

Iowa DOT Provides “Expert-on-Hand” Technical Assistance to Promote Roundabouts Across the State

Location

State of Iowa
(Central United States)

Implementation Stage

- ✓ Planning
- ✓ Design
- ✓ Construction
- ✓ Launch
- ✓ Post-Implementation

Roundabout Type/Setting

Single- and multi-lane roundabouts in urban and rural settings

Target Audience

- ✓ Engineers
- ✓ Elected Officials/Managers

Strategies Employed

- ✓ Expert-on-hand
- ✓ Website
- ✓ Managed mailing list

Background

Small localities in Iowa, as in other states, do not necessarily have the resources to staff a full-time traffic engineer dedicated to analysis and design of intersection safety enhancement projects, including roundabouts. The Iowa Department of Transportation (DOT) created an innovative program—the Traffic Engineering Assistance Program (TEAP)—to deliver this very service to help smaller jurisdictions by providing an “expert-on-hand,” who visits the jurisdiction, gathers input from local stakeholders, and makes recommendations to help the agency identify, analyze, and implement traffic safety improvements. In 2004, Iowa DOT expanded its expert-on-hand repertoire to include roundabout analysis, design, and outreach support. They implemented this expansion in response to frequent questions about roundabout feasibility, how to design a roundabout effectively, and how to generate support from the local community.

Approach

The TEAP provides a variety of traffic safety engineering consulting services, including identifying and recommending intersection improvements based on traffic and safety data, dealing with unwarranted traffic control devices, and accommodating pedestrians and bicyclists. Through this program, Iowa DOT also offers no-cost, expert-level roundabout design reviews to any local road agency that needs related technical assistance during any stage of the project delivery process. The program provides up to 100 hours of consulting time to qualifying local agencies with no local match required.

Iowa DOT also provides an educational component led by an Iowa DOT traffic safety engineer, who is available to work with local agencies to help generate stakeholder support for roundabouts from, for example, the general public, local businesses, and elected officials. The traffic safety engineer can attend local community meetings with the general public and/or elected officials as requested.

In 2008, Iowa DOT held two one-day conferences for local engineering staff that brought together engineers and county staff from across the State to provide an

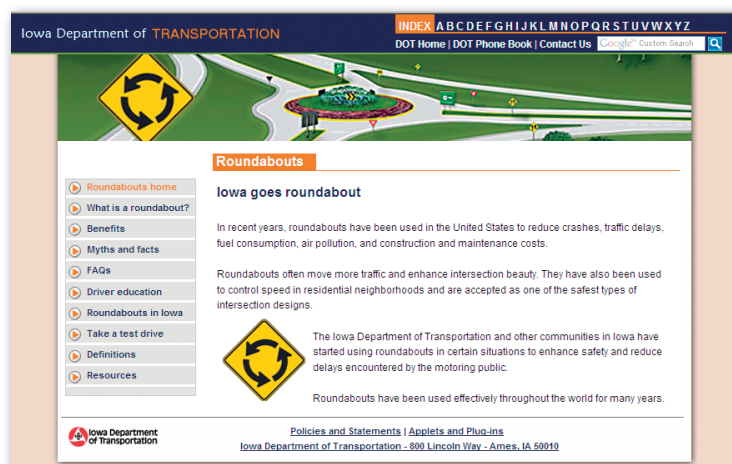


Figure 1: Screenshot of the Iowa DOT roundabout information website.

Before



After



Figure 3: Before and After – County-led project with assistance provided through Iowa DOT’s expert roundabout review program. Black Hawk County, Iowa. Images Courtesy of Iowa DOT

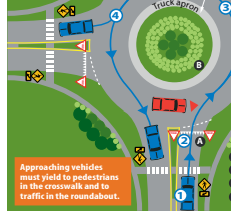
Roundabouts

Roundabouts are intersections that direct traffic in a counterclockwise direction around a center island. They have no stop signs or traffic signals. Yield signs, directional signs and pavement markings guide traffic through the intersection. Traffic generally continues to move, but at a slower speed that reduces traffic backup encountered at traditional intersections controlled by stop signs or traffic signal lights.

Roundabouts are generally safer than other intersections because they tend to reduce head-on, right angle and left-turning traffic crashes. They encourage slower speeds and eliminate left turns across traffic. Roundabouts can improve pedestrian safety by offering a short crossing of one-way traffic moving at slow speeds.

Roundabout ahead sign with advisory speed

Never walk across the circulating lanes in a roundabout to the center island.



