

Source of bridge bends in Guyana



Article Overview

Bridge bends in Guyana, particularly bent caps, originate from structural engineering designs that transfer loads from the bridge superstructure to the foundation, ensuring stability and resilience.

What Are Bridge Bends (Bent Caps)?

In bridge engineering, bends or bent caps are horizontal structural elements that sit atop vertical supports (pier columns) and act as intermediaries between the bridge deck and the foundation. They distribute vertical and lateral loads, including the weight of vehicles, wind, and seismic forces, down to the piles or piers beneath. Bent caps are essential for maintaining the structural integrity of long-span bridges, especially in areas with challenging river conditions.

Application in Guyana

In Guyana, the New Demerara River Bridge employs bent caps extensively. During construction, 91% of the bent caps had already been installed to connect pier columns and support the superstructure, ensuring that vertical and lateral loads are effectively transferred to the piles below. These bent caps are part of a larger system that includes pile foundations driven 120 meters deep, pier columns, and tie beams, all designed to sustain the bridge's weight and dynamic traffic loads. The original Demerara Harbour Bridge, a floating bridge, did not use traditional bent caps because it relied on concrete pontoons to float on the river surface. In contrast, the new bridge uses conventional engineering methods with bent caps to provide a permanent, structurally sound crossing capable of supporting modern traffic and de...

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Jun 25, 2026

Corentyne River bridge design unveiled

Trinidad-based consultants, WSP Caribbean, have designed and proposed a two-section bridge connected by an

Oct 29, 2025

Construction on New Demerara River Bridge 76.91 per cent complete

According to a weekly progress report presented by the Ministry of Public Works, the physical development of the

May 11, 2026

Denham Suspension Bridge

The Denham Suspension Bridge, also known as the Garraway Stream Bridge is a footbridge in Guyana linking Mahdia to Bartica.

Jul 29, 2025

New Demerara River Bridge to be commissioned on Sunday

The Government of Guyana today announced that the new four-lane, high-span, cable-stayed Demerara River Bridge

Jan 09, 2026

List of bridges in Guyana

The country has one international bridge connecting Guyana to Brazil in the south. Plans have been made to build a bridge over the

Jul 09, 2026

The 1933 Denham Suspension Bridge into Guyana's Hinterland

In November 1933 a bridge was constructed over the Garraway Stream, linking Mahdia to Bartica by trail. This cable

Jun 16, 2026

New Demerara Harbour Bridge: 22 companies bid for ...

Some 22 companies, from Guyana and around the world have submitted Expressions of Interest to conduct a feasibility

Jun 23, 2026

Sections of old Demerara bridge to be used in new transport projects ...

Parts of the old Demerara Harbour Bridge are expected to be repurposed for other transportation projects across

Apr 02, 2026

China-built New Demerara River Bridge emerges as symbol of Guyana

West of Georgetown, the capital of Guyana, the Demerara River flows vigorously into the Atlantic Ocean. Stretching

Dec 27, 2025

A new era for Guyana: Demerara River Bridge fully connected -

- bridge to be opened to the public very early in September, Pres. Ali The New Demerara River Bridge is now fully

Nov 28, 2025

Paperclip vs Bridge: Strength of Materials Exercises in Guyana

Tu ever wondered why a tiny paperclip bends under your fingers but the massive Demerara Harbour Bridge stays

Jun 06, 2026

Demerara Harbour Bridge

The new Demerara Harbour Bridge project will be officially open on October 5, 2025. This four-lane, high-span, cable-stayed bridge

Jan 02, 2026

How Guyana's Bridges Stand Up and When They Fail | ORBITECH

Let's break down the engineering secrets behind Guyana's bridges—from the timber bridges over small creeks to the

Feb 25, 2026

Demerara Harbour Bridge: A vital link in Guyana

The Demerara Harbour Bridge is a key infrastructure landmark in Guyana, spanning the Demerara River to connect the

Jul 01, 2026

Berbice River Bridge - National Trust

The Berbice River Bridge was built from Compact 200 Bridge system which was considered the most modern steel

Nov 01, 2025

Bridging Eras: The Engineering of a Nation Through Two Demerara ...

