

CONTEXT-SENSITIVE DESIGN CASE STUDY NO. 11

Little Rock Roundabout - Arkansas

Location:

Roundabout is on West 36th Street at Romine Rd. on the western edge of Little Rock, AR near I-430.

Project Description:

The project is a 4-leg roundabout with one travel lane at the intersection of 36th Street (minor arterial) and Romine Rd. (collector) / West Street (unclassified). Its design was completed in July, of 2000 and it opened to traffic in 2001. It was the fifth roundabout in Little Rock, but the city's first on an arterial.

Purpose and Need Summary:

History of the Project:

With the widening of W. 36th Street residents were concerned about higher traffic speeds. Some residents wanted speed humps installed. At the time a signalized intersection at W. 36th and Romine was not justified on traffic counts. The roundabout was proposed by city traffic engineers, but was neither initially endorsed by neighborhood community nor considered by the project design engineers of Little Rock Public Works. There were two public meetings held, the first to discuss the nature of the improvements and right-of-way requirements for West 36th Street and the second focused on the intersection at W. 36th Street and Romine. An extensive presentation on roundabouts, with graphic support including a video, was given at the second public meeting. In a memorandum to the City Manager the City's Traffic Engineering Manager stated the pros and cons of the options and the results of the poll of the second meeting's participants. He recommended the roundabout as a solution to the concerns of the citizens about speeding on the improved W. 36th Street (speed humps were deemed inappropriate for an arterial). It was also seen as a method to avoid a future signalized intersection at W. 36th and Romine and its inherent safety issues.

Context-Sensitive Factors:

There is a grade school and church (with day care) nearby on Romine and the need for traffic calming was indicated on W. 36th Street (an arterial without horizontal curves) in this residential area. Traffic calming features include two pairs of 'sidians' or chokers installed on the W. 36th Street south leg of the roundabout. The central raised island of the roundabout is planted and the mountable concrete circle and lane islands are simulated red brick. In this application the roundabout itself is considered a traffic-calming device. The manager of the adjacent apartment complex considers the roundabout to be a visual enhancement especially if it avoids a signalized intersection in the future.

Responsible Public Agency:

*City of Little Rock
Department of Public Works
Traffic Engineering and Civil Engineering*

Public Education and Involvement:

Two public meetings were held on the W. 36th Street improvement project. The second public meeting that included 25 residents focused on the roundabout option. Traffic engineers from the public works department prepared posters showing existing roundabouts, a color informational pamphlet on roundabouts and incorporated a video, prepared by the Maryland DOT, on the functioning of a modern roundabout in their presentation of the option. The roundabout option had been mentioned in the first public meeting that dealt primarily with right-of-way issues. Prior to the second meeting several residents had signed a petition questioning the viability of a roundabout at the intersection. The second meeting was advertised as a briefing and discussion after which the attendees would be polled for their opinion.

At the meeting a few 'very vocal participants' spoke against the roundabout option. However, a few participants indicated their understanding of the safety and traffic calming benefits of a roundabout and a willingness to have one in their neighborhood. Questions from the participants included:

- Is this already a 'done deal'*
- How would pedestrians cross*
- Who would maintain it*
- What signs would be necessary*
- How would the driving public be educated*

The presentation by the traffic engineer representing the Public Works Department focused on the previously voiced public concerns for safety (vis-à-vis speeding) with the impending improvements to W. 36th Street (two travel lanes and a center turn lane). Comparisons (pros and cons) of various traffic calming or speed reduction solutions for the improved W. 36th Street were presented that included: enforcement; speed humps; stop signs; signalization; and roundabouts.

The roundabout option polling by show-of-hand at the end of the public meeting yielded: 0-for; 10-against; 11-undecided; 4-abstentions. In the recommendation memorandum to the city manager from the traffic engineering manager the polling dynamic was discussed and characterized in the following statement "...since the voting was done by a show-of-hands, many residents didn't want to go either way in order not to offend their more vocal neighbors."

