BLOOMINGTON • MONROE COUNTY
mpo

POLICY COMMITTEE
October 16, 2015
1:30 – 3:00 p.m.

Policy Committee Meeting Minutes
October 16, 2015 Council Chambers #115

Attendance:

Policy Committee: Jason Banach, Tony McClellan, Michelle Allen, Lisa Ridge, Susie Johnson, Jack Baker, Kent McDaniel, Richard Martin, Julie Thomas, Sarah Ryterband, Geoff McKim, Andy Ruff

Staff: Josh Desmond, Anna Dragovich, Vince Caristo

Others: Dean Munn

I. Call to Order- Committee members introduced themselves.

II. Approval of the Minutes
   a. September 11, 2015- Julie Thomas said her name is incorrect. Richard Martin moved to approve the minutes as corrected. Geoff McKim seconded. Motion passed through unanimous voice vote.

III. Communications from the Chair- None at this time

IV. Reports from Officers and/or Committees
   a. Citizens Advisory Committee- None at this time
   b. Technical Advisory Committee- None at this time

V. Reports from the MPO Staff
   a. Complete Streets Policy Review Update- Anna Dragovich presented an update on the progress of the Complete Streets policy review in the TAC and CAC. We're still working on it and making good progress. The discussions at this point have been around what we want to see in our new policy, what was lacking in the old policy. One of the new things we've worked out is incorporating check points in the policy. In the past, the Complete Streets guidelines have been applied when a project comes up for TIP funding. For whatever reason it hasn't been clear at what stages throughout the process we would like updates. We're creating check points which will be a review by staff and the committees. Moving forward we will flesh out what the checkpoints look like.
   b. Crash Reports 2011-2013 & 2012-2014- Vince Caristo presented the updates. We recently completed two crash reports, one from 2011-2013 and one from 2012-2014. Our crash reports look at 3 year periods. The intention of the crash report is to provide information to LPAs and the MPO to identify locations we can reduce crashes and improve safety outcomes. The number of crashes tend to be consistent from year to year. We had 12,500 crashes in the 3 year period in 2014 which represents a 2% increase. The vast majority of crashes- just over 80%- involve no injuries. Some types of crashes are much more likely to lead to injuries. Figure 1 shows the likelihood of an injury occurring for different types of crashes, bicycle pedestrian, moped or motorcycle crashes, crashes involving multiple vehicles and buses. You can see that crashes involving buses are the lease likely to lead to injury while crashes involve pedestrians, bicycles or motorcycles are the most likely to lead in injury. Again, that's a trend that's consistent from year to year when we do the crash analysis. That's one of the reasons why many of the safety courses locally and at the state and national level focus on those three modes. The other thing to highlight transportation injuries continue to be one of the leading causes of an unintentional injury and death and that's really why we do what we do here at the MPO.

