Welcome to Evaluating and Improving Florida’s Safe Routes to School Program with Data-Driven Solutions
Why did Florida decide to evaluate the effectiveness of Florida’s SRTS Program?
Goal of Safe Routes to School

“To make walking and bicycling to school safer and more accessible for children, including those with disabilities, and to increase the number of children who choose to walk and bicycle.”

SRTS Guide – saferoutesinfo.org
### Safe Routes to School

**Arrival and Departure Tally Sheet**

<table>
<thead>
<tr>
<th>Key</th>
<th>Values</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>P1P2</td>
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<tr>
<td>Sample</td>
<td>P1P2</td>
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<tr>
<td>Parent P2</td>
<td></td>
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<tr>
<td>Teacher</td>
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<td>Parent P1</td>
<td></td>
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<tr>
<td>Parent P2</td>
<td></td>
<td>-</td>
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</tbody>
</table>

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**Parent Survey About Walking and Biking to School**

- What time does your child usually leave for school? (Circle one)
- What route does your child take to get to school? (Circle one)
- How far is it to the nearest bus stop? (Circle one)

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**Questions**

1. How safe is the route your child takes to school?
2. Is there any type of transportation available for your child?
3. Does your child use a bike or scooter?
4. How many times per week does your child walk or bike to school?

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**Additional Comments**

- Parent
- Teacher
- Parent (P1)
- Parent (P2)

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### TO MAKE IT SAFER and TO INCREASE
This provided short term results, but what about long term? 10 years later?
Crash Data for Evaluation

Rupert R Giroux
Florida Department of Transportation
State Safety Office
November 2019
Overview

• Crash data systems
• Crash data structure
• Crash data criteria for evaluation
• Concluding remarks
• Questions
Crash Data Systems

• FLHSMV (Florida Department of Highway Safety and Motor Vehicles)
  • Traffic Crash Facts – open access

• FDOT (Florida Department of Transportation)
  • CAR (Crash Analysis Reporting) – restricted access
  • Shapefiles – open & restricted access
  • SSOGiS – open access
  • GIS@FDOT – ESRI ArcGIS Online, open & restricted access

• University of Florida
  • Signal 4 Analytics – restricted access

• NHTSA (National Highway Traffic Safety Administration)
  • FARS (Fatality Analysis Reporting System)
Crash Data Systems: Diagram

Traffic Crash Facts

FARS

NHTSA

FLHSMV

Traffic Safety and Motor Vehicles

FDOT

SSOGIS

GIS Shapefiles

CAR ONLINE

UF

University of Florida

SIGNAL FOUR

Analysis

Signal 4

Analytics

Florida Department of Transportation, State Safety Office
Crash Data Systems: Links

• Traffic Crash Facts
  • https://firesportal.com/Pages/Public/DHSMVDocuments.aspx

• CAR (Crash Analysis Reporting)
  • https://fdotwp2.dot.state.fl.us/CrashAnalysisReporting/Account/Login

• Shapefiles
  • https://www3.dot.state.fl.us/unifiedbasemaprepository/

• SSOGis
  • https://fdotewp1.dot.state.fl.us/ssogis/

• GIS@FDOT, ArcGIS Online
  • http://fdot.maps.arcgis.com

• Signal 4 Analytics
  • https://s4.geoplan.ufl.edu/

• FARS (Fatality Analysis Reporting System)
  • https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars
Crash Data Systems: Other Resources

• FDOT State Safety Office

• Crash Data Academy Webinars

• FLHSMV general reports and statistics
  • [https://www.flhsmv.gov/resources/general-reports/](https://www.flhsmv.gov/resources/general-reports/)

• FLHSMV crash and citation reports and statistics
  • [https://www.flhsmv.gov/resources/crash-citation-reports/](https://www.flhsmv.gov/resources/crash-citation-reports/)
Crash Data Structure

**CRASH LEVEL**
- Date; time; location; road info; conditions; factors; manner of impact

**VEHICLE LEVEL**
- Vehicle type; condition; direction; harmful events; sequence of events

**PERSON LEVEL**
- Person type; gender; age; condition; actions; injury severity
Crash Data Criteria for Evaluation

- Bicyclist, pedestrian
- Within 2 miles of school
- Public roads
- School days, 6AM – 6PM
Concluding Remarks

• Crash data sources, structures important
• School data (location, etc) required
• Additional datasets expand analysis
  • Road data (context classification, functional class)
  • Complete Streets
  • Land use
  • Etc
Evaluating the Effectiveness of SRTS Program between 2008 and 2016 in FL

