

## **CONTEXT SENSITIVE DESIGN CASE STUDY NO. 5**

### **Mount Rainier, MD Neighborhood Conservation Project**

#### **LOCATION**

US Route 1, 34<sup>th</sup> Street and Perry Street in Mount Rainier, Maryland

#### **PROJECT DESCRIPTION**

US Route 1 (Rhode Island Ave.) split the commercial town center of Mount Rainier with a six-legged intersection and four lanes of traffic with an ADT of 21,000. This division created numerous transportation and urban design problems that hindered commercial revitalization in the heart of the community. The basic issues were pedestrian safety; environmental enhancement; the Washington Metro Area Transit Authority bus turn-around area (with 8 routes and 1,352 passengers daily); storm drainage inadequacy; the lack of a clean, safe, and welcoming mixed-use town center; and vehicular and bicycle safety.

This project replaced a six-legged intersection and four lanes of cars rushing through two blocks of liquor stores and abandoned buildings with a simple traffic roundabout, landscaped plazas, pedestrian lighting, easy pedestrian crossings, bus shelters built on early 20th century designs, new business, and with public art including two blue-glass sculptures that will be lighted at night at opposite ends of the roundabout and bas relief sculptures of some of the diverse faces that make up the community of Mount Rainier.

The project budget was \$1.8 million with about \$1.350 million provided by Maryland State Highway Administration (MSHA) and about \$450,000 provided by the Maryland Transit Administration (MTA).

#### **PURPOSE AND NEED STATEMENT**

There was no official purpose and need statement. At MSHA the Neighborhood Conservation Program (NCP) falls under a categorical exclusion as defined by Section 106 so the agency does not prepare a purpose and need statement. MSHA developed the process in their Main Street Handbook ("When Main Street is a State Highway," available on MSHA's web site, [www.marylandroads.com](http://www.marylandroads.com)) to create a community-based planning project development process. The Goals and Elements of this process are somewhat like the project's purpose and need. As Mount Rainier was one of the first communities to participate in NCP, the community participation process used then helped to create the process that MSHA now follows, which includes a more systematic method of developing formal consensus on goals and needs.

The City of Mount Rainier passed a resolution of intent to form a partnership with the Maryland Department of Transportation (MDOT) and the Washington Metropolitan Area Transit Authority (WMATA) in the design and construction of a roundabout in October, 1997. The resolution included the following language:

- This resolution constitutes the City’s agreement to join in a “good faith” partnership with MDOT and in an MDOT-funded effort to design and implement a roundabout, related traffic and pedestrian safety improvements, and other design features and streetscape improvements.
- This resolution likewise constitutes the City’s agreement to join in a “good faith” partnership with WMATA and Prince George’s County to change bus routes and facilities in a way that accommodates and complements the roundabout and City acquisition of the easternmost and westernmost Metrobus parking lanes.

## **CONTEXT SENSITIVE FACTORS**

A wide range of sensitive issues were addressed in the design and development of this project including addressing scenic values, aesthetics, historic issues, environmental concerns, and multi-modal needs.

Scenic and aesthetic values were seen as of tremendous importance as the city struggled to renew itself and create a positive sense of identify and community pride. The Route 1 intersection was considered to be an “asphalt lake,” contributing to the blighted appearance of the area.

Bringing artists onto the project team was a very important addition, bringing understanding and skills to better meet goals of the project. These goals for what public art could do for Mount Rainier were identified at a Public Art Community Workshop held in 1998 as:

- Humanize and beautify our urban environment.
- Create a “sense of place” or belonging.
- Strengthen the cultural and social life of the community.
- Identify, become a landmark, a civic symbol.
- Help develop of sense of pride in the community.
- Provide comfort and an amenity to the people.
- Stimulate interest in the community’s history and heritage.

Environmental issues were also paramount. An important goal of the city was to reclaim green space in order to reduce the effects of broad expanses of asphalt contributing to “heat island” effects. Two bus lanes were eliminated and added to the plaza area in front of City Hall.

The reduced asphalt area from adding medians and green space also will reduce storm water run off and allow for natural filtration of rainwater and storm water before it enters the Chesapeake Bay watershed. By reducing the number of traffic lights at this intersection, air quality should improve, since emissions are lower for continuously moving vehicles than those with engines idling at traffic lights.