Some of the things we look at for crashes is we look at when crashes occur by time of day. These trends are remarkably consistent from year to year. You can see there are peaks in the rate of crashes during the morning and afternoon rush hour and crash rates tend to be lower on the weekends. Weekend early morning hours tend to be higher crash rates then weekdays during those same times. Sundays are the safest days to drive and Friday has the highest crash rates year after year. These sorts of things are important for law enforcement to understand where and when to apply their tools. The analysis that's maybe most useful to us and our local public agencies and our engineers in identifying counter measures to reduce crashes is our analysis by location. Table 2 takes all the intersections in the county and ranks them based on the total number of crashes that occurred there during the three year period. This year, the intersection with the highest number of crashes was SR 37 and W 3rd St. The second column on this table shows the ranking of that intersection in the previous year's crash report. You can see here that SR 37 and W 3rd St was also the highest crash total location in the previous crash report. You can see this list of total top crash locations is very stable from year to year. More than 80% of the intersections or locations on this list appeared in the previous year's list. The variation is even smaller as you get to the higher levels here. You get more change and variability as you get lower on the list where the crash totals are lower and there's more year to year variability. As we've talked about before, the total number of crashes that occur at a location does necessarily mean it's unsafe. So we look at other things. The other factors we look at is a crash rate. We know that one of the primary factors that go into the number of crashes that occur at a location is the number of vehicles that are going through those locations. The locations with our highest crash totals also tend to be our locations with the highest volumes of vehicles entering. To normalize for the effect of traffic volumes on the number of crashes that occur at a location, we calculate crash rates using the available crash data from INDOT and the traffic counts that we conduct at the City and in Monroe County and we resort that list. You can see here the top intersections this year are both state highways again. SR 45 and Gilham Dr. which is west of town. This is an unusual one, we're not really sure what's going on here but at the TAC meeting last month our INDOT representative said he would take a look at that. Potentially this could be an issue with the data. Sometimes there are glitches in the data and certain locations for one reason or another tend to misapply crashes at certain locations in a systematic way. That might be the case here. The whole idea of the crash report in general is to provide information that our local public agencies can use to do a more focused analysis at particular locations that might pop out as potential concerns and this is definitely one of them. The third thing we look at regarding crash locations is the severity of crashes that occur. A lot of locations that have a high number of crashes don't necessarily have a high number of injuries at those locations. We want to try to find a way to account for the fact that some locations tend to have more severe crashes. What we did was we weighted the injury that occurred at each locations. We gave a weight of 12 for a fatality, 6 for incapacitating injuries where the person injured was not able to leave the location on their own accord, 3 for minor injuries where the person didn't go to the hospital and 1 for property damage only crashes. You can see this list is not very different than the unweighted list ranking. We'll need to relook at our weights and try to do a better job with those values to try to make this more useful. We also look at the crash factors, or the primary reason the crash occurs. This list is year to year and does not change very much. It doesn't provide too much useful information but we know some of the top factors leading to crashes are failure to yield to right of way, following too closely, unsafe backing, weather conditions, and other. Another important part of the crash report is looking at the fatalities that occurred. In this 3 year period, 2012-2014, we had 24 fatalities that occurred at 21 different locations. We see a significant fluctuation year to year in the number of fatalities because the sample sizes are really low. One crash has a big impact on the annual total. That's what we've seen here. You can see 2012 we had 11 fatalities, but that went down to 4 in 2013 and back up to 9 in 2014. Overall, our fatality rate as a function of the total number of people in our county is about 5.6 fatalities per 100,000 people, which is almost half of the fatality rate nationally. Table 8 lists all the locations where fatalities occurred. You can see there were two locations where multiple people died. There was one two death collision and one three death collision. It lists the type of travel mode of the people who died. Table 9 shows the intersections that have the highest number of crashes involving bicycles or pedestrians. The intersection of 7th and Jordan on the IU campus once again tops this list. In contrast to the locations with the highest total number of crashes, these locations with the highest number of crashes involving bicycles or pedestrians are not our high volume state highways. These are our downtown core locations, mostly in and around the IU campus, but again the principle holds, that these are the locations where we have the highest

usage for biking and walking. One of the things we added this year that was new that you all asked for was in this list we list the total number of bicycle and pedestrian crashes at the location. The final column we list the total number of crashes. You can see bicycle and pedestrian crashes make up about 3% of all of our crashes in the county, but each of those locations, for example 7th and Jordan, more than 50% of the crashes occurring at 7th and Jordan involve a bicyclist or a pedestrian. These are definitely hot spots for those types of crashes. Figure 5 shows the total number of bicycle and pedestrian crashes by month. There's a peak in the spring and the fall when people get back to walking and biking after cold weather or during the warmer months. This is information we use with our Bloomington Police Department and in coordination with the IU Police Department to focus our education and outreach activities during these months. This has been useful to justify our strategy for education and outreach in applying enforcement measures which are quite expensive to do. You want to make sure you're doing those activities during the right time of year so they have the most impact. One of the things we got to do this year was to look at the before and after effects of improvements at Atwater and Henderson that were completed using Highway Safety Improvement Program funds. It is a project that was completed in 2011 so we were able to look at the before and after to see the impact. The results are actually very encouraging. In the period from 2008-2010, there were 37 crashes that occurred at that location. In this most recent three year period, from 2012-2014, there were 17 crashes that occurred there. That's a 54% reduction and I think that shows for that project the indications are we're meeting our goals and reducing crashes with that money. In the appendixes we have several maps. Figure A shows all the fatal crash locations. What's important to note on this map is the fatal crash locations are primarily in the rural areas of our county. That's consistent nationally. Rural crashes tend to be more severe then ones in more urban areas on the whole. Speeds tend to be higher in rural areas. Figure A4 looks at different age groups to seem if an age group is over or under represented in terms of total crashes and fatal crashes. You can see elderly populations over 65 or 70 years of age are way over proportion of fatal crashes that occur. Table A1, the last page of this report, is one of the more useful tables for our LPAs. This is one of the factors that defines eligibility for our local HSIP funds. What we do, there are three criteria for coming on this list. Each of these intersections are exclusive of a state owned facility, they're within the urban area of our MPO and these locations are the top 50 locations that are exclusive of INDOT facilities that are ranked 1st by the total number of fatal or incapacitating injuries and then next by the total number of crashes that occur. On the last column here I gave an injury rate, which is a quick way to look at the severity of a location to the proportion of crashes that led to injury. Like I said before for the entire county about 20% of all crashes lead to injury so anything over that, that location tends to have more injuries than the norm. These are locations that we would hope our LPAs would look into for potential use of HSIP funds. If there are any questions I am happy to answer them. This is in draft form. We will finalize this document after taking input from you and publish it on our website. One of the things we're looking at doing that our Transportation and Traffic Engineer has done at a previous job is take a tour of some of these top crash locations with the members of our MPO committees to try to get a feel for what may be going on there.

