

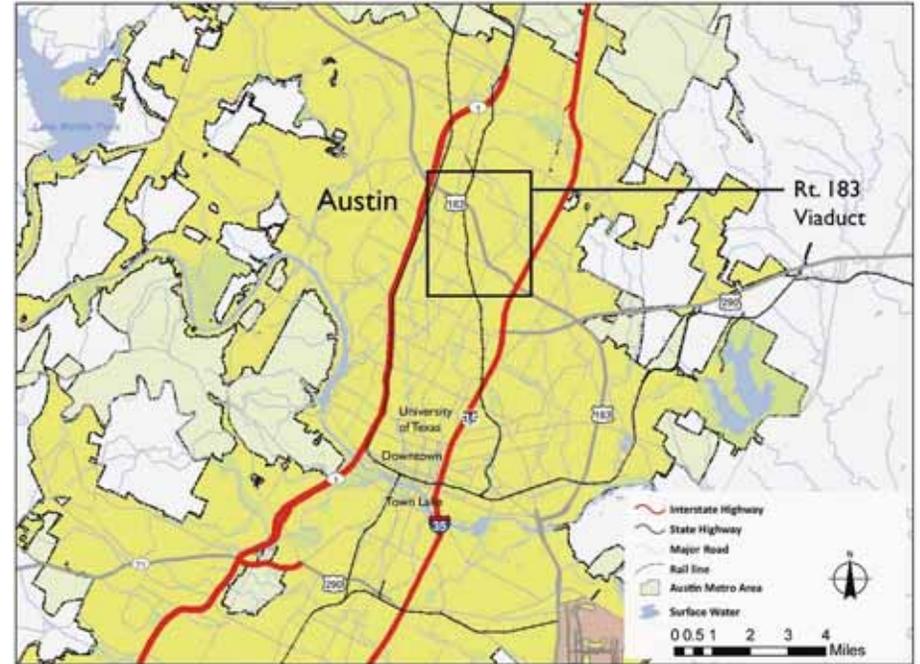
COMPLETED URBAN HIGHWAY PROJECTS

Route 183, Austin, TX

	Route 183	I-81
Project type	new viaduct (elevated highway)	existing elevated highway - TBD
Interstate highway?	no	yes
Through traffic?	yes	yes
Vehicles /day	86,000	100,000
Project length	3.6 miles	1.4 mi.
Context	suburban, primarily commercial	downtown
City	Austin, TX	Syracuse, NY
Population	681,804	140,658
Timeline	planning in the mid-1980s; construction of entire corridor in phases from 1991 to 1997	unknown
Cost/Cost per mile	\$281 million/ \$78 million per mile	unknown

In 2005, the US 183 corridor, on the north side of Austin, TX, was upgraded from an arterial street to form a partial freeway loop around the city. The heavy commercial development along the northern portion of the corridor and narrow right-of-way led to the decision to elevate the freeway lanes between I-35 and the Mo-Pac Expressway (TX Rte 1). The community was concerned about the aesthetics of an overhead structure, but an at-grade freeway would have had huge property impacts and acquisition costs. As a compromise, the viaduct was designed to mitigate the potential negative aesthetic impacts of an elevated freeway. The design goal was to create a transparent and attractive bridge structure with attention to details. Concrete forms were used to replicate traditional architectural themes in the pier design.

Location



What was the decision-making process?

The project followed the Texas Department of Transportation (TXDOT) project development process, which included an Environmental Impact Statement (EIS). Public outreach was particularly focused in the final stages of design, as decisions were made about the type of structure and its appearance. Because of the extremely rapid population growth in the region, freeway expansions are not uncommon, and all of the “build” alternatives included a freeway in some form. A variety of design options were explored, including grade level and elevated freeways.

The project was originally conceived in the 1990s. The first actual components to be constructed were the freeway interchanges with Route 1 and I-35 at either end of

the segment. Work began on the new freeway in 2001, and construction continued incrementally until its completion in 2005.

What were the outcomes?

Locally, the design of the viaduct is considered successful and attractive, especially when compared to other elevated highways in the area. TXDOT has since used similar aesthetic bridge design treatments on other projects in the Austin area, such as architectural details imprinted in the concrete piers (see photo below). However, the elevated highway still presents a somewhat bland and uninviting environment for pedestrians seeking to cross under the route. But in this case, the context is relatively low-density and auto-oriented; therefore, expectations for the pedestrian environment may not be as high as in a more compact downtown area.



View from under the viaduct. Source: www.texasfreeway.com

Are there parallels to *The I-81 Challenge*?

This project involved new road construction in a rapidly growing city that has limited alternative transportation modes. The immediate context is lower density than Syracuse, and the primary concerns during the planning and design related to impacts to existing businesses. Though there are few direct parallels to *The I-81*

Challenge, this case is useful in demonstrating that modern engineering and design techniques can create more attractive elevated highway structures than is typical of older elevated highways. In the southern U.S., innovative techniques using reinforced concrete have become more common to construct aesthetically pleasing elevated highway structures. However, in northern climates, these are much more difficult to maintain, as they are susceptible to cracks that allow moisture to penetrate the concrete. Once moisture reaches the reinforcing steel, rusting and structural deterioration can occur. This type of structure would likely require frequent maintenance attention, which should be a consideration in the alternatives analysis.

What can we learn from this project?

Traffic Circulation and Urban Mobility: This project resulted from an engineering-driven planning process, and serves an auto-dominant area in the fringe of Austin. There was little consideration of other modes or alternatives. There was controversy primarily centered around the need to acquire numerous commercial properties, which delayed the project's implementation.³

Economic Development/Urban Design: This project demonstrates that it is possible to create a modern elevated highway structure that is less massive at the ground level and includes some architectural adornment. While this increased the project cost, it addresses many concerns commonly expressed by the community during the planning and design phase.

Political/Public Process: The planning and decision-making process was narrowly focused on upgrading an existing arterial to a freeway, and did not include consideration of a wide variety of alternatives. The public participation consisted primarily of gathering community input on aesthetic design preferences.

For More Information

http://www.texasfreeway.com/Austin/Construction/183north/austin_construction_183north.html