



## 2.0 Project Overview

The recommended bridge alternatives were developed using the Bridge Type Selection Process (BTSP) described in Section 2.3. This report documents the BTSP and is organized into the following chapters.

- Chapter 1 - Executive Summary
- Chapter 2 - Project Overview
- Chapter 3 - Recommended Bridge Alternatives
- Chapter 4 - Public Involvement
- Chapter 5 - Environmental Commitments
- Chapter 6 - Development of Bridge Alternatives

This Chapter presents an overview of the Brent Spence Bridge Replacement/Rehabilitation Project and the BTSP.

### 2.1 Introduction

National, local and regional mobility. Locally, it connects to I-71, I-74 and US Route 50. The Brent Spence Bridge provides an interstate connection over the Ohio River and carries both I-71 and I-75 traffic (Exhibit 2-1). The bridge also facilitates local travel by providing access to downtown Cincinnati, Ohio and Covington, Kentucky. Safety, congestion and geometric problems exist on the structure and its approaches. The Brent Spence Bridge, which opened to traffic in 1963, was designed to carry 80,000 vehicles per day. Currently, approximately 160,000 vehicles per day use the Brent Spence Bridge and traffic volumes are projected to increase to approximately 233,000 vehicles per day in 2035.

The I-75 corridor within the Greater Cincinnati/Northern Kentucky region is experiencing problems which threaten the overall efficiency and flexibility of this vital trade corridor. Areas of concern include, but are not limited to growing demand and congestion, land use pressures, environmental concerns, adequate safety margins, and maintaining linkage in key mobility, trade, and national defense highways.

To address these critical transportation needs, the purpose of the Brent Spence Bridge Replacement/Rehabilitation Project is to:

- Improve traffic flow and level of service;
- Improve safety;
- Correct geometric deficiencies; and
- Maintain connections to key regional and national transportation corridors.



Existing Brent Spence Bridge in Forefront

### 2.2 Site Context

The project corridor includes portions of Covington, Kentucky, the Ohio River, and Cincinnati, Ohio. The corridor context varies from suburban in the southern portion of the study area to urban near the Ohio River and northward into Ohio. Land uses in Kentucky include single-family residential, multi-family residential, commercial development, maintained grass areas, and institutional uses. In Ohio, land uses include commercial, single-family residential, multi-family residential, industrial, commercial-residential, commercial-industrial, and undeveloped areas along the Ohio River.

The Ohio River is the most prominent natural feature of the project corridor. Other notable features within the study area include the following attractions and landmarks:

- Downtown Cincinnati – Central Business District;
- Downtown Covington – Central Business District;
- Paul Brown Stadium – Home of the Cincinnati Bengals;
- The Banks – Cincinnati Riverfront Redevelopment area;
- National Underground Railroad Freedom Center – Museum;
- Great American Ball Park – Home of the Cincinnati Reds;
- Duke Energy Station – Electrical Substation;
- Longworth Hall – A National Register of Historic Places listed building; and
- Cincinnati Museum Center at Union Terminal – Museum.





Exhibit 2-1. Project Study Area Map



The topography in the study area ranges from steep hillsides to nearly level and is characterized by a severely to moderately undulating terrain. Near the Ohio River, the terrain has a gentle topography in Kentucky and then transitions into a steep hillside to the west of the I-71/I-75 corridor, ascending the Cincinnati Arch to I-275 and International Airport. Due to the changing topography, the Brent Spence Bridge is visible from a distance, and is one of eight bridges that cross the Ohio River in this area (Exhibit 2-2). The various bridge types serve pedestrians, vehicles, and railroad traffic. The Cincinnati Southern Bridge, located west of the existing Brent Spence Bridge, carries railroad traffic. Directly to the east of the existing Brent Spence Bridge are the C&O Railroad Bridge, which carries railroad traffic, and the Clay Wade Bailey Bridge, which carries local traffic. Further to the east is the John A. Roebling Suspension Bridge which provides a local connection between Covington, Kentucky and Cincinnati, Ohio. Beyond the Roebling Suspension Bridge are the Taylor Southgate Bridge, the Newport Southbank "Purple People Bridge" (pedestrian bridge), and the Daniel Carter Beard "Big Mac" Bridge that carries I-471 traffic. The Clay Wade Bailey Bridge, John A. Roebling Suspension Bridge, and the Taylor Southgate Bridge all carry both local and pedestrian traffic.