Kent McDaniel asked how long it will be before it's published.

Caristo said it will be within a week.

McDaniel said people from IU's Traffic Safety Committee are always interested in seeing that. The other thing is how close to an intersection does a crash have to be before it counts as being in the intersection?

Caristo said we draw a 250 foot radius around the intersection. It's pretty standard. It's what many other communities across the state use as their distance to define an intersection area, but it's not perfect so within each of those locations there are some crashes that might not have been related to the fact that it was an intersection. When our LPAs do a micro analysis of a particular intersection, they're going to go through every crash record at that location in more detail.

McDaniel said you mentioned there was a 2% increase in crashes over the previous period. Were you talking about from 2013 to 2014 or the whole 3 year period?

Caristo said the three year period.

McDaniel asked if we have a comparison for total vehicle miles travelled for those same periods? Are they going up or down or do we know?

Caristo said we don't know.

Jack Baker said in Table 3 in the top 50 crash locations several of these have fairly significant jumps in the crash frequency ranking. There are quite a few that have jumped from double digit to single digit numbers. Do you have any explanation what's going on in those intersections that's causing such a change?

Caristo said that's something we could look into. It could be…

Baker said it's just interesting that E. Kirkwood and Dunn is number 4. I don't know if anything has changed there. I don't think it has. That's quite a remarkable crash rate for one that was ranked so low in the last report.

Martin said maybe the traffic volume changed there.

Julie Thomas said this table is ranked by a different column. He's looking at the left columns and Table 3 is ordered by the right column.

Caristo said this is the second year of calculating crash rates so we did revise the method we used. It shouldn't have changed things significantly.

Geoff McKim said the differences are between the rank in terms of total crashes and the rank in terms of frequency, which would be the crash rate.

Caristo said column 2 in Table 3 shows you the rank in table 2. The intersection we were looking at, its crash frequency rank is 39.

McKim said there are a lot of crashes but not necessarily that many compared to the traffic volume.

Baker said what's the procedure now? How do we alleviate these things? How do we get them into the TIP and get them money? What's the next step after forming this list?

Caristo said one of the things that's required for all projects using HSIP funding is to conduct a road safety audit, which is a multidisciplinary review of a location that involves non-transportation professionals, maybe from the police department or from one of these committees who would go out as a team and conduct a similar review at one of these locations that an engineer would do but try to give an unbiased perspective as to what the problems might be at that location and propose or make recommendations for geometric improvements as well as any programmatic activities that might reduce crashes. That's a process that's required for all projects before they are able to receive HSIP funds. I think that would be one of the next steps to figuring out what to do to try to reduce crashes at one of those locations.

Baker said do we then start looking at the amount of money available? How do we knock these things off the list? I don't know how quickly we're getting safety improvements at these locations. Some of these seem to hang for years and I'm wondering if there's a prioritization or some way we look at these to decide if we're going to take care of one this year or if we look and we don't have enough money to do it right now. What really happens there or what can we do to get some of these knocked off the list or lower on the list?

Caristo said those are all good ideas. What it comes down to is project selection and project development is something that's conducted within the local public agencies themselves. That's something the City of Bloomington and Monroe County… Their process for identifying projects, prioritizing which ones should happen, that's something that's internal to their engineering departments.

McKim said when's the next call for HSIP?

Desmond said we've just been through a couple calls for that. Right now the next available funding we have for HSIP is for FY '18 and '19. I think I said after the end of the last call that we're just going to keep it open and as soon as somebody can come up with a project for one of those years and get it to us and get it eligible, we'd be happy to spend that money and the sooner the better because we want to make sure we get that money locked in before it disappears from our grasp. If people have got an idea they want to start working on, we're all ears. We're happy to work with you on it.

