

Prevention Through Environmental Design (CPTED) in Reducing Robberies." *American Journal of Preventive Medicine*, 18(4 Suppl): pp. 99-115. DOI: 10.1016/S0749-3797(00)00146-X

- Eck, R., and D. Martinelli. 2014. "Assessment and Mitigation Measures for Graffiti on Highway Structures." *TRB Record*, 1642(5). DOI: <http://dx.doi.org/10.3141/1642-05>

## References for further reading

Atlas, Randall (Ed). 2008. *21st Century Security and CPTED: Designing for Critical Infrastructure Protection and Crime Prevention*. CRC Press, Taylor & Francis Ltd., Milton Park Abingdon, UK, 500 pp.

Jacobs, Jane. 1961. *The Death and Life of Great American Cities*. Random House, New York, NY, 598 pp.

Jeffery, C. Ray. 1977. *Crime Prevention Through Environmental Design*. Sage Publications, Beverly Hills, CA, 351 pp.

Washington State Department of Transportation (WSDOT). 2015. *WSDOT Design Manual*, M 22-01.12, Chapter 950, Public Art. WSDOT, Olympia, WA.

## AESTHETICS COMMENTARY

by Frederick Gottemoeller



I'm glad to see the recognition this article gives to the role of public art in bridge design. Having a background in architecture and urban design as well as engineering, many of these ideas are familiar. But, as the article points out, art's effect is more than just aesthetic enjoyment, as important as that is. Art's effectiveness in evoking Natural Surveillance and Natural Territorial Enforcement means significant reductions in vandalism and the costs of remediating it. To add to that

list, public art can evoke significant civic pride and community solidarity when it is used to enhance spaces under bridge approaches and viaducts so that they are more amenable to civic uses. As I said in the Spring 2016 edition of *ASPIRE*<sup>TM</sup>:

"In recent years, with the growing public interest in urban living and making cities more livable, there has been new interest in taking advantage of the space under viaducts, and not just for organized parking. Parks and playgrounds and farmers' markets are all uses that are now occurring under viaducts."

In Hastings, Minn., the south approaches to the new US 61 Bridge over the Mississippi River cross over the town's historic shopping avenue, Second Street, with minimal vertical clearance. The space below the bridge had the potential to end up like so many others, dark, unpopulated and threatening, with consequent negative impacts on the shopping street. The first step toward avoiding that was to use a post-tensioned, cast-in-place, minimal-depth concrete slab for the structure. This maximized the vertical clearance under the structure and created a smooth and light colored underside which facilitated the penetration of daylight into the space under the bridge. The second step was to place the south abutment as far back as reasonable from the curb line in order to make the space under the bridge more useful for civic activities (Fig. 1). The third step was to place all piers outside the building lines for Second Street so that the "space of the street" was not narrowed as it passes under the bridge (Fig. 2).

The final step was to place a natural stone "mural" on the south abutment wall. This work depicts the history of Hastings in variously colored natural stones (Fig. 3). Contrary to the usual expectations, it was the result of a collaboration between the design-build contractor, an artist retained by the contractor, and the citizens advisory committee. The design-build contract required that the contractor find an artist who could develop a theme satisfactory to the committee. The artist proposed the historical mural of colored stone and the committee accepted it.

The south approaches have become a source of civic pride. Residents take visitors to see it, and the area under the bridge has become an important focus of the summertime historic car rallies that are a Hastings tradition. And it was all done in the context of a competitively bid, design-build process.



Figure 1. Weekend historic car rally on Second Street. Photo: Dale Thomas.



Figure 2. Daylight and space at the south abutment. Photo: Frederick Gottemoeller.



Figure 3. A visitor to Hastings exploring the mural. Photo: Frederick Gottemoeller.