

## Bridge Panel

### SF authority will select Golden Gate study group

Thirteen men have been nominated as candidates for a three-man panel, which will make a new engineering study to determine whether or not the Golden Gate Bridge, connecting San Francisco and Marin County, can safely carry a rail rapid transit system (ENR Sept. 14, p. 26).

Directors of Golden Gate Bridge and Highway District will choose the panel. The presidents of Massachusetts Institute of Technology and California Technological Institute nominated the men. Final makeup of the board also must be acceptable to the Bay Area Rapid Transit District, which wants to install transit facilities on the bridge. Bridge directors will pay "reasonable" expenses for the study, estimated unofficially at up to \$15,000.

The bridge directors also informally approved specifications for the study, which essentially cover safety, stability and advisability of putting trains on the bridge.

Originally, bridge directors accepted an engineering report by Clifford E. Paine, which declared the bridge incapable of safely supporting rapid transit trains, but later agreed to consider a new study by an independent board.

Engineers nominated to make the new study are:

O. H. Ammann, Ammann & Whitney, New York City.

Hans H. Bleich, professor of civil engineering, Columbia University.

Ray W. Clough, professor of civil engineering, University of California.

Linton E. Grinter, dean of the graduate school, University of Florida.

Robert J. Hansen, professor of structural engineering, Massachusetts Institute of Technology.

George W. Housner, professor of civil engineering, California Institute of Technology.

Bruce G. Johnston, professor of structural engineering, University of Michigan.

John M. Kyle, Jr., chief engineer, Port of New York Authority.

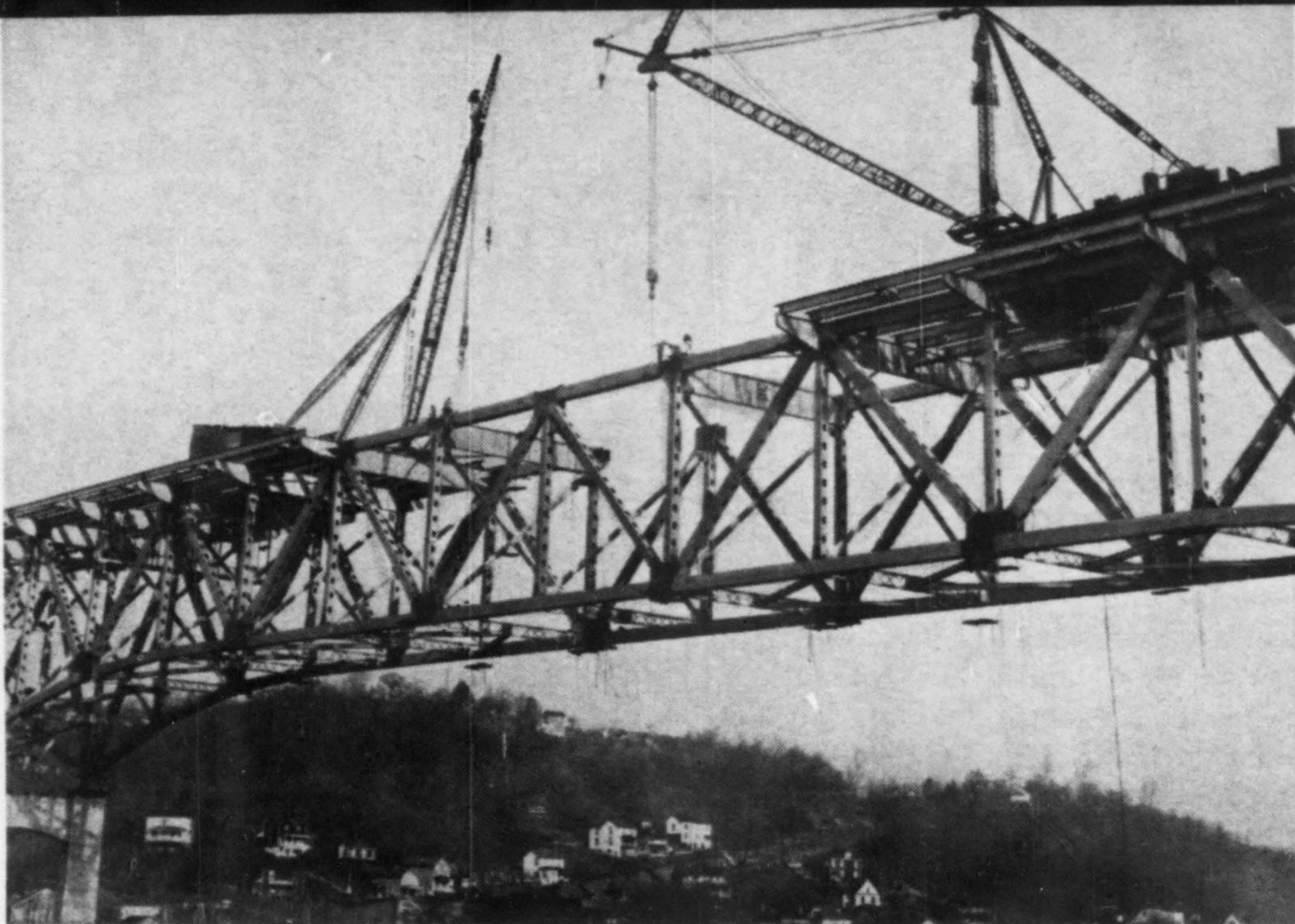
Frank M. Masters, Modjeski & Masters, Harrisburg, Pa.

