

Improving Safety at Railroad Crossings



Snapshot of the Railroad Industry in Alabama

- Within Alabama there are 29 freight railroads that operate over 3,255 miles of track.
- This includes Class I, Class II & Class III RR's.
- Railroads are four times more fuel efficient than trucks and one train can carry as much freight as several hundred trucks.
- Major commodities transported by Alabama railroads include coal, finished automobiles, intermodal, aggregates, pulp/paper, chemicals and metal products.
- Alabama ranked 9th nationally (2011) in the number of freight railroads, 17th in total rail miles and 15th in both rail tons originated and terminated.
- Alabama ranked 5th nationally in Grade Crossing Casualties (2013) with 50 and 13th in Trespassing Casualties with 22.

(Sources: 2013 Alabama Rail Plan, AAR & FRA)

Landscape of Crossings in Alabama

- **Total Crossings: 6,021**
- **Public At-Grade Crossings: 2,745**
- **Private At-Grade Crossings: 1,611**
- **Grade Separated (Bridge) Crossings: 672**

What Defines Public vs. Private?

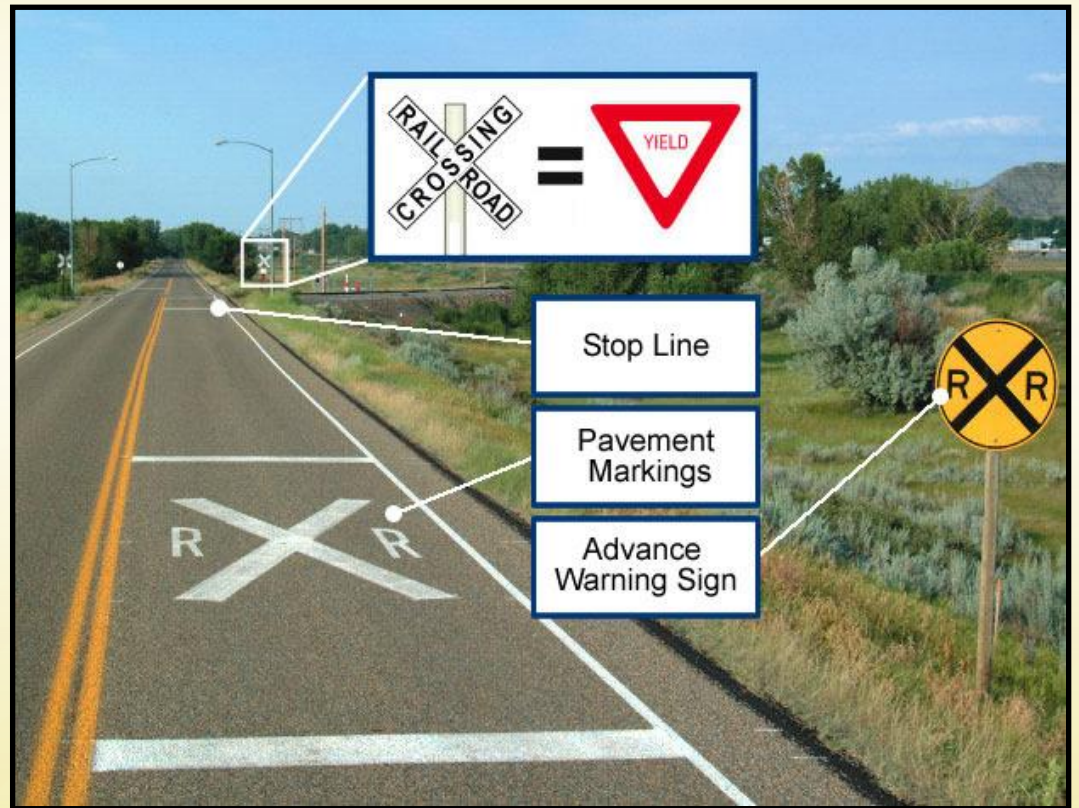


What About This One?





Signage & Pavement Markings



Elimination



Good Candidate?



Aesthetically Pleasing Elimination



Effectiveness



Combination



Needs

- Communicate with us.
- Evaluate with us.
- Think long term with us.
- All in an effort to prevent:





Contact Information

Will Miller

Manager Grade Crossing Safety

Norfolk Southern Corp.

william.miller@nscorp.com

Office: 404.582.6937

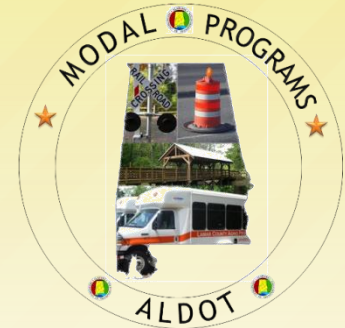
Ryan Gustin

Community Affairs and Safety Manager

CSX Transportation

Ryan_Gustin@csx.com

Office: 615.371.6325



ALDOT Modal Programs Rail/Highway Safety Section

Section 130 Safety Program

History

The Surface Transportation Assistance Act of 1987 established Section 130 of Chapter 23 of the United States Code, giving the Federal-Aid Rail-Highway Grade Crossing Safety Program permanent status under the law for the first time.



Eligibility

- Section 130 program funds are eligible for projects at all public crossings including roadways, bike trails and pedestrian paths.
- Fifty percent of a State's apportionment is dedicated for the installation of protective devices at crossings. The remainder of the funds can be used for any hazard elimination project, including protective devices.
- In accordance with 23 USC 130(i), the funds can be used as *incentive payments for local agencies to close public crossings provided there are matching funds from the railroad.*
- Also, in accordance with 23 USC 130(h), the funds can be used for local agencies to provide matching funds for State-funded projects.

