



FHWA Webinar: Did You Know a Road Can Go on a Diet?

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Julie Lambert

Good afternoon or good morning to those in the west and welcome to the Road Diet Webinar.

My name is Julie Lambert and I will be moderating the webinar.

I want to remind those of you calling in to the teleconference for audio that you do need to mute your computer speakers or else you will hear the audio over the computer as well.

Today's webinar is scheduled to last an hour and a half. We will have three presentations and the remaining time will be for audience question and answer. If, during the presentation, you think of a question, please type it in to the chat area on the left side of the screen. Please make sure you send your question to everyone and indicate which presenter the question is for. The presenters will not be answering the questions during their presentation and I will start the Q&A session with the questions typed into the chat box. If we run out of time or are unable to address all questions, we will attempt to get written responses from the presenters.

The PowerPoint presentations used during today's webinar are available for download from the file download box that will be at the bottom left of your screen.

Today's webinar will start with a brief welcome by **Rebecca Crowe** from Federal Highway Administration's Office of Safety. Rebecca?

Rebecca Crowe

Well hello everyone my name is Becky I work for the federal highway and safety. We have been working for the transportation stakeholders with state and local and not for profit during the third program.

Our main goal with road diet is to enhance roadway safety. We have developed a number of resources from the guide to case studies and we have a number of one page technical documents that you can find on her website. I encourage you to check out our website. We add information on a regular basis. We are very excited about the webinar today. We have three great presentations and the speakers are really down in the trenches. We are excited to share the programs with you. Thank you for participating today.

Julie Lambert

Thank you, Becky!

Our next presentation will be from Keith Knapp. Keith is the Director of Iowa Local Technical Assistance Program at the Institute for Transportation of Iowa State University. He has more than 25 years of experience in transportation-related training, outreach/extension, and research. He has developed and



FHWA Webinar: Did You Know a Road Can Go on a Diet?

been an instructor in local, state, and national training courses with a wide range of subjects and has taught traffic engineering, safety, and highway design at various universities. His research work has focused on the safety and operational impacts of roadway design and environmental characteristics. He is a registered professional engineer. Keith, I'll now turn it over to you!

Keith Knapp

Good afternoon and good morning everyone. We already know that the title of our webinar is but what I would like to do is give you a little bit of background about the road diet more specifically what is the road diet and how we define it and why you might want to consider it and what are some of the feasibility determination factors and then how can you evaluate the situation. so in 2012, they came out with nine proven safety countermeasures. Road diet was one of those. As Becky mentioned, a year and half ago they came up with this website. There are nine authors on this and they came out the other one that I have indicated in addition to I think I counted a quite a few references and what have you. These are two of the references that I'm using here as I present.

What is the road diet? You want to get the informational guide it is conversion to a 3 Lane Road Hwy. to a 3 Lane Road Hwy. As many different ways of allocating if you will cross sections that have been allocated differently.

It looks like this. I wanted to show a picture. This one is from Virginia. The three lane with bike lane on the left side you are just allocating the same cross-section curve to curb type of wit. So what is it not? It does it need to reduce the cross-sectional wit. The conversions that I have been involved in a lot of times you are playing with [indiscernible] curb the curve and shoulders shoulder width. The way to think about it is is -- it is a rally -- Lane a reallocation. We have thought of different here and -- turns. There is a number of different places you can go with this with regard to how you allocate the cross-section.

So why did people consider this? There are a lot of different options and reasons but one of the big ones is obviously safety. We use conflict planes and we will talk about sightlines, more uniform speeds. The demands can still be my and is absolutely an alternative analysis. If it moves forward, I will talk about feasibility and other factors.

You are kind a changing and these are my words you are changing the functioning of the roadway and that is the decision that has to be made among everybody as we go forward.

We have opportunities for teachers to improve green features and this is the minimum costs and impacts. It is a case-by-case situation.