Furthermore, reduced lights also reduce the energy needs for operating the intersection, thereby reducing long term costs for electricity. City officials of Mount Rainier, as a member of the group titled, Cities for Climate Protection Campaign, were very conscious of environmental issues affecting climate change.

The city also had important goals for the lighting in the project. City officials wanted lighting to focus on pedestrian needs, wanted the quality of light to be adequate and not overly bright, and wanted white light not the yellow light of high-pressure sodium fixtures. The city suggested induction lighting that operates efficiently with a 20-year life, but the decision was to use metal halidod lights that are energy efficient but will require replacement bulbs about every three years.

Historic issues were important for this National Register Historic District. The artists' research of the trolley system yielded several benefits. They designed the bus shelters modeled after the designs of historic trolley stations. Echoes of the trolley tracks and turn around were included in the paving pattern designed for this project.

## **HISTORY OF PROJECT**

The local community initiated this project by approaching the Maryland State Highway Administration (MSHA) to ask for assistance in redesigning the principal intersection of Mount Rainier. The City of Mount Rainier had begun to take steps at revitalization of the intersection area by opening a new City Hall, purchasing a building for a new police station, applying for various business development and streetscape grants, and hiring staff to strengthen property standards enforcement. But none of these local initiatives were enough to turn the community around without addressing the fundamental issue of the barrier formed by Rt. 1. Land use and roadway integration, pedestrian and bicycle access, and easy use of the bus terminal were severely constrained by the expansive road, the confusing intersection, and the high-speed traffic environment.

A 1990 revitalization study by the County Executive, Parris Glendening (now governor of Maryland) identified certain corridors of the county that had become weakened both physically and economically, as needing improvement. In that same year the city sponsored a RUDAT team to address options for reinvigorating the city center. The outcome of this charrette, a proposed underpass through the intersection with pedestrian area above, proved too expensive to consider, but the study also surfaced the idea for a traffic circle.

A few years later a newly elected mayor revisited the revitalization concepts and created a newly funded position for a full time economic development staff person. Working with the University of Maryland's Landscape Architecture Department, the City developed a proposal for an extensive redesign of the intersection centered on creation of a roundabout. In response to a request from the city, two people representing MSHA visited with city staff and council members in the spring of 1996. One was a consultant who brought with him films of European roundabouts. The other represented MSHA's relatively new Neighborhood Conservation Program that agreed to fund the roundabout project.

The critical importance of the bus lines to the roundabout's design and function meant this needed to be a strong partnership project. Mount Rainier is just north of the District of Columbia border and is the turn around point for several bus routes. Both the Maryland Transit Administration (MTA) and the Washington Metro Area Transit Authority were key decision makers to involve. MTA's partnership became a critical factor in the success of the project because their funding was able to pay for the bus shelters sculptures, benches and lighting.

## **HIGHWAY AGENCY INVOLVEMENT**

This proposal was given to the newly created Neighborhood Conservation Program of the Maryland Department of Transportation, a part of the State Highway Administration and Maryland Transit Administration charged with improving existing roads and transit facilities to spur investment in older communities.

Neighborhood Conservation projects are provided only in Priority Funding Areas, targeted for growth as part of Maryland's Smart Growth Initiative. Communities receive funding priority if further designated by Maryland's Department of Housing and Community Development for revitalization focus.

The design work for the project was carried out primarily by MSHA but the collaborative nature of the project process was very beneficial. In the course of the design WMATA requested that the roundabout be designed in an oval shape to ease the passage of its buses. This oval design proved to be a better geometric design on several levels. WMATA was also helpful in planning the one traffic signal that allows their buses to turn out of the bus holding bays.

## **RESOURCE AGENCIES INVOLVEMENT**

Maryland Department of Transportation (MDOT)  
Maryland State Highway Administration (MSHA)  
Maryland Transit Authority (MTA)  
Department of Housing and Community Development (DHCD)  
Washington Mass Transit Authority (WMATA)  
Maryland National Capital Park and Planning Commission – Prince George's County  
(MNCPP-PGCo.)  
Prince George's County Department of Public Works (PGDPW)

## **COMMUNITY INVOLVEMENT**

MSHA asked the city to create a task force to work on the roundabout project. The close and direct working partnership of MSHA with the community in Mount Rainier gave an unprecedented opportunity to identify transportation-related issues; establish project limits; assist in the collection of data; assist in the organization, publication, and management of field walks, workshops, open houses, and public meetings; review materials intended for distribution to the community; review and revise all proposed plans; and endorse the agreed upon final concepts for approval by the local elected officials. Literally every aspect of the project from color selection to lighting to lane width to cost was subject to analysis by the community and the designers together. Members of the City Council, business owners and diverse residential representatives were encouraged to keep their constituents up to date.

