

**Bicycle & Pedestrian Advisory Commission
Agenda**

November 4, 2011

7:00 a.m.

**Madison Avenue Meeting Room
500 SW Madison Avenue**

Call Meeting to Order/Introductions

- I. Approve October 7, 2011 Minutes (attachment)
- II. Visitors Comments
- III. Old Business
 - None
- IV. New Business
 - Benton County, 53rd St/West Hills Rd. Roundabout Alternative
- V. Information Sharing
- VI. Commission Requests and Reports
- VII. Pending Items
 - Draft Bicycle Parking Monitoring Strategy
 - Draft Corvallis Bicycle and Pedestrian Safety Implementation Strategy
 - Colored Bike Lane Presentation
 - Bikelanes w/Diagonal Parking Presentation
 - Bike Parking Standards Review

Commission Members:

Brad Upton, Chair

Jeanne Holmes

Charles Fletcher, Vice Chair

Cora Borradaile

Susan Christie

Evan Sorce

Dan Herford

Mike Beilstein, City Council Liaison

Next Meeting: December 2, 2011

Bicycle & Pedestrian Advisory Committee (BPAC)
Meeting Guidelines

In order to ensure that BPAC meetings are run efficiently and effectively, the following guidelines have been adopted:

- A. Placards with Commission members names will be placed on the meeting room tables and members grouped near the head of the table. This will allow visitors, consultants, and visiting Councilors, etc., to be aware of who the Commission members and support staff are.
- B. All members, visitors and others wishing to ask questions or participate in a discussion must raise their hand, be recognized by the chair (vice or acting chair) and called upon (in order) before participating.
- C. Visitors comments at the beginning of the meeting:
 - 1. Visitors comments will be taken from approximately 7:15 a.m. to 7:30 a.m. (15 minutes).
 - 2. Visitors comments are limited to items which are not on the agenda.
 - 3. The members will decide what to do with the visitors comments, i.e., request that staff research them, put them on the next month's agenda, thank him/her for their comment and take no action, etc.
 - 4. Visitors comments will not be discussed at length during the meeting. Rather, a determination will be made as to how best to address the visitors issue/comment.
- D. Visitors discussion/participation on specific agenda items:
 - 1. The presenter (staff, consultant, Commission member, etc.,) will report on the agenda item.
 - 2. The presenter will then take questions first from Commission members and staff.
 - 3. Visitors may then make brief comments and/or ask specific questions of the presenter regarding the item.
 - 4. The chair (vice or acting chair) will decide (based upon time constraints, etc.,) when to end the visitor participation on agenda items.
 - 5. Commission members will then discuss the item with no further visitor participation.
 - 6. The members will then take action on the item.

**BICYCLE AND PEDESTRIAN ADVISORY COMMISSION
MINUTES
October 7, 2011
DRAFT**

Present

Brad Upton, Chair
Susan Christie
Charles Fletcher
Glencora Borradaile
Jeanne Holmes
Mike Beilstein, City Council

Absent

Dan Herford
Evan Sorce

Staff

Greg Wilson, Public Works

Visitors

Mary Steckel, Public Works
Greg Gescher, Public Works
Greg Bennett
George Brown, Tunison Neighborhood Assoc.
Jim Bowey
Walt Prichard, Mid Valley Bike Club
Laura Duncan Allen
Joel Spector Corvallis Bicycle Collective

SUMMARY OF DISCUSSION

Agenda Item	Information Only	Held for Further Review	Recommendations
I. Call Meeting to Order/ Introductions	X		
II. Review of September 2, 2011 Minutes			Approved
III. Visitor Comments	X		
IV. Old Business • Update on Suzanne Wilkens Way path			BPAC decided to not support advancing this project as proposed
V. New Business • None			n/a
VI. Information Sharing	X		
VII. Commission Requests and Reports	X		
VIII. Pending Items			n/a

CONTENT OF DISCUSSION

I. Call Meeting to Order/ Introductions

Chair Upton called the meeting to order and those present introduced themselves.

II. Review of Minutes

Commissioner Christie moved to approve the September 2 minutes as drafted. Commissioner Borradaile seconded the motion, which passed unanimously.

III. Visitor Comments

Visitor Greg Bennett stated that he was happy to see that the Corvallis Area Metropolitan Planning Organization's recent educational advertisements about bicycle safety. He encouraged the Commission to close the gaps of the remaining 3% of roads that do not yet have bicycle facilities.

