

**Minutes of Meeting  
SATS SPECIAL MEETING  
June 2, 2011**

**ATTENDANCE**

**Technical Committee Voting Members**

<input checked="" type="checkbox"/>	Chairman Mike Williamsen	Village of Chatham
<input checked="" type="checkbox"/>	Vice-Chairperson Linda Tisdale	Springfield Mass Transit District
<input type="checkbox"/>	Tim Sheehan*	City of Springfield
<input type="checkbox"/>	Tim Zahn	Sangamon County
<input checked="" type="checkbox"/>	Norm Sims	Springfield-Sangamon County Regional Planning Commission
<input checked="" type="checkbox"/>	Laura Mlacnik**	Illinois Department of Transportation: Region 4, District 6

\* Represented by Lori Williams

\*\* Represented by Sal Madonia

**Technical Committee Advisors – Non-Voting**

<input checked="" type="checkbox"/>	Thomas Caldwell	IDOT: Urban Program Planning
<input checked="" type="checkbox"/>	JD Stevenson	Federal Highway Administration: Illinois Division Office
<input type="checkbox"/>	Mike Stead	Illinois Commerce Commission
<input checked="" type="checkbox"/>	Terry Fountain*	IDOT: District 6: Local Roads and Streets
<input type="checkbox"/>		IDOT: Division of Public and Intermodal Transportation
<input type="checkbox"/>	Mark Hanna	Springfield Airport Authority

\* Represented by Kim Cummins

**Others**

Neha Agarwal – Regional Planning Commission  
 Wayne Beck – Village of Rochester  
 Chris Benson – Regional Planning Commission  
 David Booher – IE Consultants – Village of Sherman  
 Chris Bott – Greene & Bradford, Inc.  
 Kevin Burke – IDOT BLRS  
 Brian Davis – Sangamon County Highway Department  
 Bill Davison – Hoelscher Engineering  
 Stan Hansen – Crawford, Murphy & Tilly  
 Kevin Kuhn – Quigg Engineering  
 Tim Landis – State Journal Register  
 Dale Laningham – Village of Rochester  
 Alex Lyons – Village of Riverton  
 Robert Mathis Sr. – Village of Curran  
 R Scott McTaggart – Village of Jerome  
 Lynn Miller – Springfield Bicycle Club  
 Jim Moll – Hanson Professional Services  
 Kyle Phillips – Regional Planning Commission  
 Dale Schultz – Regional Planning Commission  
 Linda Wheeland – Regional Planning Commission

**I. CALL TO ORDER**

Chairman Mike Williamsen called the meeting of the SATS Special Meeting to order.

**II. STREET SIGN RETROREFLECTIVITY PRESENTATION**

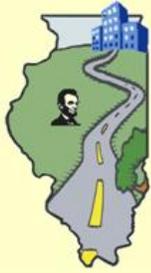
Williamsen stated that due to new federal regulations regarding street sign retroreflectivity and the possibility of a combined HSIP grant application, this special meeting was being held to review the

regulations and explore the possibility of a joint effort between communities.

Kevin Burke, Policy Engineer with IDOT Central Bureau of Local Roads and Streets, presented information on federal sign retroreflectivity regulations. The presentation is attached to these minutes.