Roundabout Design Issues, Special Features, Commentary:

Design Type:

Basic 4-leg with single lane entries

Design Speed/Posted Speed:

36th Street 30 mph

Inscribed Circle Diameter:

100 ft.

Circle Treatment:

4" mountable concrete truck apron 13 ft wide (red tinted concrete with brick pattern) and 6" curbed center island planting area with 32 ft. diameter

Number of Lanes (in circle):

One

Width of Circle Travel Lane:

20 ft.

Leg Road Classifications/Widths:

- *Minor arterial with 4,000 ADT (36th Street)
36' wide curb to curb*
- *Collector with 1,270 ADT (Romine)
36' wide curb to curb*
- *Non-classified (West Road)
34' wide curb to curb*

Entry Leg Angle: *All at 90 degree (with appropriate flares)*

Adjacent Land Use:

*NE quadrant: wooded area and community facility
(elementary school)*

*SE quadrant: multi-family residential (apartments) and
institutional (church with day care)*

SW quadrant: single-family residential

NW quadrant: single family residential

Commentary:

The roundabout was proposed by city traffic engineers to serve as a traffic-calming device and to eliminate the need for a future signalized intersection. A successful education effort allowed the project to go to design and construction. Two public involvement sessions were held. The first dealt primarily with right-of-way issues while the second focused on educating the public about the roundabout option. Roundabout posters were displayed and a video on roundabouts was shown. Initially the residents simply wanted 'speed bumps' installed on the minor arterial.

Little Rock has some recent experience with roundabouts being installed in new residential developments. A few citizens at the meeting indicated a positive experience with roundabouts when traveling elsewhere and the manager of the adjacent apartment complex suggested that the roundabout would be a 'visual improvement' over the possibility of a future 'ugly' signalized intersection. A few residents vocally opposed the roundabout and a significant number (but less than a simple majority) voted against the roundabout option when polled at the end of the public meeting.

The city manager, after reviewing the options and their safety and enforcement implications, with the recommendation of the traffic engineering division, decided to move forward with a roundabout design. The city's traffic center has received favorable telephone comments and positive newspaper coverage since W. 36th Street was improved and the roundabout at W. 36th and Romine was opened to traffic. It is believed by city staff that without the aggressive education effort at the second public meeting that a majority would have been against proceeding with the roundabout option.

Project Development Schedule/Milestones:

Design Completed: *mid-2000*

Construction Completed: *early 2001*

Costs:

Design: *Unavailable separately, roundabout was part of larger improvement project.*

Construction: *Approximately \$70,000*

Project Outcome and Lessons Learned:

All accounts seem to indicate a successful project. It is the 5th roundabout in Little Rock, but the first on an arterial. Opposition was limited through an informational neighborhood meeting that included a two-way dialogue about safety and esthetics. Residents understood that accidents would not be eliminated, but would be less severe than a traditional intersection and saw that a roundabout with center planting would be more attractive than, in their terms, an ugly signalized intersection. The traffic department has recorded favorable call-ins regarding how well the installed roundabout works and looks.

According to city staff the lessons learned include the need for education and discussion of options with the public. This includes the use of pictures and videos for education and familiarization. The second public meeting demonstrated the advantage of two-way dialogue regarding the pros and cons of options to increase the understanding and knowledge of the public.

After construction it was recognized that further delineation and lighting was needed for improved nighttime operation. Additional streetlights and reflective markers have been installed.

Photographs and Route Diagram:

See attached.

Information Contact(s):

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Newspaper Coverage:

Arkansas Democrat Gazette, "Paper Trails: Construction slows traffic in roundabout method" by Carrie Rangers, 11/29/2001, page E1.

