

**SPECIAL JOINT MEETING OF
VILLAGE OF PLEASANT PRAIRIE
VILLAGE BOARD OF TRUSTEES
AND THE
PLEASANT PRAIRIE PLAN COMMISSION
9915 39th Avenue
Pleasant Prairie, WI
February 9, 2006
5:00 p.m.**

A Special Joint Meeting of the Pleasant Prairie Village Board and Pleasant Prairie Plan Commission was held on Thursday, February 9, 2006. Meeting called to order at 5:00 p.m. Present were Village Board members John Steinbrink, Alex Tiahnybok, Steve Kumorkiewicz, Jeff Lauer and Michael Serpe. Present were Plan Commission members Tom Terwall; Michael Serpe; Donald Hackbarth; Wayne Koessl; Jim Bandura; John Braig; Larry Zarletti; and Judy Juliana. Eric Olson was absent Also present were Mike Pollocoff, Village Administrator; and Jean Werbie, Community Development Director; Peggy Herrick-Asst. Planner/Zoning Administrator and Tom Shircel-Asst. Planner/Zoning Administrator.

1. CALL TO ORDER

President Steinbrink convened the Village Board and Trustee Serpe convened the Plan Commission

2. ROLL CALL.

3. NEW BUSINESS

A. A Working Session conducted by the Wisconsin Department of Transportation on STH 165 and Roundabouts.

Vida Shafer:

Thank you everybody for coming and taking the time to participate in this project. I'd like to introduce myself. My name is Vida Shafer, and I'm the project manager for the Wisconsin DOT. My supervisor of planning is Bob Anderson, and our consultants are here, Persad Norian, Chris Rosmiller and Tom Foight. They're kind of intermixed within the group.

First of all I just wanted to recap where we left off last October. We had a public meeting. We sent over 1,000 invites. We put two notices in the paper. We had about 118 people sign into the public meeting. We received 64 written comments, which you should have. Are they being passed around? This is a summary of the comments that we've received. Over half of them focus on three major things which we'd like to focus on today. One is the median width being too wide. The majority--the major loss of property due to the right of way impact, and the concern for safety because the highway is closer. So we're not going to go through just one at a time. Hopefully we'll address most of these concerns at the public meeting, at the next public meeting.

In the time that we've collected the comments, we sat down and a group of our project team came together, our traffic operations engineers got together, we invited some people from our central

office, and we really wanted to brainstorm on ways to possibly reduce the right of way out here because that was a major concern of everybody at the public meeting. First of all, after discussions with the Village, it was decided to remove the 12 foot multi use path that was shown on the plan that was located on the north side. So that's pretty much off the table.

Part of our standards include a four foot wide--there's an addition four foot to the outer lanes on both sides of the highway to accommodate bicycles. So it would be nice to have a separated path, but there would still be bicycle accommodations on the roadway without.

Now, we took a close look at why are we so wide, and a major reason is the 30 foot median. For 45 miles per hour that is the minimum and it is for safety reasons. There's three standards of brackets. We have a low speed bracket that's for highways less than 40 miles per hour. Then we have a transitional bracket which is from 45 to 55 miles per hour, and then we have a high speed design bracket and that's for over 55. We fall into the posted 45 miles per hour. And under that minimum the median has to be 30 feet. And the two main reasons for that is to accommodate traffic signals in the opposing left turn bays. They need to be facing each other so you could have the visibility to safely make a left turn. So at the traffic signal locations 30 feet is the minimum that we're required to have for all new construction.

The remaining sections are 30 feet because at 45 miles per hour most people drive five to seven miles over the speed limit, and 30 feet is the width determined that if an errant vehicle exists the roadway it's the space needed for them to recover before crossing and hitting opposing traffic. So those are the two main safety reasons why we need a minimum of 30 feet for a 45 mile per hour speed.

So that leads us to the question why don't we reduce the speed limit? Well, the answer is we'd love to if we can. National studies have shown that if you arbitrarily just reduce the speed limit you're not going to get voluntary compliance unless you have continuous enforcement so we're very reluctant to do that. Right now our traffic guidelines show that the 85 percentile of the operating speed out there has to be within two miles per hour of your new posted speed or we're not allowed to reduce it. Most people will drive a section of highway at what they feel is comfortable. And it's normally the speed around the speed limit plus or minus five miles per hour. That's basically how the speed limit is determined. So for this section of highway I asked when is the last time we did a speed study down here, and actually we haven't done one since we took over the road from the County. So I've ordered a speed study to determine what is going on out here and is there a possibility of reducing it to 40 miles per hour.

If we get into that lower design bracket we could do a lot more with reducing that median with, so we would very much like it to be lower. However, changes are when you actually improve the highway, you're widening the lanes, you're going to have a smooth riding surface, wider shoulders, you're going to fill in that ditch, chances are people aren't going to voluntarily drive slower. They're going to feel more comfortable and probably drive the speed limit or possibly a little bit higher. But we ordered a study and we should get the results within the next month. We did develop one alternative for a 40 mile per hour speed which Persad will go through later in his presentation. So we have that ready if the speed study turns out positive. So if the speeds are greater than 42 miles an hour, we have to remove that alternative from the table. We just don't feel it's a safe alternative and we would not be able to show that as an option at all. But we did develop one just in case.

So that leads us to our second alternative which is roundabouts. Now, a current policy at the Department is wherever there is a potential future signal we will take a look at a roundabout as an alternate to see possibly if it works. But other than that there is no mandate, no warrant to really promote or put roundabouts in. We just want to take a look at them as a second analysis. Sometimes they end up taking less space than a standard four legged intersection. By the time you improve that four legged intersection and add the appropriate right turn lanes and left turn lanes in each direction, those get pretty wide. So we found that roundabouts do fit in some locations that we normally wouldn't think they would fit in.

I just want to show a ten minute video. It's by the Department of Transportation in Kansas, and frankly I think their video is a lot better than the one we have. It shows basically how roundabouts work. The video that we have here in Wisconsin is mostly testimonials of different communities that have put roundabouts in. But this one really shows how they're operating. It's about seven to ten minutes long.