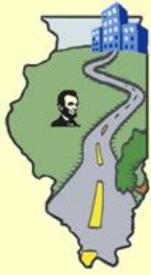
# Sign Retroreflectivity Regulation



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# Outline

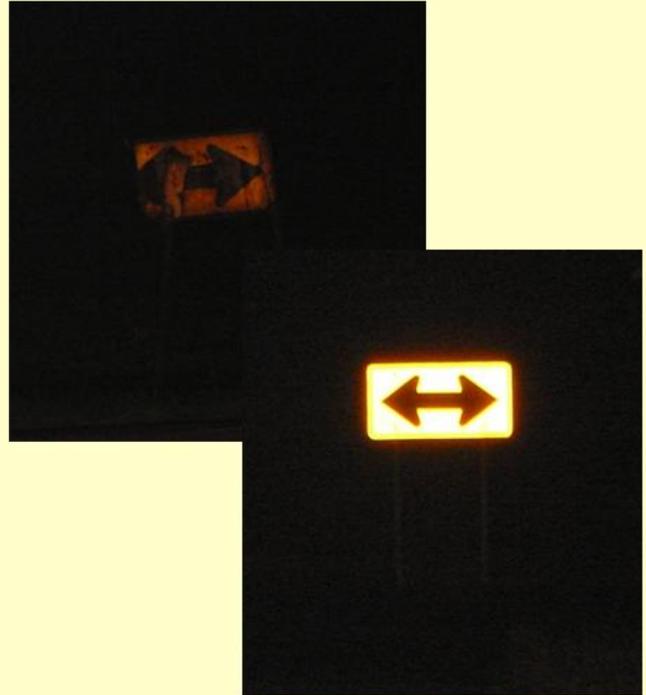
- Background
- Compliance Dates
- Retroreflectivity Compliance
- IDOT Retroreflectivity Rule Compliance
- Rural Sign Upgrade Program

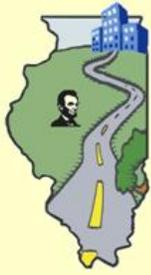


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## Background

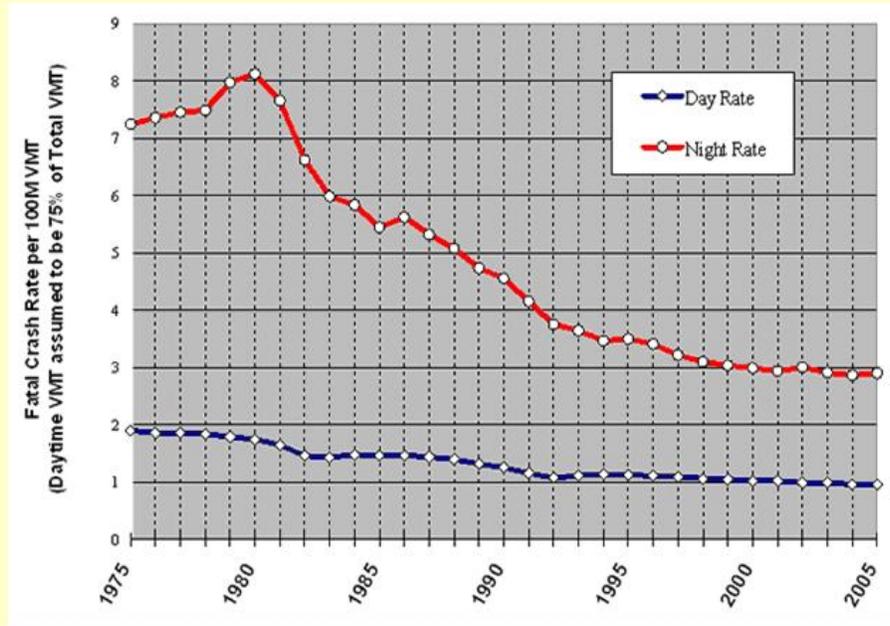
- Crash Rate at Night
- Older Driver Population
- Visual Cues
- Congressional Mandate