Many community involvement techniques were used, including design charrettes where the public was invited to brainstorm with the project team about specific aspects of the design.

Drawings were available in the City Hall. The city's newsletter included project updates frequently.

## **NATURAL ENVIRONMENT ISSUES**

As discussed above, the roundabout has decreased starting and stopping by through traffic and has reduced emissions from this source. The overall project significantly reduced impervious surfaces and replaced them with landscaping. Finally, the project area has been selected as a pilot site for an urban bioretention facility to be constructed by MSHA.

## **HUMAN ENVIRONMENT ISSUES**

Mount Rainier is a racially diverse area with its average income of about \$30,000 a year considerably below the county's average income of \$48,000. The population is 60-70% African American, 10% Hispanic, and the rest from a variety of other ethnic groups.

In addition to struggling with revitalization, Mount Rainier has had a continuing struggle with crime. It was designated a Hot Spot community in 1997 and eligible for special grant assistance to fight crime. Local officials blamed much of this problem on lack of pedestrians on the street, failing businesses, and abandoned buildings. Without an improvement of the physical environment, they saw little chance of creating a viable housing market or adding needed community facilities.

With the physical improvements brought by the roundabout project, pedestrians are welcome and more comfortable in the neighborhood, street activities have increased because of safer access to the transit facility, lighting has improved the feeling of security, public spaces are available as refuges from the business of the neighborhood, plans for specialty housing for artists are moving ahead, and a library expansion is planned.

## **SCHEDULE OF ACTIVITIES**

- 1990: Designation of a Mount Rainier National Register Historic District included the town center and Route 1 at its heart.
- 1990: MSHA partnership for tree planting in the median.
- 1991: Creation of a State-authorized commercial district management authority.
- 1994: Creation of a County-authorized mixed-use town center zone and committee.
- 1994: \$900,000 investment at the intersection for the construction of City Hall building. Adopting this central location had been a key campaign issue in the 1989 election for Mayor. Landscaped plaza created with the purchase of a bus lane from WMATA.
- 1996: City Engineer prepared roundabout drawing for MSHA review.
- 1997: University of Maryland Landscape Architecture Program students prepared streetscape design concept for traffic circle and other major improvements along Route 1.
- 1997: City completed \$100,000 sidewalk construction project for curb extensions to promote pedestrian safety and beautify the street. City issued \$700,000 in bonds to begin phase one of project to renovate an historic Route 1 building for a new police station.

- 1997: City became a State designated revitalization area.
- 1997: Mayor Fred Sissine and landscape architecture student presented the idea of the roundabout as a project for Neighborhood Conservation Program funds to MDOT staff.
- July 1997: The idea of a roundabout was first rejected by MSHA District Traffic staff but upon review was accepted as a reasonable traffic and pedestrian/safety improvement for the Neighborhood Conservation Program. MSHA Project Engineer was assigned to begin working with the community through the engineering phase. First MSHA/City meeting held.
- September 1997: MSHA's proposed roundabout design presented in public hearing. City passed resolution supporting the roundabout concept.
- February 1998: Key community charrette held to develop roadway geometry.
- May 1998: Key community charrette held to consider landscape and streetscape alternatives for the roundabout center, the City Hall and bus terminal area, and the Perry Street Memorial Park area.
- July 1998: Discussions began with Art Consultant to bring public artists into the design process.
- September 1998: City requested consideration of pedestrian scale lighting in the project as part of Transit-side improvements to be funded by MTA. City investigated the most appropriate pedestrian lighting standard, inviting Vermont lighting consultant to advise.
- September 1998: Selection Committee composed of City officials, Arts Community members, MSHA and MTA selected two artists based in part on their understanding that elements will need to relate to pedestrians and to vehicles traveling at greater speeds and further distances.
- October 1998: Public Art Presentation to the Community includes paving treatment, two sculptures, a series of bas-reliefs wrapped around pedestrian space, unique bench design.
- November 1998: Artists asked to design bus shelters.
- December 1998: Second community meeting to review sculpture designs. Community acceptance of public art elements.
- December 3, 1998: Project Design Final Review
- March 17, 1999: City sent letter to MDOT Secretary with final recommendations on lighting and landscape
- June 15th, 1999: Advertised project for Bids
- May 2002: Construction Complete
- August 2002: Public Art Installations to be completed

## **PROJECT OUTCOME AND LESSONS LEARNED**

There is a great deal of pride in this project by those involved in it from the project team as well as the community and public agencies. The parties interviewed for this case study all considered this to be a major learning experience with frustrations in the process but with a very worthwhile result. MSHA has acknowledged that the experience here has contributed greatly to the evolution of their project efforts using Context Design Principles.