(Video Shown)

Video Moderator:

If you've never driven a modern roundabout, changes are good you will soon enough. They've been used very successfully throughout the world for more than 20 years. And beginning in the 1990s they've been used across the United States in a wide range of environments including both urban and rural settings. The Kansas Department of Transportation and local governments are turning to this traffic control device more often as a means to manage traffic by reducing conflicts, increasing intersection capacity, controlling speed and, most importantly, reducing crashes at intersections. Research has shown roundabouts to be considerably safer than typical intersections.

Dr. Russell:

A classic was the one done by the Insurance Institute for Highway Safety where they found roughly a 40 percent reduction in all crashes and about a 70 percent reduction in injury crashes which to me is the most significant advantage of a roundabout is the reduction in injury crashes. And a projected 90 percent decrease in fatal crashes.

Video Moderator:

Dr. Russell's study of roundabouts in Hutchinson, Olathe, Manhattan and north of Paola revealed another advantage of roundabouts. They greatly reduce delays.

Dr. Russell:

We're finding roughly 50 to 80 percent reductions in stopping and delay.

Video Moderator:

It's important that you know what they are and how to safely drive through them. And that's what this video is all about. Let's start with what a modern roundabout is not. It is not a traffic circle. It's also not a mini circle, a traffic calming device used in residential neighborhoods.

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A mini circle is really an object, really a circular object, placed in the middle of an intersection without really changing anything else at the intersection. And it's really to get you to--it's an obstacle in the middle of the intersection to get you to slow down because you're not going to be able to drive over it. You're going to have to drive around it. A roundabout is put in to slow you down, to get lots more traffic through an intersection, and basically improve the intersection and invite traffic to come through there instead of trying to . . .

Video Moderator:

The first major difference between mini circles and modern roundabouts is that roundabouts have a yield at entry rule. This means traffic entering the roundabout must yield to traffic already in the roundabout. Another key difference between roundabouts and traffic circles is that modern roundabouts use deflection. They have splitter islands in the approach lanes forcing drivers to enter the intersection at safe angles and slower speeds. The third major difference is that roundabouts sometimes have a flared entry. The entry often widens or flares from one or two lanes of traffic to two or three lanes at the yield line to allow for increased traffic flow.

Those differences help us define what a modern roundabout is. A roundabout is a circular intersection with a raised central island and splitter islands in the approach lanes to slow and control the direction of traffic. Traffic traveling within the roundabouts has the right of way to vehicles approaching the intersection. Approaching vehicles yield at the entry until an opening in the roundabout is available. Once in the roundabout, vehicles circulate around the center island in a counterclockwise direction until they reach the desired street intersection.

Roundabout are being designed and built as an alternative to the traditional intersections for many reasons. However, the main reason is safety. Roundabouts can reduce the number of collisions by 50 to 90 percent compared to a traditional four way intersection. This significant reduction in accidents is largely due to the lower number of conflict points. Conflict points are those areas where collisions could occur as traffic paths cross. At a traditional four way intersection there are 32 potential conflict points. In a four way roundabout that number is reduced to 8 and none of them are at right angles.

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Now, at a roundabout because you've lessened that angle that the vehicles can strike each other, you've really lessened the impact to the driver. And because of that you've really dropped their chance for being injured. And what you see when you put in a roundabout is you will still have some accidents, but they tend to be more sideswipe, rear end, at a slow speed, and so your injury accidents just drop.

Video Moderator:

Round about intersections also enhance pedestrian safety. Reduced vehicle speed, reduced pedestrian to vehicle conflict points, and reduced length of crossing all contribute to a safer intersection for pedestrians. Roundabout intersections are able to handle a higher number of vehicles than standard intersections and still reduce delays. A higher number of vehicles are able to travel through the roundabout in less time because they yield instead of stopping at a traffic light or stop sign.

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You hate to sit at a stop sign or a traffic signal with a red light when no traffic is coming and you're just there for no reason. So really the improvement to delay is so important because it's all a matter of just the traffic flowing through.

Video Moderator:

A study of roundabouts in Kansas confirmed the reduction in delays. Here are a couple of examples. At the Rogers and Sheridan roundabout in Olathe, the average intersection delay during the morning rush dropped from almost 38 seconds to about 12 seconds. That's a decrease of 69 percent. In the evening rush the delay dropped from more than 90 seconds to about 12 seconds, a reduction of 87 percent.

In Paola on K68, the intersection delay dropped from 19 seconds to 5.5 seconds, a reduction of more than 77 percent. Reduced delays also benefit the environment by reducing fuel consumption and air pollutants. Eliminating traffic signals at a roundabout intersection reduces the annual maintenance and electricity cost of the intersection. These yearly savings are approximately \$5,000 per intersection. Esthetically, roundabouts are more attractive than traditional intersections because the large center islands can't be landscaped.

Now that you know what they are and now that they're safer, let's talk about how to drive a roundabout. As you approach the roundabout, you'll notice a roundabout ahead sign with an advisory speed sign posted below it followed by a yield sign ahead. Once you've reached the entrance of the roundabout you'll see the yield sign and a dashed entrance line painted at the entrance. As with any intersection, you should watch for pedestrians and bicyclists and be prepared to stop if necessary.

A convention roundabout will have one way signs posted in the center island guiding you in a counterclockwise direction. Since traffic is moving in one direction, you yield at the entrance and look primarily to your left and watch for oncoming traffic. When a gap opens in the traffic and you are comfortable that you can safely merge, you may then proceed into the roundabout. As you approach your exit, turn on your right turn signal and, once again watching for pedestrians and bicyclists, exit the roundabout.

If you are in or near a roundabout when an emergency vehicle approaches, clear the roundabout to allow the emergency vehicle to enter and exit the roundabout. If there is not enough time to clear the roundabout, get over as far as you can to clear the road but make sure you are not blocking any of the intersecting roads. And in case you're wondering, roundabouts are designed to handle large emergency vehicles such as fire trucks. Most roundabouts are also designed to handle trucks and school buses. Some people see a truck tire go over the apron in the middle or see tire marks there and think the roundabout is too small. Actually the apron, called a truck apron, is there just for that reason, to give trucks and buses the extra room they need. So if roundabouts are so wonderful, why do you hear people complain about them? Chances are good they've never driven one.