Visitor George Brown of the Tunison Neighborhood Association asked BPAC to write a letter of support to the Capital Improvement Project (CIP) Commission supporting their proposal to construct a bike path from Avery Park to the Tunison neighborhood. Chair Upton stated that the Commission supports the concept of a multi-use path on the west side of Highway 99W. Mr. Brown stated that he had hoped for a written statement, but Chair Upton was uncomfortable with writing a letter moving this project to the top of the CIP list, above the projects that the BPAC had already prioritized. Chair Upton also stated that he is willing to attend the CIP meeting to show support for this project. Mr. Brown asked if he could draft a letter to bring to BPAC's November meeting for them to sign. Mary Steckel, Interim Public Works Director, pointed out that simply getting a project on the CIP list does not guarantee that project will get funding to go forward.

IV. Old Business

Update on Suzanne Wilkens Way path

City Engineer Greg Gescher and Mary Steckel presented ODOT's proposal for the Suzanne Wilkens Way path. It states that if the City designs improvements for the path, ODOT will construct it in the next phase of the Highway 34 project. Staff will be going to the City Council with a recommendation on whether or not to enter into an intergovernmental agreement with ODOT. If the project is to move forward, the City's work needs to be done this fiscal year. The Commissioners discussed the various issues that would ideally be addressed with this project: path flooding, the width of the Van Buren Bridge, ADA grades not being met, and the bi-directional shoulder. Of these, only the grading will be addressed by improvements to the Suzanne Wilkens Way path. Visitor Jim Bowey expressed concern that ODOT plans to keep the path at 10 feet wide. Visitor Greg Bennett stated that ODOT is not doing what it committed to do according to the explicit standards that the stakeholders and decision-makers set for bicycle and pedestrian standards. Visitor Walt Prichard expressed concern with both the width of the path and the way it ends in a gravel lot; Mr. Gescher stated that paving that area is part of ODOT's plan. Laura Duncan Allen stated that a two-way multi-modal path is needed from the Van Buren Bridge to the Flomacher building. She suggested performing a traffic study to determine how many bicyclists and pedestrians use the Van Buren Bridge. Finally, she suggested building stairs to allow pedestrians to access the park. Ms. Steckel stated that there are also cultural and archaeological concerns within the project area, and Mr. Gescher noted that utility relocations may also be needed to construct the project. The Commission agreed with Staff's recommendation to not support this project. Chair Upton clarified that he and BPAC agree that improvements need to be made. However, focusing on just one aspect of the overall needed improvements is not a good option.

V. New Business
None.

VI. Information Sharing

Commissioner Christie reported that the Mid-Valley Bike Club solicited input from citizens at the Fall Festival and heard consistent concerns about wrong-way riding on Kings Boulevard near the Timberhill shopping center and on 9th Street. Commissioner Christie also reported that citizens are asking for a traffic light at the intersection of 35th Street and Campus Way, similar to the one that used to be at the 53rd Street end of the path.

Mr. Prichard stated that this is also an issue on Highland Drive. He stated that there used to be a police presence in the schools to help educate students about proper riding. Councilor Beilstein stated that the City no longer has funding for school resource officers, but the County does have a deputy assigned to Crescent Valley High School. He suggested Mr. Prichard talk to the Sheriff about this issue.

Commissioner Borradaile reported that Oregon State University added 500 new covered bike parking spaces on campus and that they are usually full. She also stated that a parent at Jefferson Elementary School reported that 84% of the kids at Jefferson walked or biked to school on October 5 for National Bike and Walk to School Day.

Commissioner Christie said people have expressed concern about having to ride counter-flow to and from the Bicycle Collective on Highway 34. One suggestion was to talk to Parks and Recreation and ODOT about creating a path for use by Bicycle Collective patrons. The path would connect between the bypass signal at Hwy 34 and the back (west) side of the Flomacher site. Visitor Joel Spector from the Bicycle Collective stated that he has talked to Parks and Recreation staff, who have been resistant to the idea. Mr. Wilson stated that he will make contact with Parks and Recreation to begin a discussion.

