Transportation Commission
Meeting Minutes
Tuesday, November 8th, 2016
7:30 a.m. – City Hall Council Chambers

1. Attendance & Receipt of Minutes:

Commissioners Present:	Lee Barger, Mike Fowler, Sandy Lowell, Shelley Kaup
City Council Liaisons:	Mike Gamba, Kathy Trauger
City Staff:	Terri Partch, City Engineer; Tanya Allen, Transportation Manager; Jessica Bowser, Assistant City Engineer; Jenn Ooton, Assistant to the City Manager
Guest Speakers:	Jennifer Forbes, AMEC Foster Wheeler; Julia Jung, AMEC Foster Wheeler

2. Major discussion topics for the upcoming joint Council and Transportation Commission meeting (discussion regarding the 27th Street Bridge alignments, presented by the AMEC design team; discussion of the CR154 connection to South Bridge; Update on the 8th Street Connection:

Terri: Do you guys want to begin with 27th Street Bridge?

Jessica: This is the quick agenda. We will talk about the project and the South Bridge project correlates with this one. There is a project overview. A traffic analysis, alternative analysis, the construction impacts, recommended alternatives. We have narrowed it down to three and the selection process. We have introduced everyone; this is our design team, who we have contracted. Their subs are SGM. We will eventually get into ROW acquisition and add a sub consultant. We are going to talk about the history of the 27th Street Bridge. Originally it was constructed in the County in the 1960's. Some of our bridge reports vary from 1955 through 1965; officially it was determined to be in service in 1969. The City proceeded to purchase the bridge from the County in 1987. They agreed to pay half the construction costs at approximately $56K. In 2001 the City elected to redeck the bridge with concrete. They needed to meet a 10 year minimum lifespan in order to restore the bridge to serviceable condition. They also considered redecking with a metal decking however the staff recommended concrete because they believed it would last longer. They also did not believe the bridge would be reconstructed until far after that ten year lifespan. This held true. In 2010, 2011 the Army Core of Engineers completed scour mitigation in our west pier, which had a very large scour hole underneath it. The bridge is still considered scour vulnerable. CDOT and the Federal Highway Administration evaluate all the bridges in the state every two years. The sufficiency ratings are from 1 to 100. All the ratings under 80 are considered on the select list of bridges. Anything under 50 qualifies for bridge replacement funding. In 1989 is the first actual sufficiency rating we have on this bridge and that is 78.1. In 2001 it was re-evaluated after I believe the deck

was done and it has a little bit of a higher sufficiency rating but it is still structurally deficient. The scour mitigation was done in 2002 was determined to be functionally obsolete. In 2011-2013, to 2015 we are still at a 42.2 rating. The City went to The Federal Highway Administration and requested grant money to help with a replacement. Also there was a report done by SGM that evaluated whether we should rebuild the bridge or fully replace it. It was determined it was better suited for replacement.

Mike Gamba: Can I interrupt real quick? How much funding did we get from The Federal Highway Administration?

Terri-: It was actually from the CML off system bridge program. The total amount of the award was 1.7 million. We have only used a portion of it with this design process. I think that we still have some remaining funds to fund a right of way phase.

Mike Gamba: Is there any opportunity to go back and get more?

Terri: Yes, I think so.

Mike Fowler: So that's for the design and built, with the 1.7 million?

Terri: Initially there was kind of a mess up in the application, in my application. They did not get the full replacement costs. I actually estimated this at about a 7 million replacement cost when I originally estimated it and they thought it was a lot less then that when the grant went through. They gave us an award of 1.7 million. We kind of haggled over what if anything we could do with that and they decided to go ahead and give us that amount despite the fact that it really would not fund the whole replacement.

Jessica: So right now, it will fully fund our design and a portion of construction costs. We will look at other funding resources when we get a full design ready.

Sandy: Just for fun, what was the last or current rating on the Grand Avenue Bridge?

Jessica: 42.2.

Terri: It is actually higher, it is 43.2.