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In Hutchinson there was a person or persons that formed a group, organized a group called CARDS, Citizens Against Roundabouts, and they put up billboards and lawn signs and were very vocal and very adamant against them. The Hutchinson roundabout is one of the biggest success stories in the country. Now, before when they had a two way stop they had 19 right angle collisions, 19 previous ones. Six were injury accidents. In the two years since it's been in they had about six what I call fender benders and no injury accidents.

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Accidents are down from what they were before the roundabout was built. Matter of fact one of our City Councilman who was opposed to the roundabout made a comment a few weeks ago that he thinks the thing is working pretty good and maybe we ought to look at some more.

Video Moderator:

The Kansas Department of Transportation, in cooperation with Kittleson and Associates and the Kansas Roundabout Committee, have published the Kansas Roundabout Guide. This guide is a supplement to the Federal Highway Administration document: Roundabouts, An Informational Guide. The Kansas Roundabout Guide was developed to promote consistency with modern roundabout design in Kansas. To obtain a copy of this Guide or other information on roundabouts please access KDOT's web page or contact the

KDOT's Bureau of Traffic Engineering. We hope this video has helped you understand a little more about modern roundabouts, something you'll certainly see more of in the coming years.

(End of Video)

Vida Shafer:

I'm going to go through a very short PowerPoint presentation a little bit more about how roundabouts, what we've done in Wisconsin with them. This is very short. One thing we want to talk about is they're not traffic circles. Roundabouts are easily confused with traffic circles, the kind that they built out east. This particular traffic circle is being converted to a roundabout. You can see the roundabout is a lot smaller. It has angles, like when you enter and exit it's more angled to get you in the direction of the roundabout.

This slide basically says that some traffic circles you have to stop at. Our roundabouts you don't. It's a yield condition. Other traffic circles were created where pedestrians are allowed in the center. Our roundabouts are not. You have to go on the outside just like a standard intersection. Some traffic circles the traffic in the center has to yield to the oncoming traffic. That's not a roundabout. The traffic in the roundabout has the right of way and the entering traffic has to yield. And then some traffic circles allow parking. Currently we do not allow parking on the roundabouts we're designing.

So although they look very, very similar they're very different and they operate very differently. Traffic circles basically have low capacity for the amount of cars they can handle. Roundabouts have a high capacity. Traffic circles have high crash rates and roundabouts have lower crash rates. What engineers really love about roundabouts is the severity of the accidents have dropped drastically. You'll get read ends and you'll get side swipes, but what we want to cut down is that 90 degree right angle crashes.

Same thing with the no yield entry. The roundabouts have a yielded entry. Traffic circles allow high speeds. Roundabouts create low speeds. That the key here, low speed. And why we think it might work for 165 is if we want to reduce that speed limit this is what we need to do. Adding roundabouts at a few locations along the route will reduce the speed. It's acting like a lateral speed bump. That's the key to them is you have to slow it down to traverse them.

This was in the video also, fewer conflict points. You go from 32 conflict points in a standard intersection to 8. These are some Wisconsin safety facts from 2004. 34 percent of all reported crashes occur at intersections. There was 48,000 intersection crashes. 27 percent of all fatalities occur at an intersection and 46 percent of all injuries. The Insurance Institute for Highway Safety they've compiled a whole bunch of data, 30 to 40 percent less crashes overall; 75 percent less injury crashes; 90 percent less fatalities. Many other studies find similar statistics. Again, there's quite a bit of reduction in the accident severity. So at very high flows roundabout crashes equal about the same as signal but the severity is less.

So basically the green line is how you'd make a right turn. The red line is how you'd make a left turn, and the blue line is how you would go through in a standard intersection. Where can you put them? Almost anywhere except at a top of a hill which is probably the worse place for any

type of intersection. Suitable for low to high traffic volumes. We're putting in multi lane roundabouts, two and three lane. They're good for changing speed where you go from a 55 mile per hour rural and you're approaching the city and you're getting into the 45 or 40 mile per hour speeds, change in alignment if you have a sharp bend in the roadway, and suitable when turning volumes are unbalanced. That's the key. When you have high left turns, high right turns these are operating a lot better than our standard intersections. However, we still opt to put in signals where we have a high through movement where a lot of cars are just driving straight through.

So our policy is that wherever there's a potential for a traffic signal we should just look, just add the roundabout analysis. And we're comparing right of way between the two, capacity, the amount of delay, safety, pedestrian bikes, environmental impacts, operations and maintenance. So we are making this comparison on all our projects.

This is one example of a situation in Madison. It's on Highway 30 and Thompson Drive. This is the before condition. They had some serious problems at the end of the exit terminal ramp. The ramp terminal intersection there was 19 crashes in a three year period, 8 were injury causing 16 personal injuries, 11 were property damages and 90 percent of the accidents were right angle. They looked at a signal alternative but it created some substantial residential impacts and driveway encroachments. They looked at a roundabout analysis, and it seemed to fit in the smaller right of way footprint, so it avoided residential impacts and had zero right of way. In the first six months they built it, there it is, in the first six months there was only three property damage, rear ends and one injury accident.

Here's another one we built in Wisconsin Rapids. As you can see, there is a large delay every time the school buses came out. It was rush hour, and there's a long delay in the leg next to the Mobile and I'll show you a different picture and you can see it better. So right around that curve to the left that's where they had major congestion. Now, this particular intersection had some geometric challenges. They looked at several designs and all of them had substantial residential and business impacts, and it was becoming a high cost project. They looked at a roundabout design and they ended up building it so that's what it looks like now. From what I hear it's operating quite well.

