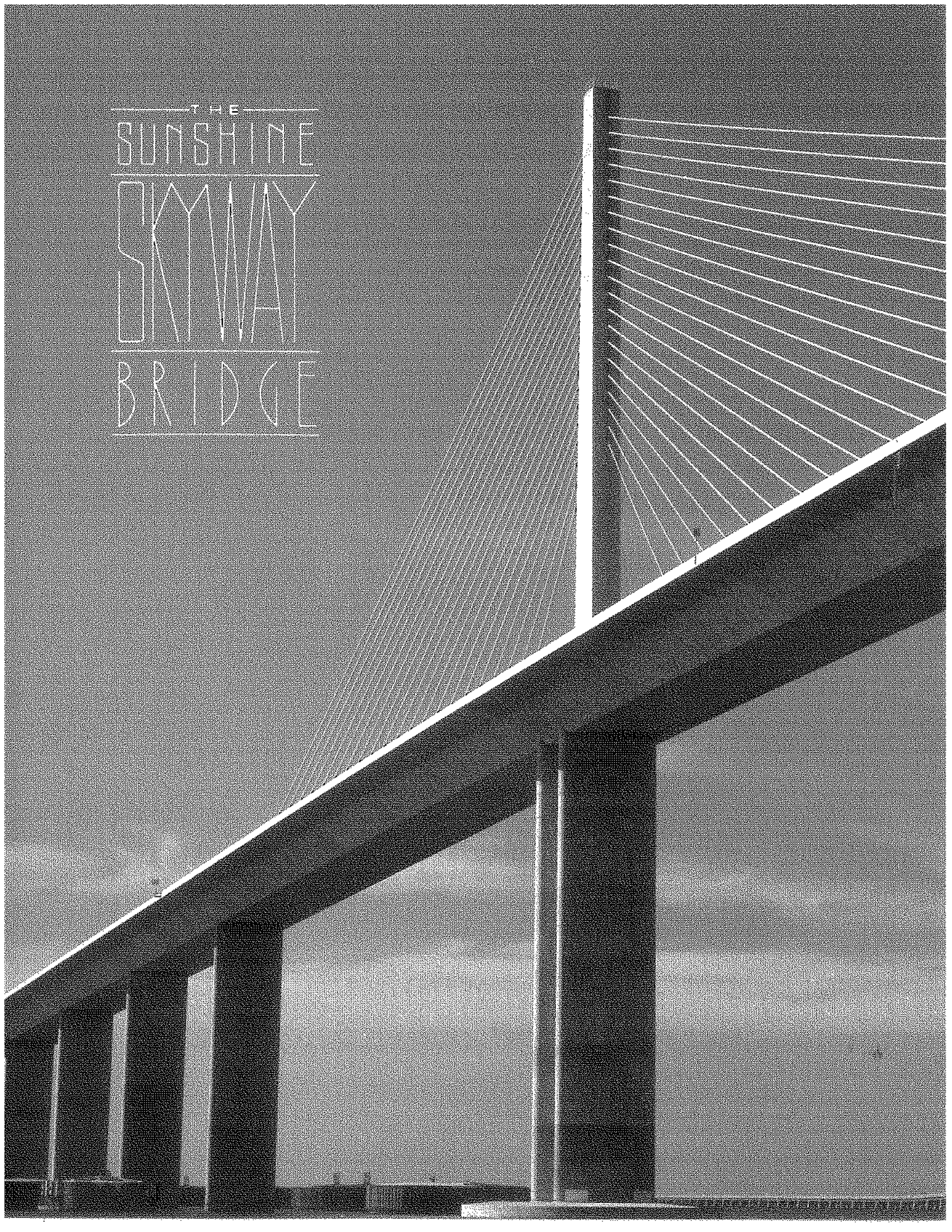


THE
SUNSHINE
SKYWAY
BRIDGE



Most Protected Bridge

Safety was a key consideration in the design and construction of the new Sunshine Skyway bridge. Following the *Summit Venture* tragedy of 1980, the concern over the safety of the bridge was intense. That is why there are so many safety features built into and around the bridge.