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# Crash Trends





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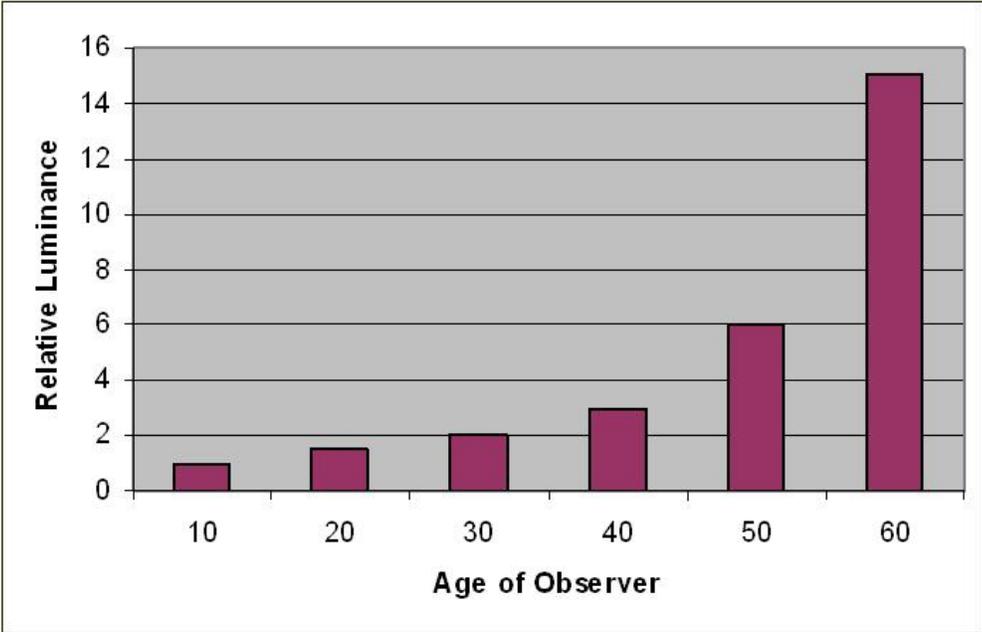
# Fatalities by Age

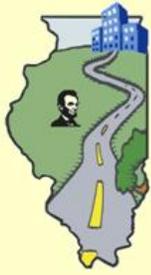




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# Needed Light by Age

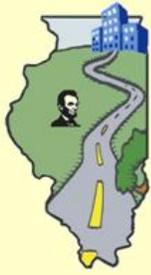




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# Visual Cues





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# Visual Cues

## DAYTIME

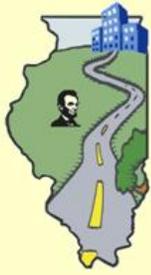
- Trees
- Telephone Poles
- Fence
- Pavement Marking
- Delineators
- Signs



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# Visual Cues





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## Visual Cues

### DAYTIME

- Trees
- Telephone Poles
- Fence
- Pavement Marking
- Delineators
- Signs

### NIGHTTIME

- Pavement Marking
- Delineators
- Signs



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## **Congressional Mandate**

### **1993 DOT Appropriations Act**

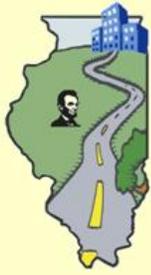
- The Secretary of Transportation shall revise the MUTCD to include a standard for a minimum level of retroreflectivity that must be maintained for traffic signs and pavement markings which apply to all roads open to public travel.



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## Compliance Period

- 4 Years to Implement a Sign Management/Assessment Method (Jan. 2012)
- 7 Years from Date of Final Rule for Ground Mounted Signs (Jan. 2015)
- 10 Years from Date of Final Rule for Overhead Signs and Street Signs (Jan. 2018)
- Need to Start Now!



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# Assessment or Management Methods

- Visual Nighttime Inspection (A)
- Measured Sign Retroreflectivity (A)
- Expected Sign Life (M)
- **Blanket Replacement (M) - IDOT**
- Control Signs (MA)
- Other Methods (MA)

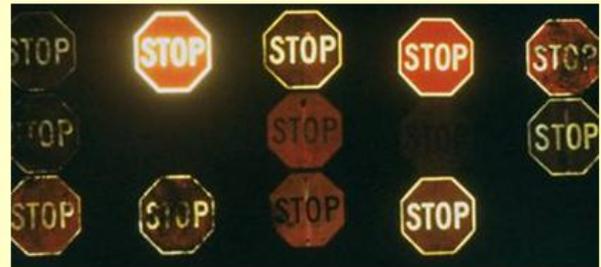




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# Visual Nighttime Inspection

- Trained Inspectors at Operating Speed
- Low Beam Headlight
- Evaluation at Typical Viewing Distance
- 3 VNI Methods
  - Calibration Signs
  - Comparison Panel
  - Consistent Parameter



