GATEWAY TO Corpus Christi

The Story of Harbor Bridge
A series of devastating hurricanes drove the development of Corpus Christi’s port and the first Harbor Bridge.

BEFORE THE PORT

From Texas’ earliest days, communities along the coast relied upon ocean ports for trade and commerce. But Corpus Christi didn’t always have a deep-water port for large ships. Before 1926, ships had to anchor offshore at long distances along the bayfront. A shallow inlet named “Shall Bay” was all that separated the main settlement of Corpus Christi from hotels and recreation in the area now called North Beach. At low tide, the city beaches only held a few inches of water, which people could cross on a simple wooden bridge.

SAVAGE STORMS

In the 1800s and early 1900s, a series of hurricanes destroyed many of Texas’ ports, including historic ports in Galveston and Indianola. Texas needed a safer, more protected port. Cities along the coast competed for the opportunity to build one with federal investment. In 1924, an intense hurricane hit Corpus Christi, wiping out low-lying areas and killing hundreds. Reeling from this tragedy, civic and business leaders pinned the city’s hopes for economic recovery on the creation of a safer, man-made deep-water port.

CREATING THE PORT

In the early 1920s, the federal government agreed to invest in the creation of a deep-water port in Corpus Christi. Local residents passed a million-dollar bond issue for construction of wharf facilities. In 1925, the U.S. Army Corps of Engineers dug a deeper channel, connecting ocean-going ships to Corpus Christi’s growing port facilities. However, the city was responsible for paying for a bridge to cross the new waterway. In 1926, Corpus Christi built a drawbridge that could open to admit ships through a 90-foot-wide passage. The Corps of Engineers warned that the bridge was too small, but the city argued that it was all they could afford.
The creation of the Port of Corpus Christi led to economic growth, bustling communities, and a festive seaside.

**BOOM TOWN**

After the opening of the 1946 Harbor Bridge, Corpus Christi quickly grew from a sleepy coastal town into a modern city. In the 1930s, a growing oil and gas industry and the continued development of the port helped Corpus Christi offset the impacts of the Great Depression. The port was a major employer and attracted new families looking for work. Within ten years of the port's opening, the town's population had more than doubled. In 1941, construction of the nearby Naval Air Station brought a rush of new workers and residents to the community and spurred further development.

**NORTHSIDE NEIGHBORHOODS**

Because of segregation and other racist policies, some black and brown families were concentrated in neighborhoods north of town. These communities of color established early schools and churches. The Northside neighborhoods continued to grow as economic opportunities at the port and the airbase brought more black and brown families to town. Northside was one of the few neighborhoods in Corpus Christi that welcomed people of color. Despite this segregation, the community was a self-sufficient, bustling area with a wide variety of locally owned businesses.

**FUN IN THE SUN**

The new port drove an economic boom which helped revive North Beach, which had been a popular destination before it was destroyed by the 1999 Storm. Within a decade, locals and tourists flocked to North Beach to swim, relax on the beach, and enjoy the carnival atmosphere along the boardwalk. The area even boasted a jellyfish-free saltwater pool – complete with a high dive. Restaurants, tourist traps, and curio shops sprang up to cater to the crowd, adding to the exciting hustle and bustle.
A TEXAS-SIZED Bridge

As port commerce grew, it became clear that Corpus Christi needed a new bridge — they got a landmark!

BOTTLENECK BRIDGE

After World War II, Texas’ oil and gas industries grew rapidly. More tanker ships needed access to the port and these ships were larger than ever before. By the 1950s, Corpus Christi was home to the nation’s ninth-largest port. But the Port Harbor Bridge was a bottleneck to both car and ship traffic and a barrier to economic growth. Multiple times a day, motorists had to wait as the outdated drawbridge opened to admit ships, which slowly navigated through its tight passage. If the Port of Corpus Christi was going to continue to grow, it needed a wider passage for ships.

AN ENGINEERING CHALLENGE

In the 1950s, the Army Corps of Engineers drew up plans to create a much wider, 400-foot ship channel. The Texas Highway Department (now known as TxDOT) took on the challenge of designing and building a new Harbor Bridge that could span the distance. The Department’s engineers understood that the bridge would need to be as high as possible to allow ships to pass underneath. It also had to be strong enough to carry heavier truck traffic and withstand future storms. As an additional challenge, the new bridge had to be constructed without blocking the entrance to the port, even temporarily.

BY TEXANS FOR TEXAS

For its time, the 1959 Harbor Bridge was the latest project ever undertaken by the Texas Highway Department. The Bridge Division led the complex design in-house, with minimal consultation from engineers outside the highway department. By completing most of the design work themselves, the team created a bridge that was economical, efficient and elegant. In fact, the 1959 Harbor Bridge is considered the pinnacle of Texas metal truss bridge engineering.
It took innovation and a lot of hard work to create the 1959 Harbor Bridge, making it a source of pride for the city for generations.

A STRONG FOUNDATION

In the 1950s, steel was expensive and hard to get. So, bridge engineers used steel only for the longest parts of the bridge where it was most needed. For the approach spans, the Bridge Division’s Jim Graves decided to use a newly developed material called prestressed concrete, which was strengthened with steel wires pulled under pressure.

Because prestressed concrete was so new at the time, department bridge engineers created specially designed prestressed concrete beams which workers constructed onsite. Graves also pioneered the use of neoprene to provide cushioning under the beams and reduce cracking. Today, prestressed concrete beams are used statewide, and Graves’ neoprene pad innovation is used on bridges around the world.

BALANCING ACT

The 1959 Harbor Bridge is a tied-arch, suspended-span truss bridge. Construction of the steel structure began from both sides which jutted out over the ship channel. When the two sides met, workers joined them with large steel pins.

Designers completed complicated calculations, without the use of modern computers, to make sure that the cantilevered ends would meet in the middle and the holes for the steel pins would line up correctly.

BRIDGING THE FUTURE

The completion of the 1959 Harbor Bridge marked the beginning of a new era in Corpus Christi’s history. In 1960s, a new system of deeper and wider ship channels ensured that supertankers could enter the port, fueling economic growth. The newly constructed Harbor Bridge allowed these larger ships to enter the Corpus Christi port without disrupting the flow of car and truck traffic.
The massive 1959 Harbor Bridge changed Corpus Christi and became a gateway to the city.

A CITY’S SYMBOL
The 1959 Harbor Bridge became a beloved “gateway” to Corpus Christi—lighting up the skyline and symbolizing the economic power of the port. Residents and visitors alike would see the bridge, braving the narrow walkways to enjoy the immense view of ships entering the port. Because of the bridge, the Port of Corpus Christi could admit larger ships in greater numbers. The port grew to become the center of a large petrochemical industry.

UNEQUAL OUTCOMES
The 1959 Harbor Bridge did not represent progress for everybody. The neighborhoods around Harbor Bridge slowly slid into economic decline. The bridge and industrial development impacted long-standing neighborhoods of color. In addition to the increase of noise and increased traffic, the bridge’s living approaches cut through communities, dividing Northside and Hillcrest. The project also led to a loss of land on North Beach and created a much larger physical barrier between Corpus Christi and North Beach.

MOVING UP
High maintenance costs and increased shipping demands led to plans for an even bigger bridge. The 1959 bridge’s steel construction required expensive upkeep, including constant repainting to keep it from rusting in the sea air. The bridge also became an obstacle to commerce, when the largest, most modern ships could no longer pass under the bridge during high tide. In 2014, planning began for an even taller, wider Harbor Bridge.