Martin said one of the issues we've got is we can only spend so much on each project from those funds and many of these improvements exceed that threshold. There's no way to parcel them out into individual pieces that work. The other one that I think from our perspective that is important to do is to start partnering with state and federal government on their areas, which we now know we can do, so that those top 15 that are all state facilities could take the benefit of some of that money that we've got sitting there because we are not spending it as fast as we're getting it. A lot of that is this problem with getting enough resources to do an adequate project. If we partner with the state and federal government then our contribution may be enough to really make a substantive improvement. We really need to work on that approach to solving a lot of these because they're the high accident areas.

Baker said that was going to be my next question is how we could work with INDOT and partner up to get some of those projects done.

Sarah Ryterband said you mentioned the HSIP funds that went into the Atwater Project. I'm wondering when we see that 50% decrease, we still have 50% of those crashes occurring. Were we able to isolate the elements that are causing crashes to continue despite the efforts we made at that intersection?

Caristo said the short answer is no. Atwater and Henderson is ranked 45 on our HSIP list. In this time period we had 18 total crashes and of those 1 was a fatal or incapacitating injury crash and 33% of the total crashes, so about 6 of those crashes, led to injury of any kind.

Ryterband said just in terms of engineering, what did we do wrong? Yes, we can probably never get to a 0, but is there anything we did wrong in the design that continues to be a problem? That's really what I'm wondering. Are people simply going through the light? What are they doing?

McKim said is it alcohol? It seems like you've got the data.

Caristo said we can pull the data for this intersection.

Ryterband said going forward if we're going to invest HSIP funds, I'd like to know that we're doing it intelligently.

McDaniel said there are certainly engineering solutions that can force people to change their behavior and try to make an intersection safer but you can't force bad drivers to become good drivers.

Thomas said Table 5 rank number 5 is "other". That's a pretty big ranking with 15 injuries and 1 fatality. I think that should be broken down into whatever it might be. I know some of these have multiple reasons so I know that can be difficult. The other thing I wanted to ask is for you to notate when upgrades were done. For example 10th and the Bypass, Curry and Vernal, these are intersections that have been upgraded recently, so when they were upgraded, it might be worth noting when the intersection was upgrade and then notate the number of crashes since that time. I think that would be really useful for us because we may be chasing our tails a little bit if we think there are still high crashes at 10th and the Bypass but really this is all construction and pre-construction, not post-construction.

Caristo said that's a really good idea. I think we've talked about this in the past, highlighting locations where MPO funds have been used recently. To your general point, we continue to find ways to get more out of this data and communities across the state struggle with some of the issues you brought up. It comes down to these are actually police officers in the field at the scene of incidents trying to do their best to report what happened. There are errors along the way getting to the statewide database. The good news is there is actually a ton of information that is available in the individual crash reports. We've just had to try to make decisions in what's the best use of our time in doing a global analysis.

Thomas said I get your point that it could get to the point where it could be unusable.

Andy Ruff said you mentioned earlier our area is significantly safer in terms of fatalities and serious injuries. I apologize if I missed this earlier when you were discussing it, but is that per vehicle miles travelled or what is it?

Caristo said the number I cited is the fatality rate per 100,000 population. It doesn't include vehicle miles travelled or exposure. In Monroe County for the 3 year period we had 5.6 fatalities per hundred thousand people. Nationally, across the whole country in 2013 that rate was 10.35 fatalities per 100,000 people. I think what you're bringing up is fatalities don't paint the entire picture. In some ways fatality rates are the most reliable data that we have because we know every fatality that occurs gets a high level of investigation. We know that almost every fatality that takes place in our transportation system is reported and that's not the case for other types of crashes. There's a high rate of non-reporting for a large percentage of all other crashes that don't involve injuries.

Ruff said so there's no way to get something with the rate of exposure.

Caristo said a lot of the data we use in transportation one individual piece of data isn't going to make a convincing point. It's one indicator. For us, we don't have that many indicators we can use to compare safety outcomes or that we have used in this report to compare safety outcomes in Monroe County to the rest of the country, but this is one we do have.

Ruff said what about some kind of comparison with other similar sized metropolitan areas? That would seem to be a much better indicator of how we really stack up. When you talk about less densely populated areas there's many more VMTs probably and time of exposure is going to be higher.

Caristo said that's a really good idea.

Ryterband said she was struck by the fact we're only seeing reports if the police were called. Is that correct? If Julie rear ended me and we didn't call the police and just dealt with it, you would not have any of those reports. Is that correct?