The Mount Rainier project was importantly an effort of urban design. MSHA found that its project team members were not skilled at urban design. In this case the artists' skills added greatly to the teams ability to address urban design issues. It is important in the future for

projects of this type that an urban designer be on the team. In many cases this skill may be provided by a landscape architect skilled in urban design.

The project would have benefited from the knowledge that MSHA now has in designing its project process for NCP projects. If overall project goals had been identified up front with all stakeholders and if a team with all the skills needed had been assembled early, the project would have proceeded more smoothly. The project would have benefited from the artists joining the team earlier, for example. As it was, there were an unusual number of major project changes from early stages of the project to final design as new ideas and the means to implement them emerged. The process used, however, sometimes followed a “messy” process, but yielded some exciting and creative solutions.

It was very beneficial to engage an art consultant to establish a process to select the artist team. Her ability to understand both the project teams’ needs and the artists’ perspectives was valuable. One artist chosen works around the corner from the project and does primarily abstract art. The other is located in Northern Virginia and is does primarily figurative art.

The decision making process for including public art in the project was a learning experience. The task force needed to have faith in the skills of the artists; the artists needed to listen to the aspirations of the community and be responsive to these varied interests. The first design brought by the artists was not well received. The artists went back to the drawing board, generating dozens of new ideas. When these were brought to the task force, the artists explained which design they preferred and why and the task force agreed with this judgment. The artists also found they needed the trust of the task force to allow them to make small changes to their plans in the field as construction proceeded where they felt this necessary.

There were a number of difficulties in the construction process. Utility boxes were placed in awkward locations, some due to design errors and some due to contractor error. For example, there is an unsightly utility box within the center area of the roundabout.

Both poor construction and time delays caused the artists problems. The planters designed by the landscape architect that will carry the artist’s bas-relief panels were complex to build and had to be rebuilt. The artists lined up contractors to build their designs and repeatedly found the job was delayed and then lost the contractor and had to line up another.

Projects of this nature require a significant long-term local maintenance commitment. MSHA has recently established a local maintenance policy and manual for public works efforts. In their agreement for the MTA grant, there is a formal commitment from Mount Rainier to maintain the roundabout and median and associated areas. This responsibility is not shared outside curb areas.

Text from an award submission for the Mount Rainier project: “The design process succeeds if it has credibility with highway engineers, planners, landscape architects, environmental staff, and the community. It must ring true with all. This means that those primarily concerned with engineering factors and functionality appreciate the benefits of a broader design context. It means that designers willingly and openly seek the flexibility necessary to achieve a balanced outcome that respects the imperatives of both technical functionality and context sensitivity. It also means that planners, landscape architects, environmental staff, and the community have a

heightened awareness of the legitimate concerns and constraints with which highway design engineers must deal.”

There have been many positive spin off effects of the investments in this project. With the transportation project leading the way to improved functioning of the entire town center area (both access to land uses and access to transit), long-term support for the continued viability of the revitalization is found in:

- Creation of a Town Center Zone and Urban Industrial Zone by Prince George’s County;
- Creation by the City of a Design Review committee to evaluate site plans according to new design guidelines;
- Adoption by the City of new sign regulations to improve aesthetics in all commercial areas;
- Establishment by local business owners of a Commercial Development Management Association; and
- Several businesses have received loans from the Maryland Department of Housing and Community Development’s Neighborhood Business Development Program.
- Mount Rainier has been named as one of five Gateway Arts Districts in Maryland.
- Recent results have included the expansion of the local food cooperative, and the addition of several new businesses including a dance studio, a bookstore, a café, and a Latino specialty market.

Mount Rainier’s decades-long story of revitalization reflects the circumstances of many small communities across America. It is through strong local leadership and passionate commitment to a vibrant vision for the community that significant changes are coming about in Mount Rainier. The partnership forged between the community and MSHA and MTA’s Neighborhood Conservation Program resulted in a critically important turning point for this community on the road to revitalization.



