

## **Innovation, In a Roundabout Way**

*Cosgray Rd./Shier-Rings Rd. Roundabout Project Honored by ASHE*

(400-700 words)

The City of Dublin, Ohio, and American Structurepoint were presented with the 2012 Project of the Year by the American Society of Highway Engineers (ASHE) Central Ohio Section for the design of the Cosgray Road/Shier-Rings Road Roundabout Project. The award criteria were based on the project's benefits to the public, complexity and innovation.

Safety was the driving force behind the roundabout project for the City of Dublin's Division of Engineering. The existing conventional intersection of Cosgray Road and Shier-Rings Road had a history of high-severity injury crashes at more than double the rate of comparable intersections in the city. This was due to substandard lane widths, poor horizontal alignments and speed limits of more than 45 mph. The intersection is a primary access point to Daree Fields Park, a popular city park, which hosts events regularly and results in irregular periods of peak traffic volumes.

In addition to safety concerns, the project area had been experiencing severe drainage issues with extensive ponding during rainfall events. Improved drainage for the roadway, as well as the surrounding farmlands, was one of the goals of this project.

To address these issues, the City of Dublin contracted with American Structurepoint to provide preliminary engineering and final design services for improvements to the Cosgray Road and Shier-Rings Road intersection. The project included a traffic analysis to study the feasibility of constructing a roundabout or traffic signalization, and other roadway improvements.

Final design consisted of a single-lane roundabout to replace the existing conventional intersection. The roundabout offers continuous flow traffic to events with fluctuating attendance at the Darree Fields Park, and provides safety features through traffic calming and lowered accident potential. It also corrects a substandard horizontal deflection on Cosgray Road at the intersection and substandard lane widths. The continuous flow of roundabout traffic resulted in lowered vehicle emissions, as well as reduced travel times for drivers. In addition, roundabouts require less electrical power and have lower hardware and maintenance costs than traditional traffic signals. The flow of traffic in the event of a power failure will still be fully operational as well.

The complex drainage design required on the project has opened up the area to the potential of future development for the City and the local community. The roundabout had to be built at an elevation that would allow the drainage to be collected above the existing water main by storm sewers and roadside ditches appropriately sized to handle the amount of stormwater

runoff. The flat terrain of the entire project area now effectively drains to a 2,000-foot roadside ditch and empties into a natural stream, making the surrounding farmlands ready for future development.

The innovative roundabout design includes the capability of expanding the roundabout to two lanes in the future. Aesthetic and sustainable features on the project, in addition to the sustainable advantages of the roundabout itself, include LED lighting, BMP stormwater drainage, and design of an 8-foot path for cyclists and pedestrians to access the park. Nearby residents can also use the path provided between the Ballantrae neighborhood and Darree Fields Park, instead of driving to the park. The center island of the roundabout is also adorned by a 93-foot stone wall and landscaping features.

The \$1.1-million project was completed in November 2012.