

National Highway-Rail Grade Crossing Safety Conference

Section 130 Program Case Studies Presentation

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Google Earth

Safety Moment

- Highway crashes - ~6,000,000 annually
 - ~32,000 motor vehicle occupant deaths, ~0.5% fatality crashes
 - ~1,600,000 personal injuries, ~one-quarter personal injury crashes
 - >Two-thirds of drivers have been in a crash, 3-4 crashes per lifetime common
- Crossing crashes - ~2,000 annually
 - 10% fatality crashes
 - One-third personal injury crashes
 - Occupants have exited vehicle in some crashes



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Presentation Overview

- Data Driven – crash experience
- Rugby Avenue – prompt investigation
- Bundling minor projects – economy of scale
- Angham Road – synergistic hazards
- Gloster-Oak Road – stick with it



Data Driven

- State Highway-Rail Grade Crossing Safety Action Plan
- USDOT Accident Prediction and Severity Formulae
- Crash Experience
 - Five year standard
 - 45 year extended FRA F6180.71
 - Monthly crash review
 - Crossing signal knockdowns
 - Crossing Incidents – close calls, vehicles stuck on or near tracks



Prompt Action - 050330S Rugby Avenue



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Prompt Action - 050330S Rugby Avenue

- First report - May 2023 FRA report received 6/5/2023
- 5/25/2023 and 3/2/2023 “trapped on crossing”
- Advance pre-emption, outdated signal faces/phasing
(no protected left track clearance green and opposing yellow trap)
- Diagnostic Team Review scheduled 6/16/2024 for 7/17/2024
- Grave pre-emption phasing defect identified and corrected



Bundling Minor Projects

- Work on railroad right-of-way passed over
 - Unfamiliarity with process
 - Limited resources / relatively high administrative, PE and CST expenses
- Impediments to minor relatively low-cost improvements
 - Small scale work at individual crossings
 - Requirements for construction on railroad right-of-way (Special Provision)
 - Right of Entry
 - Insurance Requirements
 - Flagman



Bundling Minor Projects

- Minor Improvements
 - Raised medians especially on flush medians / bi-directional turn lanes
 - Connecting existing sidewalks that end at RR RoW or crossing
 - Pavement widening on RR RoW where width narrows on RR RoW
 - Curbing adjacent to crossing signals
- Geographical Bundling
 - Section 130 improvements at multiple crossings
 - One or more Section 130 projects let with much larger non-Section 130 projects that have work on railroad right-of-way

