

**Mark T. Johnson, P.E.**  
**MTJ Engineering, LLC**  
**Roundabout Experience Summary**

Mark has specialized in modern roundabout design, and intersection alternatives analysis concurrently with his transportation planning, engineering and traffic experience.

Mark has been involved with approximately 100 roundabout projects (and almost as many signalised intersections). These projects have ranged from low volume traffic calming to major high volume intersections and interchanges including both rural and urban locations.

Mark's 12 years of transportation engineering experience including municipal, consulting, and state DOT perspectives allows Mark to quickly understand and meet the specific goals and objectives of each project.

Roundabouts are often controversial and require highly developed design methods to ensure success. Understanding the 'problem' together with proper engineering analysis and design provides the foundation necessary to 'accurately' ascertain the operations and impacts within the context of right-of-way constraints, business access and site circulation, pedestrian and bicycle mobility, cost, and aesthetic treatments.

Mark's ability to 'effectively' communicate with the public, decision makers, elected officials, and engineers is key to a successful implementation strategy. A well-planned project approach and implementation strategy together with an optimal design guarantees a successful project once constructed.

To meet the growing need to implement roundabouts Mark has created the consulting firm of **MTJ Engineering LLC**, to provide planning and design services, presentations and training.

**Roundabout Projects Summary:**

**Rocky Mountain Village, Loveland Colorado, 1995**

While with the City of Loveland, Transportation Engineering Department Mark was the project engineer responsible for this project from concept through final plans. Including the request for proposal preparation, consultant selection through utility and agency coordination for the preparation and completion of final construction plans. The design year volumes of the two roundabouts are 4,000 and 4,500 vph

Contact: Bill Hange, City of Loveland Traffic Engineer, 970/962-2528.

**First Street and Wilson Avenue Feasibility Study, Loveland Colorado, 1997**

Also while with the City of Loveland Mark was the project manager responsible for the completion of a feasibility study and preliminary designs for the evaluation of Modern Roundabouts versus a signalized arterial/arterial intersection design in Loveland, CO. Contact: Bill Hange, City Traffic Engineer, 970/962-2528

### **Boyd Lake Avenue, Loveland Colorado, 1999**

While with the consulting firm of Balloffet and Associates Mark performed the 'out-sourced' development review and completed a technical analysis for the City of Loveland to answer questions related to the appropriateness of utilizing modern roundabouts instead of signals at four intersections along a 1.5 mile section of a major arterial roadway in Loveland Colorado (Boyd Lake Avenue from US 34 to CR 24E).

Key to effort was to determine if the modern roundabouts would significantly reduce the main-line total drive time as compared to the signal alternative. The planning commission approved the roundabout alternative along with the traditional neighborhood project and the first of four modern roundabouts along Boyd Lake Avenue is planned for construction in 2005. Contact: Bill Hange, City Traffic Engineer, 970/962-2528

### **Mulberry / Lemay Intersection, Fort Collins Colorado, 2000**

While with Balloffet and Associates Mark was the lead transportation engineer responsible for preliminary design, feasibility study and final design plans of a major arterial/arterial intersection in Fort Collins, Colorado. Projected design year traffic volumes were 7,500 VPH, and Barry Crown was retained as the roundabout expert. In this project Mark was responsible for an extensive public outreach program involving ~20 public meetings, a website and informational flyer. Mark was principally responsible for completion of the transportation and traffic related issues including business access, pedestrian and bicycle treatments, pavement design, final signing striping and lighting plans and coordinated the project team's technical oversight of Barry Crown on the final horizontal design and striping layout. Contact: Eric Bracke, City of Fort Collins Traffic Engineer 970/224-6062 & Peter Graham, CDOT Project Engineer, 970/667-4670 x-5128

### **State of Wisconsin Projects, 2001- 2004**

Mark joined the Wisconsin Department of Transportation in January of 2001. Mark is the statewide roundabout expert providing technical assistance, public process, consensus building and alternatives analysis expertise on projects throughout the state.

