

## Continuous Raised Medians

Continuous raised medians with well-designed median openings are among the most important features for managing access to create a safe and efficient highway system.

### What are the advantages of continuous raised medians?

Physical medians prevent accidents caused by crossover traffic, reduce headlight glare distraction, and separate left-turning traffic from through lanes when combined with left-turn lanes. A detailed accident study conducted in Minnesota between 1991 and 1993 indicates that four-lane urban arterial roadways with medians are 40 percent safer than four-lane undivided urban arterial roadways (BRW, Inc., for the Minnesota Department of Transportation, 1998).



Continuous landscaped raised median on 100th Street in Clive, Iowa. Left-turn lanes are provided at intersections at widely spaced intervals.



Iowa Highway 28 (1st Street/63d Street) in West Des Moines/Des Moines after retrofit with a continuous raised median, left-turn lanes at major intersections, driveway consolidation, and some widening of business driveways. Some property was purchased to accommodate a wider right-of-way.

A continuous raised median retrofit project along Iowa Highway 28 in West Des Moines/Des Moines (1st/63d street locally; see above right) reduced crashes by about 51 percent. Prior to project completion, the crash rate was about 6.7 per million vehicle miles traveled (VMT). After project completion, the crash rate declined to 3.3 crashes per million VMTs, a figure indicative of a very safe roadway. This experience is consistent with other projects studied in Iowa.

By removing left-turning vehicles from through traffic, continuous raised medians with left-turn lanes at intersections and major driveways help maintain roadway operating speed. This, in turn, reduces fuel consumption and tailpipe emissions. The Iowa Highway 28 project improved the flow of traffic and reduced congestion problems associated with stopped left-turning traffic. The corridor can now successfully accommodate higher traffic levels without an increase in safety problems.

Other advantages of continuous raised medians are that they (1) discourage strip development, (2) allow better control of land uses by local government, (3) provide better pedestrian protection than undivided roadways, painted islands or two-way left turn lanes, and (4) provide space for landscaping and other aesthetic treatments.

### **When are continuous raised medians most effective?**

Continuous raised medians are most effective on roadways with high traffic volumes and high driveway densities. To ensure the greatest positive impact on safety and operations, this approach should be combined with a driveway consolidation program.

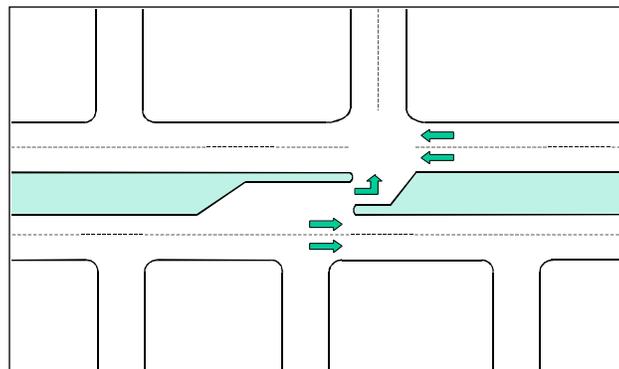
### **What are the disadvantages of continuous raised medians?**

Continuous raised medians tend to limit property access and may force motorists to make circuitous routes to reach minor destinations, thereby increasing their travel time. Continuous raised medians may concentrate left turns and increase the frequency of U-turns. Roadways with continuous raised medians also require a wider right-of-way than do undivided roadways.

Because of such limitations, businesses and land owners will oppose a raised median project if they believe it will limit access to their property, especially if they perceive it will block customers trying to make left turns into their property. Therefore, it is important to involve all major stakeholders in key design and construction decisions—especially when retrofitting existing roadways. If properly done, the public outreach program should result in a project that is acceptable to all major stakeholders. Raised medians do not necessarily hurt business vitality. See FAQ #8, “Benefits of Access Management.”

### **What are other design considerations of continuous raised medians?**

When medians extend the full length of a road, the spacing of intersections and median breaks are crucial to providing access to properties on both sides of the road. Median breaks should generally only be provided at public road intersections or at driveways shared by several businesses. They should generally not be provided for access to individual businesses or residences. The number of median breaks should be kept to a minimum since they add conflict points and detract from safety.



The directional median break allows for left turns onto the side street. The median prevents vehicles from crossing the arterial and making left turns from side streets onto the arterial.

On major arterials, the Florida Department of Transportation recommends one-half mile spacings between full median openings and one-quarter mile spacings between directional median openings. On minor arterials, it recommends one-quarter mile spacings between full median openings (for posted speed limits under 45 miles per hour) and one-eighth mile spacings between directional openings. Median openings should never be built into the functional areas of other median openings or intersections.

### **Where is there more information on related issues?**

See FAQ # 19 (“Comparison of Raised Medians and Two-Way Left-Turn Lanes”), FAQ # 17 (“Raised Medians at Intersections”), FAQ #21 (“Dedicated Left and Right Turning Lanes”), and FAQ #6 (“Conflict Points”).