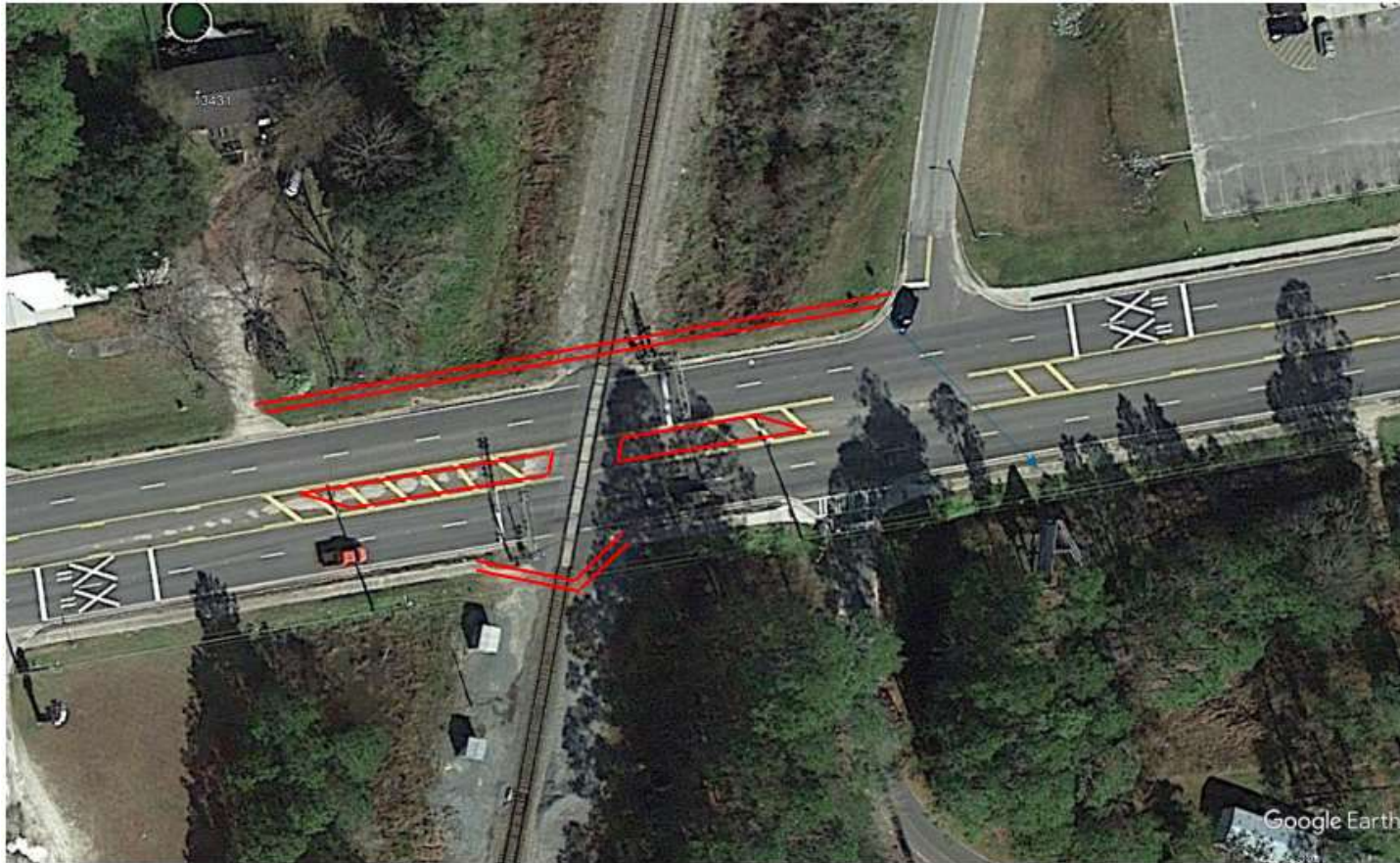


(637243P Golden Isles Parkway)



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(637243P Golden Isles Parkway)



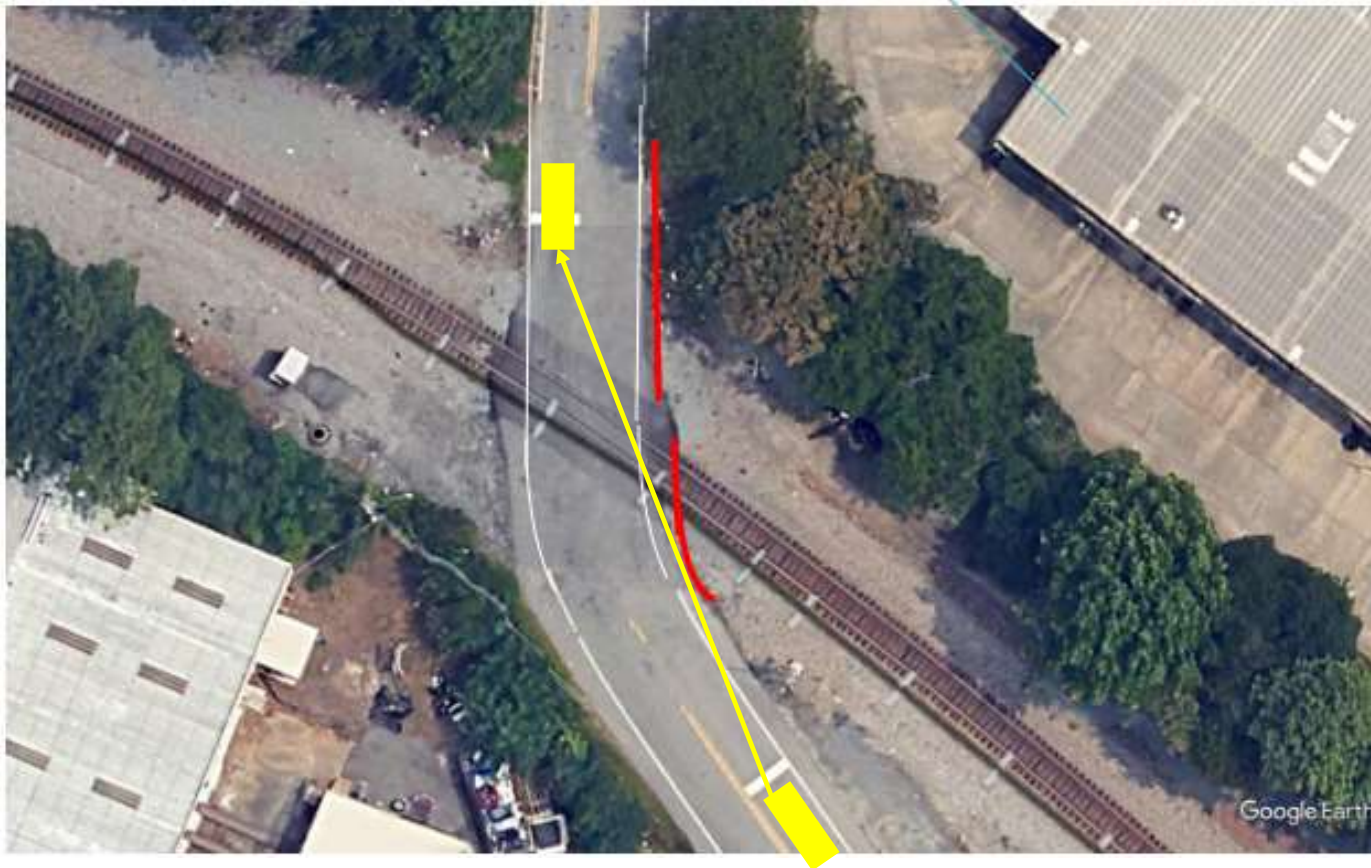
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719820N Angham Road