Jessica: And we have done mitigation efforts. There is a load rating on the bridge to help with the lifespan.

Terri: One thing that Mike Fowler actually determined with the analysis on the bridge is with the section on either side both north and south is actually structurally deficient. They do not work with the current AASHTO standards today.

Terri: You all know about South Bridge, so I am just going to run through this quickly. Regarding the relationship between 27th Street and South Bridge, and why we are not building a five lane bridge at 27th Street. These are a few slides on South Bridge; we still anticipate building the project. South Bridge is a safety project and I think it's actually one of the most critical projects that the City will do. Without it we will have to spend probably 35-40 million around the 27th Street corridor just to bring that up to the capacity that we would need to be able to move people out of South Glenwood. It is not as expensive as the South Bridge project but I think the

South Bridge project has a higher importance from a safety standpoint and from a future development standpoint. The City has been unable to approve a number of projects that have been proposed on the south end just because of our poor transportation network.

Kathy: So from a traffic standpoint on HW82?

Terri: There are many benefits to this. In fact, we will go over this later in depth. One of the issues at CR153, we already have a capacity issue at 27th and SH82 with the turn lane that turns to the west, the northbound turn lane, does not have enough length or width. To fully address that, the state would have to acquire ROW or lengthen the width of SH82 back to the south to accommodate the vehicles. So they have already had a capacity problem there. We would have to also be able to receive those lanes if we were going to offer that as a solution. Meaning we would have to acquire ROW on 27th Street, probably to the north into the CME.

Sandy: Is there any talk about taking another run at the airport?

Mike G: There are a lot of political details involved; it's a political hot potato.

Kathy: There may not be as much of a political issue now as there was back then.

Terri: Just for this group's awareness, Tanya and I were talking about this yesterday. The Airport Commission would really like to do a master plan of the airport. The discussion does not need to happen now, but that could be a discussion in the next few meetings. I think that airport master plan process could take place, and we could say what we would do with it if it remains an airport, or we could go into a broader scenario of what the City would do with that if it wasn't an airport. That would be a much larger planning discussion. I would imagine that the Airport Board would like to isolate that discussion and see how the airport could be developed.

Mike G: I agree. This is similar to the library. There has been discussion about should we sell it, get rid of it, etc. Ultimately the City wants to figure out what is the highest use for that facility and the same goes for the airport. If that went away, what could it be? What would be the best benefit for the City? I would encourage us to pursue that as an emergency, as it is very relevant to South Bridge and the tunnel is only a couple of million dollars.

Terri: It's actually four million. So maybe we can talk about that again in another meeting. It's become a big topic of conversation with the Airport Board.

Tanya: Yes, I think there is also an acknowledgement that this should be part of a broader process because South Bridge will really change the dynamic. There will be a lot for questions about what to do with development.

Mike G: I understand there is something like 60 acres and we may or may not get 40-45 million for that, but at 60 acres and if it's zoned right, we can get something pretty significant.

Terri: Yes, and having that connection in place changes all of the uses. We were just talking to Mark Gould about this last week, about his storage units and the parcels. There is a lot of interest in that area right now. It might be a good time to think about that a little more.

Commission agreed to discuss bridge agenda.

Terri: So we have thought about what happens with South Bridge and what will happen without it. There are significant costs associated with both sides. I am a huge advocate for South Bridge. I think it has tremendous benefits; the top two are the safety factor for South Glenwood and the County and then the development potential on the south side. After our 27th Street Bridge discussion we will think a little bit more about the connection with CR154. There have been a lot of recent discussions with Holy Cross Energy about whether we can connect CR154 through there. The State is very interested in connecting CR154 into the South Bridge frontage roads from the perspective of trying to take out a signal that is a safety issue. We can talk a little about that in a little bit. So now let's talk about the 27th Street Bridge.

Jessica: For those of you, who do not know them, this is Julia and Jennifer and they are on our AMEC design team.