A lot of the things that I have been involved with the ones that I have mostly done or looked into where people have been state highways through small town that was a four-lane roadway and they resurface and they reconsider what we want to do as it goes through. There are other regions to consider and it can be a pretty long thing something we can discuss. I am mentioned safety operations reasons for considering this. In the safety area, the road diet typically given the analysis 19 through 14 separate science they looked at size along with California on Washington and put those together and boundless range am a 29% overall when they combine that data. The 19% is actually related to California and



FHWA Webinar: Did You Know a Road Can Go on a Diet?

Washington sites. Those are mostly suburban. The higher end was from iWeb. Most of the stuff that is done and Iowa and I helped write the guidelines the analysis was at the higher end that kind of thing most of the sites in the range of 4000 to 14,000. The advice generally given is figure out what kind of site you have match up the reduction and see if that means either of them. Consider that 29% in the middle. It is a pretty significant [indiscernible]. How do we improve road safety? We have fewer lanes and fewer vehicles, better sight distance, speed magnitude change. The higher end speeders that really move and we are the ones that are now behind somebody who are not the leader of the pack. The bike lane addition and the separation there this is all on a case-by-case basis determining what you do with the right way or cross-section that you are doing.

This is just an informational guide reduced number of complex. It also helps with turns because you are not dealing with many through lanes.

Here is one of better sight distance. The hidden vehicle this does happen. We also know and I should mention it has the highest accident rate. You can have this situation occur you often get better sightlines from the minor streets once again from you do not have potential hidden vehicles with the car behind it and that kind of thing.

Operationally we will remove the left hand on vehicle the complexity depending on the volumes can make things happen quicker if you will. You do have to look at that and again this is what you have and what you want in the future. Make a decision about what is acceptable and what is not. I added this in because the facts of the three lane situation and all that really means is if you have a four-lane highway and it is already operating like a three lane like a 3 Lane What Hwy. you are just matching out the operations with the actual cross-section. Your impacts may not be very large. That again is simply an operational analysis. We do have some liability issues. You are defining their space and making them more visible if you will. Often times you will get more activity because you are doing this. The typical out there they can be intimidating you to give it a physical barrier. It can be a nicer place to be and it feels more plus then and livable.

Lastly just kind of to say this a lot of them are done on existing pavement within the right of way. Sometimes it is just remarking and it can be done temporarily. There is just not a lot of effort you have to put in but you need to consider all the other aspects of traffic. Remember to think about on case by case basis. This is an all winding roads.

Improvements come out and often times people want to apply them everywhere and this is again a one ports will the toolbox. There are trade-offs that are involved here are just a few examples like Ike lanes and might help with the mobility and safety for bike riders. But you might have to get rid of parking.

Yesterday about if there is buses and you have to think about that. There is lots of synergies and great things that could happen at the same time there can be trade-offs I guess just understand that so we understand there are no trade-offs. The big thing here of course with regard to that you have to know what the objective is you really need to sit down with everybody and I can't tell you I mean I can tell you were where the situation and they just want to do it. Talk to people and find out what the objectives are of your roadway some of them are safety high-end taken a bike environment that kind of thing and then you have to make a decision is this another alternative? I do a lot of alternatives planning and that kind



FHWA Webinar: Did You Know a Road Can Go on a Diet?

of thing. The decision has to be a maid if you include this in the alternative. I'm going to say yes it is good thing if you can't meet your objective with a three lane conversion maybe it is not the proper alternative. When we get into in the reports there is awful series that are related to safety operations there are a series of other things you might have to consider an particular location. An appendix B we do lists that we suggests he'll ask yourself in some of those will involve consideration and discussion. Let's talk about a few of these factors not all them because there are lot. One table again is we have the factors I have got a few of these boxed out because I want to discuss some of them what is the current expected function of the environment those can be different things and you want to match them up with respect to that. Some of these are going into that into a system if you will that is better. Can crashes be what is the acceptable cues and changes at the intersection? If you have a situation which is actually one of those you will have different and packaging QA. There is nowhere else for them to go you need to think about that on the mainstream.