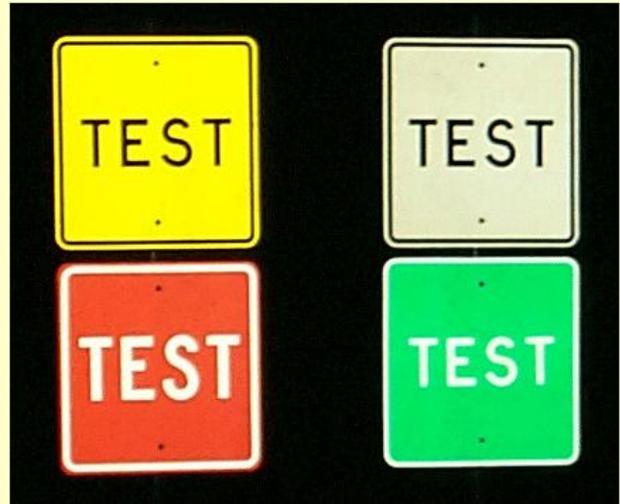


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# Visual Nighttime Inspection

## Calibration Signs

- Calibration Sign for Each Color
- Same Vehicle Used
- Periodic Calibration





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# Visual Nighttime Inspection



## Comparison Panel

- Attached to Sign
- Both Viewed by Inspector



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# Visual Nighttime Inspection

## Consistent Parameter

- Full-size SUV or Pick Up
- Model Year 2000 or Newer
- Inspector 60+ Years Old



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# Measured Sign Retroreflectivity

- ASTM E1709 Procedure
- Use Certified Retroreflectometers
  - Delta RetroSign
  - RoadVista 922
- Cost Prohibitive???



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# Retroreflectometers





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## Expected Sign Life

- Determine Expected Life Based on Geography
- End of Life Based on Minimum Values
- Replace Signs Prior to End of Life
- Periodic Inspections to Verify



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## **Blanket Replacement**

- Area/Corridor, or Specific Type Replaced at Specific Intervals
- No Need to Track Individual Signs
- Intervals Based on Expected Sign Life
- Essentially the Expected Sign Life method implemented on an area or strategic basis



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## **IDOT Compliance with the Min. Retroreflectivity Rule**

- **Blanket Replacement Method**
  - We are assuming a 15 year life cycle on our prismatic sheeting
  - Replace all signs within a county in a year
  - Each county would be done once every fifteen years
  - This would be less than one county per year for most districts
  - Would replace an est. 4,400 signs per year statewide at a cost of an est. \$ 250,000.00
  - Leaving time for repair of damaged signs and special projects.



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## **IDOT Compliance with the Min. Retroreflectivity Rule**

- **Blanket Replacement Method**
  - Randomly selected signs would be tested to confirm compliance
  - If a district currently performs inspections they could continue, but wouldn't have to judge retroreflectivity.
  - Interstate guide signs would be a separate program.



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## **IDOT Compliance with the Min. Retroreflectivity Rule**

- **Blanket Replacement Method**

- Advantages

- Low likelihood of a sign getting missed
    - Fuel and manpower savings in reduced travel time to replace individual signs on a district wide basis
    - Reduced manpower needs to track individual signs
    - Reduced dependence on accurate sign inventories and inspections.



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## **IDOT Compliance with the Min. Retroreflectivity Rule**

- **Blanket Replacement Method**

- Disadvantages

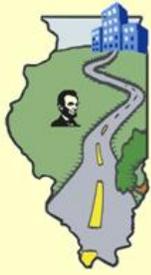
- At first, some waste from replacing signs that aren't 15 years old
    - Some small waste due to replacing signs replaced due to damage
    - Countered by high fuel cost savings and reduced manhour costs



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## Control Sign

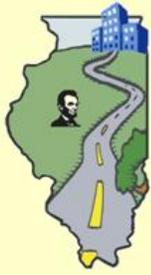
- Control Sample Represents Total Population
- Field Signs or Specific Location
- Use an Assessment Method
- Population Replaced Based on Control