Julia: So you can't talk about 27th Street Bridge without talking about the traffic demands and having a big five lane bridge at 27th Street Bridge. That doesn't make sense for a lot of reasons. So moving forward, we are assuming South Bridge will be in place for all of the options we have put together for this analysis. We are replacing 27th Street Bridge over the Roaring Fork. Construction will obviously be after the Grand Avenue Bridge. Something important to remember throughout the conversation is the bridge carries sewer lines, which are a gravity line, water, gas and communications. Talking just a little bit about what our goals are, we want to provide a safe route with a 20 year traffic solution. We want to keep the Atkinson Trail in its current configuration and location and we are trying to minimize impacts to traffic, pedestrian, utilities, adjacent landowners in the construction phase and in the long term. One thing about minimizing all of those impacts is some of those have competing priority. So you cannot minimize all of them at the same time. This construction is in a Gold Medal Stream, which means the time we are able to do in river work is very limited; about 6 weeks' time allowing you to be in the river. We have spoken to CPW and requested a wider window for that work because of the size of the project; if they approve, that is a huge help to the project.

Kathy: Is there a way to design that bridge without an impact to the river?

Julia: So we will talk about that a little. There are a couple of things we cannot do without impacting the river. Such as: removing the existing piers. Certain requirements do require a little bit of instream work. We are trying to minimize that as much as we can. In regards to utility service disruption, the steep slopes that are coming down are a big challenge due to the proximity to residents and businesses. A lot of times we will deconstruct a bridge in phases by demolishing half the bridge and build part of the new bridge. The way the pier configuration of the existing bridge is set up doesn't really work in this situation. Ok, I am going to turn this over to Lee.

Lee: So we know that South Midland is really kind of functioning as a cul-de-sac from south of the roundabout. We have been recently trying to figure out and peg how many people are using Dry Park as commuters in the morning. The limits of our study, the traffic and new traffic that would be involved in this over the next 20 years is comprised of anything in the City of Glenwood, south of this bridge, along Cardiff Road, along Three Mile Road, Airport Road and Four Mile Road. Obviously these are County Roads that have a lot of approved development already. We did a traffic study and without any new approvals, so no Glenwood Bridge or anything else which includes Silver Sage, there are almost 300 residential units that could be built. That is part of the future traffic impact that we would add to our future scenarios. We looked at a number of alternatives in

the corridor of 27th and South Grand Avenue. We have seen a lot of changes within the last year; really the last six months, such as the turn restriction put in place and some improvements at the signal at HW82. The mini roundabout is still showing failure. Again, this is without the improvements CDOT made to the intersection recently, at SH82. One thing we looked at as far as some improvements, that CDOT did a couple of weeks ago, out there was to restripe the approach to the highway. That's made a big difference. The other improvement that would really make the difference is adding an exclusive right turns to the roundabout at Midland and 27th. That will combat that PM delay, whereas on the other side the improvements made to the highway, the flows that are going that way in the morning, we have added more lanes and improved the timing there; it's gotten the traffic to flow better in the morning peak. The afternoon peak, that's really the primary sticking points for moving traffic through. The bridge is functioning with two lanes, but when you get to the Midland and 27th intersection, if that were to move a little more freely, we would get traffic flowing across the bridge and the whole system would be moving.

Mike G: Can I interrupt? So you're talking about a right turn northbound on Midland?

Lee: Yes. This would be an exclusive right turn lane along Cottonwood Landing. So it would separate the two flows that are coming up to the roundabout and one would have an exclusive right turn and continue on north Midland, and the other would wait to get into the roundabout.

Mike G: So we would have a similar one in the morning outbound Midland on to the 27th Street Bridge; would that be beneficial?

Lee: It would definitely help. If you look at what CDOT did with the City, and adding that lane, it really improved that whole approach. So now people are organizing to get into the right lane and have two left turn lanes going into town. It's really that same idea in the afternoon with trying to open the flood gates to allow the system to purge if you will.

Terri: We have changed the signal timing at South Grand Avenue and at SH 82; they are better coordinated.