Caristo said that is correct. The National Cooperative Highway Research program had a study that came out nationally examining this issue of unreported crashes and I don't remember the number off the top of my head, but it was very high. It was higher than I expected. I believe it was about 30% for all types of crashes. We know bicycle and pedestrian crashes for sure go unreported at a high rate, but it's actually a problem with all types of crashes. The good news is that those crashes tend to be less severe. Like I said, crashes that lead to serious injury or fatality are more likely to involve the police and that's why fatalities and injury crashes are a more reliable data source because they probably capture more of what actually occurred. Some communities, like in Indianapolis, work with their hospitals to look at hospital intake records which for crashes that lead to injury can include more of the crashes that occurred. That's something we haven't really looked into but could do.

Martin said I am confused about a few things. In Table 2 Crash Rank #18 S. Walnut Street Pike and E. Winslow Rd and crash rank #31, S. Walnut St. Pike and W. Country Club Dr/E. Winslow Rd. What's the difference between those two?

Caristo said #18 is Walnut Street Pike and Winslow Rd and #31 is S. Walnut St. They're adjacent to each other but they're not the same.

Martin said the one is farther east?

Caristo said Walnut Street Pike is further east.

Martin said in the table on HSIP locations you have W. Kirkwood and N. Walnut St and you have a W. Kirkwood and N. Walnut St in Table 2 but in Table 9 you have E. Kirkwood and S. Walnut St. Are those actually all the same place? Why are they labelled differently?

Caristo said we try to be consistent with those. The situation is the dividing line in our community for north and south is 3rd St and the dividing line for east and west is Walnut St. What happens is in our data is when you have a location that is along those roads it says north and south. I tried to pick one but I guess I wasn't consistent.

Martin said you have in Table A1 Curry Pike and Vernal Rd. It's number 3 in that table. The total crashes is 34. That doesn't appear in Table 2. Why not? Are you using different data set?

Caristo said it appears as if it should. I'll have to look into that.

Martin said that gives me some concern about whether or not there's some consistent data set you're using for all these tables?

Caristo said it could have been a localized error.

Martin said I would encourage you, when you make this next one up, that you annotate those locations and years in which some kind of remedial action has been taken so we can look to see if there was any kind of noticeable change that might be occurring. It would also tell us how many of these we're actually spending money on. I could go back and look but it would be a lot of looking. It would be nice if it was just here in the table.

VI. Old Business

a. 2040 Metropolitan Transportation Plan- Josh Desmond said at our last meeting we talked about some scenario results we had received which were incomplete at the time. They are still incomplete but we have more than we had at our previous meeting. We included a refreshed version of what we gave you for our last packet in your current packet. The scenario results you have now also include scenarios 4 and 6. We're still missing 3, 7 and 8 but those are in progress. We do have our model consultant Dean Munn from Corradino Group here with us today. He's been with us all morning in the office helping to install the model in our local computer and help train us in how to use it so we can test some different scenarios. As we install the model, we're going to be coding for those remaining scenarios so we can learn how to do it as we go and produce those results to add to this batch you have already to give us the full picture of all 12 scenarios in the coming weeks for us to analyze and try to draw some conclusions from. Dean has a presentation he's going to make to give an overview of where the results came from and why we chose those performance measures and then we'll open it up to some questions from you all.

Dean Munn said I wanted to help explain the results everyone is seeing. It might be a little overwhelming, so I wanted to have the opportunity to be available to answer questions and explain what this stuff means. There are quite a few things that are being quantified here. Everything that's being measured is tied back to your MTP vision in one way or another. We didn't necessarily know how some of these things would shake out. There ends up being a large quantity of things we're measuring that in some cases kind of move along the same lines as VTM and so forth. The information is being extracted from the new travel model tool, which has been greatly enhance in terms of its ability to measure active travel, like bike and pedestrian projects and also transit. In the past we didn't have the ability of looking at transit projects and the effects of those so there's been a considerable amount of activity related to adding all those capabilities to your travel model and making sure they make sense when we apply the model. There are areas of the model that are

