

The Mt. Dora Overpass/Highland Street Bridge is one of the best examples of this group (**Photo 6-23**). This 183-foot long bridge consists of four concrete tee-beam spans. It has a 4-foot pedestrian walkway and features the slotted concrete railing characteristic of its type. The concrete piers feature strut bracing for additional support.



Photo 6-23. Mt. Dora Overpass/Highland Street Bridge, Lake County (No. 114089)



Photo 6-24. US-301/SR-200 over SCL RR, Nassau County (No. 740022)



Photo 6-25. 1940 Baldwin Overpass, Duval County (No. 720026)



Photo 6-26. 1936 Sanderson Overpass, Baker County (No. 270001)

Removable Span Bridges

In his book, *Movable Bridge Engineering*, Terry L. Koglin notes that of the approximately 1900 operable movable bridges in the U.S., only 80 include removable spans.¹⁵¹ The earliest bridges of this type were located in California and included the 1904 Alamitos Bay and Anaheim Bay railroad bridges in Long Beach and Seal Beach, California, respectively. Florida's earliest bridges of this type date to the 1920s and crossed the West Palm Beach Canal. The original Shands Bridge which carried SR-15 over the St. Johns River in St. Johns County also was identified by Koglin as having a removable span. Florida's extant removable span bridges include the four girder bridges listed in **Table 6-8**. The bridge that carries SR-78

¹⁵¹ Koglin, Terry L. *Movable Bridge Engineering*, (Hoboken, NJ: John Wiley & Sons, Inc., 2003), 21. Accessed at: <http://books.google.com/books>.

over the Kissimmee River in Okeechobee County (No. 910009) is considered the best example of its type, and is newly recommended as NRHP-eligible. A description and photographs of this bridge are contained in Chapter 5 (See page 5-25). Photos of No. 090016 in Highlands County follow.

Table 6-8. Extant Removable Span Bridges.

| FDOT No. | FMSF No. | Year Built | County/ District | Route Carried / Feature Intersected |
|----------|--------------------|------------|---------------------------------|-------------------------------------|
| 794016 | VO9392 | 1964 | Volusia / 5 | Old Dixie Highway / Tomoka River |
| 910009 | 8OB321 | 1964 | Okeechobee / 1 | SR-78 / Kissimmee River |
| 090016 | 8HG1770 | 1953/66 | Highlands / 1 | US-90 (SR-700) / Kissimmee River |
| 910001 | 8OB336/ 8HG1236 | 1966 | Okeechobee and Highlands / 1 | SR-70 / Kissimmee River |



Photo 6-27. US-90 (SR-700) Bridge over the Kissimmee River, Highlands County (No. 090016)



Photo 6-28. Bridge No. 090016 with Detail View of Removable Span.

Removable span bridges require the complete removal of a span by means other than machinery installed on the bridge to open it to navigation. For example, a span can be removed temporarily by use of a crane. In general, because of the difficulty in opening, they are “practical only for spans that seldom open for navigation . . .”¹⁵² Bridges that include removable spans are constructed with a simple span that is fit for temporary removable or hinging in an upright position. The spans themselves tend to be small, ranging from 20- to 50-ft.¹⁵³ Three of the removable span bridges identified during this survey cross inland navigable waterways which may require periodic routine maintenance or navigation from the Army Corps of Engineers or the U.S. Coast Guard. Removable decks are included as a construction contingency should an inland navigable waterway need to be bypassed by a larger vessel. According to both Corps of Engineers and FDOT District 4 personnel, this contingency is a cost-effective strategy as opposed to an operable span, which would be too expensive to operate and staff for the limited amount of traffic that navigate such waterways. Most removable spans are hinged at one end and operated by an on-site crane that hooks and lifts the movable span as needed. This contingency is also associated with military

¹⁵² Koglin, 2003, 27.

¹⁵³ Koglin, 2003, 27-28.

maneuverability that might be required for severe and unique defense measures; this is more common for the Intracoastal Waterway bridges.

Commodore Point Expressway Bridges: Duval County

One could argue that the design and implementation of any roadway is intended to be an expressway. It is simply the magnitude of the system itself which has become increasingly more complex and expensive with time. The 1967 Commodore Point Expressway in Jacksonville is one such system. The complex of bridges and linear roadways included in this expressway represent an early form of a new trend in transportation engineering. In contrast to the multi-county 312-mile long Florida’s Turnpike, the Commodore Point/Hart Bridge Expressway carries five miles of SR-228 from downtown Jacksonville to its intersection with US-90/SR-212. This transportation artery represents the result of overlapping urban planning and transportation engineering to forecast and devise the best system to efficiently and safely move people and goods.

Twenty bridges are incorporated into the Commodore Point Expressway (**Table 6-9**). Of these, the most notable is the **Isaiah D. Hart Bridge** (No. 720107) (See Chapter 5, page 5-4) designed by the civil engineering firm Sverdrup & Parcel of St. Louis, Missouri. The partially-elevated expressway features an assortment of well-maintained, 1960s bridge types and construction methods including: steel stringers, steel floor beam/girder system, and cantilevered truss bridges. This group of bridges is collectively notable for embodying achievements in transportation engineering and development, in addition to the design and engineering association with Sverdrup & Parcel, an American civil engineering company. However, at this time, none is newly recommended as NRHP-eligible.

Table 6-9. Identified Commodore Point Expressway (SR-228) Bridges.

| FDOT No. | FMSF No. | Year Built | Feature Intersected w/SR-228 | Bridge Type* |
|---|-----------------|-------------------|-------------------------------------|--|
| 720488 | DU21387 | 1967 | Adams Street from Hart Ramp | CS Girder |
| 720489 | DU21388 | 1967 | Monroe Street to Hart Ramp | PSC Girder |
| 720490 | DU21389 | 1967 | Duval Street from Hart Ramp | CS Girder |
| 720493 | DU21390 | 1967 | Talley Rand Avenue | PSC Girder |
| 720494 | DU21391 | 1967 | Duval Street | CS Girder |
| 720495 | DU21392 | 1967 | Adams Street | Steel Girder |
| 720496 | DU21393 | 1967 | Adams Street | PSC Slab |
| “Isaiah D. Hart” Bridge / 720107 | 8DU1555 | 1967 | St. Johns River | CS Through Truss (Cantilevered) |
| 720113 | DU21372 | 1967 | US-90 (SR-10) | Steel Girder |
| 720114 | DU21373 | 1967 | Washington Street | CS Girder |
| 720283 | DU21383 | 1967 | Ryar Road | PSC Girder |
| 720112 | DU21371 | 1967 | Ryar Road | PSC Girder |
| 720276 | DU21378 | 1967 | SR-115 | CS Girder |
| 720105 | DU21366 | 1967 | SR-115 | CS Girder |
| 720280 | DU21380 | 1967 | Little Pottsburg Creek | PSC Girder |
| 720109 | DU21368 | 1967 | Little Pottsburg Creek | PSC Girder |
| 720284 | DU21384 | 1967 | US-90/SR-10/Beach Blvd. | PSC Girder |
| 720115 | DU21374 | 1967 | US-90/SR-10/Beach Blvd. | PSC Girder |
| 720285 | DU21385 | 1967 | Highland & Art Museum Drive | PSC Girder |
| 720116 | DU21375 | 1967 | Highland & Art Museum Drive | PSC Girder |

* CS – Continuous Steel; PSC – Prestressed Concrete