Lee: So the 20 year volumes, we talked a little about earlier. We looked at the EA for South Bridge and it is something that can be refined, with a 40% diversion south bound. That is something that came out of that study and this project could use another travel demand study for Glenwood Park, South Glenwood and Garfield County residents, where they live and work. We used that as a baseline and we took the existing volumes on the bridge today and reduced those by 40%, meaning the volumes that are attributed to the South Glenwood travel shed. Then we looked at 60% of those new 291, or 300 units and the traffic that would be generated by those; roughly 10 trips per unit. We also looked at, or assigned those to the bridge and then we also drew up unaffected movements in the corridor, which would mean the people who are turning onto Midland from 27th to go north and the people who are coming from south Grand onto 27th Those areas are not necessary affected by the south Glenwood buildup.

Kathy: I have a question for you. Regarding the 20 year volumes and reducing 27th Street volumes, by 40%; I know that was part of the EA. What impact will the East Bank School have on this?

Lee: Yes, that is one key assumption that wasn't even factored into; distributions will change. I think Sopris Elementary has about 600 students today. They can handle 300-400, is what they would prefer to handle. So

next year there is a potential that there will be 200-300 students being removed from that school. That could be significant. I think we notice that when the summer hits; traffic is significantly lower.

Kathy: The fact that there could be some Four Mile residents or even South Glenwood residents who may actually be using South Bridge to get to East bank for the students rather than coming on 27th.

Lee: Yes, I was taking that to assume that there would be a diversion of the students coming there. But yes if the parents are still driving from East bank, they could take that route.

Mike G: I would hope that we could discuss the boundaries. Anyone up Four Mile or South Glenwood has to go to Sopris; where do they go for middle school? Do they go to Glenwood or East bank?

Lee: Yes, so that's the point. We are going to have to answer those questions.

Sandy: If you air on the overdesign side, we spend 10 million on the bridge; we do this, we are still going to be backed up. That is a problem.

Lee: Yes, overdesign is a good point because here is a place we don't want to overdesign. We do not have a lot of area to create widened roadways along Midland Avenue, for instance. We are really trying to figure out how much can we take here and keep ourselves kind of fixed where we are. That is why South Bridge has become so fixed in the equation because that takes a good portion of the traffic off and actually frees up development. In terms of a roundabout or a signal, the roundabout option usually works better in terms of off peak operations as well as lower shorter queues. In this case, we are assuming we are going to build a three lane bridge. That is hard for a signal. With a roundabout, you can still maintain a two lane section on the bridge. There is also a bit of a cost savings in that.

Mike G: Is that for a full roundabout or a mini roundabout? Do they operate similarly?

Lee: For capacity during the peak hour, it may be better to go with a larger size, a more standard one lane roundabout; but it could function both ways. Really, the conclusions were a big improvement that could help the corridor immediately, would be this exclusive right turn lane at the Midland and 27th roundabout, and a two lane bridge with the roundabout at 27th and South Grand, or a three lane bridge signal at 27th and Grand. If we go with the signals, obviously the coordination is important with staying up with that and making sure we keep up with the demands and change. I really think the way CDOT changed the signal up there, it has operated better and gives RFTA an opportunity with CDOT to change the timing to get the pedestrians across safer. From my standpoint I can see a roundabout over there; it is a lot better of an option because of the full time operations with this corridor.

Jessica: I should add that early on we discussed whether or not we wanted to include South Bridge as an open or not built yet. That goes back to Terri's presentation on South Bridge. If we don't assume that South Bridge is open, this project will triple or quadruple because we are analyzing all of Midland; creating four lanes on Midland. It is a matter of where do we want to spend our money. South Bridge is a life safety concern.

Lee: One more thing I would like to add. Bringing up the two points on what South Bridge is, what it gets us is the safety and development potential; there are other reasons additionally. Construction of this bridge, Midland and South Midland and having to close and put in new water line and reconstruct that street, there is absolutely

no way to detour traffic and we need another route. That to me seems like South Bridge needs to be the next project we should focus on.

