

Bridge Slide Construction



AI Overview

Slide-in bridge construction is an accelerated bridge replacement method where a new bridge is built adjacent to the existing one and then slid into place, minimizing traffic disruption and construction time.

Overview Slide-in bridge construction (SIBC), also known as lateral or horizontal slide, is part of Accelerated Bridge Construction (ABC) technologies promoted by the Federal Highway Administration (FHWA) to reduce project delivery time, enhance safety, and limit traffic impacts during bridge replacement. This method allows the new bridge superstructure to be constructed on temporary supports beside the existing bridge, maintaining traffic flow until the replacement is ready.

Construction Process

- Pre-fabrication:** Components such as deck panels, columns, and supports are fabricated off-site to ensure quality and speed.
- Temporary Supports:** The new bridge is built on temporary supports adjacent to the existing bridge.
- Bridge Slide:** After the existing bridge is demolished or moved, the new bridge is slid into its permanent location using hydraulic jacks, skid tracks, and push-pull units.
- Approach Tie-Ins:** Roadway connections to the new bridge are completed, finalizing the replacement.
- Variations:** In some cases, the existing bridge is temporarily slid to a bypass alignment while the new bridge is constructed in place.

Equipment and Systems SIBC relies on specialized skidding systems, including:

- Skid shoes and skid tracks
- Hydraulic push-pull units
- Monitoring and control systems
- Teflon pads or skid beams for smooth movement along straight or curved paths

These systems allow bridges weighing up to 250 tons per shoe to be moved efficiently and safely.

Benefits

- Reduced Construction Time:** Replacement can occur in overnight to a few weeks, compared to months with traditional methods.
- Minimized Traffic Disruption:** Traffic can continue on the existing bridge until the slide occurs.
- Enhanced Safety:** Shorter work zones reduce risks for workers and travelers.
- Cost-Effectiveness:** Pre-fabrication and rapid installation reduce labor and on-site costs

Article Content

Multi-Span Lateral Slide Laboratory Investigation: Phase 1

Based on the findings from Task 1, knowledge gaps with respect to the construction of a multi-span lateral slide bridge will be identified. These areas which would benefit from further investigation will

Procedures and Guidelines for Design of Lateral Bridge Slide Activities

Abstract Accelerated bridge construction (ABC) methods are implemented to reduce mobility impact time. In Michigan, four bridges were replaced using lateral slide, which is one of the

ABC-UTC Guide for Multi-Span Lateral Slide Projects

ABSTRACT This document summarizes the work activities undertaken in this Phase I study and presents the results of those activities toward development of this ABC-UTC Guide for Multi-Span

Brooklyn Bridge: A Case study | PPTX

The document provides a comprehensive overview of the Brooklyn Bridge, detailing its design, construction, historical significance, and notable incidents. Completed

Lateral Slide of Multi-Span Bridges: Investigation of Connections and ...

Lateral Slide of Multi-Span Bridges: Investigation of Connections and Other Details-Phase I tech transfer summary This project advanced work on the design and construction of multi-span bridges

Brooklyn Bridge Overview and Facts

The bridge took over 13 years to complete and opened in 1883, revolutionizing travel across the East River. At the time of its opening, it was the world's longest suspension bridge and a celebrated

Slide-In Bridge Construction Implementation Guide: Planning and ...

With approximately 25% of the Nation's 607,380 bridges requiring rehabilitation, repair, or total replacement, Slide-In Bridge Construction (SIBC) offers a cost-effective technique to rapidly

Multi-Span Lateral Slide Laboratory Investigation: Phase I | Institute ...

While many state departments of transportation (DOTs) have completed lateral slide construction of single-span bridges and have common connection details already established, these

Big Picture

Slide-in Bridge Construction is one method used to deploy Accelerated Bridge Construction. It is important to select the right construction method for a given set of project constraints.

ABC-UTC Guide for Multi-Span Lateral Slide Projects

With lateral slide construction, the majority of the bridge superstructure is constructed off alignment, typically parallel to the final position, and usually on a system of temporary works.

ABC-UTC Guide for Multi-Span Lateral Slide Laboratory Investigation ...

1. BACKGROUND AND INTRODUCTION Lateral slide-in bridge construction (SIBC) has gained increasing attention as a viable accelerated bridge construction (ABC) approach. In this approach,

Slide-In Bridge Construction Guide | PDF | Traffic | Highway

This document provides guidelines for state Departments of Transportation to implement Slide-In Bridge Construction (SIBC) as an accelerated bridge construction technique. SIBC involves constructing a

Resources

The resources listed here offer insight into successfully completing lateral slides in particular as well as accelerated bridge construction projects in general.

Slide-in Bridge Construction

Slide-in Bridge Construction competes with conventional construction on a first-cost basis. Using SIBC, a contractor can build the structure using conventional equipment and still

MASSENA LATERAL BRIDGE SLIDE CASE STUDY

This paper will present the preliminary research, design, and constructability review for the first application of a lateral bridge slide in the State of Iowa. The project utilizes a precast concrete footing

Doing the bridge slide

While the electric slide enjoyed the height of its popularity in the 1990s, ADOT and its contractor for the Bellemont bridge project, Fisher Industries, are introducing the bridge slide as an

Freyssinet sliding and rotation techniques

When a bridge deck needs to be replaced, a practical solution consists in building the new one next to the old one. Therefore, the new deck is built on a temporary

Multi-Span Lateral Slide Laboratory Investigation: Phase I

INTRODUCTION Background and Introduction While single-span lateral slides have been adopted by many states and are a common accelerated bridge construction (ABC) method for construction of

Slide-In Bridge Construction Implementation Guide

The Slide-In Bridge Construction (SIBC) Implementation Guide was developed for Federal Highway Administration's (FHWA) Every Day Counts Initiative as an innovative Accelerated

Slide-in Bridge Construction

ABSTRACT This technical brief summarizes examples of successful bridge slide-in projects in Nevada and Missouri. Slide-in Bridge Construction is a cost-effective Accelerated Bridge Construction (ABC)

Essentials slide in bridge construction a guide for bridge designers

This document serves as a guide for bridge designers on slide-in bridge construction (SIBC) as part of accelerated bridge construction (ABC) methods aimed at minimizing disruption during bridge

Construction

Constructing a project with the lateral slide method may require different approaches during the construction phase. For example, additional shop drawings are needed and a detailed

Slide-in Bridge Construction

Temporary supports for bridge construction and the slide rail are erected. The beams are set, concrete is poured, and bridge railings are constructed.

"How the Slide-In Bridge Construction Works"

One of the most impressive techniques is the slide-in bridge construction method, where the new bridge is built beside the old one and then slid into place after demolition. This innovative...

Developing Standard Procedures for Structural Aspects of Slide-in ...

Slide-in bridge construction (SIBC) is a special method especially used to replace an existing bridge with the minimum duration road closure. In this method, new bridge superstructure is

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