

U.S. Department of Transportation

## Federal Highway Administration

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# HIGHWAYS FOR LIFE

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## PowerPoint Presentation - Temporary All-Weather Pavement Markings for Work Zones

### Slide 1 - Temporary All-Weather Pavement Markings for Work Zones

Project Team: 3M and TTI

Award: \$499,277

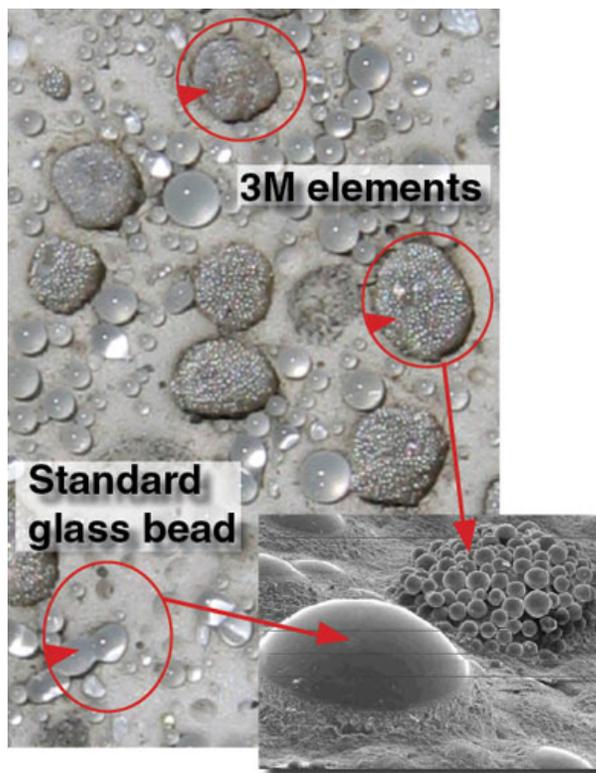


### Slide 2 - Need

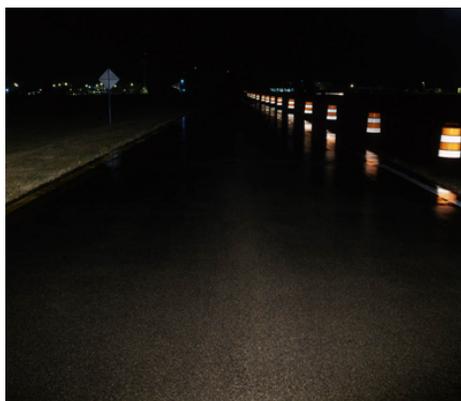
- Retroreflectivity of conventional pavement markings diminishes significantly under wet weather conditions at night, which severely reduces their visibility
- Reduced pavement marking guidance can compromise motorist safety, especially in work zones, where unusual traffic patterns are common
- There is a growing need for pavement markings that sustain visibility under all weather conditions, customized for work zone applications and requirements

### Slide 3 - Proposed Solution

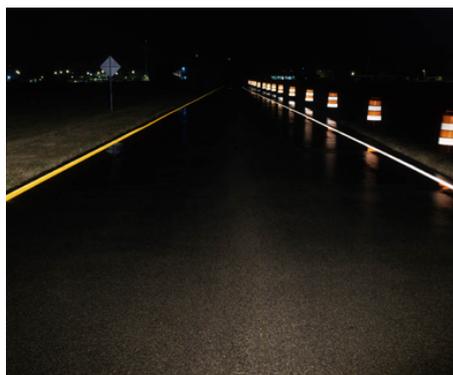
- Unique optical elements made of a ceramic core surrounded by very high-refractive index beads that provide retroreflectivity under wet conditions, both during and after rain events
- These optical elements are applied together with typical glass beads onto paint using conventional application methods
- Resulting optical system offers a promising and economic solution to improve wet-weather visibility of pavement markings in work zones



