



bridge aesthetics

sourcebook

Practical Ideas
for Short- and
Medium-Span
Bridges

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Credits for Sourcebook on Bridge Aesthetics

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Sourcebook

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► Preface

This Sourcebook presents guidelines for improving the appearance of short- to medium-span bridges (those with spans up to about 300 feet). These structures constitute the great majority of bridges and are often referred to as “workhorse” bridges. The intended audience includes all of those engaged in advancing transportation projects: engineers, administrators, planners, environmentalists, and the general public. The goal is to encourage a common understanding of and terminology for bridge aesthetics that will encourage interaction among these individuals and result in more attractive and context sensitive bridges throughout the United States.

The Sourcebook begins by explaining why it is necessary to consider bridge aesthetics. It then provides practical, easy-to-apply ideas for design engineers and other professionals to use in developing elegant designs for the typical bridges on which they work every day.

This Sourcebook has been prepared by the Subcommittee on Bridge Aesthetics (AFF10(2)) of the Transportation Research Board (TRB). Full credits may be found at the end of the Sourcebook. The Sourcebook was approved by the subcommittee’s parent committee, TRB’s General Structures Committee (AFF10), at the January 2010 meeting of TRB.

The Sourcebook was presented for comment to the Subcommittee on Bridges and Structures (SCOBS) of the American Association of State Highway and Transportation Officials (AASHTO) at its May 2008 meeting. No comments were received from SCOBS members, so the Sourcebook was placed on the agenda of the May 2010 meeting for approval by SCOBS. Prior to the meeting, during preliminary consideration of the Sourcebook by the T-9 committee of SCOBS, one SCOBS member presented comments. This final version of this Sourcebook reflects responses to those comments. SCOBS approved it for AASHTO publication by electronic ballot in September 2010.

Table of Contents

1. Why Consider Aesthetics?	1
2. How to Consider Aesthetics	5
2.1. Understand the Goals and the Site	5
2.2. Develop a Design Intention/Vision	11
2.3. Do a Conceptual Engineering Study	11
2.4. Proceed to Detailed Analysis and Design	13
3. Design Guidelines	15
3.1. Horizontal and Vertical Geometry	15
3.2. Superstructure Type	17
3.3. Pier/Support Placement and Span Arrangements	18
3.4. Abutment Placement and Height	19
3.5. Superstructure Shape (including parapets, overhangs, and railings)	20
3.6. Pier Shape	23
3.7. Abutment Shape	24
3.8. Color	26
3.9. Texture, Ornamentation, and Details	27
3.10. Lighting, Signing, and Landscaping	29
4. Background Information	33
4.1. Fundamentals	33
4.1.1. Visual Characteristics	33
4.1.2. Visual Qualities	36
4.2. Context Sensitive Design/Context Sensitive Solutions and How to Achieve Them	41
4.3. Community and Stakeholder Involvement	43
4.4. Practical Tips When Historic Bridges or Historic Settings are Involved	46
4.5. Working with Architects, Landscape Architects, and Artists	48
4.6. Bridge Aesthetics and Cost	50
5. Example Bridges	53
5.1. Genessee Mountain Interchange (1972)	54
5.2. NB81 Connector over I-35 (2007)	55
5.3. Loop 340 over I-35 (2007)	57
6. Bibliography and Resources	59



It so happens that the work which is likely to be our most durable monument, and to convey some knowledge of us to the most remote posterity, is a work of bare utility; not a shrine, not a fortress, not a palace, but a bridge.

— **Montgomery Schuyler**, 1883, writing about John Roebling's Brooklyn Bridge

Chapter 1

Why Consider Aesthetics?

The public is becoming ever more aware of the appearance of bridges and the effects they have in their communities. We need to respond to that concern. We cannot just worry about the structure and leave the aesthetics to someone else. Every structural decision is an aesthetic decision. If a decision affects the size, shape, color, or surface texture of a visible part of the bridge, it affects how people will feel about the bridge. For the same reason we would not build a bridge that is unsafe, we should not build one that is ugly. To ignore aesthetics is irresponsible. Of course, the first obligation is to build a bridge that is safe and meets the client's functional requirements. The designer's obligation then is to satisfy those requirements with the best combination of efficiency, economy, and elegance.

Frequent Objections to Considering Aesthetics:

It automatically adds cost

Most agency planners immediately associate bridge aesthetics with increased design and construction costs and additional construction time. While this is frequently the case, it is not always so. Whether it is so and the degree to which it is so varies widely depending on region of the country, owner preferences and practices, contractor capabilities, span length, size of project, community aspirations, and other project specifics. If increased cost is involved, then the relevant question is does the aesthetic improvement justify the additional cost? We make such judgments every day when buying a car or a suit. We can make them about bridges, too. If the affected community is involved, we can take advantage of their guidance as well. See Chapter 4, Background Information, for more on costs.



Figure 1-1 Often simply paying attention to proportions and details can result in an attractive bridge with no increase in cost. Canyon Creek Bridge, Anchorage, Alaska.