actually generating information that goes into the performance measures. Quite a bit of that is new stuff that you never had before like the urban design scoring, the auto ownership model, the mode choice model, the transit assignment- the transit movement through your bus network- and the active modes, so the bike and pedestrian movements through your network. Then we ran the 12 different scenarios. As Josh mentioned, we've got all but three of those we are holding back to use for the staff training so Vince can have some hands on experience using this tool kit. We've got a couple more sessions ahead of us before we have everybody up to speed on that. The 12 scenarios we've tested are a combination of different land use pictures and the economic growth picture. 11 of the 12 scenarios deal with the future. All of them are based on the same mid-range most likely economic growth picture. It's fairly modest, about a 1% increase per year growth rate. We do have the ability of looking at slower growth or faster. There are some differences in terms of where the growth will occur in the county. You'll see several of those scenarios under the land use category are labelled as standard growth. That's business as usual with all the current land use policies. We built a forecasting tool that would not only take what's allowed to happen in places but also what's likely to happen based on accessibility and other market forces. A blend of the total growth rate, your policies and this tool was built to figure out the likelihood of growth happening in one place or another. There are three scenarios that don't use business as usual land use. Scenario 9 is a slight deviation from business as usual because it has the hospital moving to the IU research park on the bypass. Otherwise all the other policies are the same as standard. Scenario 10 is a low density scenario with a bedroom community along I69 on the north side of the county. Scenario 12 is a scenario allowing additional infill development which would be a fairly large departure from the current land policies but we wanted to see what the transportation impact would be from that. Along with the land use assumptions we also have a variety of different transportation projects in these packages of projects. Scenario 0 has the base year 2013 infrastructure. Scenario 1 is your committed projects, so these are things that are under construction or imminently under construction so things that for sure will be in any version of the future we look at. I69 happens to be one of those things. I69 sections 4 and 5 are assumed to be in there. And then there's a scenario with BRT. There's a scenario we have not done yet that takes out I69 just to get an idea of the impact of it. There's scenario 4 where we look at if the fuel prices increase faster than inflation to see what sort of impact that has to your system and what sort of impact that has. There are a variety of others you can see that are a blend of different TIP projects and some ideas that have come from public meetings. I think Josh has shared the more detailed table that shows exactly what projects are imbedded in each of these. That would be a really good thing to reference as you're reviewing these results. There are a lot of details in terms of which projects are in and which projects aren't. That's a summary of what the scenarios are.

There are two sets of tables reflecting the results from the scenarios. One deals with transportation statistics. The other one deals with the urban design score. Both of those sets are organized in the same way in terms of there's a table with just the raw statistics across the different scenarios and then whatever each measure is. And then the second table shows a percent change and that particular measure against the base year. The bottom table is the percent change and that statistic against the do-nothing 2040 scenario. That's maybe the most important one to look at in terms is doing this scenario better or is it worse than doing nothing? It's interesting to see a couple of these are worse than doing nothing. Hopefully that sheds some light on policies or things to go forward with. I should point out in the table that has the transportation statistics you'll see each statistic falls into a category. Those are the categories that were references back in the travel demand, travel efficiency, safety, environment, economics and so forth. To a large degree each of those in those families of statistics move together. In some cases there are subtle differences between them but in a lot of cases they move in the same direction together.

It's interesting to see that the vehicular travel, VMT, and congestion increases beyond what you see today no matter which scenario we're looking at. They all reflect an increase in travel and an increase in congestion. One thing that's good news is the growth in the VMT in most of these scenarios- except for one of the extreme ones- it's actually growing slower than your overall growth. There's a statistic in here where we look at even after all the projects that are assumed in a given scenario are completed how many lane miles of road ways are still not performing according to standards. Typically level service E or F would be considered to be a deficient roadway. It floats around 60 lane miles of roads that are still deficient after you've done your projects. When we looked back at the total number of lane miles in the county, it's actually only about 2% roadways.

Also, only 2% of the roadways are having a congestion problem in terms of miles of roads. The other thing we see is as you do more road capacity projects across these scenarios it seems to consistently have the effect of adding more vehicle travel. As you fix problems or speed up travel you actually get more people choosing to drive. Adding capacity to the roadway only has a minor effect on system wide congestion. In localized areas if you put a lane somewhere it will solve those problems, but in terms of a system wide look the effect is very small.

McKim said do you define a road capacity project as increasing the capacity of an existing road or is adding a new road also a road capacity project?

Munn said it looks at either.

Ruff said what about just an intersection improvement, like putting in a roundabout? Would that be a capacity enhancement?

Munn said it is. There are couple of roundabouts that are imbedded in these scenarios. It does reflect a small travel time savings to the users. Although a roundabout project wouldn't have a big system wide effect throughout the whole county do save time to the motorists. I'd already mentioned the land development scenarios seem to be the things that make the biggest impact on any of these measures. How much growth is happening in a certain area and how much capacity that area has to handle has an awful lot to do with how the system performs. Having most of the development happening at low density really increases vehicle travel and it has the converse effect on transit and bike and pedestrian and the higher densities do the opposite, so they require less driving and increase transit and the bikes.

Johnson said is it fair analysis to say the road capacity projects have minor impact on the system wide congestion because the overall congestion is so low to begin with? At 2%?