Do we have safety concerns and help the situation acceptable the ladies and slow-moving vehicles there are different ways that people have dealt with that and with regard to traffic in volumes I am looking at alternative analysis I am looking at the peak hours in my opinion one of the reasons that we are in this situation is because way back when if you well there was some [indiscernible] and we did. Operationally we did not need to do that and eventually gets down to analysis you are doing that kind of analysis. This one on the left I believe it here it is here where I live. Asa drive this roadway every day. On the left side just be on this figure is that here [indiscernible] you got the right way in because otherwise you would go through a number of cycles in the left lane. This is real close to being a de facto lane. They just converted this roadway for three lane roadway. It will be interesting to see how a work once the school gets up and running. On the right are some guides firm three different jurisdictions. The guidance that we put together here in lola in the late 90s we did some simulation and varied some different things and it was just a matter of how closely should you look at it. I have heard of a number of different things that are quite high volumes the thing to remember that is the before and after comparison. What you have now what you want in the future and what are the impacts? If there is no impact then people will know they are not noticeable. Lastly, once you have it in it is good with regard to crash reduction that kind of thing is what you would expect to happen and you can do that again the evaluation before and evaluate this and then with the other road users at least in my experience it has been a discussion how is and then you do the same after.

My general conclusions were and I have used them for number of years can versions are feasible and the characteristics involved but again you have some that are very similar and you really need to look at them on a case-by-case basis to compare and consider along with a number of others. This can be a good low-cost time to consider feasibility. It may have some time when you are doing yet it is not something like we are research-based sing -- resurfacing this. Consider it before so when it is planned in at that point is hey let's think about this. It can take some time to do this. Are the impacts acceptable to you? What is it that you are looking for and what are the expected and planned impacts and are they exist -- perceptible? And then we need education and outreach involvement.

We have had different ideas and they are new. My main piece of advice if you are going to put the first one in make sure goes in and works otherwise it depends on the situation so you want to make sure



FHWA Webinar: Did You Know a Road Can Go on a Diet?

people understand what is going on and get them involved an absolutely talk to everybody involved as you go through something like this. I believe that is the last one that I have so I will pass it back to Julie.

Julie Lambert

Thank you, Keith!

Next we'll hear from Humberto Castrillo. Mr. Castrillo has over 25 years of experience in both private and public sectors of the transportation/traffic industry, having worked on many planning, design and construction engineering projects in Florida, California and Illinois. He has a Bachelor of Science from Clarkson University and a MBA from Indiana University. He is a registered Professional Civil Engineer and a Professional Traffic Operations Engineer. Humberto?

Humbert Castrillo

The reason that road diet are considered is from the agency's standpoint of big benefit is the safety benefit. So safety is improved in roadways through a couple of ways also having four lanes instead of three or two lanes allows people to weave through traffic and you end up with side swipes and by having the road diet you eliminate those conflicts by going to three-way cross section view now provide a turn lane so people can move over to make left turns and you do not have those crashes.

The other benefit that you get is typically speed reduction. When you go down to only having to travel lanes the prudent driver who drive the speed limit controls the speed basically meaning the platoon of cars cannot travel any faster than the prudent driver.

I work for the Florida Department of transportation. And it is a pleasure to be presenting. I would like to tell you and Florida we have been doing at road diet for almost a decade. We can pleated policy. What that means is we have a very consistent protect double approach statewide. We need to have balancing state and local interest. We want to put the right road in the right place. We went to address all the users. We want to give wider sidewalks in the economic part and more parking. More livable environment landscaping and aesthetics. We want to make it an experience and connecting destinations. As part of the guide we identify some profile issues and concerns. In the last part is developing a concept report which we will talk about a little bit more about what that entails. Now the stakeholders the ones that I have included here are their part of the process. By no means are they all inclusive weave to talk to elected officials and anybody who has a stake. We have the applicant which it can either be a private developer. And that this track we have identified everything for the application to the completion of the process one person in the district should be also we assemble experts that are part of the district review team which are planning engineers and environmental engineers as well. And then we include the central office contact. The secretary requires that that he informed in the district that will have a limitations perhaps they can be politically [indiscernible]. We just want to make sure they're very successful. The review process consists of three stages. At every stage we will have a project delivery and a meeting. It requires elimination guide and preliminary information. There will be a meeting that will be scheduled. The District Court -- review team and they will answer whatever questions applicants have. Maybe some of them will be and how they developed the reports. It will be implemented at what the requirements are. What you can also see is on the last circle that the central office is going to be contacted just telling us that there will be a road diet project coming up in the stage to the applicant will develop a schedule and term report. The pass concept report will be submitted they