We put one in Mt. Horeb. Again, they looked at a signal alternative and they looked at a roundabout alternative. They ended up putting the roundabout in. What I want to not here is the center island needs to be landscaped, not just to make it look nice but there's also some visual things that need to happen. First of all, you don't want to see across the roundabout. You have to have low bushes on the edges. You want to just see where you'd be merging into. So you do want to have some sort of landscaping, a sign, something in the middle there so you're not able to see across the roundabout. That's the Mt. Horeb from an aerial view.

Right now the State has 11 constructed and operating roundabouts. Three are single lane and eight are multi lane. We have 57 more proposed in our current six year program, 12 of them single lane and 45 multi lane. There's 17 known roundabouts on the local system and they're all single lane so they're out there. This is just another example. This is from Colorado. They had signalized intersections here and they chose roundabouts because it helped in the delay in the queuing.

What I added this slide for is for bicycles. See on the lower right that little cutout. Bikes don't have to drive the roundabout if they don't want to. We could design in a little path so you would

cut out to the right and you would cross at the crossing and do the same if bikes and pedestrians-- you'd just follow the same path as a pedestrian would. They can drive it if they want to, but if they don't feel comfortable we can design in the buffer space. These are just some drawings I left in case there's questions later on the signing.

So roundabout or signals. They're very good for left turn lanes. Low left turn volumes we would still prefer signals. So, for instance, if you have a high through movement we'd probably prefer to still put signals in that location. But for safety and for high speed roads they're good. So this is just the warrants for WIS DOT. We don't have a specific warrant on when you would put a roundabout in, but they're just requiring us to analyze or take a look at the alternative of a roundabout at every future signal or when a four way stop isn't operating properly.

So public reaction to roundabouts. No one likes change. Most of the time we get initial opposition. A lot of people tell us their stories about driving in the eastern traffic circles. There needs to be an education component, something like this. We can adapt our public meetings to have presentations on the top of the hour and do a 15 minute or have a running tape, because there needs a little bit of education on our part to get out to people on how to drive them because when you first look at them you don't know how to maneuver them. And hopefully some of our worst critics become some of our greatest supporters.

So roundabouts are very safe and the key is they slow the traffic down. We have geometric flexibility. They fit almost anywhere. They're easy to modify if circumstances change. Sometimes they require less right of way. They're low maintenance as far as there's no traffic signals to maintain. However, you still have to maintain the landscaping in the middle. They can be esthetic and they can be a landmark. Other communities have put signs or introducing their town centers and things like that in roundabouts.

A roundabout is good for business. This was the article, I think it's in Colorado, but South Golden Road is a typical suburban strip commercial corridor. They installed four roundabouts within a half mile. This resulted in slower speeds, lower travel times and less delay of business access points. Accident rates have dropped by 88 percent and injury accidents have declined from 31 in the three years prior to installation to only one in the four and a half years after. So a decline in injury accident rates of 93 percent. The improvement in traffic flow, vehicular safety and access to businesses combined with amenities such as landscaping medians and pedestrian walkways has stimulated economic activity. Sales tax revenues have increased 60 percent since installation of the roundabouts and 75,000 square feet of retail space have been built. So they're operating quite well in commercial corridors where you want a lower speed or you have a lot of shopper traffic.

I have these handouts available. Everybody can take them home if you wish. They're at the end of the table. These are some of the brochures that we have that we use in our public involvement. That's about it.

Now, the big key with roundabouts is speed. We feel that since speed is an issue here that maybe if we introduce some of them we could change the speed limit. In fact, if we do introduce the roundabouts we will change the speed limit to 40 miles per hour and that gives us more leeway in that median width. So right now I'm going to pass it on to Chris. Chris is going to explain how we've kind of applied--first he's going to jump back and show you the 40 mile per hour alternative that we're going to still verify with our speed study. And then he's going to take you

into how we applied the roundabout concept to 165.

Chris Rosmiller:

Just so you understand the layout of the table here, to my right or your left will be the east side going east to west. North is toward me. South is away from me. I'm sorry, west and east. The first exhibits on the south side here on the lower end of the table away from me is the layout that we presented, the October PIM. Nothing has changed in this layout. It's as you saw it in October.

What I want to point out here is and where I'm going to start here is on the opposite end of the table here is the 40 mile per hour layout. Our study area starts at Highway 31 just east of the intersection. What you see in the dashed here is some of the improvements that were driven from the TIA improvements for the proposed commercial developments, and we're just showing what they have from that TIA improvement.

As we move to the east here, as we get through Old Green Road, Old Green Bay Road will be proposed to be signalized. There are dual left lanes required from the proposed development onto the north leg of the Old Green Bay Road. Continuing to the east we go from a section with a 36 foot median to accommodate those dual . . .with 140 foot right of way. We reduce down to a 20 foot median. A 20 foot median is required to provide U-turns at those unsignalized intersections for vehicles that want to turn around for driveway access. The 20 foot median, this is a four lane divided stretch. The approximate corridor width went from approximately 150 foot corridor required to an 89 foot typical corridor width. That's edge of right of way to edge of right of way.

Through this section between Old Green Bay Road and ML we hold that median with constant on this alternative. As we approach ML, again because of the heavy left turn moves onto County Highway ML, it requires dual left turn bays again. In this location we're widening out to a 36 foot median, again, with a 123 foot right of way corridor through this intersection.

Continuing to the east we go back down to a 20 foot median up to EZ, where EZ is required with our current traffic numbers to be signalized. Here we have single turn bays off of EZ to both north and south direction. In this area we have a 100 foot corridor width with a 20 foot median. Continuing to the east as we go between EZ and Highway 32, we eliminate the median, and we're to a two lane typical section with auxiliary lanes. This will also act as our bike lane through this stretch of roadway. Through this section we are looking at no median with a 66 foot corridor width all the way from just east of EZ all the way down to 32. As we approach Sheridan Road, Highway 32 is proposed to be signalized in this intersection.

Vida Shafer:

So in general this alternative is a 20 foot median throughout most of the project, 20 foot median for 40 miles per hour, right, Chris?

Chris Rosmiller:

Yes.

