



Mr. Chad Reed
3M India Ltd.

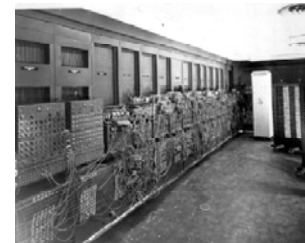


Visibility & Safety for the Life of the Road

1940 – The color TV was invented. Despite initially slow acceptance, by 1996 over one billion television sets were in homes worldwide



1945 – First all-electronic digital computer. Filling an entire room, the ENIAC was the father of modern computer technology.



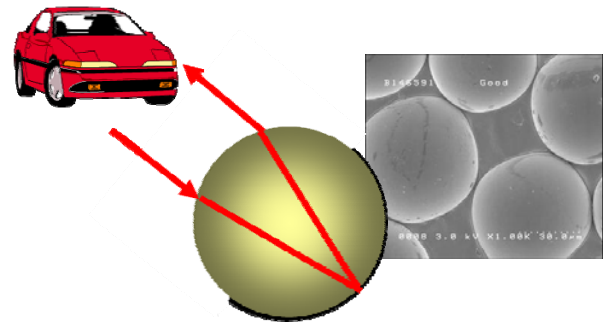
1940 – First freeway in the US. The Arroyo Seco, was built to connect downtown Los Angeles with Pasadena. Now known as Highway 110



1948 – 3M™ Company Introduced Engineer Grade Reflective Sheeting to replace Non-Reflective Painted Traffic Signs.

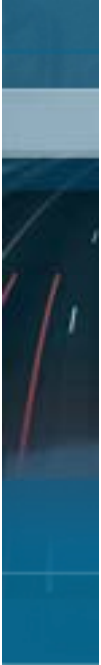


Glass Bead Technology (Exposed Lens Sheeting)



Real EG Sheeting Efficiency equals **roughly 8%**



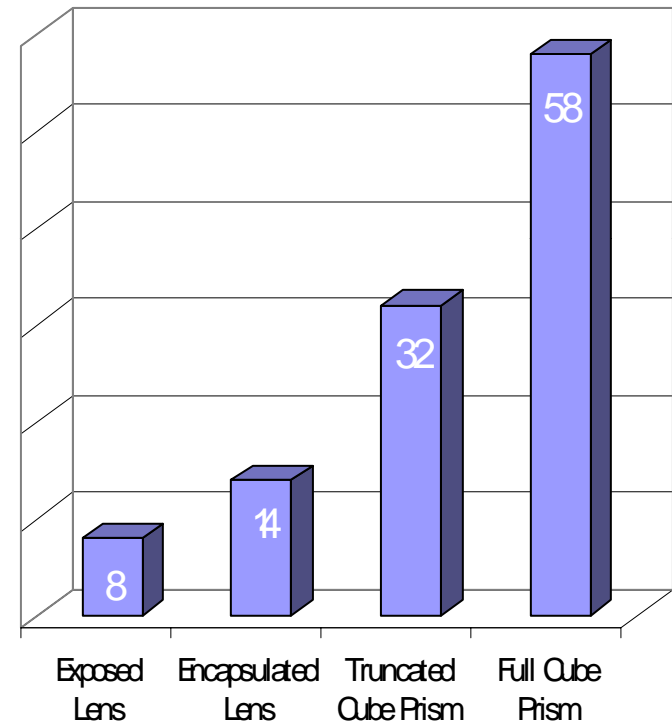


1940s – Exposed Lens Sheeting
Engineer Grade (ASTM Type I)

1970s – Encapsulated Lens Sheeting
Hi-Intensity (ASTM Type III)

1990s – Truncated Cube Prismatic Sheeting
Hi-Intensity Prismatic (ASTM Type IV)
Diamond Grade (ASTM Type IX)

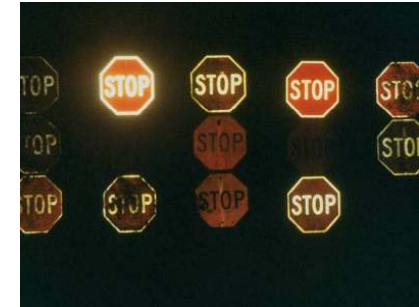
2000s – Full-Cube Prismatic Sheeting
Diamond Grade Cubed (ASTM Type XI)