One of the most obvious improvements is the extra amount of space under the main shipping span. The original Skyway bridge had only 800 feet of clearance while the new span has 1,200 feet. This allows harbor pilots an extra 400 feet when navigating into and out of Tampa Bay.

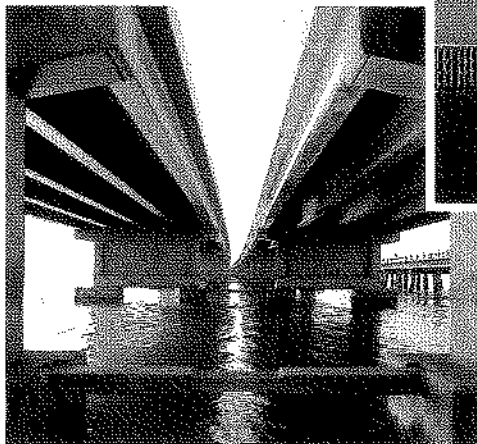
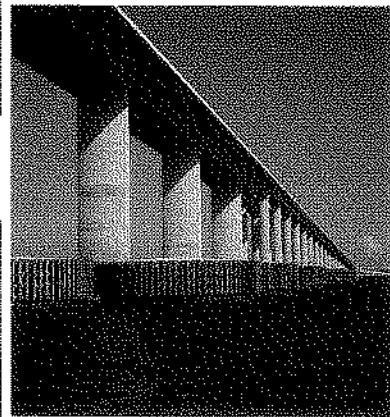
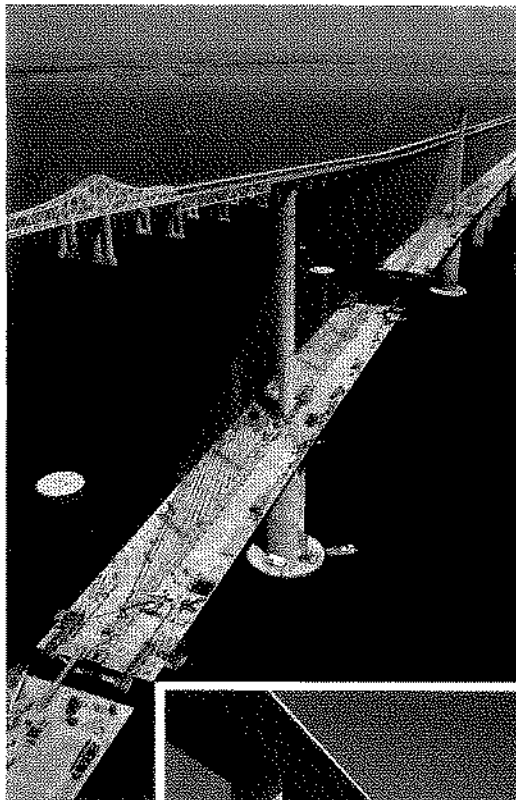
Another important safety feature is the protective bumpers and islands that have been built around the center portion of the bridge. The bumpers are called "dolphins" in reference to those creatures' reputation for guiding sailors through treacherous straits. These dolphins are designed to stop off-course ships before they are able to make contact with the bridge. The main pier dolphins can absorb more force than three fully loaded Boeing 727's could generate at take off speeds of 120 knots. When the *Summit Venture* hit the bridge it weighed 34,500 tons and was traveling at about 8 knots. The main pier dolphins can take the force of an 87,000-ton vessel traveling at 10 knots.

The six piers closest to the center span are protected by a total of 36 dolphins with the largest being 60 feet in diameter. Designed by Greiner, Inc. of Tampa, the first four dolphins were constructed by Misener Marine Construction, with the remaining dolphins being built by H.G. Harders and Sons, Inc. and Traylor Brothers, Inc. The dolphins rise 17 feet above the water level and are topped with a 360-degree navigational light.