FHWA Webinar: Did You Know a Road Can Go on a Diet?

will look at the concept report and submit those to the applicant. Then we will discuss with the applicant all the issues of the report and if there any questions that we may have. On stage III they will submit a final report and then the district contact will submit the package and also to the central office now the central office roles is to approve or deny the project but is just for us to do a high level analysis and that is having a second pair of eyes to assist and then they will decide whether they will approve or deny the project then they will contact the applicant.

Communication materials. It is very critical that we receive these there are three checklists that we have identified. Each is a high level status where the applicant will know what he needs to submit. They include the initial meeting, methodology, and application checklist. If you can see to the right of your screen we have a copy of the checklists. Some of the things that they require it will be the project description if there is anything different in the schedule or any funding. One of the big decisions will determine that of the project.

Also, are there any anticipated right away and packs? You are trying to fit some will be in variations may be funding and the schedule.

On the application package this is where the applicant will be submitting a formal request letter and any approval by locals. These are very critical because it there is no approval then the project will be dead on the water. The last three bullet points funding plan, implementation plan, this is not critical. So what are the goals and objectives of the review process? Number one identify potential planning, design, construction and operational issues right off the bat. Develop a consistent process for approval of lane illumination requires. Flexibility. You will notice it is not [indiscernible]. We went to improve safety, operations, and athletic characters.

So and the concept report we will identify 20 issues. We understand that the complex city maybe some of them or all of them will be applicable to a particular project however, the applicant will go through each one of these profiles to make sure they have been addressed. So on and so forth. Just going through this we guarantee that the concept report is very comprehensive. And completes. So what is the vision that we have? It must identify what are the trade-offs right off the bat. What are they intending like bike facilities, wider sidewalks, and transit facilities. It is critical to understand that design issues are interrelated. If you do not take the time then the project will not be successful down the road. And then courted nation it is a must. I want to bring to your attention some of the safety issues in terms of safety and has been documented that the speed reduced is 1 to 7 miles per hour the pedestrian has a decrease in exposure. It also decreases bicycle crashes & Estrin crash rates.

Then on the bottom photo you will see a bicycle rider that he is using the bike lane. There is a separation between the bike rider in the traffic. In terms of traffic operations it is crazy because I would like you to look at the picture for us if you look on the upper right hand this is Edgewater Drive. This was one of the first road diet projects. It was in the road [indiscernible]. It had parking both sides and also sidewalks. As part of the land resurfacing and in conversations with the community so we can.at traffic standing and it indicates that it was very good candidate so we can go ahead and do that. You have bike lanes on both sides and we kept the parking as well. Some of the bike rider is were close to the parking and the driver were to open the door that would be a hazard but we have identified it will be a good candidate some of



FHWA Webinar: Did You Know a Road Can Go on a Diet?