Mr. Wilson reported the following:

- Leaf sweeping will begin on October 31.
- ODOT has completed striping the Harrison Boulevard bridge.
- The final overlay of Highway 20 is complete. All that needs to be done is striping.
- In the recent census, Corvallis was number one in bike commuting and number two in walking nationally.
- Staff is considering resubmitting the Walk Friendly Community paperwork, after being given a bronze rating.
- 9th Street will be completed and reopened by October 14.
- A second round of ODOT Flex Funds applications is happening at the end of October. Staff is resubmitting applications for the Sidewalk Infill project and the Pedestrian Activated Crossings on 9th Street, Walnut and Highland Drive
- World Car Free Day was a big success!
- Corvallis was victorious in the **Bicycle Transportation Alliance's (BTA)** September Bike Commute Challenge against Albany, Linn-Benton Community College, and CH2MHill.

VII. Commission Requests and Reports

None.

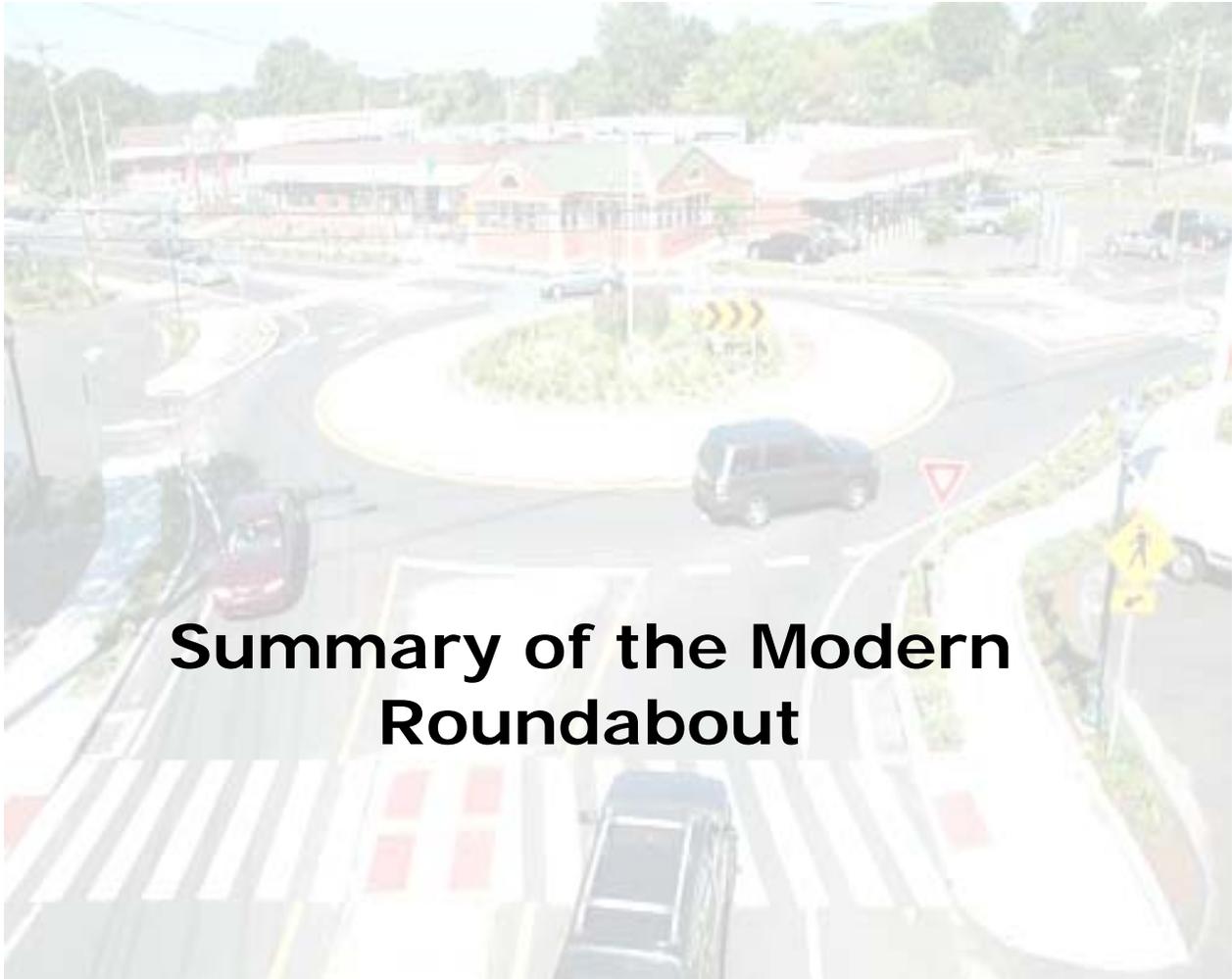
VIII. Pending Items

The meeting was adjourned at 8:30 a.m.