If a ship was somehow able to get past the dolphins and was on a collision course with one of the main piers, it would run aground on the man-made islands constructed around the two main piers. The elliptically-shaped islands are constructed of various size rock and rise about eight feet above the water line at the foot of the piers.

In addition to the external safety features, there are many built-in features which protect the bridge from ship impact. The main piers have a 12-foot thick steel-reinforced concrete collar around each foundation, designed to keep a ship's bow from crashing into the pier column.

The low-level piers are also designed for safety. Although it is apparent that no large ship could reach the low level piers, (because of the shallow water) there was still concern over errant barges. Because of this, a special strut was designed to protect the low-level spans. Called a frangible strut, it allows the transfer of energy to take place between the twin spans. If a barge is pushing against one span, a certain amount of the power can be



TOP: The new Skyway towers above the old.

ABOVE: Dolphins guard the center piers.

LEFT: A frangible strut.

transferred through the strut to the other span. If the force becomes too strong so as to endanger both spans, the strut will break to save the second span.

Motorists also enjoy twin 40-foot wide roadways that allow for two lanes in each direction as well as an emergency break-down lane. The roadways are also divided by barrier walls to protect against head-on collisions.

A motorist warning system on the bridge further enhances the motorist's safety and includes closed circuit televisions which are monitored for 24 hours a day. A variable message sign system can warn motorists of impending danger. These signs can alert motorists of the need to slow down, change lanes or stop.

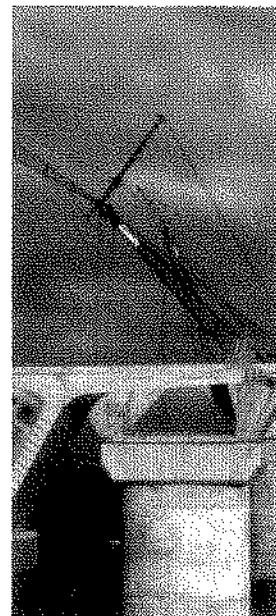
The bridge is also designed to withstand winds up to 290 m.p.h.

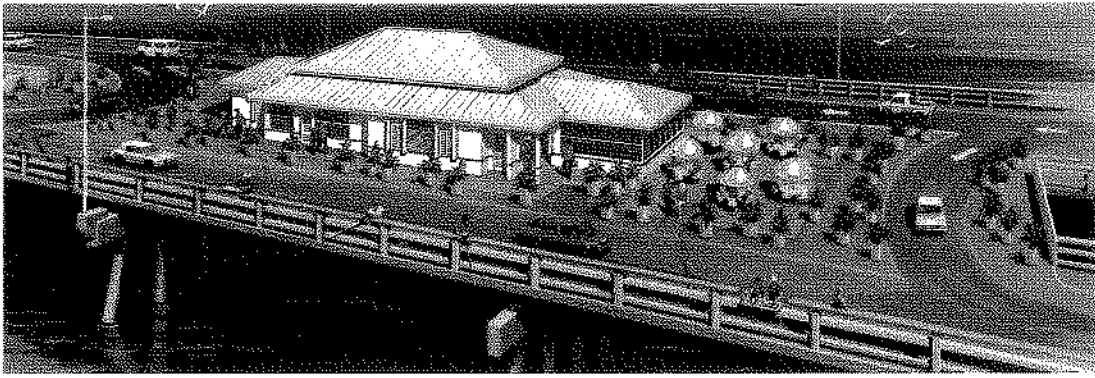
World's Longest Fishing Pier

Now that the public has a beautiful new bridge to travel across, plans are being finalized for the old spans. Designs have been completed to convert the old twin approaches into public fishing piers by GEE & JENSON Engineers, Architects, Planners, Inc.

The high level portions of the old bridge will be dismantled and used for artificial fishing reefs in the Gulf of Mexico. The low level portions will be converted into a first-rate recreational fishing pier. In fact, the Manatee County end of the pier will become the longest fishing pier in the world at 1.59 miles long, ousting Southend-on-Sea, at the mouth of the Thames River, just east of London, according to the 1986 edition of the Guinness World Book of Records. The Pinellas end will be 3,360 feet long.