ALDOT Modal Programs

Rail/Highway Safety Section

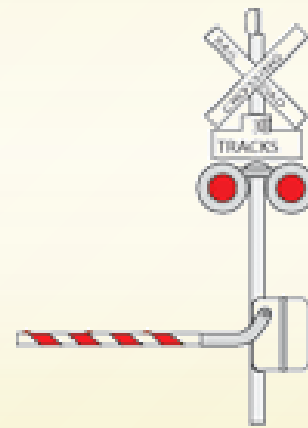
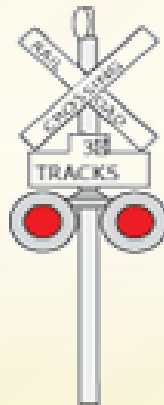
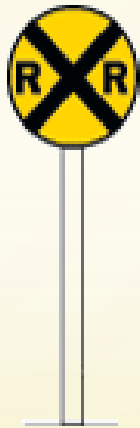
Responsible for:

- Planning
 - Developing
 - Implementing



Rail/Highway Safety Projects

ALDOT uses Section 23 USC 130 to provide safety upgrades to rail/highway crossings across the State of Alabama.



Cost to Upgrade: \$220,000
Cost for Re-Signalization: \$350,000

In the past 5 years

The Section 130 Safety Program has:

- Upgraded over 75 rail/highway grade crossings in Alabama
- At a cost of approximately \$17,306,963 million dollars



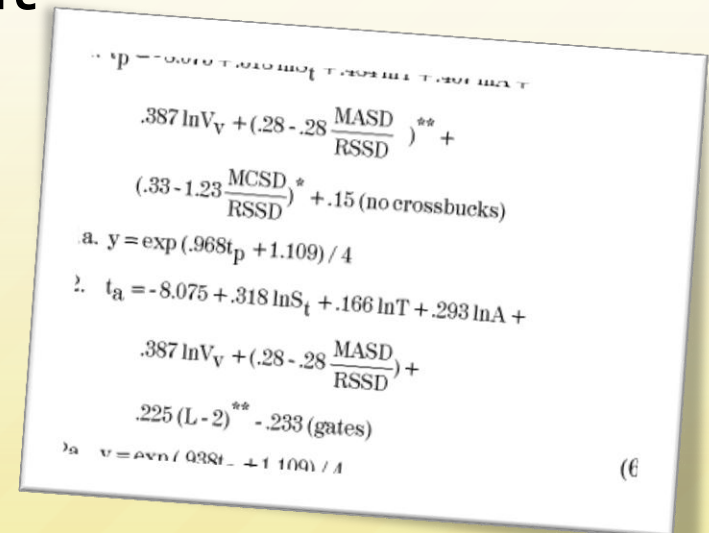
At-Grade Crossings

- In Alabama, there are:
 - 6,021 Railroad crossings
 - 2,745 Railroad crossings are Public At-Grade
 - 1,296 of the 2,745 are Signalized
(348 only have Flashing Lights)
 - 1,449 Railroad crossings have Passive Devices
(Crossbucks and None)
 - 1,611 Railroad crossings are Private
 - 914 Railroad crossings are closed
- In Alabama:
 - 47% of At-Grade Crossings are Signalized

Crossing Prioritization

- A ranking is given to each crossing in the State using the USDOT Accident Prediction Formula Index.
- Diagnostic Reviews
- Engineering Judgment

A portion of the Accident Prediction Formula...



... p = exp(0.968t_p + 1.109) / 4

$$.387 \ln V_V + (.28 - .28 \frac{MASD}{RSSD})^{**} +$$
$$(.33 - 1.23 \frac{MCSD}{RSSD})^* + .15 \text{ (no crossbucks)}$$

a. $y = \exp(.968t_p + 1.109) / 4$

2. $t_a = -8.075 + .318 \ln S_t + .166 \ln T + .293 \ln A +$

$$.387 \ln V_V + (.28 - .28 \frac{MASD}{RSSD}) +$$
$$.225 (L - 2)^{**} - .233 \text{ (gates)}$$

b. $v = \exp(.968t_p + 1.109) / 4$

(6)

Diagnostic Reviews

- Diagnostic Reviews will determine what safety improvements are needed and actual scope work.
- All Section 130 projects require a Diagnostic Review to be eligible for Section 130 funding.



Diagnostic Review Team

- ALDOT personnel
- ALDOT assigned consultants
- Local representative(s)
- Railroad representative(s)
- FHWA



All with decision making authority

Challenges

- Scheduling of personnel to attend the Diagnostic Reviews.
- Reduce turn-around times for Maintenance Agreements.
- Improving partnerships between State, local municipalities and railroad personnel.

Safety Corridor Projects

- The ability to address multiple crossings
- Signalization
- Passive devices
- Crossing closure and consolidation
- Other possible safety improvements

Contact Information

Donald R. Lovelace, Jr., MPA
Section 130 Program Manager
Direct: (334) 353-6428
Fax: (334) 353-6451
Cell: (334) 354-1325
lovelaced@dot.state.al.us

Jeffrey McInerney
Assistant Rail Safety Coordinator
Direct: (334) 353-6427
Fax: (334) 353-6451
Cell: (334)595-1875
mcinerneyj@dot.state.al.us

Modal Programs/Rail Safety Section
1100 John Overton Drive
Montgomery, Alabama 36110

Any Questions?

