

## Conclusion

The following summary statements regarding structural characteristics for stone arch bridges, key periods of significance for stone arch bridges in Maryland, and the earliest known documented examples of stone arch bridges in the state are based solely on documentary research.

Stone arch bridges (see Figure 7 and Plate 4) consist of a masonry arch barrel or ring, on the outermost edges of which are built spandrel walls which serve as retaining walls to contain the fill material (rubble, large rocks, or dry soil) deposited over the arch. The arch, which is in compression, carries the loads transmitted by the deck and spandrel walls. The spandrel walls typically extend above the roadway deck level to form the parapet walls of the bridge; a belt course, flush with or projecting from the spandrel wall, may give greater definition to the parapet. The arch ring is frequently articulated by voussoirs, or wedge-shaped cut stones (the center voussoir, called the keystone, is often given greater architectural treatment). Stone arch bridges may also include a date stone placed within the parapet. Typical substructural supports include masonry abutments and wingwalls, and masonry piers (if the bridge is a multiple-span structure). Numerous stylistic variations are possible in form and treatment of materials.

Key periods of significance for stone arch bridges in Maryland, as indicated by documentary research, include *1790-1830*, the era in which stone arch turnpike and National Road bridges were first built in the state; *1825-1850*, the period when the B&O Railroad and other Maryland railroads initially utilized stone arches, including the B&O's nationally significant Carrollton Viaduct (1829) and Thomas Viaduct (1835); and *1850-1910*, during which railroads continued their use of stone arch spans, and such bridges enjoyed expanded use on the roads of the Piedmont and Appalachian Plateau regions of Maryland. Between *1828 and 1924*, stone arch canal bridges and aqueducts were also constructed for the C&O Canal.

The earliest known documented examples of stone arch bridges in Maryland are the 1809 Parkton Stone Arch (Bridge #3105), the 1813 Casselman River Arch on the National Road, and the 1818-1819 Wilson's Bridge over Conococheague Creek. A known significant grouping of turnpike-related stone arch bridges has been identified in Washington County; these bridges (including Wilson's Bridge) comprise a group built between 1818 and 1860. (Burnside's Bridge on the Antietam, built 1836, also is nationally significant for its association with the 1862 Battle of Antietam.) Other historically significant extant stone arch bridges in Maryland include the 1829 Carrollton Viaduct, the 1835 Thomas Viaduct, and the Cabin John Aqueduct, or Union Bridge, built 1857-1864.