- Multiple crashes 2018-2021, “unoccupied” autos, 9pm - 4am
- Driving off pavement edge near crossing or edge of crossing surface and becoming stuck
- Synergistic hazards
 - Far side pavement not visible because of crest
 - Horizontal alignment change at crossing
 - Skew
- Delineators installed in February 2021



(340400F White Circle Road)



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(340400F White Circle Road)



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719820N Angham Road



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719820N Angham Road



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719820N Angham Road

- 2/28/2024 and 3/3/2024 unoccupied vehicles
- 4/06/2024 truck with horse trailer drove around gates
- Additional Mitigation
 - Restore of center and edge lines after crossing T&S (relatively long distance along travelled way at crossing)
 - Add streetlights
 - Larger ENS signs with placard
 - Closer spaced center line RPMs and add edge line RPMS
 - Pavement widening or paved shoulders adjacent to crossing surface
 - Possible GDOT-City RCE grant



639789H Gloster – Oak Road

- Six crashes 2017-2021
 - Two motorists turned onto track
 - Two motorists drove through gate
 - Damaged vehicle came to rest on track after adjacent intersection wreck
 - Motorist drove off edge of wet pavement
- Eight crashes and seven crashes 1977-2015
 - 13 of 14 crashes when dark, 9 crashes 11:45pm-3:05am
 - All crashes were autos, pick up trucks, or vans
- 2021 Diagnostic Team Findings
 - Excessive vehicular speed entering curve (& superelevation running off at crossing)
 - Brickyard/aggregate supplier paved parking conceals curve
 - Darkness, especially late hours



639789H Gloster – Oak Road



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639789H Gloster – Oak Road

- 2021 Diagnostic Team-identified Mitigation
 - Crossing signal relocation for recovery and visibility
 - Speed limit reduction 40 mph to 35 mph
 - Center and edge lines – increase from 5 inch to 8 inch
 - Raised pavement markers – doubled up at 10 feet spacing and along edgeline
 - Curve and intersection signing improvement
 - Chevrons
 - Other mitigation not implemented
 - Rumble strips
 - Speed bump or speed table
 - Speed indication or actuated warning lights



639789H Gloster – Oak Road



Crossing signal obstructed by utility pole. New crossing signal location will improve pre-view.



639789H Gloster – Oak Road



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639789H Gloster – Oak Road

- Recent crashes since 2021 improvements
 - Three crashes 12:40-4:30am, one a gate drive-around
 - *Two vehicles stuck on track without being struck*
 - *Three signal knockdowns without vehicle being struck*
 - *Realign gate mechanism struck by vehicle*
- 2024 Follow up Diagnostic Team Meeting
 - Press for rumble strips and/or approaching vehicle actuated warning
 - Larger ENS



Questions?

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