Munn said that's part of it but we see across the board the actual amount of travel by car increases with the more capacity you put in. Whatever capacity you're getting it looks to some degree the system is filling back up. By making it easier to travel by car in some localized areas, you're spilling traffic to some areas that may now go over capacity slightly.

Johnson asked if it illustrated where the vehicles were travelling prior to the improvement.

Munn said there's probably a combination of things. People are maybe choosing a different route to drive. Also, by making it easier to drive, you're enabling people to switch modes. It's a combination of both people choosing a different driving route and people switching modes.

McDaniel invited everyone to just address Dean if they have questions.

Munn said across the board transit is growing faster than the development. Active modes are kind of hanging in at about the same level you currently see. It's not growing that much unless you do the infill development. A lot of that is a function of the location of the growth. The growth isn't all happening in places that are very easy to walk or bike. The other thing we saw in the fuel cost scenario is people are shifting to non-auto modes. Also, there's a measuring here for economic impact. That's a kind of difficult one to explain, but the present value of the user benefits of doing a particular scenario, there's two of these scenarios that have negative values, so it's actually hurting the economy and basically doubling the gas price shows will hurt the economy. The other one was the super low density growth model also showed from a system user it loses money. There may be off-setting gains somewhere else but in terms of the system users, it's not a good scenario. From a user cost perspective the more compact development and to some degree even the business as usual policies seem to be on the right track in terms of supporting the users of the system. We also are bold enough to actually predict accidents building off what Vince has. It was surprising to see what our model is predicting is not all that far off from what we have in the current situation. I'm a little uneasy giving exact numbers for things way out in 2040. You have to understand it's based on the current rates by the different types of facilities and then the volume of activity. If you increase travel on roadways that are unsafe, then you end up with more accidents. There is an aspect here where you look at the safety. We also look at the CO2, the greenhouse gas emissions. Those

results follow very closely with the VMT, although it's not a direct function of VMT. It's actually the speeds of the vehicle as well. This is looking at every vehicle during every part of the day and then computing how much emission would be generated under those driving modes. If the speeds are too low, there's more CO2. If the speeds are really high and free flowing, there's more CO2. There's kind of the sweet spot in the middle around 45-50 MPH that creates the least amount of CO2. And of course fewer miles of travel reduces it as well. The other set of tables related to the urban design score is an essential part of the travel model in terms of predicting auto owner shifts with different scenarios. It also produces some interesting statistics. The scenarios are all looking better in terms of there will be more households and more employment occurring in places that already have a really good urban design score so that gives people the choice of walking or riding a bike or using transit. It doesn't mean they're going to do it. The demand model actually predicts if people are going to do it but at least you do have a lot of your growth occurring in places where that kind of growth can happen. There is a very small impact on auto ownership across these scenarios. There are some more radical scenarios were you have the low densities or you have the high densities. Those are the only ones that really change very much at all, but there are some subtle differences in terms of average autos per household or the aggregate number of households that are choosing to own maybe one less car or so forth. That might be of some value in terms of policy makers. I think that's it unless people have other stuff they'd like me to show.

Thomas asked if Munn's PowerPoint presentation would be available for the MPO and the public.

Desmond said we can make it available.

Thomas said when this modelling was raised earlier in the year I suggested we also model for City/County bus transit. We don't have it yet but we may get it. It may help to have modelling information to lobby for that. Is that something that can still be added? I know you changed the 3rd St route to a traffic signal rapid transit, but what about going into the county? I'd like to know that answer. I did mention it a few months ago. I don't know why it didn't end up in the list.

Desmond said he would have to defer to Dean for how difficult that would be to add into program that into the model. My guess is we'd have to have some sort of a fixed route network that we could add to in order to designate where those buses are going to run.

Thomas said I would just go to the main routes, 45, 46 and 3rd St. I'm least interested in the side streets. I'm interested in how it would impact the state roads.

Desmond said we can look at that.

McDaniel said I've attended some meetings with Bloomington Transit and Rural Transit where we've talked about that exact thing. Others have been there as well. There's a lot of speculation about what could be done if they had funding but we don't know what funding level yet. It's very preliminary.

Thomas said I do realize that. We've had those discussions in the Commissioner's office as well.

Martin said when you talk about an urban area, what is that urban area? What's the urban infill area that's being filled?

Munn said that is just an intensification of the infill development you see happening now in the middle of the city. We made more infill happen. The second thing, which was probably bigger because there isn't a huge amount of space to do more infill all the way out to 2040, was allowing second housing units in some of the already fairly high density older neighborhoods where there's economic pressure and the market to do that if it was allowed, where people could split up houses or build extra units on garages and things like that.