Many special features are planned to make the fishing pier extra enjoyable for area anglers. Fish-cleaning tables, food concessions, restrooms, benches, street lights, and plenty of parking will all add up to the best fishing pier around.



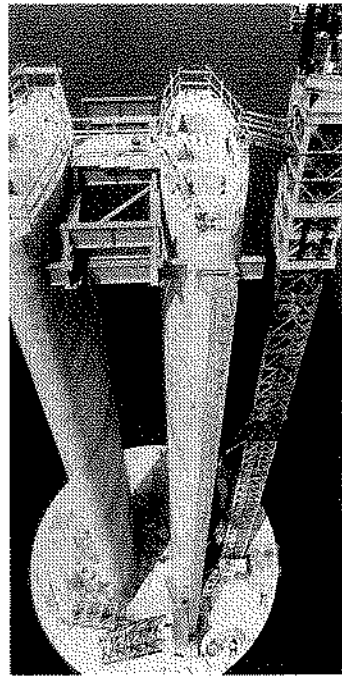
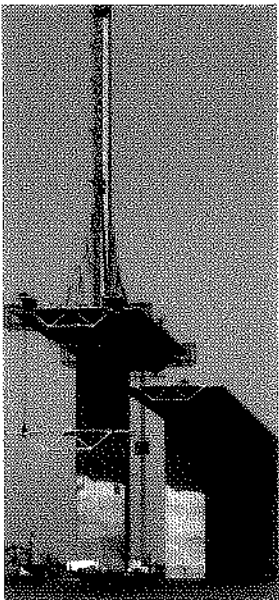


Rendering of the proposed fishing pier which will include many recreational features for area anglers.

FAR LEFT: Main span segment being lifted from barge.

BELOW: Massive, twin main pier under construction.

BOTTOM: High level twin approach piers.



State of the Art Construction Methods

From well below the muddy bottoms under Tampa Bay to 431 feet above the water, the Sunshine Skyway Bridge is a tribute to man's ingenuity and engineering genius.

The Skyway's main pier foundations consist of 44 drilled shafts that extend 100 feet below the bottom of the bay. The 60-inch diameter shafts were first drilled to the proper depths and then inserted with a steel cage that was encased with concrete. The base above which the main pier shafts rise are two heavily reinforced concrete pedestals that ascend through 35 feet of water and continue to climb eight feet above the water level. Hardaway Constructors, Inc. and Michael Construction Co., a joint venture, performed this portion of the construction.

Ballenger Corporation constructed the approaches to the bridge and the low-level trestles on either end of the main span. The south trestle is 1 and 3/4 miles long and the north trestle is 3/4 of a mile long. Prestressed pilings were driven into the bay bottom and 100-foot-long girders were placed on cast-in-place piers. The girders were then topped with a poured concrete deck.

The high-level approaches and main span were constructed by Paschen Contractors, Inc. Paschen constructed the two main piers and pylons, eight other main span piers and 36 approach piers, as well as the roadway segments that span them.

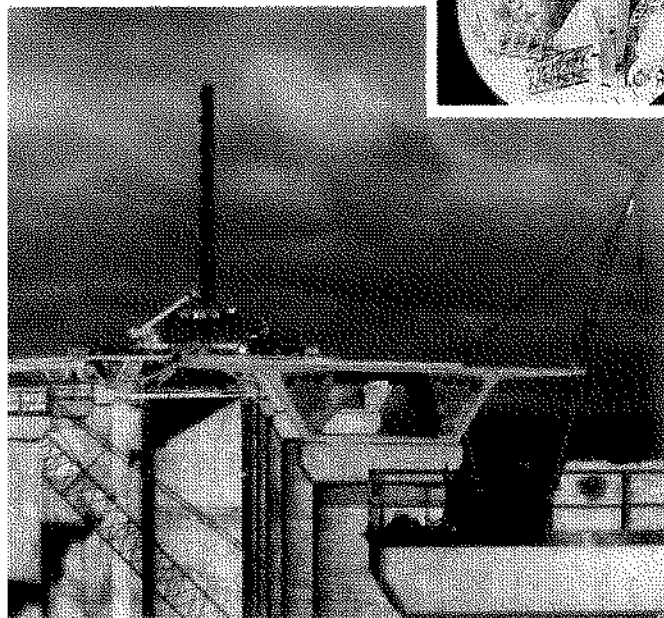
The main piers consist of two twin piers that reach 175 feet high. Three roadway segments are placed on top of these piers and the pylon base is built upon these segments. The two pylon towers provide the support for the 42 cable stays and transmit the weight of the main span to the foundations.