**C.1 Mount Rainier before photo of bus shelter and bus holding lanes.**



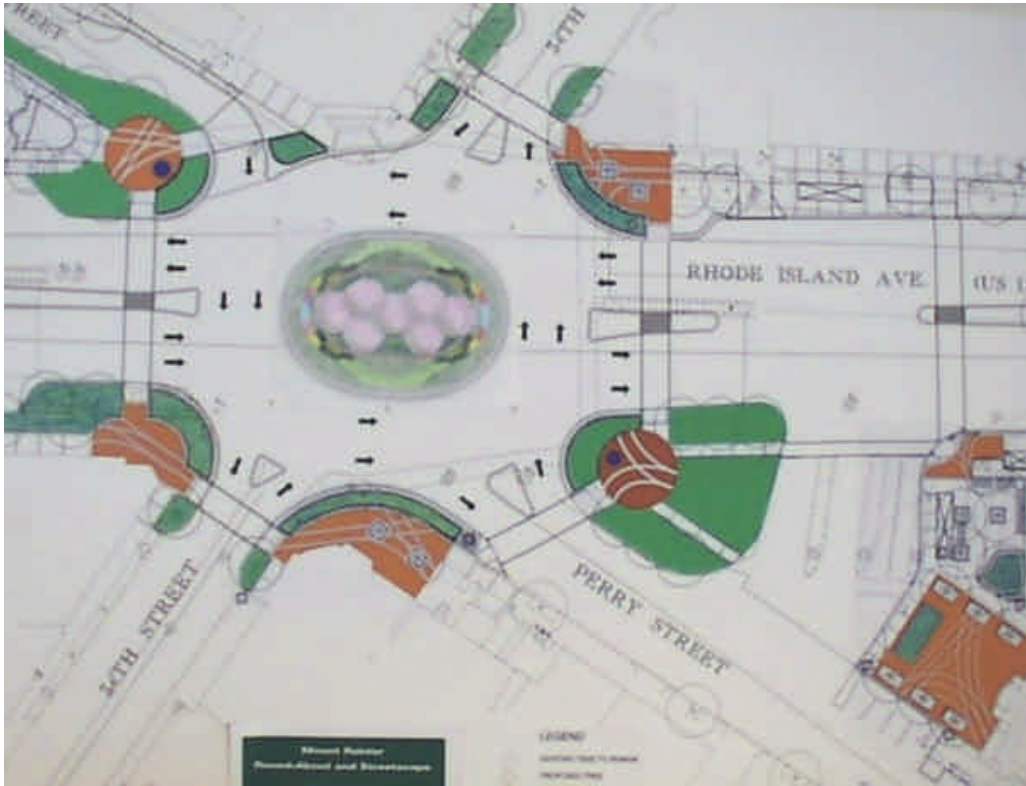
**C.2 Mount Rainier before photo of pedestrian crossing experience at north side of intersection.**



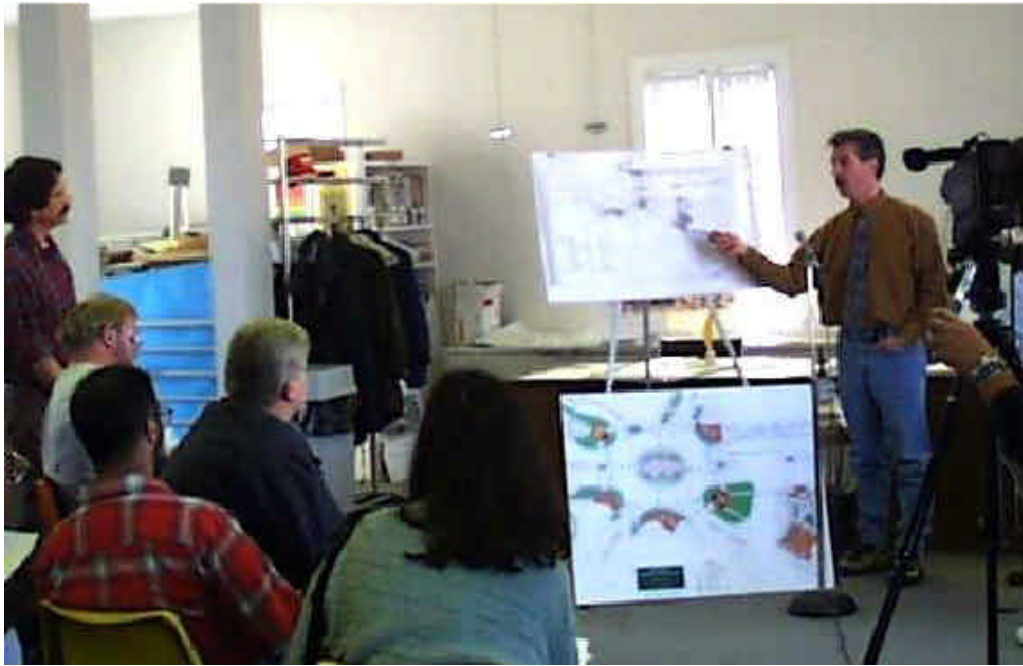
**C.3** Mount Rainier before photo of bus shelter and plaza in front of City Hall.