Roundabout in Little Rock Arkansas

Photographs taken on a morning when school buses were in service



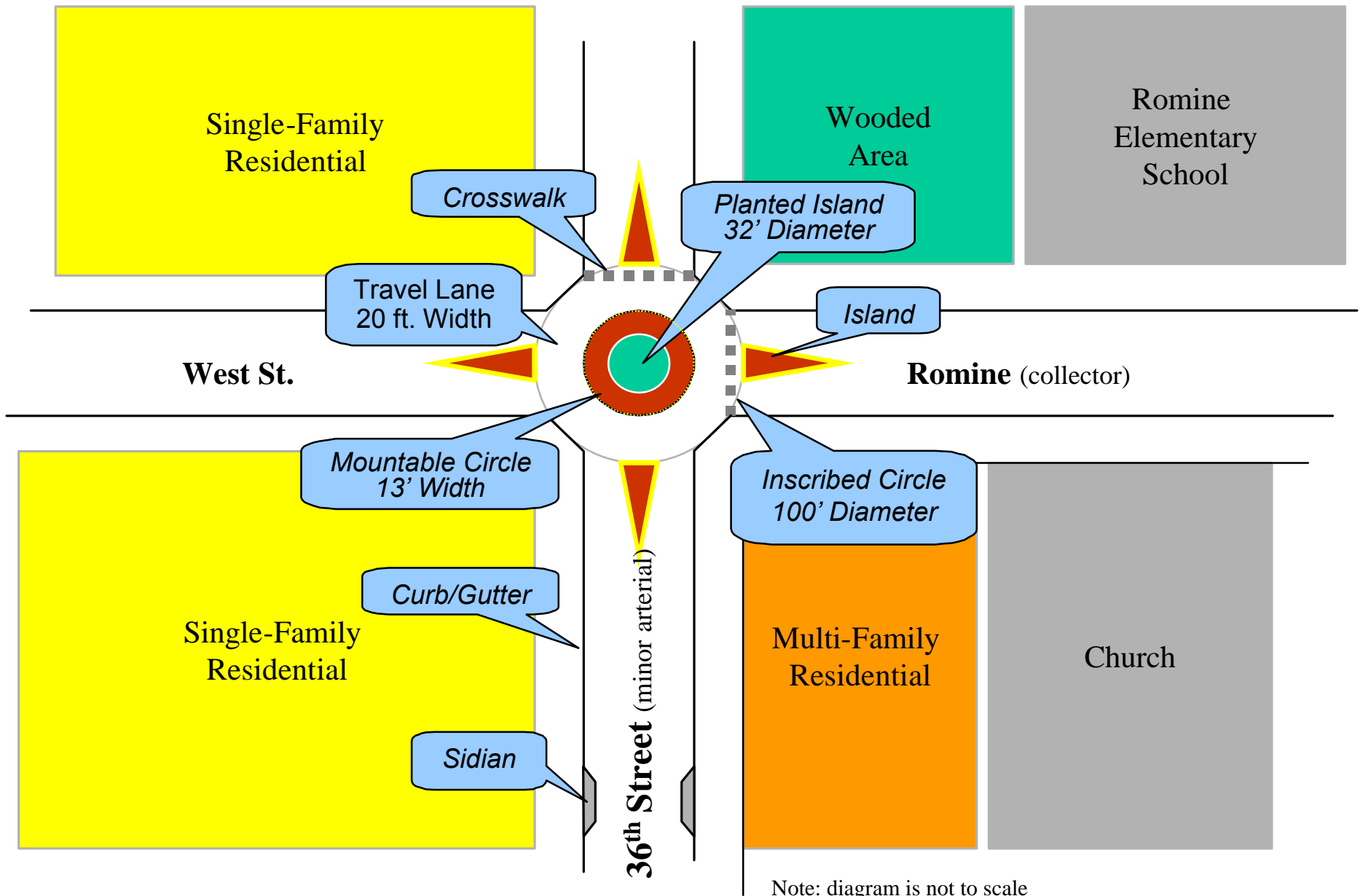
Active use of well delineated roundabout



Sidian (or choker) on 36th Street approach to the roundabout

Little Rock Roundabout Diagram

West 36th Street and Romine Rd.





**Roundabout in
Little Rock Arkansas**

Aerial Photo: 5/02
Courtesy of Bill Henry



**Roundabout in
Little Rock Arkansas**

Aerial Photo: 5/02
Courtesy of Bill Henry



**Roundabout in
Little Rock, Arkansas**

Aerial Photo: 5/02
Courtesy of Bill Henry