Shelley: I agree. I had a question going back to what Terri said. The costs comparison of South Bridge without; the cost looked low for Midland. The thought of with that rock fall area and trying to take that through the four lanes…

Terri: Honestly we don't have a design team and right now it could be 12 million, which is from my head, from South Midland all the way to Four Mile. I think that we based that thumbnail estimate on some of the street reconstruction costs but you are right. That does not include geotechnical work for that slope above there. There is only a marginal item in there for more retaining walls.

Mike G: So just comparing the two options. Option 1 is South Bridge, we assume it will be built and all we will have to do is rebuild Midland Avenue with functioning two lane streets each way and a sidewalk; that's one cost. If we assume South Bridge is not in then we will have to build a three to four lane on Midland Avenue. I think that will be a double or even triple the cost (Terri: I agree, that 12 million does not even cover any additional lanes.).

Shelley: I know when we covered the EA, another advantage to putting South Bridge in is to reduce the number of people that are driving 3-4 miles out of the way, just to go to south or to get to school; adding that up over the course of the year is a huge cost on the whole system.

Mike G: I think this discussion emphasizes how important it is to build South Bridge because it really affects not only this 27th Street design but it affects what we are going to do on Midland Avenue, and that's a very high priority. It is a pretty rough road right now; it's in bad shape and needs improvements. But to go in and make some improvements, it would be really unfortunate to go in and put in 10-12 million dollars' worth of improvements to build it as is, a two lane road, and then find out that we are actually not doing South Bridge so let's tear it up and start over; but 45 million to build South Bridge, or 30 million to build a 3-4 lane on Midland Avenue.

Terri: I agree. I think that in a worst case scenario, we could create two projects that we can't build from a cost standpoint. I think we need to isolate the cost here and for all kinds of reasons build South Bridge.

Shelley: I agree.

Terri: Also, one thing I want to emphasize is the school boundary study, which is very important. If you get a chance to weigh in on it, I would ask everyone here to offer their option because I have been talking with Shannon Pell about it and told her I don't want to reverse the problem that we have today which is to take kids of Four Mile and run them up to East Bank. She told me some time ago that she would not do that. She is aware of the issue but from a citizen standpoint we need to, well those of us who understand it, we need to weigh in on that and make sure that they know that will not be an acceptable solution, until we have South Bridge in place.

Kathy: Is that ongoing now?

Terri: I think one of their public meetings was on Monday night. I think the survey is still up on the RE-1 site.

Dave: The way they distribute and draw the boundaries in not based on logic. It is based on free or reduced lunch.

Terri: And social dynamics. It is not based on transportation or even the proximity to the school.

Commission Agreed.

Terri: So back to the bridge. I will send you guys the link to the boundaries survey. So with the South Bridge in place, we actually see a volume reduction in the 20 year time frame at 27th Street Bridge. It would be a similar analysis on Midland. We would see a volume reduction over time on that road. Maybe not to the same extent but we would have to have a build out of South Glenwood to really need to upsize that. With South Bridge in place, we could live with a two lane road; we definitely need a sidewalk.

Lee: Without South Bridge though, rebuilding Midland, we are going to get a three lane template out of that because you are going to need to keep traffic going and will have to end up widening. If South Bridge is not in place, you are going to need to create that corridor to get people in and out of there during construction. That will be painful doing one lane at a time construction.

Terri: Ok. So should we talk about the bridge alternatives?

Commission agreed.