The next four piers on each side of the main channel were formed with precast oval footings and cast-in-place piers. They range in height from 125 feet to 154 feet. The remaining approach piers are comprised of post-tensioned precast segments on top of dumbbell footers.

The roadway segments that top these piers are precast, prestressed and post-tensioned concrete units. These precast forms were constructed at Port Manatee at Paschen's precast yard. The segments were produced by POMCO, a subcontractor to Paschen. In all, 8 oval footings, 38 dumbbell footings, 652 pier box segments, 72 pier caps, 333 large roadway segments, 584 small roadway segments and 40,000 feet of precast piling were produced.

The main span roadway segments are 95 feet wide, 12 feet long and weigh up to 220 tons. Lifting these enormous segments required the use of steel-lifting girders. Segments were lifted in a cantilever method, that is each time a segment was lifted on one end of a span a matching segment was lifted on the other end of the span. This kept the span in balance as it grew out toward the next pier.

The smaller roadway segments are 42 feet wide, 17 feet 8 inches long and 8 feet deep. These segments were lifted 7 at a time by a launching gantry.



Before the New Bridge

A long and interesting history surrounds the Skyway. Before any bridge was built, travelers crossed the waters between Pinellas and Manatee counties via The Bee Line Ferry. The Bee Line began in 1924 and operated until the first bridge opened 30 years later. For \$1.75 a car and its passengers would be ferried across the Bay.

The first span, a steel girder bridge, opened in September of 1954 after four years of construction. The two-way span cost \$22 million to construct.

The St. Petersburg Jaycees sponsored a contest to name the new causeway. Virginia Seymour submitted the name "Sunshine Skyway" which was chosen by the judges from the more than 20,000 entries to represent the causeway from toll plaza to toll plaza. In 1970 the bridge itself was named the W.E. "Bill" Dean Bridge after the Chief of Bridge Design for the state.

Seventeen years later a sister span opened adjacent to the original bridge in order to accommodate the increasing traffic flow. Similar in design to the first span, the new bridge opened in 1971. The two-way traffic on the original bridge was converted to northbound traffic while the new span was used for southbound traffic.

The newer span was enjoyed for only nine years before tragedy struck. It was early on the morning of May 9, 1980 that Captain John Lerro was bringing the phosphate freighter, *Summit Venture* into Tampa Bay when fate dropped its guard. A thunderstorm had formed in the Gulf of Mexico and was moving toward the Skyway and the unsuspecting Lerro. Suddenly his ship was caught in the grips of a maddening downpour. Visibility was lost in the sheets of rain.