Vida Shafer:

Which is ten feet narrower than what we showed in October. Also, what was handed out is basically it's just a compilation of the three alternatives. The divided roadway with desirable standards presented at the first meeting is at your first column. For 45 miles per hour a 30 foot median width. And as you can see our right of way ranged from 150 to 192 feet, and we had 30 relocations. The second column is the divided roadway, the alternative that Chris just presented, and that was based on 40 miles per hour with a 20 foot median and we substantially go down in the right of way, 90 feet to about 132, and we substantially go down in the number of relocations. So there's definitely a benefit there if we could verify the operating speeds. Now I'm going to hand it over for the roundabout.

Chris Rosmiller:

Now looking at the roundabout in the middle of the table here, starting at 31 again, as you approach Old Green Bay Road it's a four lane divided section. As you approach ML that will be a dual lane roundabout through that facility to accommodate the heavy lefts turning onto Old Green Bay Road. As you continue to the east, we will transition the median through that stretch down to typically what would be an eight foot median. However, because of the U-turn movements required at these intersections, we would still need to widen out to a 20 foot median to accommodate turn bays and our U-turn movements. So that's what you see at 65th, 60th, 57th and at Cooper road.

One other option that we looked at here is the potential for placing roundabouts at those intersections as well. That would allow us to reduce the median width through this stretch down to that eight foot median width and U-turns would be provided between the roundabouts.

Continue to the east towards ML, the eight foot median we're showing an 89 foot typical corridor width. As we're approaching ML this is a dual lane roundabout because of the heavy left turn moves onto the northern leg of ML. One thing I wanted to point out between these two alternatives is that this roundabout was shifted approximately 100 to 150 feet to the east. That location we're trying to work with the Village on the proposed Village Center to the north.

Between ML and EZ we're showing an eight foot median with an 89 foot corridor width. We did not show a median opening between this stretch as we did on the 40 mile per hour alternative because of the ability to do U-turns between the two roundabouts.

Vida Shafer:

Which you can't do at a signalized intersection.

Chris Rosmiller:

As we get east of EZ it's the same typical section that was shown on the 40 mile per hour alternative. It's two lane traffic with 12 foot auxiliary lanes and the 66 foot right of way corridor width. Going back to EZ that is a single lane roundabout in that location. Between ML and EZ we reduced from a two lane section down to a one lane section.

Moving to the east as we approach Highway 32 we again introduce those splitter islands that were shown on the video to an eight foot width as we go, and this roundabout will be designed as a single lane roundabout. What you're seeing on the northern and southern approaches of Highway 32, because Highway 32 is posted at a higher speed limit it requires some curvature to help reduce that speed approaching that roundabout to promote the slower speed into the roundabout.

Vida Shafer:

The roundabout at 32 we put it in there, but that one since the right of way isn't as critical in that area that can still remain a signal with having roundabouts at the other intersections.

Chris Rosmiller:

As Vida mentioned the relocations on both alternatives drop significantly from what was presented in the October PIM. On the 40 mile per hour alternative we're showing nine relocations. On the roundabout alternative we are showing eight.

Vida Shafer:

So that concludes our presentation. We hope that we satisfied some of the concerns from the PIM. We heard everyone loud and clear, reduce the impact and we did our best to try to give some options that did that. So we are open and can stay as long as necessary. I know there's a group meeting a seven o'clock, but we're more than willing to stay as long as necessary to answer anybody's questions or concerns.

Mike Serpe:

I have a question. Would the State put in some type of lighting at each roundabout for safety purposes? Would that be a part of the project?

Vida Shafer:

We'd have to look into that

Mike Serpe:

Not signal lights.

Vida Shafer:

(Inaudible)

Don Hackbarth:

How did this concept all of a sudden get changed with the roundabouts? Who initiated the

roundabout idea?

Vida Shafer:

That's kind of interesting. We were planning to study roundabouts, but we were only focused on the intersections. We didn't realize that there was benefits in between the intersections, and that's why we decided, yeah, we should look at them to do that. Because if you have two roundabouts you could actually narrow that median from 30 feet down to 8. And what's nice about them is you could do the U-turn at those locations instead of having to pass a signalized intersection and find a U-turn location. So we had plans to do it, we just were going to do it later and didn't realize the benefits in between.

Don Hackbarth:

The second question, how many lanes is too much? You look at that European Vacation video where the guy is stuck endlessly in that roundabout. What is the maximum that you've found?

Vida Shafer:

Three. None of these are three, but there's a couple that are two.

Don Hackbarth:

The other question here is on these roundabouts if it becomes with the traffic increasing can you modify that to add lanes to it later on to make traffic flow a little bit better?

Vida Shafer:

Yes. They're actually a little bit easier to modify than standard intersections.

Don Hackbarth:

How long does it take to actually educate the public to get used to these in our community?

Vida Shafer:

I don't know. That's a good question but we'll do what we can.

Don Hackbarth:

It's a major learning experience. I can see that already.

Vida Shafer:

I think that video helps a lot. I really do. It covers emergency vehicles, it covers trucks, it covers how to cross, pedestrians, bikes, and I'd definitely use that video. Maybe we could have it running in a loop or use it on the hour.

Don Hackbarth:

The other thing is ML and 39th horrendous intersection. Horrible. Even though there's a little bit of a hill up there, I don't know what that's planned to have, Jean? I just went through it today, and when you're taking a left hand turn going east turning onto 39th you're putting your life in your hands because they're coming around the tavern and it's such a sharp turn.

Vida Shafer:

That's right here, right?

Don Hackbarth:

It's right here. When you're taking a left hand turn going north and somebody is coming southwest, you've got to blister through that left hand turn to get out of the way because somebody might be coming fast around that.

Vida Shafer:

I don't know, Jean, is the County looking at that?

Jean Werbie:

Not at this time. As you know, we wanted to see if we could include that area as part of the 165 study, and it was actually outside of the study parameters. So we have mentioned it to the County in the past and I know they're keeping tabs on the number of times that accidents have occurred at that intersection along with the light pole going down. Certainly as we proceed with this we would like to engage the County again in that discussion, because I know it has been a problem and it will continue to be a problem as traffic increases, especially in the downtown.

