characteristics

- After Data
  - *important, but ……*
- General Characteristics
  - *funding*
  - *pedestrians*
  - *other*
    - *“Safety Corridor” stamp*
    - *a special program for the high schools*
    - *motorcycle enforcement on urban safety corridors.*
    - *include traffic court judges on the SC team*
    - *bumper stickers on the back* of large trucks

Interesting Safety Corridor

- Pennsylvania's Roosevelt Boulevard Safety Corridor

Philadelphia's Roosevelt Boulevard Safety Corridor

- Managed by DVRPC and PPA
- Corridor is approximately 8 miles in length
- 12 lane facility with 6 local and 6 express lanes
- Approximately 181,000 people live within 1/2 mile of the Boulevard
- AADT of approximately 80,000

Philadelphia's Roosevelt Boulevard Safety Corridor

- 133 pedestrian crashes occurred over the 5-Year period 2001-2005
  - Of these, 120 were injuries, and 13 were fatalities
- 11 mid-block crosswalks, 40 traffic signals in corridor
- Red light running problem

Roosevelt Blvd.

Roosevelt Blvd.

Roosevelt Blvd.

Roosevelt Blvd.

- Solutions to problems?
  - “Complete Streets” Design
  - Pedestrian Safety Improvements
  - Signal Timing Adjustment
  - Speed Reduction
  - Public Education
  - Enforcement
  - Legislation

Roosevelt Blvd: Red Light Running Cameras

- Since installation, one intersection has seen a 2/3 reduction in red light running violations
  - From 1500 to 500 violations per month

Roosevelt Blvd.

Next is Part 2

- Pilot Project in Iowa
  - Tom McDonald w/ CTRE