Nathan M. Newmark, head of department of civil engineering, University of Illinois.

Charles Norris, professor of civil engineering, Massachusetts Institute of Technology.

Merrit P. White, head of civil engineering department, University of Massachusetts.

George Winter, head of department of structural engineering, Cornell University.



## Monongahela Bridge Link Closed

The final structural steel link is closed on the 2,133-ft-long bridge over the Monongahela River at Brownsville, Pa.

The main section of the bridge, 1,144 ft long, consists of three truss spans. The east and west sections have simple wide flange beam spans and continuous girder spans.

A substantial portion of the top and bottom chord members of the cantilevered truss are A242 steel. The remainder of the members are fabricated from A7 steel. More than 4,600 tons of

structural steel, fabricated and erected by Pittsburgh-Des Moines Steel Co., were used.

The bridge is part of U.S. Highway Route 40 and it is a main link in the area's route relocation. When completed in late 1962, it will allow traffic to by-pass the heart of the city.

The engineers of the bridge are Robert W. Lowry, Inc., Harrisburg, Pa., and the owner is the Pennsylvania Department of Highways. The superstructure cost \$3.3 million.

## BPR Asks Pilot Bore in Colorado

Gov. Steve McNichols of Colorado last week agreed to a proposal by the Bureau of Public Roads for drilling a pilot bore for the planned \$28-million Straight Creek highway tunnel under the Continental Divide (ENR Aug. 17, p. 25).

BPR's proposal—made in Denver by Assistant Commissioner George Williams—settled a sharp disagreement between Governor McNichols and Chief Engineer Mark U. Watrous of the Colorado Department of Highways over engineering proposals to design the tunnel.

International Engineering Co. of San Francisco had offered to do the work for \$677,000, and was favored by the governor because of what he termed "superior experience in designing such tunnels." E. Lionel Pavlo, New York City consulting engineer, who prepared the location study adopted by the Highway Department, offered to design the tunnel for \$375,000.

"Your fee is too high for me to justify participation in a federal-aid project," Mr. Williams told four officials of International Engineering at the Denver Conference. (The tunnel will be on an Interstate highway.) "The Bur-

cau does not question the competency of International Engineering, but it does question the validity of its cost estimates," he said.

Torald Mandol, International's vice president and chief engineer, said sizable contingencies were written into the \$677,000 proposal. "We still haven't had a chance to inspect the site," Mr. Mandol said.

Mr. Williams said nine other tunnel projects recently built under the Interstate highway program had design fees ranging from 1.795 to 6% of total cost. He said the percentage dropped sharply as the cost rose and none of those projects was as costly as the Straight Creek tunnel. International's design fee was 3.3% of the estimated total cost.

Commissioner Williams suggested the pilot bore could save both time and money on the completed tunnel but added, "There's no guarantee of either saving. . . . A pilot bore will solve the drainage problem and eliminate the need for the contingencies that are written into the present proposal."

State highway crews will drive the 7 x 8-ft pilot bore at an estimated cost of \$700,000. Estimates of delay in the main tunnel range to 24 months.