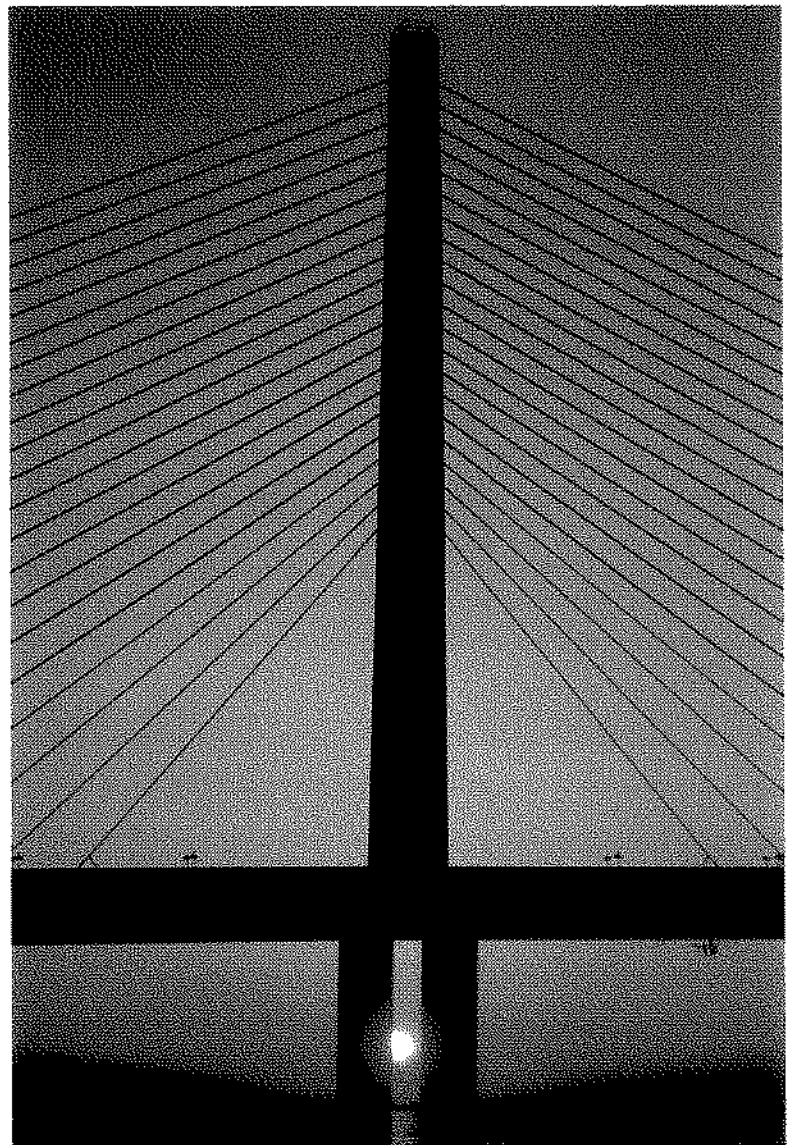
Lerro peered into the darkness looking for the buoy that would tell him where to turn. Then he saw it, the Sunshine Skyway Bridge. Only the bridge opening wasn't where his ship was headed, the *Summit Venture* was aimed far to the right of where it should have been. He gave the orders, "Hard to port . . . let go with the anchor . . . ram the engines full astern." It was too late, the *Summit Venture* collided with the Sunshine Skyway Bridge. Concrete, steel and horridly six cars, a truck and a bus plummeted into the choppy water below. It was 7:34 a.m., Friday, May 9, 1980.