the benefits that we are reducing but provide in the left turn that are available manner sections. Some issues and maybe some potential diversions. It is critical and terms of the roadway works how can we accommodate those it will be the way that we have [indiscernible] in terms of sidewalks what is the connectivity where they coming from. Do we have acceptable programs and just enjoying landscaping Anna [indiscernible]. And then the park on the other side [indiscernible-heavy accent] there were no provisions if you look at the picture you can see there is a lot of residential but there are no sidewalks are bike lanes so the community requested for the road diet. So after so if you look at the picture below you have bike lanes on both sides but you have a multiuser pass on the right-hand side. We also started landscaping I just want to bring to your attention that the reason why we have a multi-use path was because of the users. They can go ahead and write in the bike lane they are using the bike path. It was a win-win situation for everybody. And terms of transit impacts you have potential delays, like the volumes added headways. Where will be the location of the bus stops the near or far side? Do we need to have less plots? You have a person in a wheelchair waiting for the bus so this is a multi-[indiscernible]. What will be parking for persons with disabilities if you look at the picture above you have the [indiscernible] parking. However, some and they are using the real parking and the benefits of the vehicle when is pulling out of the parking can go ahead and see if there are any complex in terms of the bumper [indiscernible-heavy accent]. What is best may be you need to put in some other steps. The lane that repurpose the we need to use for bus especially with businesses you must talk to the public and last but not least. The design of variations and exceptions is usually for trouble lanes and wet and all landscaping components. The utilities generally did not impact if improvements are within existing right away. It can affect the degree of mobility and access function. Lowering costs, especially if Corday with this project. It is very inexpensive. I would like to share with you two projects one that was denied a one that was approved I want you to see that they were both affective this project is located they wanted to improve [indiscernible] part of this was to make sure that they identified the terminal point. This corridor is a six lane and a measured commuter lane. Landscape medium having the bike lanes what this tells you is that after several conversations they decided to reject this project so they did not move forward and has since what the road diet was not approved they knew what to expect the other one is in the Tampa area this one was 3.2 [indiscernible] it was constructed almost 9 years ago. It wasn't enough to sell but it was the coordination.

I just want you to see that this is parallel and I will make reference to these on a future slide. You can see the before the undivided and after what the three lane. You see that the travel lane changed. Your typical section may not be uniform make sure you identify for those issues.

Some of the important points if you look on the upper left-hand corner you will see that certain conditions that there is a business on the right-hand side. This business is a plumbing business as it has a wide driveway so when we finished the roadway diet we gave them new sidewalks. The main point was to this business was using the right away but when you can retake control of the right away.

For bike rider is I want to bring to your attention the bottom picture so here we have a bike rider he is not doing what we were hoping if needed he can be there but we would like for him to cross at the crosswalk or the intersections. If you look behind you will see a delivery truck. Before and this was more weight and -- this was a four-lane. While they are parking in the media him which it is a win-win situation.



FHWA Webinar: Did You Know a Road Can Go on a Diet?

We have a dedicated bus lane on or for this portion of the segment they will have the back lane you have the bus stop. Make sure you make improvements and turn and shelters and some amenities to the users.

Last but not least the before and after data number one is that the volumes decreased almost by 3000. The remaining traffic is using the eye to 75 that is parallel. And term of crashes they were reduced by almost 60%. It behaves exactly the way it intended. Beth -- for bike riders crashes it went up slightly.

Other more writers now? The fact that we did not have these factors before is really not relevant. In essence, reduce crossing distance, and installed bike lanes, and proves LOI and reduce speeding and crashes. It was very effective because we are able to implement the road diet as part of the three our project. I just wanted to show you as part of the process within the last year we have received eight applications for lane and initiated for have been approved and four under review. If you luck, six out of the eighth otherwise 75% are six lanes to four lanes. Now that we have a process and gone through the training we have a consistent process but also for the applicant we have been able to implement it being very successful. It is part of a complete initiative with the main goal are intent goal is to it the right street on the right place. With that, I conclude my presentation and turn it back to Julie.

Julie Lambert

Thank you, Humberto!

Next we'll be hearing from Anne Chanecka and Diahn Swartz.

Ann Chanecka is the Bicycle and Pedestrian Program Coordinator for the City of Tucson, which is currently a gold-level bicycle friendly community. She has a master's degree in Public Administration and served as a Peace Corps Volunteer in Madagascar. Ann has 10 years of Bicycle and Pedestrian Planning experience and has worked on several road diet projects.

Diahn Swartz has been a traffic engineer with the City of Tucson Department of Transportation for more than 11 years. She has over 20 years of traffic engineering experience in both the public and private sectors. Ms. Swartz heads up the signing/striping section at the City of Tucson, where she has directed the design of 12 road diets. She is a registered engineer in the State of Arizona and a Professional Traffic Operations Engineer (PTOE).

Anne Chanecka and Diahn Swartz

I am happy to have the opportunity should show some road diet experiments as mentioned I am here with my colleague coming from the local contacts I appreciate the comment about being in the trenches. We will talk about some considerations and lessons that we have learned one of the lessons that I discussed when I am talking about road project i.e. learned that I don't really like to use this road diet I titled it restriping for safety.