Trends of non-motor crashes in FL
Schools in Analysis

Active Schools in FL (4,642)
Source: FDOE

School locations (3,589)

School locations in analysis (3,511)
Crashes in Analysis

Non-motor Crashes in FL from 2007 to 2016
Source: FDOT (135,360)

Fatal or injury crashes
(110,6428)

Fatal or injury crashes within 1 mile of school buffer
(86,625)

Fatal or injury crashes within 1 mile of school buffer, involving school-age children (5 – 18)
(15,765)
Yearly Distribution  (School Year)

- All crashes
- Fatal/injury crashes
- Fatal/injury crashes; 1 mile
- Fatal/injury crashes; 1 mile; school-age children involved
Daily Distribution

- All crashes
- Fatal/injury crashes
- Fatal/injury crashes; 1 mile
- Fatal/injury crashes; 1 mile; school-age children involved
Monthly Distribution

- All crashes
- Fatal/injury crashes
- Fatal/injury crashes; 1 mile
- Fatal/injury crashes; 1 mile; school-age children involved
Mean = 0.4480 miles
Mean = 0.4399 miles
Mean = 0.4825 miles
Interventions – Education Program

Number of Schools Participated in Education Program Over Time

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</table>

Number of Schools in the Following Categories

- Have participated in education program
- Never participated

Average of crash totals (from 2009 to 2016) for schools in the following categories

- Have participated in education program
- Never participated
For schools participated in education program:

- Crash average in the years with education program is lower.
Interventions – Infrastructure Program

Number of School Locations Receiving Infrastructure Improvements

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Number of Schools in the Following Categories

- Have received infrastructure improvements
- Never received

Average of Crash Totals (from 2008 to 2016) for Schools in the Following Categories

- Have received infrastructure improvements
- Never received
For schools that have received infrastructure improvements (II):

• Yearly crash average is 0.518 before II, yearly crash average is 0.467 after II.
For schools that received infrastructure improvements (II):

Changes in Yearly Crash Average after II in 2007

Changes in Yearly Crash Average after II in 2008

Changes in Yearly Crash Average after II in 2009

Changes in Yearly Crash Average after II in 2010

Changes in Yearly Crash Average after II in 2011

Changes in Yearly Crash Average after II in 2012
Star Ratings for Southern Oaks Middle School: A Pedestrian Safety Assessment
What is Star Rating for Schools (SR4S)?

- Mobile application
- Designed to assess road and pedestrian safety in school zones through a Star Rating Scale
  - 1 star to 5 stars per location assessed
- Adapted from the International Road Assessment Program (iRAP) Star Rating measurement system used to highlight and identify high-risk roads around the world
Benefits of SR4S

- SR4S is an assessment tool that provides globally standardized Star Ratings for selected locations within a school zone.
- Star Ratings provide data and evidence to support proposed enhancements to selected locations.
- Star Ratings can be used to support advocacy efforts to increase pedestrian safety within the school zone.
The SR4S Process

- Discussion with school
- Coding around school
- Current Star Rating
- Treatment suggestions
- Implementation

- Assessment of treatments
- Upgrade Star Rating
- Quality Assurance
- Results reported
- Pupils educated
Southern Oaks Middle School

Key:
- 1 star
- 2 star
- 3 star
- 4 star
- 5 star
Pedestrian Safety - Strengths

- Crossing guards at main intersections during peak hours
- Marked crosswalks at every intersection
Pedestrian Safety - Weaknesses

- Students crossing mid-block
- Lack of speed management on busy roads
- Parents/caregivers parking on both sides of the street and in the grassy median
- Flow into and out of main entrance
Recommendations

• Speed Management
• Create a new exit for parent drop off and pick up
• Add no parking or no standing signs on St. James Drive
• Redo the entrance to the school add additional lanes
Next Steps

• Using SR4S Star Ratings, you have data to:
  • Petition school board for pedestrian safety improvement projects
  • Advocate to local government for improved pedestrian safety in school zones using the Take Action Toolkit as a resource
  • Educate students and/or their families on pedestrian safety risks and best practices
Resources

- Safe Kids Worldwide - Take Action Toolkit
- Safe Routes to School
- National Highway Traffic Safety Administration (NHTSA)- Pedestrian Safety page
- Center for Disease Control (CDC)- Pedestrian Safety page
- Pedestrian and Bike Information Center
- WHO Road Safety Guide
QUESTIONS?