Don Hackbarth:

The last question I have is the construction of it. 165 is a major highway. A lot of traffic goes past there. How do you divert or what do you do with traffic in order to construct the thing?

Vida Shafer:

That's a good question. I don't know. I really don't know. I've been in construction seven years and I've never had to build one but I could find out and get back to you. We can build temporary roads for a couple hundred feet. We could do that.

Chris Rosmiller:

We could build half at a time like we would a normal intersection. The only thing is we would maybe leave the central off, temporarily pave, and just stripe it through that half.

Vida Shafer:

That would make sense. That's how we do a standard intersection. We have to shift traffic all the time to do each section.

Don Hackbarth:

Just a quick comment. I don't know what you're thinking but I kind of like the idea. I really like it. Our intersection is messy.

Mike Pollocoff:

Vida, if the Village supports the roundabout alternative, and given the nature of the reduced acquisition and it should be a reduced project cost overall, does that change the queuing of the project or the timing of when the project would occur?

Vida Shafer:

No. We don't know when that's going to occur yet.

Bob Anderson:

It certainly doesn't have any adverse effect on the timing of the project, and it has no real change in the cost, the Village's cost or the Department's cost in the project.

Mike Pollocoff:

The other thing is that one of the things that the Village needs, because Bob indicated there's going to be a contribution to this, and we're looking at that contribution to be derived through a transportation impact fee that we require developers to--assuming that not one house went up from where we are now, with minor modifications we'd be living with the road the way it is. But as subdivisions and development occurs we're going to want to be able to exact a contribution from developers and builders who are building new homes so that come the time that that payment is due that we're not putting it on the tax roll.

Vida Shafer:

As a result of this corridor study we'll probably have an approximate estimate. Not as good as until we get it into preliminary design. The further we get along in final design the closer we get to exact costs. But at the end of the study we'll have a rough number.

Mike Pollocoff:

With that rough number to what certainty is the DOT going to be able to say we know it's not in the six year plan but we're looking at a 2020 construction so that the Village could evaluate how much we're going to be able to invest that money at or what cushion we're going to be able to have in order to know we have enough money?

Bob Anderson:

I think the biggest thing is it's probably development driven and it's probably a two segmented project. One would go through 39th, from 31 to 39th would be the initial segment of the project, and then this piece here on the east would be done maybe a year later or two years later or something. I don't envision that it would necessarily be a singular project through the singular construction project. It would be a singular design project, singular right of way acquisition, but construction may be in two segments.

Judy Juliana:

My question is once these roundabouts, if and when they are built, how do you determine when you're going to increase the different lanes and how is that going to impact the building? I mean you put in a single lane and then when the traffic increases how are you going to put that in the plan for future expansion? Are you going to be doing ongoing traffic studies? How is that going to impact?

Vida Shafer:

Right now these are designed for the traffic that we anticipate in the year 2030, so these should last for a long time. And we know of the new development that's going on. We meet with the developers that are building next to 165, and if we feel we need to adjust that design prior to construction we will. But these are designed for volumes out there. What we do for traffic volume is we count the traffic for the last 10 or 15 years every couple years, and we take a look at how much did it grow. That's that growth trend, and we project that out to the year 2030 what this design year is. And in addition to that we add on any known development or areas that we think are going to develop. We sat down with Jean and Bob and told us, yes, we have a planned subdivision here and we have a planned subdivision here and we have some commercial plan here, so we did put a fudge factor in our numbers to accommodate that future growth.

Judy Juliana:

The other question is you stated on here that it would be a total of eight number of relocations. Now, that is what you project between 2030 is the total number of eight relocations with any foreseeable expansions? We're not going to go beyond the eight that's projected?

Vida Shafer:

Correct, those are eight homes that we're hitting because they're out there right now. The purpose of the corridor study is when we're finished you will know our footprint and hopefully any new development will be outside that footprint, so hopefully we won't go over that eight. Because the point of this is now Jean and Bob and everybody who reviews plans they'll take a look and say, no, you have to be out 50 feet here if you want to build. So we wanted to do this early so we don't have any new development in the way.

John Steinbrink:

Somebody asked the question how does it take to get used to one of these roundabouts. With the one at Madison at Thompson Drive and State Highway 30 the first time I went through I was paralyzed. I came to it and I didn't know there was a roundabout there. It's like what is this? I

just followed traffic. The second time was much easier and the third time was almost natural going through. But you adapt very quickly to them, but that first time if nobody tells you it's there.

Vida Shafer:

That's a very good testimonial.

Larry Zarletti:

Do you have any feedback from places where there are roundabouts that have had accidents in the roundabout what it does--for example, now if there's an accident at a controlled intersection a police officer can stand in the center of that intersection and direct traffic around the accident. So if you have an accident in a roundabout that's going to totally block traffic, I'm trying to go through this. I think you'd almost need two or even three police officers to make that work if you're completely clogged up where you're going to send the traffic. Do you have any feedback from anybody who has roundabouts about how difficult a problem it is once that roundabout is blocked?

Vida Shafer:

No, I don't have any feedback but that's a good question and I will try to get some, though. We have 11 of them built. Do you know, Chris?

Chris Rosmiller:

I don't have any testimonials, but one advantage about a roundabout is they have a tendency those queues that build up under those situations have a tendency to clear out faster than they would if we signalized the intersection. . Otherwise say you had an accident at 31 and Old Green Bay Road as an example, you had an accident on 31, as that queue backs up if Old Green Bay Road is signalized, you have to wait for that signal timing to allow that queue to clear out of there. If you have a one minute cycle, every minute cars are going to stop. A roundabout the circle will clear out and those cars will have a chance to just keep moving and clearing out of that roundabout.

Vida Shafer:

I know what you're getting at.

--:

. . . only one way in a roundabout and the officer would have to send them the other way . . . can't see the other

Vida Shafer:

But there's only two--just keep in mind with a standard four legged intersection you only have four entering sides. It still would be like an intersection. But you're right, you'd have to somehow clear the intersection but you can't see over. I'll have to ask if we have any

testimonials for that.

