Pinellas County's Bridge Program

by Thomas M. Menke and Peter J. Yauch, Pinellas County, Florida

Pinellas County, located in the West Central Region of Florida, encompasses 280 square miles and has 24 separate municipalities plus a large unincorporated area. With approximately 940,000 residents, the county is the most densely populated county in the state. The major cities are St. Petersburg and Clearwater, and its white sandy beaches are internationally known.

On the county's road network, there are a total of 140 bridges that are owned and maintained by Pinellas County Public Works. Like most counties in this part of Florida, the majority of the bridges are concrete. The oldest bridge in the inventory, the Shore Drive Bridge, is a unique concrete arch-type bridge constructed by the Luten Bridge Company of York, Pa., in 1923. This bridge has been identified as having historical significance and is included in the "*Historic Highway Bridges of Florida,*" a publication by the Florida Department of Transportation (FDOT). It can be seen at http://www.dot.state.fl.us/emo/pubs/Historic_FL_Bridges1.shtm.

The current economic climate has directed the county's focus toward maintenance of existing infrastructure by extending service life through the use of a Bridge/Asset Management and Preventative Maintenance programs. The Bridge Management program begins with the county receiving biennial bridge inspection reports issued by the FDOT through their Local Bridge Inspection program. The county bridge engineer reads and assesses these reports, follows up with a field verification of listed deficiencies, and programs the work required to make repairs. The magnitude of the repairs is evaluated to determine whether they can be done in-house or require contracted labor.

The Preventative Maintenance program features three-person work teams, who cycle through the entire bridge inventory on an annual basis, performing specific maintenance tasks, including cleaning and painting of the structure, servicing bridge expansion joints, and cleaning bridge drainage systems. Another three-person work team is used to perform minor repairs such as spalls and delaminations, pile jacket construction, seawall cap repair, and repair of slope pavement washouts.

Pinellas County is fortunate to have a Capital Improvement program that is primarily funded through an infrastructure sales tax (known as *Penny for Pinellas*). This program is used to improve infrastructure within the county, and has funded one bridge replacement per year over the last 5 years, including the Belleair Beach Causeway Bridge featured on page 16. These replacement projects have all been concrete bridges. They have proven to be the more economical alternative to structural steel, especially when used to construct smaller-span bridges, which is the typical county bridge. They also offer more durability to resist the harsh environmental conditions seen on the West Coast of Florida.

Lower property taxes and decreased sales tax collections have caused local budgets to shrink. Regardless of the size of the overall budget, bridge needs are a high priority. The Bridge Program helps Pinellas County realize this goal by ensuring the most efficient use of available funding to maintain, repair, and replace its bridges.

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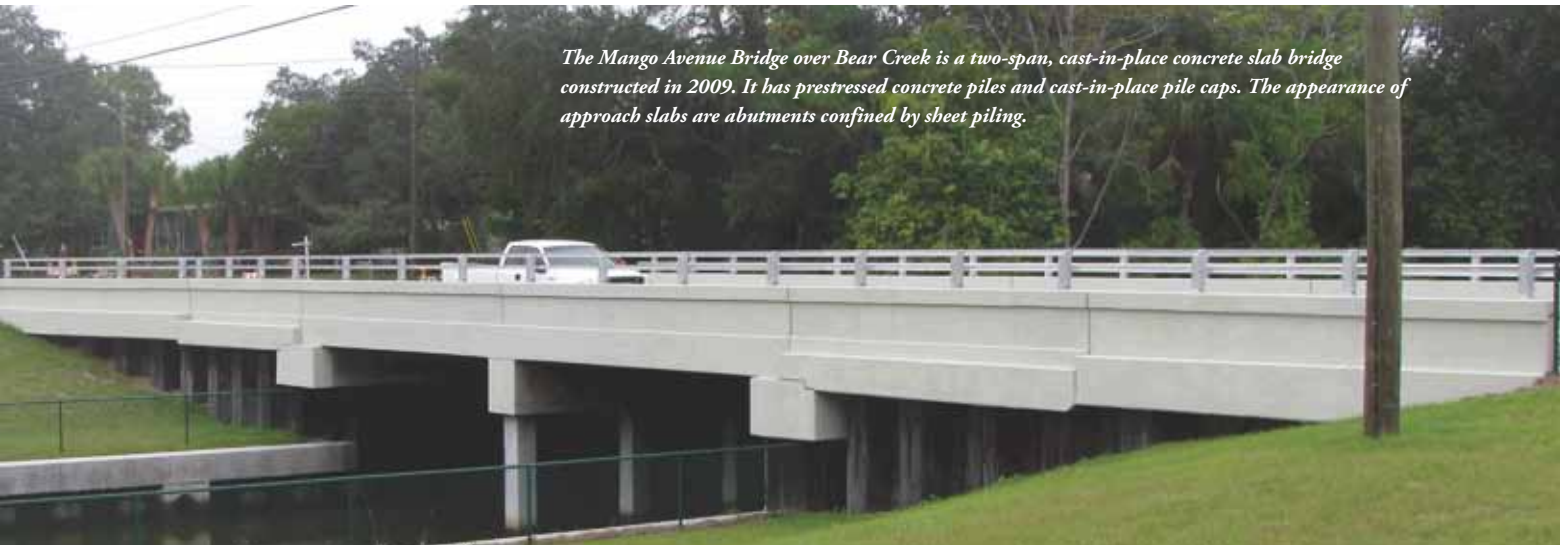
The Shore Drive Bridge was constructed in 1923 by the Luten Bridge Company.

Beckett Bridge over Whitcomb Bayou is a bascule bridge constructed in 1922. Its cast-in-place concrete slab approaches were constructed in 1965 on precast concrete piles that remain in good condition.



The Mango Avenue Bridge over Bear Creek is a two-span, cast-in-place concrete slab bridge constructed in 2009. It has prestressed concrete piles and cast-in-place pile caps. The appearance of approach slabs are abutments confined by sheet piling.

The Fred Howard Park Bridge is a three-span precast, prestressed concrete slab bridge using prestressed concrete piles and cast-in-place pile caps. It was constructed in 2010.