### **Highway 78/92 Intersection, Mount Horeb, Wisconsin**

Mark is the lead engineer responsible for this urban intersection project. Mark completed the alternatives analysis led the public outreach effort and decision-making process. The roundabout alternative avoids residential impacts and preserves improved business access near the intersection as compared to the signalized option. The design hour volumes are 2,600vph in a compact urban setting with constraints on all four corners. The roundabout is under construction and scheduled to open Memorial Day weekend 2004, Contact Pat Dann, Village Administrator 608/437-6884.

### **Highway 30/Thompson Drive Interchange, Madison, Wisconsin**

Mark is the lead engineer responsible for this urban intersection/interchange project from concept through final design. Mark completed the alternatives analysis led the public outreach

effort and decision-making process. The design hour volumes are 4,200vph. The roundabout is scheduled for construction in 2004.

#### **Portage Road/Hanson Road Overpass, Madison, Wisconsin**

Mark is the lead engineer responsible for the alternatives analysis, public process, decision-making and final design. The roundabouts avoid the need for future signalization and yields cost savings through a narrower bridge structure and superior traffic operations for the long-term condition. For these reasons the roundabout alternative was chosen as the preferred option. The design year volumes are 2400VPH and the project is anticipated to be constructed in 2006,

#### **Highway 26/Bernard Street Intersection, Watertown, Wisconsin**

Mark has completed an alternatives analysis, conceptual design and led the planning and public input process. This urban intersection provides access to a significant amount of retail, commercial and fast food uses and consequently is producing a significant amount of congestion and accidents. The roundabout option provides superior business access, lower delay, and will be very safe. Highway 26 carries significant amount truck traffic and therefore the roundabout design must trucks to easily navigate the intersection. The design hour volumes are 3200vph. This project was approved then disapproved.

#### **Highway 54/ 2<sup>nd</sup> Street Intersection, Wisconsin Rapids, Wisconsin**

Mark is responsible for the final horizontal geometry for this tightly constrained and challenging urban re-construct project. The design hour volumes are 2,300vph, construction in 2004.

#### **Wisconsin Projects List**

- STH 78/92, Mount Horeb, WI Alternatives Analysis, Public Process and Final Horizontal geometry, signing and striping, Mount Horeb, Wisconsin (2,600 VPH), Scheduled for construction Spring 2004
- STH 54/ 2nd Street Intersection Analysis, Public Process, Preliminary and Final Design, (2300 VPH) Wisc. Rapids, WI, Scheduled for construction 2004.
- STH 35/ Ridge Road Interchange Final Design Hudson WI (4,200 & 3,700 Design hour Volumes) Scheduled for construction 2005.
- STH 30 / Commercial Ave Interchange, City of Madison WI, Alternatives analysis, public process, final design, scheduled for construction Fall 2004,
- STY 26/Bernard St. Watertown, WI, Alternatives Analysis, Public Process and Preliminary Design (3,200VPH), Contact Joe Radocay, City of Watertown Engineer, 920/262-4050

- Portage Road, Hanson Road Overpass and Alternatives Analysis, Public Process and Final Horizontal geometry, signing and striping (2800VPH), Madison, WI Scheduled for construction 2006.
- STH 124/ Cnty S Chippewa Falls, WI, Alternatives Analysis, Public Involvement, and Final Design, Scheduled for Construction 2005:
- STH 155,Cnty KK Green Bay, WI, Final Horizontal Alignment, Scheduled for const. 2006
- I-43 Moorland Rd Interchange Milwaukee WI (4,500 & 5,700 VPH) Alternatives Analysis, Public Involvement, and Final Design, Scheduled for construction 2006
- City of DePerre, WI (4,500 VPH) Alternatives Analysis, Public Involvement, and Design, Scheduled for construction 2006
- Racine County, WI
- Prairie Du Chien, WI
- Peirce County, WI
- West Bend, WI
- Continued...