**C.4** Sign for Neighborhood Conservation Program at north end of project.



**C.5** Rendering of Mount Rainier proposed roundabout with paving patterns reflecting trolley tracks and bulb outs and other planned traffic calming measures.



**C.6** Public meeting with citizens using the rendering of the proposed roundabout to inform people about the project and gain further input.



**C.7** Mount Rainier roundabout after photo taken from steps of City Hall showing bus holding lanes, bus shelters, and paving patterns to reflect historic trolley lines.



**C.8** Looking across signalized intersection at bus shelters and City Hall.



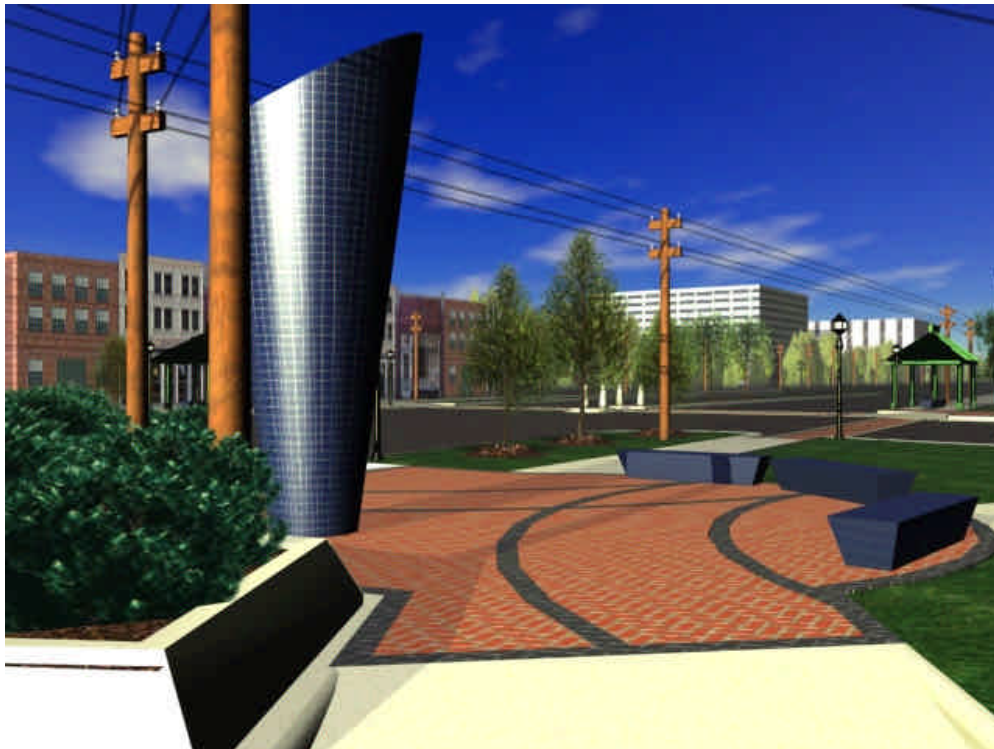
**C.9** Closer view of bus shelters. Benches with art elements are still to be installed.



**C.10** Signalized crosswalk at north side of roundabout allows buses to reenter traffic and pedestrians to cross street.



**C.11** Non-signalized crosswalk at south side of roundabout allows for easier and safer crossing than previously.



**C.12** Computer visualization of the effect that 15 foot tall pylons will have to add character and a special sense of place to the roundabout.