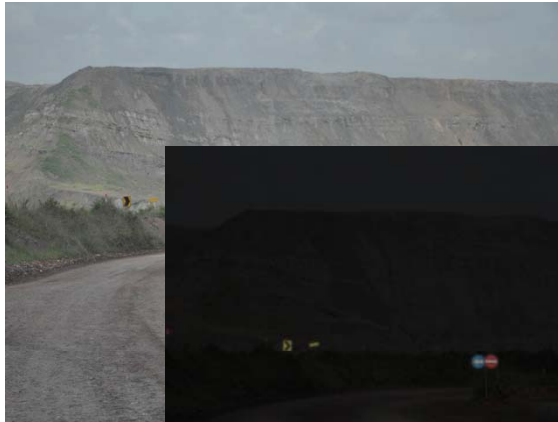




What You See During the Day...

... Is NOT What You See at Night





"The Safety Effects of Traffic Sign Upgrades" Ripley, D. A.; H.R. Green and Associates, Presented at 2004 ITE Annual

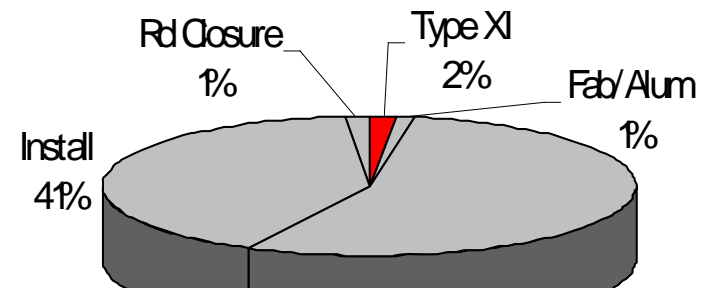
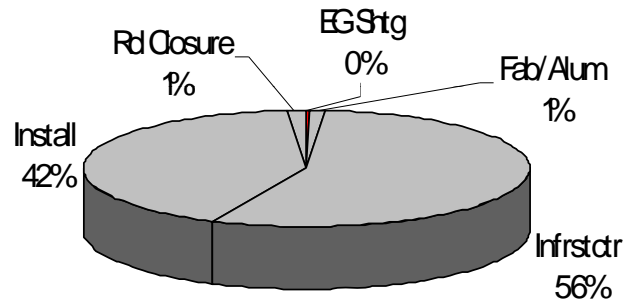
- *Sioux City, IA, **reduced crashes by ~30%** in the 3 years after upgrades*
- *Mendocino County (California) showed a **46% crash reduction** over a 6-year period*
- *Putnam County (New York) showed a **25% crash reduction** in the three years after the upgrades*

but the cost is so much higher...

Key Point #1 – Sign Sheeting is a Small Portion of the Total Sign Cost

A 4X increase in Sign sheeting is a Minor Overall Increase to the Total Cost of the Sign

Example 1



55%

ut the cost is only much higher...

Key Point #2– Lower Life Cycle Cost

In Most Cases High Performing Prismatic Sheeting is More Durable, lasting anywhere from 1.5X– 2X Longer than Beaded Sheeting



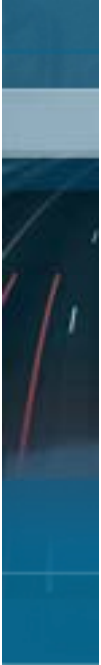
Type XI Sheeting is durable for 12 years, vs. 7 years for EG Levels.

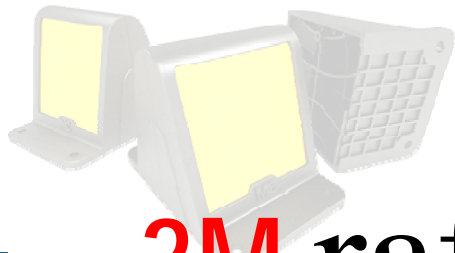
So even though Initial Total Sign Cost for a Type XI is 1-5% Higher...

The **Cost/Year is roughly 40% LOWER than the EG Sign**

o n ummary...

Lets Break Out of the 1940's Traffic Safety Technology

- 
- Vastly better technology available (ASTM Type XI)
 - This technology has been proven to improve visibility and guidance, which leads to the reduction of accidents
 - The initial cost increase is not as dramatic as it appears on the surface, in isolation.
 - Not even considering the accident cost savings, the life cycle benefits of a higher performing sheeting is significant



3M traffic safety systems...

