TRAFFIC SAFETY: PAST, PRESENT, AND FUTURE

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Get out smart phone
Go to kahoot.it
A lot to get through..... ..... or around.
TRAFFIC SAFETY: PAST, PRESENT, AND FUTURE
TRAFFIC SAFETY: THE FACTS
KAHOOT IT!

Go to: kahoot.it
Enter Code
Data – Availability, Accuracy
Data Analysis – Numbers-Rate-Statistics
Countermeasures*
Systemics*
New Issues, e.g. Distracted Driving

BIG PICTURE TRENDS
SINCE THE NEW MILLENNIUM:
Median Cable Guardrail
Centerline and Edgeline Rumbles
Roundabouts
Alternative Intersections: e.g. J-turns
Flashing Yellow Arrow
Flashing Yellow Arrow

Backplates with Retroreflective Border
Pedestrian Hybrid Beacon

Pedestrian Refuge Island
Systemics: Curves
Systemics: Unsignalized Intersections
Systemics: Signalized Intersections
AND SO MANY OTHERS, SUCH AS:
LED on Stop Sign Border
Restrict Left Turn Movements
Speed Warning with Advanced Intersection or Curve Warnings
Ground - In Pavement Markings
THE PREVIOUS DOES NOT INCLUDE TRADITIONAL, EFFECTIVE COUNTERMEASURES:

- Left-turn lanes
- Right-turn lanes
- Passing “Blisters”
- Signal Updates
- Sign Improvements
- Guardrail
- Tree Removal

- Delineation
- Pavement Markings
- Curve Correction
- Crosswalk Improvements
- Sight Line Clearing
- Improve Clearzone
- Road Diets
TRAFFIC SAFETY: THE PRESENT
New Countermeasures
High Friction Surface Treatments
Proven Safety Countermeasures

THE PRESENT
HIGH FRIC TION
SURFACE TREATMENT
Let in February, 2018
Several locations in each District
More “planned” for future

HFST IN INDIANA
Proven Safety Countermeasures

- 2008  2012  2017
- 14 Past PSCs
- Introduced in September, 2017
  - Six (6) New Proven Safety Countermeasures
- Roadside Design Improvements at Curves
- Reduced Left Turn Conflict Intersections
- Systemic Applications of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections
- Leading Pedestrian Interval
- Local Road Safety Plans
- USLIMITS2

PROVEN SAFETY COUNTERMEASURES
Increase clear zone at curves.
  - Recommended by AASHTO RDG.
  - Proven to reduce crashes.

Improve traversability.
  - Adding or widening shoulders in curves.
  - Flatter slopes at curves than in tangent sections.

Reconsider when to install barrier
  - Reduce severity.

ROADSIDE DESIGN IMPROVEMENTS AT CURVES
REDUCED LEFT-TURN CONFLICT INTERSECTIONS

<table>
<thead>
<tr>
<th>Vehicle-Vehicle Conflict Points</th>
<th>Conventional</th>
<th>MUT</th>
<th>RCUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossing</td>
<td>16</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Merging</td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Diverging</td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>16</td>
<td>14</td>
</tr>
</tbody>
</table>

**MUT Safety Performance**
- 30% decrease F&I Crashes.
- 16% decrease All Crashes.

**RCUT Safety Performance**
- 54% decrease F&I Crashes.
- 35% decrease All Crashes.

Sources: FHWA-SA-14-069, FHWA-SA-14-070
SYSTEMIC APPROACH FOR STOP INTERSECTIONS
- Pedestrians get “WALK” signal before vehicles get green light.
- Provides pedestrians a 3-7 second head start before vehicles are given a green indication.
- Allows pedestrians to establish presence in crosswalk before vehicles have priority to turn left.

LEADING PEDESTRIAN INTERVAL
Developing an LRSP is an effective strategy to improve local road safety.

Local roads experience 3X the fatality rate of the Interstate Highway System.
Speed Limit Legal Framework:
BASIC RULE; STATUTORY SPEEDS;
SPEED ZONES (USLIMITS2)

Why do we set speed limits?
- Inform drivers of the maximum reasonable and safe operating speed under favorable conditions.
https://safety.fhwa.dot.gov/provencountermeasures/
New Countermeasures
Intersection Conflict Warning Systems
ICWS

THE FUTURE
New Countermeasures
Intersection Conflict Warning Systems
ICWS

Will autonomous vehicles save us?

Until then, YOU own the future.

THE FUTURE
TRAFFIC SAFETY: THE BOTTOM LINE
WHAT WE KNOW.
WHAT WE DON’T KNOW.
WHAT WE DON’T KNOW

- How much Variability plays a part.
- How much influence is from various factors.
- When and how “autonomous” movement will take effect.
There are MANY influences to highway safety.

The Driver is the weak link. – BUT we can’t blame him/her and walk away.

Some Highway Safety issues change over time.

We can, and do, influence crash numbers and severities.
WHAT WE DO CAN INFLUENCE CRASH NUMBERS AND SEVERITIES.