The raised midblock pedestrian crossing located between the two roundabouts

sand. Concrete was used for the circulating roadways at each roundabout due to the heavier loadings at the intersections themselves.

Initial designs for the underground stormwater retention/detention system were too costly for the project budget. The subsurface soil below the project consisted of a minimum of 21 feet of sand above the seasonal high water table. This unique soil structure and extensive discussion by HDR with representatives of the South Florida Water Management District, including a seminar presentation by Storm Tech representatives sponsored by HDR, convinced the Water Management District engineers to allow soil percolation during the actual storm event. Previously the District had allowed percolation, but only after the storm duration period had ended. Ultimately, the existing ditch drainage system was replaced with a completely underground system featuring Storm Tech components, ADS pipe and Nyoplast structures with cast frames and grates. This innovative approach allowed downsizing of the system to about half of what would have been necessary to comply with the previous requirement, addressed environmental issues associated with potential runoff into the area lakes, and allowed the project to move forward. Another benefit of this type of drainage was that the entire system could be located beneath paved areas of the side streets, freeing up land in front of the historic City Hall for redevelopment as a park.

The Town of Windermere held a street party to celebrate the opening of their improved Main Street with its brick street and pair of roundabouts

Since its opening in November 2005, the project has been very successful at addressing the issues identified in the public process and has exceeded the expectations of the Town. First, the roundabouts relieved congestion by replacing the existing pair of all-way stop controlled intersections in the Town Center and reducing vehicle delay, the number of stops, and queuing. The roundabouts allowed traffic in the Town Center to keep moving and flow much more efficiently, but at low speeds appropriate to the pedestrian environment desired in the Town Center. The low vehicle speeds along with the pedestrian elements included in the project such as sidewalks, a midblock crossing, and multi-use trail along with the streetscape enhanced the Town Center's sense of place and made it easier and safer to make walking trips in the Town Center. Finally,

because delay and queuing were reduced significantly, the cut-through traffic that had been pervasive within the adjacent neighborhoods, all but disappeared. Essentially, there was no longer a reason for motorists to cut through the neighborhood streets when they could easily travel through the Town Center on the primary roadways with little delay.

Since their opening, the roundabouts have been successful in dispelling nearly all remaining opposition. According to Windermere's Town Manager, many of those most vocally opposed to the roundabouts have commented on how great they work. Traffic has not diminished, but has been managed much better. Additionally, there have only been a couple of minor crashes reported at the roundabouts since they opened nearly three years ago. The Town of Windermere has had such a positive experience with the roundabouts that they are currently preparing to build their third roundabout, at a location north of the Town Center on Main Street adjacent to the local elementary school.

Conclusions

The keys to building consensus in the Town of Windermere that allowed successful implementation of two roundabouts in the Town Center included the following:

- Assembling a well balanced creative thinking team, that included all facets of urban planning and design, and had the confidence to recommend "outside of the box" solutions.
- Using a public visioning process designed to fully engage the townspeople, identify all issues, gather input and ideas, build consensus, and inspire a collective ownership of the master plan. Important elements of the process included the issues and opinions questionnaire and a design charrette.
- Adoption of a new Comprehensive Plan PUD ordinance and continuity of a single lead consultant throughout the process.
- Providing examples of successful roundabouts elsewhere. Although there were few good local examples in the Orlando area, numerous photos of roundabouts from other communities in Florida and across the country were used to help sell the roundabout concept.
- Incorporating traffic simulation provided the townspeople another visual tool so they could easily see how a roundabout would operate compared to other traffic control alternatives.
- Showing a video of fire department ladder truck successfully negotiating a similar single lane roundabout provided further evidence of the ease of their use by emergency vehicles.
- Incorporating the goal of creating a sense of place and improving pedestrian and bicycle movement in conjunction with a traffic solution helped illustrate the payoff beyond traffic efficiency and bring together a broad coalition in support of the project.
- Having strong political leadership, great local resource people, and a true project champion – each proved vital in gaining project approval despite the initially divisive issues.