Roundabout Construction

SP 373-01-0020
LA 8 / US 171 Roundabout
Leesville, LA
Vernon Parish

DOTD
Louisiana Department of Transportation & Development
What this presentation covers

- Recognition for District 08 Design and Traffic Sections
- Difference between a circle and a roundabout
- Why did DOTD elect to construct the Roundabout?
- Public Meeting and Public Perceptions
- Barrier Curb and Gutter Modifications
- Challenges for Sequences of Construction
- Time Constraints
- General Public Comments and End Results
Recognition for District 08 – Design and Traffic Sections

Dale Craig – District 08 Traffic Section

• Recommended roundabout design and spearheaded the project to the design phase

Jason Rachal – District 08 Design Section

• The overall success for this project is greatly attributed to the project plans developed by Jason Rachal

David Backstedt - District 08 Traffic Engineer

• David meet with me on the project site on numerous occasions in order to monitor the traffic flow after each construction sequence change.
Circle or Roundabout?

Circle
Area = \pi \times r^2

Roundabout
Why did DOTD elect to construct the Roundabout?

- Permit request for access to a proposed Market Basket grocery store
- Traffic Study and Evaluation
- Buy-in from DOTD, Market Basket and City of Leesville
Public Meeting and Public Perceptions
Public Meeting
Public Perceptions
Barrier Curb and Gutter Modifications

- Installed continuous steel reinforcement in the barrier curb section

- Class M Concrete Mix Modifications
  Recommend not using Grade A (Size 57) coarse aggregate (100% passing the 1 ½” US Sieve)
  Recommend changing mix design to max size Grade P (Size 67) coarse aggregate (100% passing the ¾” US Sieve)
Barrier Curb and Gutter Modifications

- Installed Bolster Blocks behind sharp angled corners of curb section
Time Constraints

• Project Letting Date: July 21, 2010

• Work Order Date: September 24, 2010

• Roundabout Opening Date: August 1, 2011

• Market Basket Grand Opening Date: August 4, 2011

• Governor’s Ribbon Cutting Date: August 5, 2011
Sequence of Construction - Phase I
Sequence of Construction - Phase I

Traffic congestion along US 171 South Bound Lane

Temporary Traffic Signals installed at intersection of LA 8 and US 171
Sequence of Construction - Phase I
Sequence of Construction - Phase I
Sequence of Construction - Phase I
Sequence of Construction - Phase I
Sequence of Construction - Phase I
Sequence of Construction - Phase I
Sequence of Construction - Phase I
Sequence of Construction - Phase I
Temporary Traffic Signals installed at intersection of LA 8 and US 171
Sequence of Construction - Phase II
Sequence of Construction - Phase II
Sequence of Construction - Phase II
Sequence of Construction - Phase III
Sequence of Construction - Phase III
Sequence of Construction - Phase III

• Removed temporary traffic signals

• Staged flagmen at each access point into the roundabout

• Utilized dynamic message signs cautioning traveling public that roundabout is open and there is a yield condition ahead

• Installed do not enter signs on temporary stands at each connection point to the roundabout
Sequence of Construction - Phase III
General Public Comments and End Results

• All of the Politicians and most of the general public have very favorable comments in regards to the functionality of the Roundabout.

• From 2007 to 2010 there was an average of 10 injuries per year with only 1 fatality during that time period.

• Since 2010 there has only been one injury, which occurred in January 2013.
End Results
Size Comparison between the Alexandria South Traffic Circle and the Leesville Roundabout
Photo of the intersection of LA 8 and US 171, prior to construction

Proposed Market Basket location

LA 8/28

US 171
Questions?