Before I get started talking about road diet I wanted to start with this map I know you really can't read at but hopefully you can see it the orange/red line that makes up the area for Tucson we now have bike lanes many of our road diet projects came about to a lemonade gaps in the network.



FHWA Webinar: Did You Know a Road Can Go on a Diet?

The first road diet dates back to 1994 and this is what that looks like today. You can see that previously added had been a four-lane undivided even in the mid-90s a decided that in order to improve safety and provide the activity that they would experiment with doing a road project here. We have been compiling how many diets and this summarizes that information. The first one there shows the traditional doorway so we had done that again and we have done 14 and we will talk about the other ones that were traditional ones there has been seven of those and we can't even count how many times we have reduced travel lane width in order to get bike lanes wider.

And so I wish I could say that we have a wealth of information for after those however to be perfectly honest coming from a city that really has limited funding it has not been something that has been focused on in the past. In any of our road diet have been pretty limited. You can see [indiscernible]. The change column shows what type of road diet it is. They have been much longer has a varied to over 21,000.

To give a few examples this is an example over half a mile that had previously 1001 Relay Road. it changes to one lane and keep the parking lanes. Here is a different type of project in which it was a five lane. Through this project it reduced 1 Travel Lane. but then added bike lanes in both directions.

And then this is a project that was pretty recent this was done in 2015 this had been a traditional four-lane undivided lane. This is one that I want to point out from the time and which it was pointed out that this road had a lot of Karrer sticks -- characteristics from when it was going to be researched this -- resurface. We implemented this in all about one month. And then this is the road that was mostly resurface we really haven't changed costs but is just the cost that one out. This is where they were reduced by a foot and many of them were just to do that in order to make the bike lane wider to a six lane. I appreciate Dion who will be speaking next. She is always looking for these opportunities. I'm going to turn it over to her to talk about her expertise in this area. What is significant about this is they are all the board of three is they are all the board of 3+ bikes they were all done as part of our pavement improvement program.

I have never designed a road diet I have always had to figure out what to do with an extra lane adding one but terminating one takes a lot more consideration. There is to ways you can get rid of it or you could trap the lane and that is where you have an exclusive through lane that turns in to an exclusive turning lane. The components of having either you have to have a merge area I would refer you to that in the manual. The distance that is the distance that is needed the work out what lane you are going to be an that is different do not get it confused. I start with the launcher -- larger numbers we have a supplement that allows us to use lower values. It is important to do a drop lane that you clearly define the taper and motorists were not utilizing the space properly. Regarding traveling I would also recommend if you are doing a road diet in order to get bicycle facilities that you do not use the traveling lane. They're not accommodating. Consider you will do a right or left lane. If you are looking at for Dash 21. Here is one of these road diet that you can see it is completely a residential area and four lanes and 4 Lanes Was Way excessive and was encouraging excessive speeds. That's what we did here we added a bike lane once we got that conversion.



FHWA Webinar: Did You Know a Road Can Go on a Diet?

As you can see there is a bike lane and a parking lane and I found that if you don't have a lot of turnover as is the case here there basically parking and they are not going in and out a whole lot there is no problem having that but the biking lane is both quite wide the double yellow that we use to obliterate I'm going to talk about that a little bit later this is a road diet done near the downtown area it was resurface again as part of that program and this is also driven by a lot of interest in [indiscernible]. Or the actual condition. I told you I would talk about the obliteration treatments. We have virtually the resurfacing program and so it was very cost effective and inexpensive -- inexpensive. Remember that other picture that I showed you that pavement treatment was the chip seal it will not obliterate we blacked out to obliterate the double yellow steel I am very satisfied with how long-lasting it is. The other thing that we use that works out really well. Showed on the slide we were able to get bike lanes so we basically applied those all over the pavement markings. And then the other two is a very good and it can be quite damaging and audible -- [indiscernible-due to audio]. This is a couple things that we have done recently there is a park there is also a school crossing. This is probably artificially high because there was construction on apparel over out. It was about 56 deep wide. We had a problem with people parking up on the sidewalk and so we were able to add a bike lane and parking lane. We find that if people we do not have a problem with the doors and bike lanes. We provide room with that.