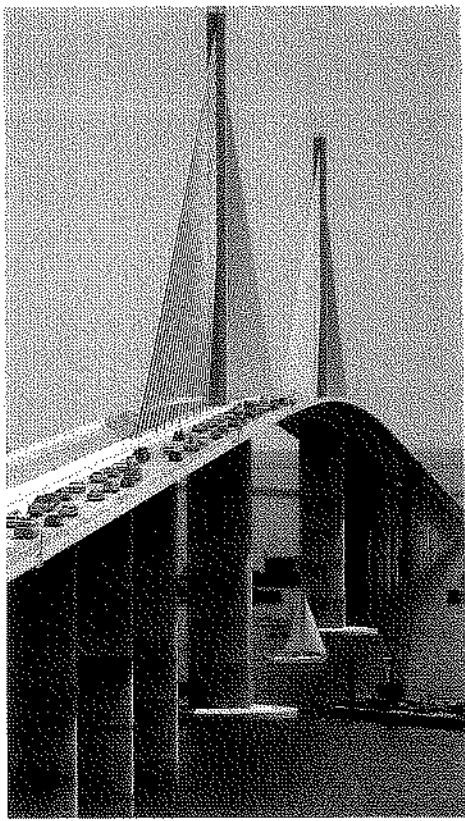
"Mayday, Coast Guard, Mayday. Bridge crossing is down. Mayday, Mayday, Mayday, Coast Guard. Mayday, Mayday, Mayday, Coast Guard," Lerro calls. The Coast Guard answers, "Vessel calling Mayday. Vessel in distress. This is the United States Coast Guard, St. Petersburg, Florida. Request your position, nature of distress and number of persons on board. Over." Lerro responds, "This is — all the emergency — all the emergency equipment out to the Skyway Bridge. Vessel just hit the Skyway Bridge. The Skyway Bridge went down. Get all the emergency equipment out to the Skyway Bridge. The Skyway Bridge is down. This is a Mayday. Emergency situation. Stop the traffic on that Skyway Bridge." "This is the Coast Guard, St. Petersburg, roger. What size is the vessel that hit the bridge? Over," the Coast Guard asks. "Stop the traffic on the Skyway Bridge. There is — some people in the water. Get some emergency equipment out to the Skyway Bridge now." Again the Coast Guard asks, "This is the Coast Guard, St. Petersburg, roger. What vessel are you on? Over." Lerro answers, "The *Summit Venture*, the *Summit Venture*." The Coast Guard replies "Summit Venture, Coast Guard, St. Petersburg, roger. What size is your vessel and can you assist? Over." Lerro answers, "Cannot assist. We are six hundred and six feet long, light in ballast. We cannot assist. We hit an abutment. Stop all traffic on the bridge, send some vessels out here to render assistance. People are in the water."

In all, 36 people plunged into Tampa Bay. Only one survived — Wes MacIntire. MacIntire's blue 1974 Ford Courier pickup dropped 150 feet before glancing off the *Summit Venture* and bouncing into the water below. MacIntire's truck sank 30 feet to the bottom of the Bay where he regained consciousness. The 56-year-old MacIntire struggled to open the door of his truck and swam to the surface where he clung to the bridge wreckage. A crewman from the *Summit Venture* saw MacIntire in the water and threw him a life-line.

Miraculously MacIntire's injuries were minor. An abrasion on his forehead was the only visible sign that he had been involved in an accident.

Immediately following the tragedy the channel was cleared of debris and the original span was reopened to two-way traffic. Several options for the Skyway were discussed. Some politicians wanted to repair the broken span and reopen it as soon as possible, others wanted to build a bridge-tunnel and still others wanted to build a new state of the art bridge with extended pier protection. Governor Bob Graham made the decision which was announced on January 31, 1981. The new Sunshine Skyway Bridge would be a concrete cable-stayed bridge with a record 1,200 foot main span.





Dedication Commission

For the dedication of a bridge as important as the new Skyway was destined to become, it was obvious that a simple ribbon cutting would never suffice. A special day of dedication activities needed to be planned for the citizens of the counties that surround the bridge. With that in mind, former Governor Bob Graham appointed a special Dedication Commission whose purpose was to plan, promote and raise funds for the Skyway dedication.

The Dedication Commission worked for several months prior to the February 7, 1987 dedication to prepare for the 20,000 people who shared in the activities that day. Dedication Commission Chairwoman was Pam Iorio and Vice Chairman was Hugh McGuire. Commission members were Steve Albee, Julie Fogarty, Watson Haynes, Roy Harrell, Jeanne McElmurray, Joe McFarland, Jim Miles, Nicholas Ryan, Lee Scott, Delores Seymour, Mandell Shimberg, and Gus Stavros.

Many area businesses came forward to assist in the fund raising that was needed to provide the numerous planned events. The largest item that needed to be covered was the \$20,000 fireworks display that was planned. The companies that assisted in the fund raising were Florida Power and Light Company, Florida Progress Corporation, The St. Petersburg Times, Waste Management of Tampa, Tampa Electric Company, and Figg and Muller Engineers, Inc.

In addition to donations by these businesses, funds were raised through the sale of a limited number of commemorative posters produced by Coral Reef Trading Co., of St. Petersburg.