This site selection decision, made by a Guyanese engineer based on local knowledge and engineering judgment,

Jan 10, 2026

Why Guyana Bridges Don't Bend Like Paperclips: Strength Quiz

Test your knowledge of material strength! Why do paperclips bend but bridges don't? Take this Guyana-focused quiz

Nov 11, 2025

Opening of the New Demerara Harbour River Bridge

The Government of Guyana is pleased to announce that the new four-lane, high-span, cable-stayed Demerara River

Mar 25, 2026

Final Board of Inquiry (BOI) report for the Demerara Harbour Bridge

Today, Minister of Public Works, Bishop Juan Edghill, received the official report of the Board of Inquiry (BOI),

Jun 04, 2026

Burnham worked to build bridges; Ali moves to dismantle them

Although external technical assistance supported aspects of the project, the bridge was largely assembled by

May 17, 2026

Is Guyana's Oil a Blessing or a Curse?

Headway Is Guyana's Oil a Blessing or a Curse? More than any single country, Guyana demonstrates the struggle

Mar 14, 2026

Jagdeo Demerara River Bridge – a symbol of Guyana's progress

Unveiled before thousands, the US\$262 million engineering feat, Guyana's longest and most advanced river crossing,

May 18, 2026

Harbour bridge crash probe makes 21 recommendations

The Board of Inquiry into the major crash that occurred this month at the Demerara Harbour Bridge has made a

Sep 11, 2025

Crossing into history – Guyana's bridge to a new tomorrow

The commissioning of the new Demerara Harbour Bridge is more than an infrastructure upgrade; it is a bold leap

Sep 30, 2025

Building a modern Guyana: Infrastructure as the engine of progress

The transformation of Guyana's infrastructure since the PPP/C Administration took office in 2020 stands as a

Jun 20, 2026

Crossing into history – Guyana's bridge to a new tomorrow

On October 5, Guyana does not just cut a ribbon. It turns a page, bridging past and future, inconvenience and

Aug 15, 2025

Berbice Bridge

The Berbice Bridge is a pontoon bridge over the Berbice River near New Amsterdam in Guyana. The bridge is tolled and was

Nov 14, 2025

The "Bharrat Jagdeo Demerara River Bridge" commissioned as a

The new Demerara River Bridge, named the Bharrat Jagdeo Demerara River Bridge, was commissioned on Sunday

Sep 04, 2025

Takutu River Bridge

The Takutu River Bridge (Portuguese: Ponte do Rio Tacutu) is a bridge across the Takutu River, linking Lethem in Guyana to Bonfim

Oct 07, 2025

A new Guyana rising: the infrastructural boom reshaping a nation

As Guyana's roads stretch further, its bridges rise higher, and its ports expand wider, what is unfolding is a nation

May 17, 2026

New Harbour Bridge completion date pushed back; high quality, safety ...

A view of the western section of the new four-lane high span bridge across the Demerara Harbour Bridge. The new

Nov 27, 2025

Why Guyana's bridge beams bend most in the middle | ORBITECH

Learn why beams sag more in the center using Guyana's Demerara Harbour Bridge as a real-world example. Includes

Aug 28, 2025

Working in partnership to provide vital access

The Berbice River in eastern Guyana has for many years been an obstacle for communication, travel and trade between the capital,

Jul 01, 2026

Second main tower "pile cap" completed for new Demerara River Bridge

AS the government continues to make remarkable strides towards enhancing Guyana's infrastructure, the second

Apr 17, 2026

Demerara Harbour Bridge

The Demerara Harbour Bridge was a 6,074-foot (1,851 m) long floating toll bridge that crossed the Demerara River, joining Peter's

Contact Us

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