Exhibit 2-2. River Zone Site Context



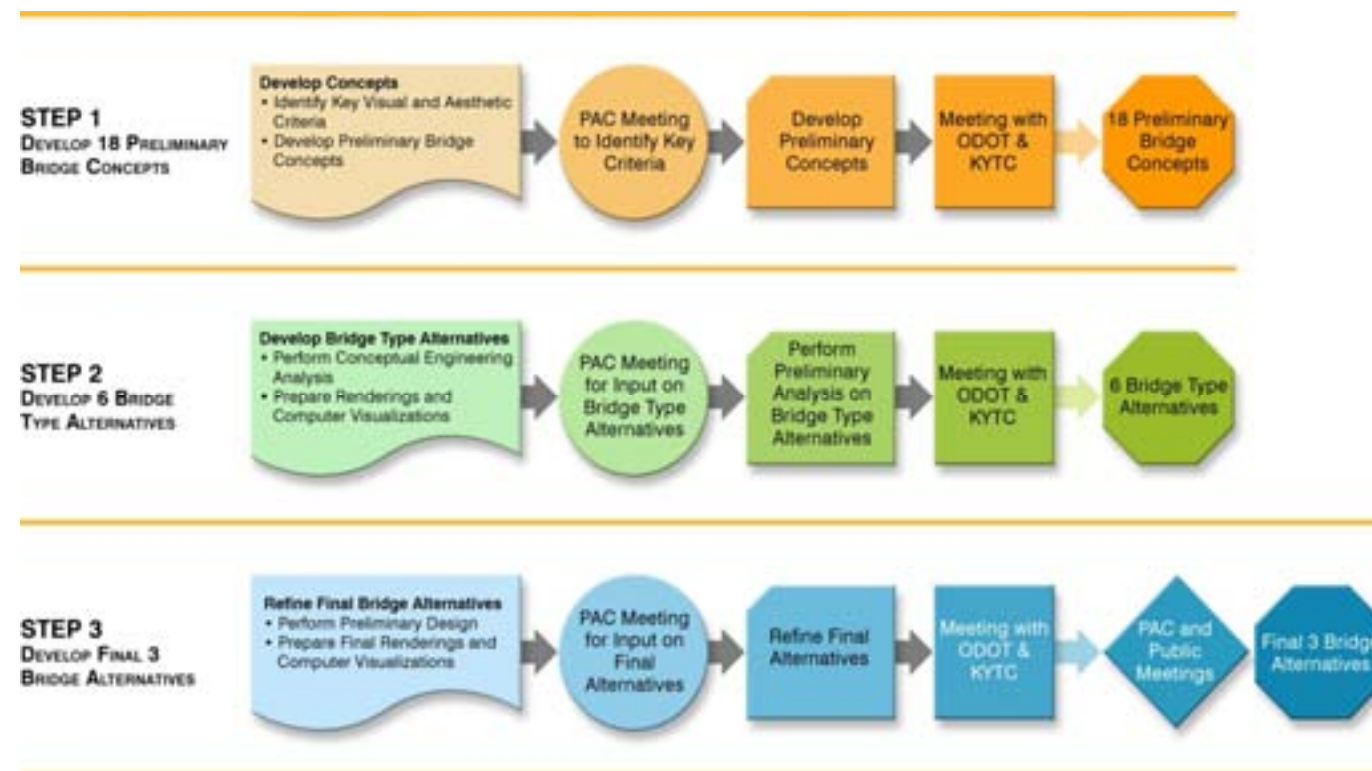




### 2.3 The Bridge Type Selection Process

The BTSP is collaborative in nature and based on public input and engineering details. The process began in 2009 and includes three steps:

- Step 1 - Develop 18 Preliminary Bridge Concepts;
- Step 2 - Develop 6 Bridge Type Alternatives; and
- Step 3 - Develop Final 3 Bridge Alternatives.