NEXT MEETING: November 4, 2011, 7:00 a.m., Madison Avenue Meeting Room



Benton County Public Works October 2011



Summary of the Modern Roundabout

Picture credit: <http://www.strans.org/roundabouts.html>

This document is compiled from numerous resources and studies that are available on the internet as well as anecdotal evidence. It is intended to provide the reader who is currently unfamiliar with modern roundabouts an overview about how a roundabout works, differences between a roundabout and a traffic circle, and general safety considerations.

Summary of the Modern Roundabout

By Laurel Byer, PE
County Engineer

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Introduction

This document was generated as part of a public information outreach effort on the proposed use of roundabouts as an appropriate traffic management option within Benton County. In general, the community has not viewed roundabouts as a favorable alternative which is a typical initial reaction in communities that have installed roundabouts. Once a roundabout is installed and in operation, the community has found that it is a safe, viable option. Benton County put together this document to address the most prevalent concerns and safety issues. We hope you find this information useful. At the end of the document are links for more information on the internet.

Issue: Roundabout vs. Traffic Circle

Roundabouts are circular intersections where traffic flows around a central island. There is a circular roadway around the large central island where all vehicles travel counterclockwise. Vehicles entering the roundabout yield to those already circulating in the intersection. Vehicle speeds are generally 15-25 mph and the goal is to keep traffic moving through the intersection.



There are multiple benefits to using a roundabout:

1. **Increased Safety** - Slower, consistent traffic speed (15-25 mph) and elimination of dangerous left turns make roundabouts a safer option for bicyclists and pedestrians as well as drivers. Additional safety measures for pedestrians include location of cross-walks at least one car-length away from the actual roundabout and pedestrian refuge islands between lanes on approach roads.
2. **Improved operation** - Roundabouts eliminate unnecessary idling at red lights and stop signs. By increasing intersection capacity, the need to widen the entire section of street goes away. In other words, a two-lane road with a roundabout is often more efficient than a four-lane road with a traffic signal because the traffic flows smoothly through the intersection.

3. Aesthetics - Increased landscaping opportunities on the central island and splitter island can improve the overall appearance of the intersection.
4. Fuel Savings- Because vehicles do not have to stop at red lights and stop signs, there is significant fuel savings over time. This is better for our pocket-books and the environment.
5. Better for the Environment - By eliminating unnecessary stopping and traffic lights, roundabouts reduce fuel consumption and improve air quality. Roundabouts cut hydrocarbon emissions at intersections by as much as 42%. A roundabout requires fewer travel lanes for turn movements and therefore may have less of an impact on the surrounding area.

Traffic circles are raised islands, placed in intersections, around which traffic circulates. They are good for calming intersections, especially within neighborhoods, where large vehicle traffic is not a major concern but speeds, volumes, and safety are problems.

Advantages:

- Traffic Circles are very effective in moderating speeds and improving safety
- Placed at an intersection, they can calm two streets at once

Disadvantages:

- They are difficult for large vehicles (such as fire trucks) to circumnavigate
- They must be designed so that the circulating lane does not encroach on the crosswalks
- They may require the elimination of some on-street parking
- Landscaping must be maintained, either by the residents or by the municipality

In the early 1990's, the neighborhoods near the intersection of 10th and Grant in Corvallis were experiencing significant cut-through traffic on 10th Street at the expense of their livability. They approached the City for assistance in re-directing and slowing down traffic. A system of speed humps on 10th Street and a traffic circle at the intersection of 10th and Grant were installed on a trial basis. After almost a year of operation, the intersection was re-studied and it was determined that the number of cars decreased by approximately 15% and average speeds were lowered from 28 mph to 25 mph. Based upon written comments, the community was not supportive of the traffic circle; however, the neighborhood wanted the traffic calming to stay because they felt the safety and livability of their neighborhood improved.

Issue: If it Ain't Broke...

Some of the comments we hear from the public are, "If a traffic signal works, why use a roundabout?" and "There will be more accidents because nobody knows how to drive in a roundabout." However, studies have shown that it is just not true. Roundabouts have fewer conflict points and lower speeds compared to conventional intersections, resulting in a significant overall reduction in the severity of crashes for all users.

