

# Grady Ave. at Beauregard Ave. Roundabout Project

City of Fayetteville, Georgia

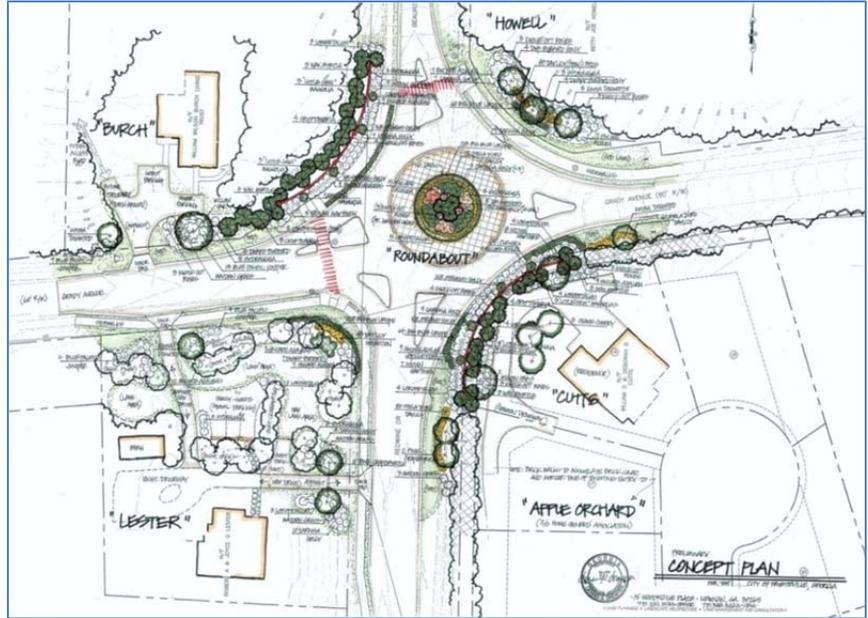


## Project Description:

The Grady Avenue at Beauregard Avenue Roundabout project is a single lane roundabout designed with many features to promote the free-flow of heavy traffic volumes through one of the City's busiest local intersections. Grady Avenue is an important connector road in Fayetteville joining S.R. 54 west and S.R. 85 south providing relief on the historic downtown area. The purpose and need of this project is to improve traffic conditions and safety at this busy intersection while preserving the historic and residential land use characteristics of the surrounding area. The use of a traffic signal in this area, which promotes a more commercial style land use, was considered but declined by the City.

## Traffic Study:

The *Downtown Fayetteville Traffic Study* was completed by the City's traffic engineering consultant in January 2007, with supplemental data regarding Roundabouts supplied via a Technical Memorandum in September 2007. The study indicated that the current Level of Service for the Grady Ave. and Beauregard Ave. intersection has declined in recent years to an "F" with significant delays and traffic stacking at a.m. and p.m. peak hours and school zone periods. Recommendations were made for either a single lane roundabout or a traffic signal with additional turning lanes added. The roundabout will return a satisfactory Level of Service for many years to come and greatly improve the safety of the intersection.



## Roundabout Information:

According to research done by the Insurance Institute for Highway Safety ([www.iihs.org](http://www.iihs.org)):

At locations where roundabouts have replaced stop signs and/or traffic signals:

- ❖ Crashes (23 locations studied)
  - Decreased 39%
  - Involving injuries decreased 76%
  - Involving fatalities and/or incapacitating injuries decreased 90%
- ❖ Vehicle delay was reduced by 62 to 74 percent resulting in (10 locations studied)
  - Saving 325,000 hours of motorists' time annually
  - Reduction in fuel consumption of 235,000 gallons annually
  - Environmental benefit of reduction in vehicle emissions
- ❖ Saved \$5,000 per year per intersection in electricity and maintenance costs

## Project Information:

Owner	Engineer	Contractor
City of Fayetteville, Georgia 240 Glynn Street South Fayetteville, Georgia 30214	Integrated Science & Engineering, Inc. 800 Commerce Drive, Suite 100 Peachtree City, Georgia 30269	Southeastern Site Development, Inc. 14 East Gordon Road Newnan, Georgia 30263

## Comparison of Traffic Signals vs. Roundabout

		TRAFFIC SIGNALS	ROUNDBOUT
Safety	Crash Frequency	Higher than a roundabout	Lower than a traffic signal
	Crash Severity	Higher due to higher speeds and higher speed differential	Lower due to lower speeds and lower speed differential. Elimination of high-speed T-bone (angle) crashes.
	Number of conflict points between vehicles	32	Reduced to 8
	Number of driver decisions	Higher than a roundabout since drivers need to be aware of vehicles to the left, right and straight ahead.	Reduced since drivers only need to be aware of vehicles to their left at entry.
	Severity of driver errors	Higher due to higher speeds and larger speed differentials.	Reduced since overall speeds are lower and the relative differences in speeds are also lower.
	Traffic Calming	Not effective as a traffic calming measure.	Entering and circulating geometry constrains the speed to 18 – 30 mph. Geometrics ensure lower speeds.
Traffic Operations	Trucks (turning movements)	May encroach on adjacent lanes while turning	May encroach on adjacent lanes while turning. May require the use of the truck apron on the inside of the roundabout when making a left turn.
	Capacity	Constrained by green time in cycle length	Greater capacity than a traffic signal due to un-constrained flow of traffic at all times.
	Operational Benefits	More delay to all vehicles than a roundabout.	Less delay.
	Traffic Signing	Typical Intersection Signing	Same signing as signalized intersection except YIELD signs are used to control the traffic entering the roundabout.
	Traffic Speed	Not limited by geometrics. Speed on side roads, which previously had stop signs, will increase.	Geometric features ensure slow entering and circulating speeds. Speed is restrained to 18- 30 mph by the geometrics.
	User Familiarity	Drivers are very familiar with using intersections with separate left turn and right turn lanes.	Roundabouts are being constructed by adjacent local jurisdictions. Currently there are 60 roundabouts under design and/or consideration by GDOT.
Community Impacts	Community Enhancements	Community enhancements are available on the perimeter of the intersection.	In addition to the perimeter the central island may be developed as a “gateway” to the community.
	Environmental Benefits	Increase in fuel consumption and emissions due to stopped and riding vehicles during red light phases.	Overall reduction in fuel consumption and vehicle emissions since delay at the intersection is reduced.

The source of the information in the table above which is non-project specific (i.e. generalizations between signals and roundabouts) can be found in “Roundabouts: An Information Guide:” published by the US Department of Transportation, Federal Highway Administration (FHWA Publication No. FHWA-RD-00-67).

For more information, contact Don Easterbrook, Director of Public Services for the City of Fayetteville at (770)461-6029.

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## Alternate Routes

- ❖ **Heading North / South:** Use Jimmie Mayfield / Jeff Davis as alternate route.
- ❖ **Heading East / West (and South of Fayetteville):** Consider using Lester / Ebenezer Church to Redwine connection.
- ❖ **Heading East / West (and North of Fayetteville):** Consider using Hood / Gingercake connection.