Julia: Okay, so we went through and we did an initial alternatives analysis. We want to make sure that we were thorough and that we looked at all the possible options. We looked at signal versus roundabout, and like Lee just talked about the three lane bridge with a left turn lane for a signalized intersection or a two lane bridge with a one lane roundabout. We looked at having the sidewalk attached to the bridge as it is now or a separate pedestrian structure for that. We looked at different alignments and how they affect the construction and single two span and three span bridge options as well. First we are going to talk about alignment shifts. Why you wonder? One thing you can do is you can build a new bridge entirely off line; you are just using the existing bridge as it is the whole time during construction. Once the new bridge is complete, you demolish the old bridge and all the traffic is driving on the new bridge. Even though in this case there would be some work on the intersection on all these alternatives. The other possibility is to just do it in phases. So you have two lanes built off line, move the traffic, demolish the old bridge and then finish out the third lane as another phase. Or build the bridge on the existing alignment. So a lot of times when you see this done, you build a temporary detour for people to drive on while the bridge is being constructed. Mostly because of how steep the slopes of the bank are and because the residents that are located to the southwest, it is really not practical and is really expensive. There would be a number of temporary walls. Anything that is built on the new alignment does require a full closure. Because of that we looked at accelerated bridge construction, which is bridge slides using precast elements. These things can really speed up the construction much faster than we anticipated. The detour that you would take would be Midland Avenue to 8th Street during whatever closure time there was if we built the bridge on the existing alignment. In terms of the alternative analysis, and all the things that we looked at; we looked at curved alignments to the north, in phases; we looked at a straight alignment to the north also built in phases; we looked at a curved alignment to the south, some of them built in phases with one option built entirely off line; straight to the south, with the alignment on the existing alignment. Then we looked at a roundabout versus the signalized intersection and for all of those an attached sidewalk versus a pedestrian bridge. For ABC,

we considered a bridge slide by building the bridge off line, take a long weekend and slide the bridge into place and we also looked at closing the bridge for about 3 weeks and demolish it. Build a new bridge as fast as you can with precast elements so you don't have a lot of things to wait for, like concrete to cure or anything like that. We eventually decided that sliding the bridge into place was the best option here because of the precast elements, quality issues, and there's a lot of risk with the schedule, and the contractor isn't necessary in control of that risk. From this point forward, we are just talking about a slide. Some of the things we are eliminating alternatives for, there are some things that just wouldn't work; such as, severe impacts to land owners, misalignment of the intersection, and impacts to the Roaring Fork River. This is a straight alignment to the south; something that is good about this is the straight bridge and you can use the standard concrete bolts that you see all around Colorado, similar construction. Similarly, to the north, if you tried to fit a roundabout in, you end up with a curb line that is extremely close to a few buildings; when you have other options, there's no need to force that.

Mike F: On the north, does that work for tying into the Atkinson Trail? I know the Atkinson Trail is pretty steep coming off of there already.

Julia: Yes, we didn't look at that in a ton of detail, but I think that that would work. We might be able to adjust the grade of the trail so this is the abutment; so you can bring it down as you're coming through. The gas is on the north side, but that is not a deal breaker and we did not eliminate anything because of that, but it is a concern.

Jessica: It is a source gas line.

Kathy: With these alignments, I assume you guys took into account the new facility that's being built at the corner of Midland and 27th, the assisted living facility.

Julia: Yes, this is a straight alignment. This is with the north alignment, which had a lot of problems. It didn't, in terms of getting the road to line up; you would have to turn to go through the intersection. That is not safe. The curved alignment to the north, you're lined up nicely and this is the best intersection of all the options. We eliminated straight alignments to the north as well, since you can't have a roundabout at a signalized intersection.

Shelley: How close are you to the Cottonwood Landing residents?

Julia: You are pretty far away from them still. I think they would barely notice; we spoke with them and there was not much concern. The impact to them would be small.

Mike G: Is it possible as part of the project costs to essentially condemn that residence (to the south) so we are buying from market value today, and are building the bridge and then sell it back to someone who is aware of the impact?

Jessica: We met with those residences and they were very concerned and had a lot of complaints about the sound of existing alignment. Because we have federal funding there are a lot of stipulations to condemnation. We have to find them new residences, we would have to pay for the fair market value, and there are a lot of mitigation efforts if we did not condemn the whole property. We have to mitigate the impacts to them and provide funding for damages.