Tom Shircel:

It seems from the video we watched that roundabouts are able to handle more quirky intersections, in other words, intersections that aren't perpendicular at right angles such as ML and 165. Is there any change of a roundabout going at ML and 165 without much change to that intersection? In other words, could ML stay at that quirky angle that it is now and have a still well functioning roundabout?

Vida Shafer:

I guess it could, but I think part of the problem is you still don't want them entering at an odd angle.

Tom Shircel:

So there might have to be some modification to make it work?

Vida Shafer:

Yes, because when they design them they shift them to make sure that those entering, when you're diverging, you're at the right angle. So I don't know for sure if we could leave it at the exact same spot. Plus there needs to be a spacing between the entrances that you want to maintain. So at those two where they're very close together you might want to shift that roundabout to separate the entrances.

Tom Shircel:

One more question, just a functionality question. If you have a two or three lane roundabout what is the advantage of ever being on the inside lane closest to the island? When the idea is to get in the roundabout I would imagine you want to stay on the outside and exit as soon as you could. Why would you be in the inner lane? Are you forced over that way as traffic enters or how does that work?

Vida Shafer:

No, you'd probably want to be in that inner lane if you want to make a U-turn. But when you're in the roundabout and approaching the exit you put your right turn signal on just like you normally would and move to the outside. But if you want to go make a U-turn.

Tom Shircel:

Thank you.

Peggy Herrick:

I have a question. In between roundabouts since it's not signalized you have a continual flow of traffic. So in between Springbrook Road and 31, or Old Green Bay Road, in between the two

roundabouts all those intersections are there ever going to be gaps for people to get out of those intersections if you're having controlled stops at either end and you're going to have continuous traffic?

Vida Shafer:

No, I don't believe you will have continuous. You will have gaps.

Peggy Herrick:

And that's not usually an issue then for other intersections?

Vida Shafer:

No. One thing I want to bring up, when you're stopped at a signal, a platoon is what we call it, when a platoon of cars builds up, then you're stuck and you have to wait for that entire platoon to go. With a roundabout you're right you're going to continually have that movement of traffic, but it's just going to disburse faster. You're not going to have to wait for that platoon to pass by to get out of the side road.

Steve Kumorkiewicz:

I have to make a comment. I like roundabouts because I saw . . . they used to put a signal before the roundabout and they named each one of the exists. Sometimes you have five or six. . I remember driving on the wrong side of the road . . . about three times. Over there . . . four a regular intersection. I think it can work very well. That's my opinion . . . properly so anybody coming from the eastbound knows exactly before you get there what position you've got to take to exit from that roundabout.

Vida Shafer:

Right. I kind of skipped over that slide, but we do have that standard signing, and there is a special sign that shows roundabout. It doesn't show you what street to come off of it, but it shows you that one is coming up with an advisory speed of 15 miles per hour. They're normally designed at 25 and sometimes 35, but you don't want to make them too wide either, because then people try to cut through them the wrong way. You want to make them curved. You want to make people slow down, stop, and look and see what they're doing and that's why they're safer.

Jeff Lauer:

I have a couple questions for you. I didn't see it in the video but it could have been there. Since these are like little islands in the middle of the road is there lighting in there for nighttime driving?

Vida Shafer:

I believe each intersection would be lighted. I will double check on that. But we normally light

every signalized intersection, so I don't see why we wouldn't light a roundabout.

Jeff Lauer:

Another question I had is do you know what the projected average daily trip, which is ADT, for the targeted construction date would be and how the roundabouts would affect those rates?

Vida Shafer:

Do you guys have those numbers for 165?

Persad Norian:

The predicted traffic in the year 2030 is about 15,000, a little over 15,000 between 31 and CTH ML, and east of that one it drops down to 5,000.

Jeff Lauer:

As far as Wisconsin roundabouts go, what's the experience of snowplows? We get a lot of snow down here. Are they able to work well without any problems?

Vida Shafer:

Yes. I don't have it with me but I have a video on how one of these are snow plowed. It's a change but the plowers aren't having a problem with them. Once they figure out their routine no problem. But the first time they've got to figure out how they're going to do it. But that's how they approach any intersection anyway. They have a certain way they like to plow it, but so far it's been fine.

(Inaudible)

Vida Shafer:

Now they'll slow it down around the roundabout and hopefully they'll miss it.

Mike Pollocoff:

The nice thing about the roundabout with the snow plowing is one of the films that I saw was that the snowplows don't have to stop and back up in the intersection. Just like they do in a cul-de-sac they keep going. But roundabouts end that necessity to pull around, sweep the snow to the side and then back up and head out.

John Braig:

In that regards there was just a fatality in Illinois I believe a day or two ago. An 80 year old individual was killed by a plow backing up. I know in a municipality and virtually any large organization they do anything they can to keep their vehicles from backing up.

Vida Shafer:

I think there's an advantage of these because of the slower speed for elderly drivers. I really do. When you're approaching an intersection you've got to remember to yield and then merge, but you're going at a very slow speed. And if an accident should occur they're usually very low severity which is a real plus.

Jeff Lauer:

Just one last question, or first a comment. You said about landscaping. Are you going to treat the Village of Pleasant Prairie if this is the route to go that the first year the State is going to put all that shrubbery in for us?

Vida Shafer:

I don't know what the policy is, but we have some landscaping money. Our concern is maintenance usually, maintaining that, but I'm sure some initially landscaping may be available.

Bob Anderson:

We generally have what we call community senses of design and funds that would be used for the landscaping, but the ultimate maintenance of it would be the Village's maintenance.

John Braig:

Most maintenance would be summertime, though?

Bob Anderson:

Yes.

John Braig:

College students.

Jeff Lauer:

One last question and I'm done. In fact it was the number one thing on the response here. When I was here last time you folks were here the major concern at least I heard from residents was I'm going to lose my home. Looking at the divided roadways with roundabouts looks like a total of eight. If the State were to go with the roundabouts what's the procedure of how quickly the affected homes would be notified? What I'm trying to say is six months from now we're going to start so guess what? What's the State's procedure on how they work with the residents?