Couple more images because the picture is worth 1000 words. Her other location as Park Avenue this is a very long segment it is 2 miles long it had important missing pieces without pushing curbs back it also had a school zone in the ADT's were moderate.

We had traffic signals at approximately half mile spacing so there were intersections along with traffic signals we were able to maintain the capacity by maintaining the lanes. We were also able to have school crossings. Here is a little snippet of the roadway design and it shows here's my little guy.

So many of those we have showed previously they were and initiated by neighborhoods on this project we did not have that lectionary. Both of the two case study projects were initiated when I started my presentation I mention we don't like to use road diet when they brought this it was a no-brainer. It was four-lane undivided it was pretty low ADT's and their schools and parks and community centers to me as seems like a great opportunity and then I went to the neighborhoods explaining that I did use road diet and it really wasn't taken that while. There were very few people who were very opposed to this project they did not want this to go through. At the time the council member was up for reelection he let us know he would not be supporting it. My department management put it on pause they paused it to let the election run out at that time we went back a good year later with a much more refined message so this was the open house flyer that doesn't mention anything it is really something that we focus on safety it was better received and moves forward. Because of the contention we did promise to do more of an analysis and we are looking to do the analysis with the funding that we had this is what we decided we could collect and report back. We let the speed crash and then we look at the quality of service and I realize that has some limitations. So it was important to me rather than creating a lengthy report for each of the projects and we could use some of the biggest thing here's a look at and I am happy to share these is the middle area that shows the reduction and crashes granite the before date out was an average of five years and after data is just that single year following the road diet that we still think it shows a pretty significant reduction. We did look at the different types of crash types and what is



FHWA Webinar: Did You Know a Road Can Go on a Diet?

reduced and then we also had been monitoring whether there have been any crashes and to date there have not been any reported. Finishing up our presentation we do have several that are in design now. The top three listed are from the downtown area and will at least include a buffer aided like lane. The one at the bottom is really an interesting collector street. It continues for about 6 miles east in Tucson. There is a fair bit of traffic we hired an consultant. We really need those travel lanes so they did not recommend going through that stretch but they felt like east of there there really could be a road diet. Next year there is a 4 mile segment which is up for resurfacing. It is such a long stretch and a pretty built-up area but we will bill you collecting the crash data with that we are wrapping up our presentation.

Julie Lambert

Thank you Anne and Diahn!

I'd now like to start off the Q&A session with the questions posted online. After we get through the questions in the chat box, if we have time we will open up the phone lines. If we're unable to get through all of the questions, we will get written responses from the presenters and they will be included in the finished transcript.



FHWA Webinar: Did You Know a Road Can Go on a Diet?

Questions for Keith:

- Does a road diet relate to traffic calming measures?

(Answered in chat pod)

- Did head-on crashes show any increase?

(Answered in chat pod)

- How do you accommodate bus transit stations and/or turn-outs on 3-lane sections?

(Answered in chat pod)

- On average, how much is it per mile/foot to convert to the road diet?

(Answered in chat pod)

Keith Knapp: The cost varies with respect to what needs to be done and how you serve the traffic/road users you have in the manner needed. It depends on corridor characteristics and the improvements that need to be made. I think Humberto mentioned access management – that's one example.

- What is the minimum acceptable bike lane width?

(Answered in chat pod)

- Is there good software to evaluate three lane sections?

Keith Knapp: I noted in the chat box what Seattle was using (Synchro). We purposefully, if I recall correctly, did not bring software into the discussion in the fhwa informational guide (for various reasons). The evaluation of three lane roadways can be done and what you use will depend on what you are evaluating and your objectives (intersections, segments, arterial, etc). There is also a "Road Diet Myth Busters" document that discusses the type of analysis that can be done (see http://safety.fhwa.dot.gov/road_diets/resources/).

- How do convince a local agency the TWLTL is not a "suicide" lane?