A 2001 study by the *Insurance Institute for Highway Safety* showed that the conversion of 23 intersections from traffic signals or stop signs to roundabouts **reduced fatal crashes by 89%, injury crashes by 76%, and all crashes by 39%**. Another study by the *New York State Department of Transportation* showed a 75% decrease in injury crashes and a 37% decrease in total crashes at 35 intersections that were converted from traffic signals to roundabouts. The crashes in a roundabout tend to be 'fender benders' compared to the much more severe 'T-bone' crash typical at a signalized intersection.

Human nature is a strong force and it has a single overwhelming purpose to keep us and our loved ones safe. We are trained throughout our lives to discern between what is okay, and what is dangerous. When you accidentally touched the hot stove as a child, you put it in your memory banks that it hurt and not to do it again. When you strayed too far from your parents and they called you back with that tone of worry and fear in their voices, your subconscious took note. Generally, the lesson learned was "if it is unfamiliar, it could be dangerous. Only trust the things you know." This can also be applied to the introduction of a roundabout into a community as it is common for the community to be opposed to a roundabout before construction. However, once it is built, the public perception shifts.

Public Attitude Toward Roundabouts Before And After Construction*

Attitude	Before Construction	After Construction
Very Negative	23%	00%
Negative	45%	00%
Neutral	18%	27%
Positive	14%	41%
Very Positive	00%	32%

* taken from U.S. Department of Transportation statistics

There is currently one roundabout within the boundary of Benton County and it is located in North Albany at the intersection of North Albany Road and Gibson Hill Road. City of Albany staff stated that public opposition was similar to the above statistics and approximately 70% of the local residents were opposed to the installation of the roundabout in North Albany. Some of the objections were:

- It's a European idea that won't work in the US.
- Drivers get trapped going in circles forever.

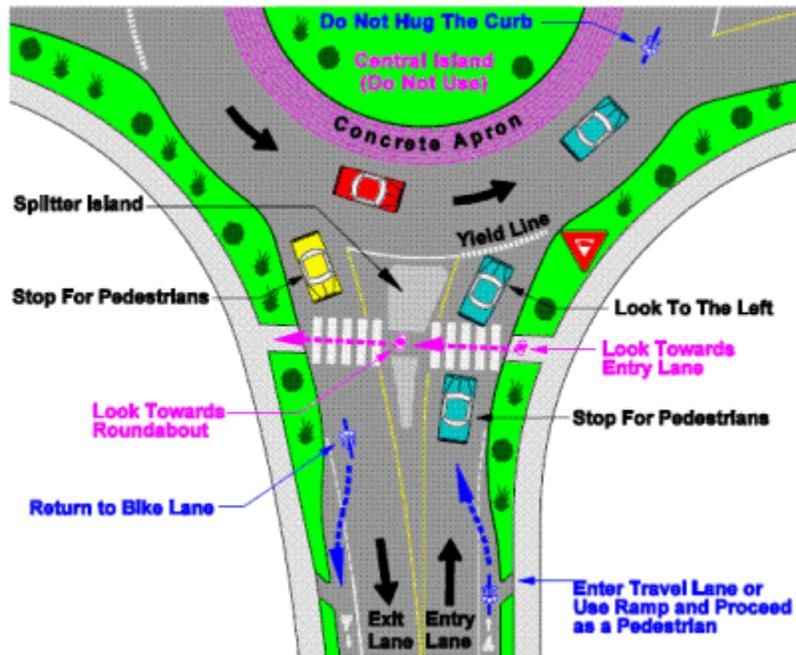
- It's going to have a high crash rate and be a safety problem
- It will cause congestion.
- US drivers don't know how to use them.
- Trucks won't be able to navigate them.

City staff speculates that the split has probably reversed and about the same percentage of residents that were opposed now support it. The City Council feels that it has worked well and have been willing to consider adding more roundabouts at locations where they have an operational or safety advantage. The City opened a new roundabout this past summer on Knox Butte Road east of Goldfish Farm Road. The new one is intended to provide both vehicle and pedestrian access to a new elementary school.

The North Albany roundabout operates substantially better from both a capacity and safety perspective than a signal. In addition, the City has seen pretty big benefits for pedestrians. The yield rate by drivers is extremely high and combined with the low circulating speeds it makes it a very safe pedestrian crossing point. That advantage is one of the reasons the City went with a roundabout on Knox Butte last summer. The City of Albany has two more roundabouts in the planning stage with no firm construction date.

Issue: How Does a Roundabout Work?