### 2.4 Advisory and Aesthetic Committees

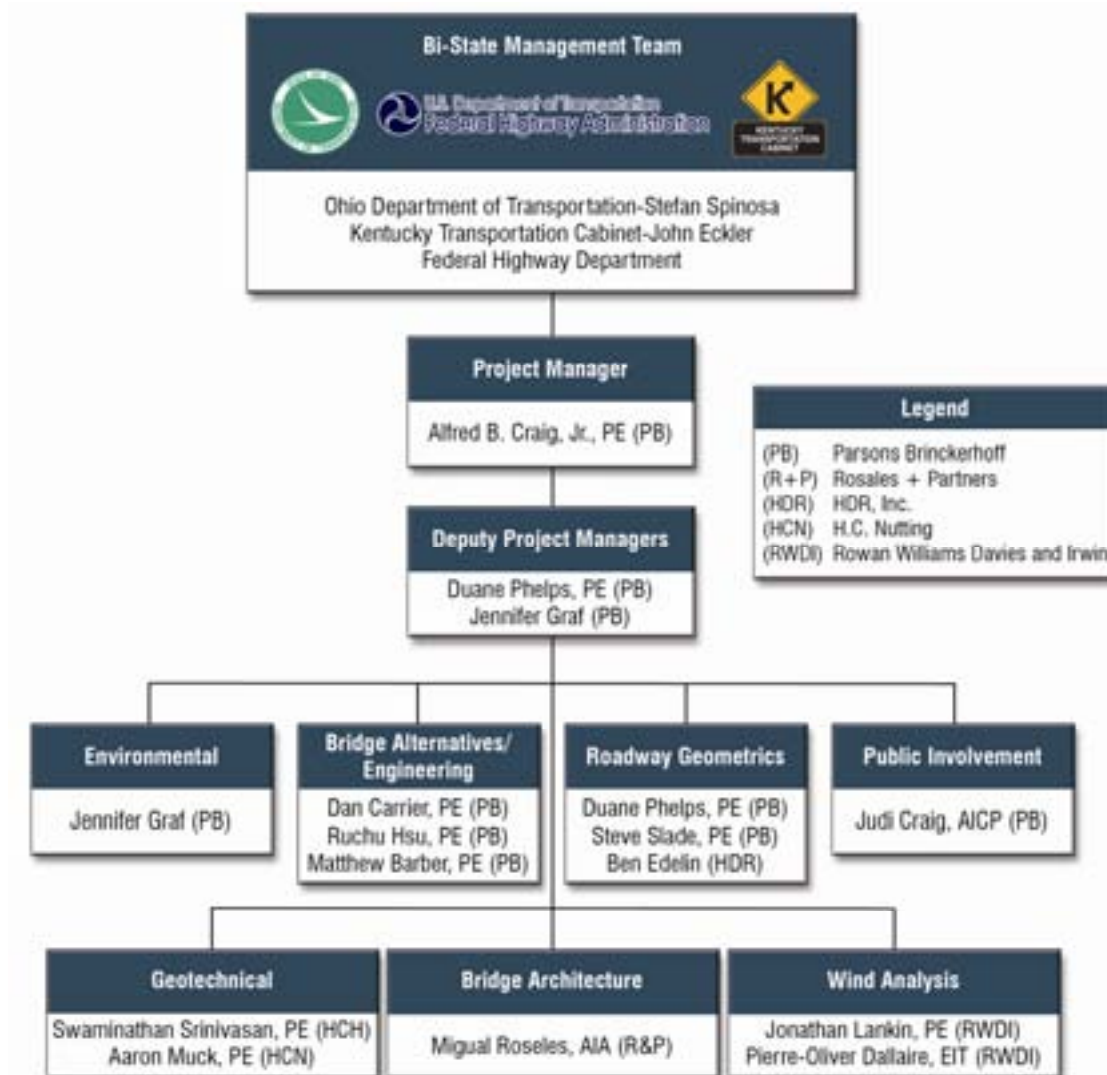
At the outset of the project, KYTC and ODOT instituted two committees to help provide guidance to the project design team. The Advisory Committee (AC) provides input from local community and political leaders on community issues and concerns. This provides an opportunity for important issues brought up to the AC to be communicated to the project design team, and how these issues were subsequently addressed reported back to the organizations represented by the members of the AC.

The Project Aesthetics Committee (PAC) is a sub-committee of the AC, and provides local input on the design and aesthetic appearance of the corridor, the main span of the new Ohio River Bridge, and the

rehabilitated Brent Spence Bridge structure. The PAC is comprised of citizen and agency representatives from Kentucky and Ohio to collaborate with the project design team to develop context sensitive design solutions for the project.

### 2.5 The Brent Spence Project/Bridge Design Team

The Brent Spence Replacement/Rehabilitation Project is directed by the Kentucky Transportation Cabinet (KYTC) and the Ohio Department of Transportation (ODOT), along with the Federal Highway Administration (FHWA). Led by Parsons Brinckerhoff, the project design team includes a number of technical specialists required to provide all of the necessary professional services for the Brent Spence Replacement/Rehabilitation Project. Within the project design team, a bridge design team including KYTC, ODOT, and FHWA, was utilized for the BTSP. The following is an organizational chart of the bridge design team.





## 2.6 Contacts

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### Project Website

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