This diagram of a single-lane roundabout is an example only and does not represent all roundabout designs.

46 3. Safe Driving Tips

Single-lane Roundabout (see diagram below)

Motorists

- 1 Approach: Slow down to the posted advisory speed. Yield to pedestrians in the crosswalk. They have the right-of-way.
- 2 Enter: As you approach the yield line markings (shark's teeth), yield to vehicles in the roundabout. Wait for a gap in traffic, then merge into traffic in the roundabout in a counterclockwise direction.
- 3 Proceed: Continue through the roundabout until you reach your street. Avoid stopping in the roundabout.
- 4 Exit: Signal, then exit the roundabout to your right. Yield to pedestrians in the crosswalk.

Pedestrians (see diagram below)

- 1 Approach: At the pedestrian crosswalk, look left.
- 2 Cross: Cross to the raised splitter island. Look right. Finish crossing to the opposite sidewalk.

Cyclists

Generally, cyclists should walk their bicycles across the pedestrian crosswalk using the same rules as pedestrians. Experienced cyclists may navigate roundabouts like motorists. Do not hug the curb. Bicyclists using the roundabout should follow the same rules as motorists. Ride in the middle of the lane to prevent vehicles from passing. Yield to pedestrians in crosswalks.

Truck apron:

accommodates the rear wheels of long vehicles

introduction to roundabouts, including an overview of outreach techniques that have been successfully implemented, both in Iowa and elsewhere in the United States. Experts from across the country, including representatives from regions that have successfully implemented roundabouts such as the City of Clearwater (Florida), Washington State DOT, and Kansas DOT, discussed their agencies’ experiences with roundabouts, what worked well, challenges that they faced, and lessons learned.

The Iowa DOT also manages a traffic and safety e-mail list with over 300 subscribers (including university staff, DOT staff, local consultants, and city/county engineering and public works staff), enabling wide, but targeted, distribution of important roundabout-related messages with the click of a button.

Results

Iowa DOT staff believe that this program has worked well, pointing to the various successful roundabout projects and programs around the State. According to Tim Simodynes, traffic safety engineer with Iowa DOT, “If a city is interested in considering a roundabout, they usually have questions. Having experts available to answer those questions correctly is what makes the roundabout outreach a success. The TEAP helps us to do that for jurisdictions of all sizes.”

Because of TEAP, the local municipalities and engineers have changed their perception of roundabouts. “If they are open-minded and you give them the facts, they are usually sold on roundabouts. Naturally...a first reaction is that a roundabout is a bad idea, but it just takes education,” said Mr. Simodynes.

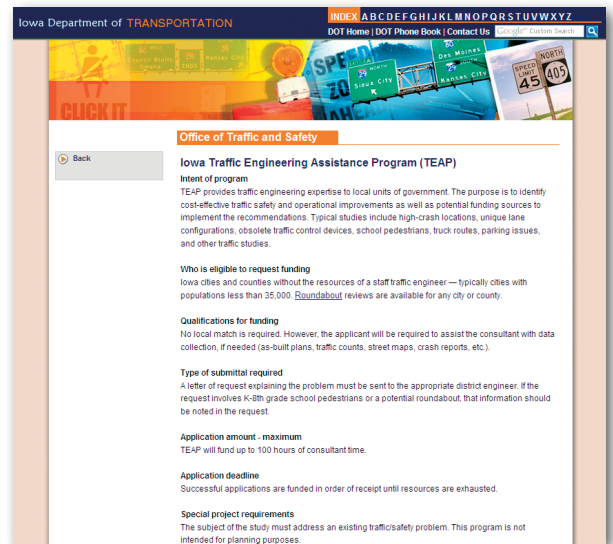


Figure 2: Screenshot of the Iowa DOT TEAP website.

Lessons Learned

In addition to bringing a traffic safety engineer to a public meeting, it can be helpful to show examples of successful roundabout implementations from other comparable regions of the country and provide contact information for those jurisdictions.

Outreach Investment

Iowa DOT considers TEAP to be a very cost-effective choice, because the program costs are primarily for the program engineer’s salary and/or consultant time, relative to the safety benefits that jurisdictions of all sizes reap with the technical and outreach assistance delivered through the program.

Related Products

Websites

- Iowa Goes Roundabout website <https://iowadot.gov/traffic/roundabouts>

Traffic Engineering Assistance Program website

- <https://iowadot.gov/traffic/traffic-and-safety-programs/traffic-engineering-assistance-program-teap>

Learn More

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