A roundabout is a circular intersection. Traffic maneuvers around the circle in a counterclockwise direction, and then turns right onto the desired street. All traffic yields to vehicles in the roundabout and left-turn movements are eliminated. Unlike a signalized intersection, vehicles generally flow and merge through the roundabout from each approaching street without having to stop. Vehicle speeds are generally 15-25 mph and the goal is to keep traffic moving through the intersection. In general, the approach lanes (also called splitter lanes) to the roundabout are designed to slow the vehicle down prior to reaching the crosswalk.



Driving vehicles in a roundabout:

1. Slow down. Watch for and obey traffic signs.
2. Yield to pedestrians and bicyclists as you enter and exit the roundabout.
3. Look to the left for traffic.
4. Enter when it is safe.
5. Keep your speed low and stay in your lane within the roundabout (do not pass or change lanes within the roundabout).
6. Exit carefully to your destination. Use your right-turn signal, in front of the splitter island just prior to your exit, to indicate your intention to exit.

Issue: Bicycle and Pedestrian Safety

Proper accommodation of pedestrians and bicyclists in roundabouts represents an area of continuing research and development. Properly designed roundabouts include sufficient deflection and splitter islands at the approaches to slow vehicles. The literature shows that, given a properly designed single-lane roundabout, motorist and pedestrian safety is almost always improved when compared to conventional intersections. Roundabouts have fewer conflict points and lower speeds compared to conventional intersections, resulting in a significant overall reduction in the severity of crashes for all users.

As with conventional intersections, a cyclist using a roundabout can proceed either as a motor vehicle or as a pedestrian using the sidewalk and marked crosswalks. If proceeding as a motor vehicle, merging with traffic is required at the entry. This may take some skill and judgment but is not unlike traveling through a conventional intersection. Motorists must detect cyclists upon entry, circulating and exiting so as not to merge into or turn in front of them. Properly designed single lane roundabouts reduce vehicle speeds sufficiently so that most cyclists feel comfortable sharing the road. Marking bicycle lanes through the roundabout has not been shown to be safer.



This single lane roundabout in Grand Junction, Colorado, shows how bike lanes are handled. The cyclist has two options- either use the ramp up onto the sidewalk and proceed more as a pedestrian or take the center of the lane and go around just as a motor vehicle. Bike lanes are not striped around modern roundabouts because of the risk of collisions due to blind spots.

Driving bicycles in a roundabout:

1. If you are riding on the shoulder or bike lane, merge into the traffic lane before the shoulder ends.
2. Signal your intent to move into traffic.
3. Once inside the roundabout, don't hug the curb.
4. Ride close to the middle of the lane to prevent cars from passing and cutting you off.
5. Watch for cars waiting to enter the roundabout, as they may not see you.
6. If you do not want to ride your bike in the roundabout, use the sidewalk and proceed as a pedestrian.

Additional safety measures for pedestrians include location of cross-walks at least one car-length away from the actual roundabout and pedestrian refuge islands between lanes on approach roads. The splitter islands at roundabouts allow pedestrians to cross one direction of traffic at a time. This is a significant advantage over conventional intersections. If motorists do not yield to pedestrians at the crosswalk, pedestrians must select a gap in traffic before crossing.



Splitter islands allow pedestrians to cross one direction of traffic at a time.

Photo: www.pedbikeimages.org.

People who are visually impaired must be able to detect where and when to cross, be able to stay in the crossing area, and detect and exit the crossing. Properly designed and installed curb ramps and warning devices at the sidewalk sides of the crossing and in the splitter island aligned with the crosswalks can help address detecting where to cross and exit. The alignment along with highly visible crosswalk markings can assist pedestrians in staying in the crossing.

Overall, single-lane roundabouts can work well for most cyclists and pedestrians if properly designed and implemented. Lower operating speeds compared to conventional intersections reduce the overall severity of crashes that may occur.

Issue: Senior Driver Safety

Intersections are dangerous places for drivers of all ages, and they pose a special risk for older drivers. According to several studies by the Insurance Institute for Highway Safety, drivers ages 65-69 are more than twice as likely to be in fatal multivehicle intersection crashes as drivers ages 40-49. Drivers 85 and older are about 11 times more likely than these younger drivers to be in fatal multi-vehicle intersection crashes. The problem seems to be related to situations when the older driver must evaluate changing information from the left and right before pulling into the intersection. For instance, at a stop sign the driver must check for traffic on the left, then check for traffic on the right, and pull into the intersection when it is safe. Compared with drivers ages 35-54 and 80 and older, drivers ages 70-79 made more evaluation errors -- seeing another vehicle but misjudging whether there was adequate time to proceed. In contrast, drivers 80 and older predominantly failed to see or detect the other vehicle.