Also providing valuable services to the Dedication Commission were the Florida Highway Patrol, St. Petersburg Police Department, Hillsborough County Sheriff's Department, Manatee County Sheriff's Department, U.S. Coast Guard, The Suncoasters, Florida Department of Transportation, SKYCEL, Paschen Contractors, Inc., St. Petersburg Chamber of Commerce, Tampa Chamber of Commerce, Manatee Chamber of Commerce, Pinellas Suncoast Chamber of Commerce, St. Petersburg Beach Area Chamber of Commerce, Largo Chamber of Commerce, and Clearwater Chamber of Commerce.

With all of the needed funds secured, plans were finalized for fireworks, a parade, a U.S. Coast Guard fly-over, live entertainment, and the dedicatory ceremony. The ceremony included such notables as Senator Lawton Chiles, Senator Bob Graham, and Governor Bob Martinez. The public was also able to walk up the new bridge for the last time before it was to open to traffic.

Earlier, on January 11, 1987, The Skyway Run was held. The Skyway Run was also overseen by the Dedication Commission. The run was the first chance the general public had to get up on the new bridge. About 15,000 runners and walkers made the journey to the top of the bridge.

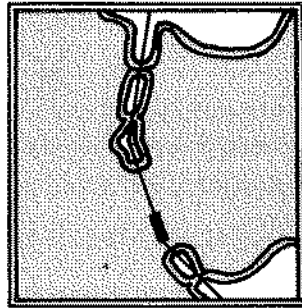
After The Skyway Run and The Skyway Dedication, the Commission found itself in the enviable position of having remaining funds available. It is with those funds that this brochure has been produced.

For additional information about the Sunshine Skyway Bridge contact the Florida Department of Transportation Public Information Office at (904) 488-3111 or write F.D.O.T., 605 Suwannee Street, Mail Station 33, Tallahassee, FL 32301-8064.

Skyway Facts

LOCATION:

The Sunshine Skyway Bridge, part of the Interstate 275 system, connects St. Petersburg and Manatee County over the mouth of Tampa Bay on the west coast of Florida.



LENGTH:

The bridge is 4.1 miles long.

ROADWAY:

Two 40 foot roadways allow for two lanes of traffic and an emergency lane in each direction.

CHANNEL CLEARANCE:

Ships traveling under the bridge have 1,000 feet of clearance between the two main piers and 175 feet from the waterline to the underside of the center span of the bridge.

CONSTRUCTION:

Portions of the bridge were cast in place on Tampa Bay and other portions were pre-cast at Port Manatee and Port Tampa. Pre-cast segments were transported by barge across Tampa Bay and set in place.

SAFETY MEASURES:

An extensive pier protection system places man-made barriers between off-course ships and the six center piers. An electronic warning system advises motorists of impending hazards on the bridge. The divided roadways prevent the possibility of head-on collisions.

DESIGNERS:

The high level approaches and main span were designed by Figg and Muller Engineers, Inc. The low-level approaches and trestles were designed by FDOT Bureau of Structures Design and Parsons Brinckerhoff. Greiner, Inc. designed the pier protection system.

CONTRACTORS:

Hardaway Constructors, Inc. and Michael Construction Co., a joint venture, constructed the main pier foundations. Ballenger Corporation constructed the low level approaches and trestles. Paschen Contractors, Inc. constructed the high level approaches and main span. Misener Marine constructed the first four dolphins and H.G. Harders and Sons, Inc. and Traylor Brothers, Inc. constructed the remaining dolphins and islands.

INSPECTION:

Skyway Construction Engineering and Inspection — SKYCEI, was the inspection consortium of four engineering firms that provided inspection oversight and project administration. The firms that comprised SKYCEI were Parsons Brinckerhoff Quade and Douglas, Kisinger Campo and Associates Corp., H.W. Lochner, Inc. and DRC Consultants.

COST:

The entire Skyway project cost over \$244 million.

CONSTRUCTION SCHEDULE:

Construction began in June of 1982 and the bridge was opened to traffic April 30, 1987.