### Slide 4 - Night-Wet Conditions

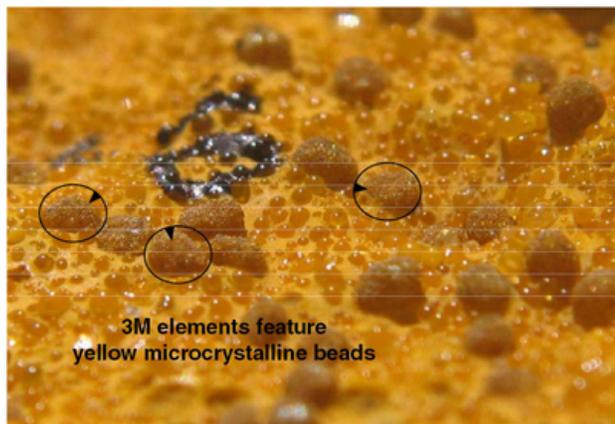


Conventional Pavement Markings



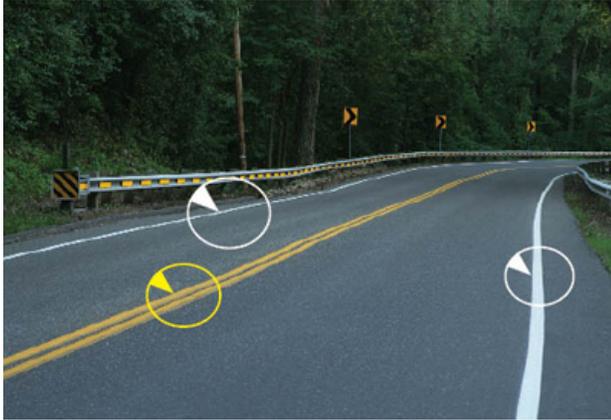
All-Weather Pavement Markings

### Slide 5 - 3M elements help yellow pavement markings reflect their color at night.

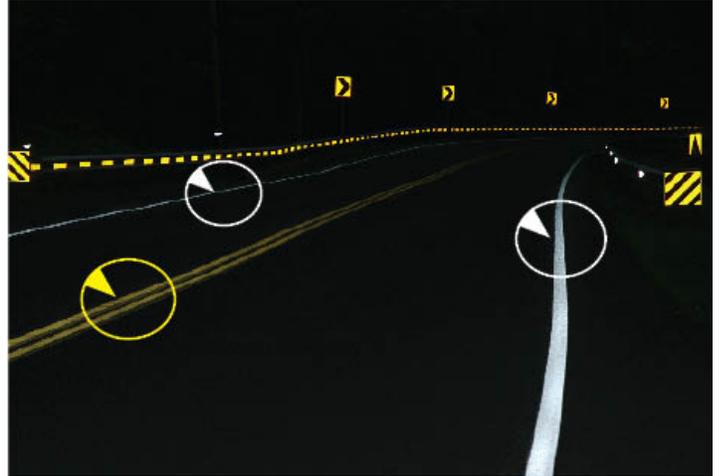


### Slide 6 - Conventional and All-Weather Markings Under Different Conditions

Day-Dry

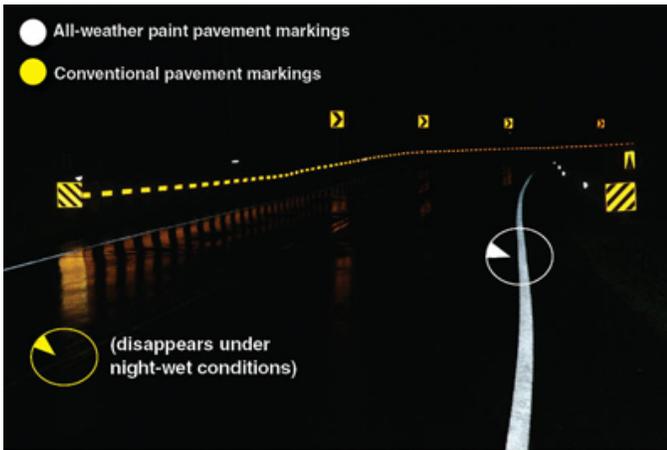


Night-Dry



-  All-weather paint pavement markings
-  Conventional pavement markings

### Slide 7 - Night-Wet Conditions



Page last modified on July 6, 2016