Martin said that's within the City of Bloomington? That's not including urban infill in areas that are next to the City of Bloomington that already have housing on it. You didn't do it on a percentage of existing stock.

Munn said it was only in some targeted areas, more in the center.

Martin said you have this chart which shows your visions and your performance measures and then we have all these other performance measures you've got. Is there any attempt made to tell us which of these performance measures are occupying the intersection circle. You have a chart there but you don't tell us which of these performance measures occupy that space in that chart. Has that been done? I know there's some overlap, but has it been done?

Munn said the only thing that has been done relates to the left hand side of that table up there. Those categories are shown in these tables but we have not done the same thing with the MTP vision categories. It would be fairly easy to do. It would just be another column we could add to these statistics.

Martin said that would be very nice to have. Could you go back to your model chart again? I want to make sure I understand how it's supposed to be working. Can I take it that any of those hexagons that only has arrows going out of it represent source data? And that any that have more than one arrow going in to them indicates there is some manipulation of the input data occurring in that hexagon to create the output data? It's not strictly a flow through. You're adding some data there.

Munn said that's right. An example would be the truck model not only takes the employment data that is by different categories of employer but there's also the network conditions, so there's the network skimming that happens that provides information about how accessible places are to each other. It's the combination of those two that figures out the truck destinations. There's a lot of parts of the model that work that way.

Martin said it looks like there's one big feedback loop. What is that feedback loop?

Munn said the first time through all this it is completely unconstrained free flow conditions. As soon as every step of this thing works and everybody is doing what they want to do what happens is some of the corridors are horribly overloaded and then you end up with travel times and so forth that if people would have known that they would have made a different choice, so we feed all that travel time information back to the beginning and it runs many times before it hits an equilibrium. People who would have ridden the bus if they had known it was that hard to park on IU's campus. That kind of thing.

Martin said it's true feedback that creates stability in the model.

Munn said when a scenario's not changing within a certain threshold- and it's a pretty tight threshold- then we decide it's ready.

Martin said how easy is it for us to change this growth forecast from 1%? What if we go to 1.5% or we go down to 0.5%?

Desmond said we have three levels of growth we've looked at. I know 1% is right in the middle. What did we peg the other two at?

Munn said the high was pretty close to 1.5%. I'd have to go back and check.

Martin said you've got those available so you could plug them in.

Desmond said we could run the same scenario through with a different growth rate.

Martin said I understand the target here is 2040. What does this tell us if we look at 2022? 7 years out? When we do planning and budgeting our cycles are not 25 years, they're 5 years. It's more important to us to understand what's going on in these 5 year increments than it is for the 25 year. How well is this model going to hold up when we do these smaller increments? That's going to be out point of adjustment. Have you done any of that to look at that?

Munn said for this sort of a plan we don't typically do that but it certainly has the capability. You could set it up for 2022 and run it and you would get results that would probably make good sense. In fact, the closer you are to now probably the more sensible the model is. The shorter range forecasts are going to be much more believable and accurate. The other thing that we usually do, is trying to rank projects and do the most effective things first and so forth. There actually the ability of doing that without generating a bunch more model runs. There are these benefit curves that get created that would show results if the project is open today, 10 years from now, 5 years from now. Depending on when you spend the money and implement the project the benefit kicks in only after you've done the project. You can play with different timing scales. You can do it all at once, or spread it out and you end up with the idea of when things are going to happen and how good things are going to be. Is it worth doing if you have to wait.

Martin said that's how we would expect to be able to use the model. Often our decision is do we spend a lot of money on one project or do we spend a little money on a lot of projects and being able to model the projected outcomes of those investments would be very useful for me.

Martin said don't we have a meeting scheduled with federal highway?

Caristo said October 29th at 9:00 in the Hooker conference room. I'm compiling a list of questions. If you have anything you'd specifically like them to answer please send them to me.

VII. New Business
   a. none

VIII. Communications from Committee Members *(non-agenda items)*
   a. Topic Suggestions for Future Agendas

IX. Upcoming Meetings
   a. Technical Advisory Committee – October 28, 2015 at 10:00 a.m. (McCloskey Room)
   b. Citizens Advisory Committee – October 28, 2015 at 6:30 p.m. (McCloskey Room)
   c. Policy Committee – November 6, 2015 at 1:30 p.m. (Council Chambers)

Adjournment

**Action Requested / Public comment prior to vote (limited to five minutes per speaker*)