Mike G: What is that residence even worth, on the high end? It's a townhome. Maybe $500K (if you're really pushing it). If we spend $500K to buy the residence and put them someplace else, we own it essentially while we build the bridge and then someone would buy it for probably a reduced rate, with all things considered.

Dave: We have done this on other projects, where we have bought property knowing that the alignment would be closer when it's built, but it is still a good piece of property at a reduced value.

Shelley: I would say, well it's certainly an idea, but thinking back over the years, and I don't know if that is the same owner but they have fought about the noisy metal bridge. They were very vocal about the noise and then having that fixed, and then when the trail went in, they blocked the trail for 15-20 years. That is just that one townhome complex. I don't know if they are very likely to move; they might like where they are and may not want to move.

Jessica: I think there is a PR standpoint too; we don't want to go around condemning people. We did meet with them, and the units on that end closest to the bridge are actually rental units. The common area is owned by the HOA. At that point, I think we would have to condemn the whole HOA property or a strip of the HOA property depending on what federal funding allows.

Terri: We had to do that for the Midland Center, for the little pedestrian bridge. We didn't end up condemning it; we ended up negotiating for that common piece of land. The taxable value of that land, listed with the County Accessor, was about $1K dollars. I am embarrassed to say how much we paid for that piece of property, way more than that!

Mike G: So my point in that is it may open up some of these options to the south. I am not unsympathetic to the impacts to those residents but there is a practical reality that sometimes we do have to look into condemning. If this is a better way to get this project built, this is the best physical configurations, I do not want a single residence to derail the project or add millions of other costs to this.

Terri: Well, we are still considering a south alignment. They were just mentioning the difficulties around the south alignment. There is still an alignment, on the existing alignment. There is also a southern alignment and a northern alignment. We have not tossed that out completely but I do agree with you. In the end, if that ended up being the best choice, we will have to deal with the property owner.

Jessica: We have to think about the functionality as well. If we do a south alignment, we will have to do a roundabout; the signal will not work well there and it misaligns it a bit.

Julia: The impacts to the river, we kind of already talked about this before. We eliminated two and three span options, so we can get all the piers out of the river and minimize impacts during construction. For all the alternatives, when we went through the process, in terms of the pedestrian bridge versus and attached sidewalk, there are so many constraints on this projects, with all the utilities. Just the flexibility of having another structure where you can relocate utilities and can put pedestrians on, I think is huge. In the end it's an improved pedestrian experience. The cost of this is only slightly higher than adding 10 feet of additional roadway bridge that would be sidewalk. In regards to the roundabout, which Lee touched on, a roundabout performs slightly better. It won't work for the north alignment. They require more walls, and fill areas. The signalized intersection will require the three lane bridge, which is more. We ended up coming up with recommended

options. Out of all the options we looked at, and originally we looked at 22 different alignments, we narrowed it down to four, and then for all of those we looked at single, two and three span; ending up with three. They all require a separate pedestrian structure, a causeway. We have a curved alignment to the north, which would be built in phases. Two lanes would be built and traffic would be moved on to the new bridge and the existing bridge would be demolished. This will likely take two years of construction; two seasons. There is not a lot of work that has to be done in the intersection. The alignment to the south, with a roundabout and two lanes, this is built off line; same concept, moving traffic to the new bridge and demolishing the old. The next option is a separated pedestrian bridge, two lane roundabout, build a bridge off line to the south and slide it into place. In terms of price, we have done a comparative cost with what we think the highest is the alignment to the north, then the mid cost is the bridge slide and the low cost is the south alignment; basically all are similar cost range. There is nothing that's 10 million dollars more than something else; they are within a million of each other.

Terri: Julia, can we share our ballpark costs? Are you comfortable with that?

Julia: Yes, I think they are a little low; it doesn't include ROW acquisition, your time, and construction management. It is a comparative analysis, and there is a big contingency.

Mike F: On all three of these options, you are showing, there is a separated pedestrian bridge to the north, part of that was to accommodate the utility relocation prior to reconstruction. So you have a sewer line to the south side of the existing bridge and a waterline on the north side. So with the sewer line, are you going to be able to route that over?