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## Other Methods

- Based on Engineering Study
- Technology
- Combinations



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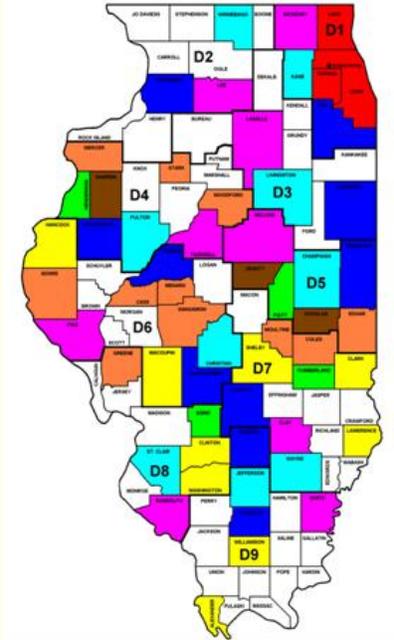
## **Best Practices**

- Place Stickers on Back of Signs
- Use High Intensity or Prismatic
- Routine Sign Inspections
- Prioritize Signs



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# Sign Upgrades





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## Statistics

- 55 of 102 Approved for Sign Upgrade Funding
- Excellent Bid Prices
  - 30" Stop Sign Average Price = \$23.96
  - 30" Diamond Warning Average Price ~\$26.00
  - 24"x30" Speed Limit Average Price = \$20.69
- Nearly 100% Participation in Each County



# QUESTIONS?

[www.fhwa.dot.gov/retro](http://www.fhwa.dot.gov/retro)

Burke presented the Tri-County RPC HSIP grant application. This application included a coordinated agreement between 11 various local agencies within the Peoria area MPA. All HSIP applications are subject to a cost-benefit analysis.

Burke stated that HSIP grants can include engineering and labor costs. Street name sign replacement does not qualify under HSIP funding.

Burke stated that the Tri-County HSIP grant application was consultant driven. The consultant on the project performed a lot of the preliminary work for free. As a result of the work they preformed, the consultant has been hired for the implementation of the project.

Williamsen asked if the signs were measured for their retroreflectivity as part of the Tri-County RPC HSIP grant application. Burke stated that there are two ways to measure sign's retroreflectivity. Signs that are made of engineering grade material are automatically eligible for HSIP funding. Another way is to document when high intensity prismatic signs replace older signs and use the signs recommended service life as a guide.

Burke stated that motor fuel tax and federal funding can be used for asset management purposes. Several different software packages are available for this purpose.

Williamsen asked for details on the cost benefit analysis in HSIP grant applications. Burke stated that the cost benefit analysis looks at urban area crash data and assigns a dollar value for fatalities ('Ks' with an

assigned value in the millions) and incapacitating injuries ('As' with an assigned value in the hundreds of thousands) compared with the cost of the HSIP project and other applications. Sign upgrades are assigned a 20% crash reduction factor, meaning that if there were 100 fatal crashes in the urban area, there would be a theoretical 20 fatal crash reduction or 80 crashes after the signage upgrade.

Wheeland asked if there needs to be a plan in place before an application can be submitted. Burke stated that a sign inventory needs to be complete before a cost benefit analysis can be preformed. The inventory acts as the first part of the plan. The next part of the plan is to state how the applicant will go about managing and assessing the signs.

Lori Williams stated that the City of Springfield performed an estimation of how many signs they have. The City is also looking into a 3M sign management product to help manage their sign inventory.

Burke stated that HSIP funding requires a 10% local match.

Wheeland asked if bus stop signs are required to be upgraded. Burke stated that SMTD bus stop signs are not required to be updated.

Sims suggested that the group should get a list of the jurisdictions that would like to participate in the group HSIP application.

Brian Davis with the Sangamon County Highway Department was invited to the next special meeting to share his experience in coordinating the County's rural sign upgrade program.

Williamsen suggested that there be another special meeting after the next SATS Technical Meeting.

## **ADJOURNMENT**

There being no further business, the special meeting was adjourned.

Respectfully Submitted,

Kyle Phillips  
Recording Secretary