Are Roundabouts Good for Business?

TRB National Roundabout Conference
May 23 - 25, 2005
Alex J. Ariniello, Dan Hartman
Now it looks like this
Background

City of Golden

- 17,000 people
- Colorado School of Mines
- Coors Brewery
South Golden Road

Suburban Highway

- Four Travel Lanes
- Center Turn Lane
- Wide Parking/Shoulders
- 84 feet in Width
- Driveways allowed indiscriminately
Strip Retail Area

Businesses, including

- Several Fast Food Restaurants
- Small Shopping Center
Safety Concerns

- Unrestricted Access
- Center Turn Lane
- Width of roadway encouraged speeding
- Was difficult to cross
Impetus To Project Start

- Development proposal for a shopping center
- Need for a traffic signal at Utah Street
City Objectives for South Golden Road

- Reduce vehicular conflicts and increase safety
- Create a more aesthetically pleasing area
- Create a more pedestrian-friendly environment
- Reduce delays for entering traffic at Utah Street
- Reduce queue delays to reduce travel time
Initial Concept for South Golden Road

• Narrow the roadway
• Provide medians and wide detached sidewalks
• Construct two roundabouts at Utah Street and Ulysses Street
City Reaction

- Receptive to roundabout concept
  - Traffic calming aspects
  - Obvious operational qualities of roundabout concept
  - Ease of U-Turns at the roundabouts
  - Requested addition of a third roundabout
Selling the Roundabout

- Biggest opponent was King Soopers, the major tenant of the new shopping center
- City offered to tear roundabout out if sales revenues didn’t meet expectations
Selling The Roundabout

- Meeting with local merchants
- Fourth roundabout
Implementation

- Ulysses roundabout constructed on fast track schedule
- Opened in November, 1998
- King Soopers exceeded its sales projections
- The other three roundabouts were completed in 1999
# Roundabout Dimensions

<table>
<thead>
<tr>
<th>S. Golden Road Roundabouts</th>
<th>Inside Diameter</th>
<th>Outside Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulysses Street (single-lane)</td>
<td>90</td>
<td>145</td>
</tr>
<tr>
<td>Utah Street</td>
<td>50</td>
<td>105</td>
</tr>
<tr>
<td>Lunnanhaus Drive</td>
<td>50</td>
<td>105</td>
</tr>
<tr>
<td>Johnson Road</td>
<td>100</td>
<td>155</td>
</tr>
</tbody>
</table>
Project Costs

The 3/4 mile long project cost 1.3 million. This included:

- Four Roundabouts
- Roadway Reconstruction
- Medians, Detached Sidewalks, Utility Relocations
- Design and Landscaping
Accident History

Pre-Roundabout

Post-Roundabout

Number of Accidents

Year


National Roundabout Conference 2005 DRAFT
Slower Speeds  
But Faster Travel Times

Prior to roundabouts:
• 2 traffic signals
• Average travel time of 78 seconds
• With 3rd signal  
Predicted travel time of 103 seconds

After The Roundabouts:
• Travel time reduced to 68 seconds
### Business Access

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
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</thead>
<tbody>
<tr>
<td>Average Delay at Access Points</td>
<td>28</td>
<td>13</td>
</tr>
<tr>
<td>Maximum Delay at Access Points</td>
<td>118</td>
<td>40</td>
</tr>
</tbody>
</table>
Other Examples

- Roundabouts
  - Gaining Acceptance by Business Community

Superior Marketplace
Superior, Colorado

750,000 SF Shopping Center

3.5.2005
Promontory, Greeley, CO

Mixed Use Development
670 acres
5,000 employees
1,500 Dwelling Units
300 SF Retail

Promontory, Greeley, CO
Douglas County, CO

Transit-Oriented Development
1,200 Acres
2,000 Dwelling Units
5 million SF Office/Retail
Major Hospital
Light Rail Station

School
Rec. Center

Future Light Rail Station
Sales Tax Revenues

- 60% increase in sales tax revenues
- Only area in Golden to experience continued sales tax growth

FIGURE 3
Yearly Sales Tax Revenue
Summary and Conclusions

• Roundabouts in a Strip Commercial Area
• Slower Speeds, Faster Travel
• Reduced Delay at Access Points
• 88% Reduction in Accident Rates
• 60% Increase in Sales Tax Revenues
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Golden's Answer is Yes!