Experience with Cuyahoga County Department of Public Works

TranSystems has a successful and long-standing working relationship with Cuyahoga County. Our team members have worked together on many Cuyahoga County Department of Public Works Projects, including the Hilliard Road Bridge Feasibility Study, the recently completed Stearns Road Grade Separation, and the Columbus Road Lift Bridge Rehabilitation. Additional project experience includes:

» St. Clair Avenue Rehabilitation
» General Construction Engineering Contract
» Rockside Road Improvements

The Columbus Road Lift Bridge Rehabilitation, led by Wes Weir, has won multiple awards, including the 2016 ACEC Outstanding Achievement Award.

The Stearns Road Grade Separation opened to traffic in 2016.

Arch Bridge Rehabilitations

Our team has extensive experience rehabilitating concrete, open spandrel arch bridges, including bridges with piers over 45 feet, including the following:

Hilliard Road Bridge Feasibility Study, Cuyahoga County, OH

TranSystems performed a comprehensive in-depth inspection of the historic open spandrel reinforced concrete arch structure. Based upon the findings of the inspection, a load rating analysis of the structure was performed incorporating both as-built and as-inspected conditions. The results of the load rating analysis and in-depth inspection were integrated into the feasibility study for rehabilitation or replacement of the bridge to address the extensive deterioration of the structure.

BEL-40-23.38 Rehabilitation, New Philadelphia, OH

TranSystems led the structural rating and development of rehabilitation plans for the historic arch bridge carrying US 40 over the Wheeling Creek, CR10 and an abandoned railroad. The evaluation of the open spandrel concrete arch structure led to the rehabilitation that included new overlay, deck repair, repair or replacement of expansion joints, superstructure repairs including stairs, abutment repairs, approaches, substructure repairs, and sealing the structure as needed.

CUY-6-1456 Detroit Superior Bridge, Cleveland, OH

This double-deck bridge consists of several structure types including concrete arch approach spans. The TranSystems team completed the inspection and rehabilitation plans which addressed several deficiencies, including concrete repairs to the spandrel arches, spandrel columns, floor beams, jack arches, columns, concrete column capitals and lower floor beam corbels, substructure, and spot repairs to the concrete overlay on the top of deck.

Arch Bridge Rehabilitation Experience

Woodrow Wilson Bridge Rehabilitation, Jackson, MS

TranSystems performed the in-depth inspection and rehabilitation design for the historic bridge originally constructed in 1925. The rehabilitation included deck and spandrel beam replacement, spandrel column and arch repairs, in-kind replacement of the historic concrete bridge railing, and pier widening to support the new wider deck.

Walnut Lane Bridge over Wissahickon Creek, Philadelphia, PA

TranSystems completed the design for the rehabilitation of the historic Walnut Lane Bridge, a 6 span, open spandrel concrete arch bridge originally built in 1908. The bridge's total length is 575' and carries 2-lanes of traffic with sidewalks over the Wissahickon Creek and Fairmount Park. The rehabilitation included removal of the asphalt wearing surface, repairs to the superstructure and substructure elements, replacement of the existing concrete balustrade railing and lighitng upgrades. The project was awarded a *2017 Preservation Alliance of Philadelphia Grand Jury Award.*

Historic High Bridge Rehabilitation, New York, NY

The 1450' bridge sits 120' above the Harlem River and is a NYC Landmark and listed on the National Register of Historic Places. The scope of the project included the rehabilitation and strengthening of the masonry arch spans, steel arch span, walkway and deck; barrier-free access and safety for pedestrian and non-motorized wheeled users through the addition of ramps and safety fencing, rehabilitation and restoration of the historic railings, installation of walkway lighting, and architectural lighting of the bridge arches; and new wayfinding information.

