

Shattering the Fog: Suicide Deterrence System Models for Elevated Structures

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The Rio Grande Gorge bridge has an average of six suicides/year, as compared to 13.6 suicides/year (Atkins-Witmer, Woods, 2013) for the Golden Gate bridge. Per capita, this is a comparable statistic. The bridge's design flaws make it a premiere destination for suicide. Most suicide ideation victims get into a 'brain fog' of cognitive dissonance, where they block out reality and only focus on the task of ending their misery. The plan is to disrupt that brain fog. This is a proposal to restructure the existing bridge with a low weight, low environmental impact, cost-feasible suicide and vandalism deterrence system. The recommendations include walkway rail redesign, design of a lightweight, low optical impact recycled Aluminum mesh fence with viewing window, low impact lighting and low-cost sensors to trigger visual, tactile, and auditory stimulation alerts. The first is a sensor alert system designed for immediate low-cost implementation. The second longer term system recommends removing the bottom rail (used as a step), plus install mesh + angled light poles with low impact LCD lights, and to repurpose the suicide deterrence sensor system as a vandalism reduction system. Both systems would be coated with a silicon/polyvinyl acrylic coating to reduce environmental and vandalism impact. Aluminum reinforced with the silicon/polyvinyl acrylic coating is resistant to compression/impact & environmental forces, and preserves conductivity. Aluminum grating has a high optical transparency. The combination of sound, light and vibration can induce fight or flight response and act as a theft deterrent.

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