(Answered in chat pod)

- What techniques have you used to convince skeptical leaders to do a road-diet conversion?

(Answered in chat pod)

Keith Knapp: Other methods including proposing it as a temporary consideration and showing, visually, etc. , the positive impacts it has had in other locations. There is also "Road Diet Myth Busters" document at http://safety.fhwa.dot.gov/road_diets/resources/ along with a brochure and desk reference.



FHWA Webinar: Did You Know a Road Can Go on a Diet?

Questions for Humberto:

- In Florida, how many locations did a road diet to create a parking area in the "middle" along with a new median?

Humberto Castellero: The objective of the two-way left turn median is to provide temporary access for vehicles to clear the through lanes while waiting to make the left turn movement. In limiting circumstances, it also has been used temporarily for parking to accommodate delivery services to adjacent businesses that had access to the outside lane prior to the lane elimination.

- Would a road have to wait in line for re-surfacing if it wants to get on that diet?

Humberto Castellero: Usually road diet projects are developed as part of a regular road project, especially if only restriping needs to be done. All FDOT road diets are part of either a milling & resurfacing projects or major reconstruction projects. From a coordination point of view, it's better to impact the public only once with the maintenance of traffic while addressing safety, operational and maintenance issues.

- What are the types of collisions which are most reduced via a road-diet conversion?

Humberto Castellero: Depending on the number of lanes being reduced and the access management modifications, the frequency and severity of right-angle, side swipe and rear end crashes are reduced. Also, bicycle and pedestrian crashes are reduced due to installation of bike lanes and reduction of number of travel lanes crossed by pedestrians. If there is a two-way left turn lane, it could be used for pedestrian refuge as well.

- Did you complete a 2010 Highway Capacity Manual (HCM) Urban Street Facilities LOS analysis as part of your evaluation?

Humberto Castellero: The Concept Report is a very high level document determining the feasibility of the road diet along the corridor. Once the report has been approved, traffic, pedestrian and bicycle counts will be obtained to perform LOS analysis. The FDOT has developed Florida specific LOS based on the HCM methodology.

- Does FDOT look at peak hour, peak direction volumes and not just daily (20,000) in the evaluation?

Humberto Castellero: The Concept Report is a very high level document determining the feasibility of the road diet along the corridor. The 20,000 AADT is just an indication that the road diet is potentially feasible. Once the report has been approved, a preliminary engineering report will be conducted which will include 24-hour, peak hour and turning movement counts along the corridor.

- Did you not consider moving the sidewalk away from the outside travel lane via a buffer to improve pedestrian LOS? (Nebraska Ave slide)

Humberto Castellero: New sidewalk was constructed where missing. Existing sidewalk remained in place.



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Questions for Anne and Diahn:

- When observing the peak hour, what is being evaluated and what is the intended outcome? Also, is there an increase in crashes on the parallel or adjacent routes where traffic is diverted ?

Anne and Diahn: For many of our projects we only look at the ADT to help us determine if it an ideal road diet candidate. In some cases if the ADT is relatively high (>15,000) we have also looked at peak hour counts and turning movement counts. We have modeled traffic patterns to look at how the Level of Service may or may not be impacted. I'm happy to share a report that was done for one of our projects if anyone is interested.

To-date we have not evaluated crashes on parallel routes following road diets. From the data we have, we don't think there has been much if any traffic diverted. The road diets have accommodated the same volume of car traffic post-project. The one summary sheet that shows a drop in ADT we believe was not related to the road diet, but rather because the 'before' ADT data was artificially high due to a huge construction project on an adjacent parallel route.

- Please define "trap lane"

Anne and Diahn: I refer to the 2012 AASHTO Bicycle Facilities Guide (page 4-25).

- Are there known/published capacity reductions when parking is included?

Anne and Diahn: For our projects to-date we've only added parking lanes where parking was already happening. We currently have a road diet in-design which will add new center-median parking that doesn't currently exist. We shall see what happens with that one!

Wrap-up

Thank you everyone. I will be sending out an email to all registered participants that will include the chat pod contents as well as other follow-up details. Thank you for your participation in today's webinar.