Mulberry Street Bridge Rehabilitation, Harrisburg, PA

TranSystems performed this final design for the rehabilitation of the Mulberry Street bridge. The 18-span reinforced concrete closed spandrel arch bridge carries SR 3012 over Paxton Creek, Amtrak tracks, Norfolk Southern railroad tracks, and Cameron and 10th streets in Harrisburg, PA.

Weequahic Park Road Bridge Rehabilitation, Essex County, NJ

TranSystems provided design engineering services for the rehabilitation of the reinforced concrete arch bridge originally built in 1931. Rehabilitation efforts included concrete repairs, full replacement of the deteriorated deck, spandrel column partial reconstruction. The team had to coordinate with ConRail and the State Historic Preservation Office. Preservation efforts included replacing existing lighting with new reproduction lighting to mimic the original design.

Wesley Weir, PE | Project Manager

TranSystems

Wes has extensive experience in the design, rehabilitation, inspection, and load rating of complex bridges. He has served as project manager, project engineer, senior structural engineer and resident engineer on numerous inspection, rehabilitation and design projects of complex bridges, including the Columbus Road Lift Bridge and the Hilliard Road Feasibility Study, both with Cuyahoga County. He also has experience working with multiple project stakeholders, such as Cleveland Metroparks and County departments. He believes communication is the key to building strong relationships among the various project stakeholders.

Wes has experience with the Bridge Design Level 3 elements, including arch bridges, piers over 45 feet tall, and 3D finite element analysis.

Education
B.S. Civil Engineering, Ohio Northern University, 1989

Registration
Professional Engineer: OH, AZ, DE, FL, IN, KY, MA, MI, NY, TX, VA, WI

Experience
28 Years
28 Years with TranSystems

Availability
75%

Hilliard Road Feasibility Study, Cuyahoga County, OH
Project Manager for comprehensive in-depth inspection of the historic open spandrel reinforced concrete arch structure. Based upon the findings of the inspection, a load rating analysis of the structure was performed incorporating both as-built and as-inspected conditions. The results of the load rating analysis and in-depth inspection were integrated into the feasibility study for rehabilitation or replacement of the bridge to address the extensive deterioration of the structure.

CUY-6-1456 Detroit Superior Bridge, Cleveland, OH
Project Manager for the inspection and rehabilitation of the double-deck bridge consisting of several structure types including concrete arch approach spans. The TranSystems team completed the inspection and rehabilitation plans which addressed several deficiencies, including concrete repairs to the spandrel arches, spandrel columns, floor beams, jack arches, columns, concrete column capitals and lower floor beam corbels, substructure, and spot repairs to the concrete overlay on the top of deck.

BEL-40-23.38 Rehabilitation, New Philadelphia, OH
Project Manager for the structural rating and development of rehabilitation plans for the historic arch bridge carrying US 40 over the Wheeling Creek, CR10 and an abandoned railroad. The evaluation of the open spandrel concrete arch structure led to the rehabilitation that included new overlay, deck repair, repair or replacement of expansion joints, superstructure repairs including stairs, abutment repairs, approaches, substructure repairs, and sealing the structure as needed.

POR-82-16.98 Concrete Arch Bridge Replacement, Garrettsville, OH
Project Manager for the replacement./rehabilitation of a concrete arch bridge over Eagle Creek in a historically sensitive area. The team completed the in-depth inspection of the existing bridge, environmental studies, public involvement, in-depth inspection, alternative studies, and design documents for the approved alternative.

Columbus Road Lift Bridge, Cuyahoga County, OH
Project manager for the preliminary engineering study (PES) and rehabilitation or replacement designs of the Columbus Road Lift Bridge over the Cuyahoga River located in Cleveland, Ohio. This bridge was originally built in 1940, and was last rehabilitated in 1999. Portions of the bridge are in serious condition meriting this current project. The lift bridge underwent a comprehensive rehabilitation with partial replacement. A preliminary engineering study (PES) was conducted to determine and recommend a major rehabilitation program versus a total bridge replacement alternative.