As we age our hearing, vision, reaction time, thought processes, ability to attend to tasks, and the ability to maintain attention decline. Because the number of older drivers is projected to increase (approximately 20 percent of licensed drivers in the United States will be age 65 and older by 2020) it is important to identify ways to reduce the frequency and severity of their intersection crashes. Improved side impact protection, especially airbags, will help protect older drivers from serious injury in intersection crashes, researchers note. Lowering their crash involvement likely will involve reducing or simplifying the situations in which they must make quick decisions. Countermeasures to reduce crash risk include signals with full left-turn protection, four-way stop signs, and roundabouts.

Roundabouts may help to reduce failure-to-yield crashes at intersections, especially among older drivers, since they serve to slow traffic and organize it into a safer pattern. Research has indicated that when roundabouts are compared to traditional intersections, drivers exhibit increases in selective attention, divided attention, perception and reaction time.

Issue: Transit, Emergency Services, and Delivery Trucks

It is all about design. Additional width required to accommodate the turning paths of larger vehicles, semi-trailers, and buses can be provided by designing the outer portion (truck apron) of the central island for encroachment. This is done by placing mountable curbs along the central island radius at least two inches in height to discourage regular vehicle traffic. The encroachment area, between this curb and the raised portion of the central island must be designed as load bearing pavement. When an emergency services vehicle enters the roundabout, regular vehicle traffic should continue through the roundabout and then pull over to the right to let them pass.



Issue: Construction and Maintenance Costs

The cost for a landscaped roundabout varies widely and can range from \$45,000 to \$150,000 for neighborhood intersections and up to \$250,000 for arterial street intersections, not including additional right-of-way acquisition. The average initial cost of installation of a traffic signal is around \$200,000. Yet roundabouts have lower ongoing maintenance costs than traffic signals.

The Big Issue: SW West Hills Road and 53rd Street

Benton County Public Works is investigating the feasibility of a roundabout at the intersection of SW West Hills Road and SW 53rd Street. The intersection currently meets warrants (engineering requirements) for the installation of a traffic control treatment (signal or roundabout). Currently, the Level of Service on West Hills Road is failing and traffic backs up as they wait for gaps in the traffic on SW 53rd Street. With over eight thousand cars a day, it can take a while for those gaps to appear, so drivers are taking chances. The proposed roundabout is similar in design to the roundabout located in Albany at Knox Butte Road and Timber Ridge Street.

Benton County staff held an Open House for this and other projects along the West Hills and 53rd Street corridor in February of 2010. In general, the public is not in support of installing a roundabout. However, Benton County has support for pursuing a roundabout at this intersection from the Benton County Roads Advisory Committee, the Corvallis Area Metropolitan Planning Organization (CAMPO) Technical Advisory Committee, and the CAMPO Policy Board. The County is seeking additional support through both the City and County Bicycle and Pedestrian Advisory Committees and the Corvallis Citizen's Advisory Commission on Transit. The next step will be to present the findings to the City Council for their support and then to the County Commissioners for a final decision.

Sources and Links:

<http://trafficalming.org/measures/traffic-circles/>

<http://www.strans.org/roundabouts>

<http://www.walkinginfo.org/engineering/roadway-roundabouts.cfm>

<http://www.bicyclinginfo.org/faqs/answer.cfm?id=3454>

http://www.safeandmobileseniors.org/pdfs/You_Want_a_Revolution.Time_9-15-08.pdf

<http://safety.fhwa.dot.gov/intersection/roundabouts/>

<http://forestlaketimes.com/2011/02/08/roundabout-could-have-positive-benefits-for-seniors/>

<http://www.dot.state.mn.us/roundabouts/>

http://www.slate.com/articles/life/transport/2009/07/dont_be_so_square.single.html

<http://www.roundaboutsusa.com/>

<http://www.iihs.org/>

http://www.oregon.gov/ODOT/HWY/ENGSERVICES/roundabout_home.shtml

<http://www.kittelson.com/toolbox/roundabouts>

<http://www.fhwa.dot.gov/publications/research/safety/00068/>

<http://www.co.benton.or.us/pw/index.php>