Bob Anderson:

The Department doesn't purchase any home until they're through the design process. It has to be through an environmental document. This is basically a preliminary study that gets us to a point. We would have to enter into an engineering agreement with Pleasant Prairie, and we'd develop a final plan for this project. That final plan would indicate which homes would actually be taken,

and at that time once we had the environmental document we could purchase the homes, but we can't purchase prior to the completion of the environmental document.

Vida Shafer:

Normally two years before construction we would start real estate.

Bob Anderson:

That's our normal process.

Mike Serpe:

As long as we're at the end here and you're the DOT, it would probably be a good idea if you could recommend to the powers to be that the reporting total amount of damage to vehicles be elevated past \$1,000. Right now when cars have accidents, squad cars have to respond and they have to do a State report because total damage between both is \$1,000 or more. I think \$1,000 between two vehicles now could be a scratch on each door. So if that could be looked at, at least the police departments and sheriff's departments involved in taking these reports don't have to involve themselves in minor, minor accidents. That would help us in the long run.

--:

When's the last time that was raised?

Mike Serpe:

Quite a while.

Bob Anderson:

We could certainly do that, but that's probably an issue that John has more influence on than the rest of us sitting at this table. It's a policy that's determined and it needs legislative support.

Mike Pollocoff:

Vida, are you looking for some direction as far as from the Plan Commission and the Board as to which--I think the first alternative definitely is out. Do you want to present both the 40 and the roundabouts for the public information meeting?

Vida Shafer:

Right. Our next steps are if you're comfortable with what we're presenting here, we would like to have another public meeting. Usually it takes us about a month by the time we get notices out. But we didn't want to present anything that you wouldn't be comfortable with. So we don't want to be presenting roundabouts if the Board says no way. I'm glad to hear it seems like most of you feel comfortable with proposing this and we'll wait to see what the public says. Your guess is as good as mine. I do want to wait until that speed study is done, because if it's 42 miles or less, we still feel that 40 mile per hour is a legitimate alternative. If it isn't then I can't show it at the PIM.

That's where I'm at unless you guys have any suggestions for me, if you think there's anything more we could do or look at.

Don Hackbarth:

Even if the speed is 70 miles an hour what you're doing with proposing the roundabouts is slowing it down, so who cares what the speed is? Who cares? Because if you're going to be putting roundabouts specifically to slow it down, I think that's a great idea. It's good for residents. It's good for accident rates. The whole thing you're presenting.

Vida Shafer:

You can't put roundabouts in high speed locations, but because we have a series of them, our operations engineers feel very comfortable with being able to lower the speed here because you're putting a few of them in. But you can design them for high speed. Let's say on Sheridan Road they're going 50 or 55 miles per hour they're designed a little differently because you need to slow traffic down before entering, but they've been quite successful in those locations. But when you put a series of them in, you're right, you don't have enough time to get really high and then come back down.

John Braig:

If you look at the overall project and the environment that it's going to go through, it's basically a residential area, and I think our motivation should be to keep traffic at a reasonable slow pace. And I see a tremendous value in roundabouts because it eliminates a lot of the frustration of sitting at a traffic signal with no traffic around there or making a complete arterial stop. I just read in the paper today out on the western end of the County where there's a concern about people blowing arterial stop signs. If you're in the middle of farm country and you've got an arterial stop and there isn't a car in sight for a mile in every direction it's frustrating to make a complete stop there. Applying it to this situation, if you've got roundabouts people can drift through them without any trouble. I think it's the way to go.

Jeff Lauer:

Just one more question. If we're bringing it to the public again, and maybe staff can help out on this, isn't it going to include west of Green Bay Road, too, because I know that boulevard is an issue out there that was presented? Or, is the public meeting strictly for this and not that?

Vida Shafer:

I drove in and I noticed that the median is narrower. I can't answer to the standards those were built at the time. All I know is all new construction there's that 30 foot median for 45 miles per hour. We're constantly changing our standards as we learn more and they do more studies. There's a lot of sections that would need to be upgraded at some point in time when the pavement fails or unless there's a serious traffic accident problem. Normally roads we monitor them, and then when they start to deteriorate we start looking at them unless there's a safety issue. Safety is number one. If we are brought to the attention that this intersection has a problem, we're going to go and focus on this. Other than that if there's no problem it just kind of stays in the life cycle of the section of the pavement. I guess my point is I can't really answer to why that median is

narrower except maybe that's what the standard was at the time. But all new construction we couldn't build it substandard.

Jean Werbie:

I think part of Jeff's question might have been with respect to west of 31 there was some information shown that impacted some businesses west of 31, the Jelly Belly and the daycare and Nitto Americas. I'm not sure if that was going to be included on that study and maybe you just want to touch base on that.

Vida Shafer:

As we all are aware there's some commercial development north and south in these two triangle areas. Right now the Department has not seen a TIA so we don't know what the impact to 165 is from those developments. I guess we'll just have to handle it as it comes. When they're done with the TIA we'll have to evaluate it. So what's shown, I think we've purposely shown that in dashed because these are just the last indication of what was going to occur. Until that TIA comes in we don't really know what the impacts to 165 are. But I guess there was some plan. Because of the scale of development in these locations it looked like the median would need to be closed and things like that, but those are impacts because of those developments, not because of we're doing. Did anybody in the back have any questions?

Don Hackbarth:

What's neat about this, too, is it eliminates the vision circle or vision triangle.

(Inaudible)

John Steinbrink:

I'll entertain a motion for adjournment.

Alex Tiahnybok:

So moved.

Jeff Lauer:

Second.

John Steinbrink:

Motion and a second. Those in favor?

Voices:

Aye.

John Steinbrink:

Opposed? So carries.

Mike Serpe:

Motion to adjourn?

John Braig:

Motion to adjourn.

Larry Zarletti:

Second.

Mike Serpe:

Motion made and seconded to adjourn the Plan Commission. All those in favor say aye.

Voices:

Aye.

Mike Serpe:

Opposed? The ayes have it. Vida, thank you very much.