### **State of Colorado Projects**

Cosco Retail Site circulatory roadways; final horizontal geometry, signing and striping design Superior, Colorado (1,700 VPH) Constructed June 2000, Contact: Bruce Williams, Town Manager, 303/499-367

Rocky Mountain Village II, Residential Collector intersection, final horizontal geometry, signing and striping, Loveland Colorado (1800 VPH) Constructed July 2001 Contact: Bill Hange, City Traffic Engineer, 970/962-2528

Trimble Hills, Residential Collectors, final horizontal geometry, signing and striping, Loveland Colorado (1,400 VPH) Constructed August 1999, Contact Bill Hange, City Traffic Engineer, 970/962-2528

Fairmont and Valentia Residential Collector, final horizontal geometry, signing and striping Denver, Colorado (1,800 VPH) Constructed 2001, Contact Donna Douville, Denver Public Works, 720/865-3151

Downing-Bayoud Marion Parkway, Urban Residential Collector, Preliminary horizontal geometry, striping Denver, Colorado, Colorado (1,600 VPH) Proposed, Contact Jack Bruce, Nolte and Associates 303/220-9001

Vandehei Avenue, Residential Collector, Preliminary horizontal geometry, signing and striping Cheyenne Wyoming (1,500 VPH) Proposed: Contact: Tom Mason, Director of Transportation, 307/637-6299

### **Summary of Projects - Completed as MTJ Engineering, LLC since Jan, '04**

San Diego County, CA	single lane rural high speed approaches final design
Branson, MS	multi-lane urban final design
Monroe, AL	multi-lane urban final design
Huntsville, AL	multi-lane urban final design
Sagamore Beach, MA:	multi-lane interchange review and concept re-design, and report
Anchorage Alaska:	multi-lane interchange review, report and redesign
St. Charles, MS,	single lane review and redesign
Payson, AZ	multi-lane design for Home Depot Entrance off of State Highway

### **Roundabout Design Training Workshops Attended:**

- Two days of horizontal roundabout design training with Michael Wallwork, Avon Co, October 1995
- Capacity Analysis and vertical aspects of roundabout design training by Ourston and Doctors, Loveland Co, March 1997
- Two days of design and best practices training with Barry Crown, ITE International Roundabout Conference held in Loveland Co, October 1998
- Three days of design, roundabout and design and safety analysis training with Leif Ourston, Vail CO, April 2001
- Three days of planning, design, and review of the FHWA Guide with Kittleson Associates, Wisconsin Dells, WI, June 2001
- One day of best practices training with Barry Crown, Lansing Michigan, June 2002
- Three days of design training with Barry Crown, Milwaukee WI, October 2002
- Pavement marking / Rodel training with Barry Crown, Madison WI, June 2003

- One day of best practices training with Barry Crown, ITE conference Irvine, CA March 29, 2004

### **Roundabout Design Training Workshops Provided as an Instructor:**

- Instructor for a 1 day roundabout training course for The La Cross Area June 2001
- Assistant instructor at three-day Barry Crown training course in Denver, CO May 2003
- Primary instructor for the 2.5 day UW-Madison Engineering Professional Development Course attended by ~60 engineers held in Madison, WI, Feb., 2004.
- Instructor for 3 days of design training provided to the Arizona Department of Transportation June 21-24, 2004 Phoenix, AZ

### **Roundabout Technical Papers and Presentations:**

- 2003 ITE Technical Conference Ft. Lauderdale, FL (240 in attendance)
- Mark has presented to numerous agency heads, boards, councils, commissions, public meetings, industry conventions and workshops over the last 5 years on the subject of Modern Roundabouts (listing available upon request).

### **Overall Engineering Experience Summary:**

- BS Civil Engineering -Transportation Engineering emphasis U.W.-Madison, 1993
- 1994-1998, City of Loveland CO, Transportation Development Review Engineer
- 1998-2001, Consulting firm of Balloffet, Fort Collins CO, Transportation Engineer
- 2001-Present, Wisconsin Department of Transportation, Madison WI, Transportation Engineer
- 2003 -Present, MTJ Engineering, LLC, Madison WI

Mark has received permission from WIDOT to perform private consultancy work. MTJ Engineering incorporated in December '03 obtained professional liability insurance through ASCE and has a fully equipped home office. Software/hardware includes MicroStation V-8, Adobe Pro, HP Design Jet Printer/Plotter, Auto-turn version 4, Microsoft Office Professional, etc

### **Professional Registrations:**

- Registered Professional Engineer in State of Colorado
- Registered Professional Engineer in State of Wisconsin
- Member ITE, ASCE