Julia: Yes, the sewer line has to stay on the roadway bridge because it is a gravity line; unless you want to do a really big sewer project. For all of these options we are looking at the sewer line staying on the bridge and the water and gas moving. The sewer could be temporarily relocated to the pedestrian bridge for the slide, and then you would just have to pay to pump it which we estimate to be about $7k dollars or so a day.

Terri: Now this pedestrian bridge would have the same purpose as the Grand Avenue Pedestrian Bridge. We have a lot of the same issues at this location that they have at Grand Avenue. If we go through with this project, I think we should clear the under structure as well.

Jessica: The 27th Street Bridge is still a structurally deficient bridge. So, you leave it in place and may get 10-30 years out of it but it's still going to need to be replaced.

Terri: I don't know if there is anything we can save from the structure without saving the entire pier structure.

Jessica: In all three of these options, I think we have temporary piers but they are all single span. We are taking piers out of the water completely.

Mike G: I have a couple of quick questions. Do we have to completely remove the pier from the river, or can we get it down below the bottom of the river and essentially cap it so we don't have rebar sticking out. Is that the current plan?

Julia: The current plan is to cut at two foot below grade, or can we do something less than that. We would have to get approval from CDOT since they are managing the funding through FHWA.

Jessica: I think ultimately because this is a Gold Medal Stream, we want to make this as safe as possible for boaters.

Julia: Yes, and I think another reason the Grand Avenue Bridge slide wasn't going to work was because they were already building, and they said they would have to use the detour longer. Also, I guess here we are going to have a detour as well. But yes there is risk associated with that. It was also the CMGC process; you had the contractors, the designers, and the design was changed up until the last minute. Here, we would bid out as a slide; the contractor slides it, easy. Fortunately this is a lot less complicated than GAB.

Terri: One thing on the GAB process, I don't think that there was any value assigned to the delay of the traveling public. In the cost analysis, I think it was just the straight cost of accelerated bridge construction, cost to slide, those kinds of calculations versus the cost in delay, or the impacts on businesses or anything like that.

Jessica: Yes, we will talk about the pros and cons of all of these options later on. It goes back to that competing priority. Do we have a two year construction or do we have a one season construction, do we impact traffic for two years or impact traffic a few months. It really just depends.

Mike G: Can you characterize the three options in terms of how much of a traffic impact there is over what period of time. For example, the slide to the south seems to be impactful.

Julia: So in terms of the traffic impact, you are going to have on this option, you have two lanes open all the time. One will require a full closure for a very short duration. But what you will have is, just the construction ongoing, in phases.

Terri: If I remember correctly, there were short closures in some of these alternatives where you had a big truck holding girders, and trying to set piers; there were night closures.

Jennifer: So Julie is going to rehash all the alternatives, the pros and cons after I talk about some other aspects. The stuff that I am talking about isn't Roadway Bridge technical; it's more of all the things you have to consider regardless of the alternative. This is the presentation we will also be doing for the public meeting coming up this month. So you will see some of the stuff we will go over with them. As you guys know, we talked about this already, we have a lot of constraints to make sure that we consider when we put in the right solution in place. One of those of course is keeping the Atkinson Trail open because obviously it's a new trail, we want to keep the pedestrians using it, and it is heavily trafficked. We have the adjacent properties which we have already discussed; we have utilities; we are trying to limit the disturbance of vegetation; we have really steep slopes, especially near the Atkinson Trail; we have a lot of existing drainage that we want to consider. I will talk more about this, the existing trail rest area; there are concerns about tying into the trail at this point. The other things to discuss are the walls, and I will show you the layouts. We have not gone into detail about the walls yet; we are just trying to get a comparative cost analysis. We do want to know how many walls we will need; where will they be; how close to the adjacent properties; how much wall do we think we have as far as cost. The next phase we will be looking at the types of walls, which we will talk about at the public meeting. We are trying to restrict the height, according to the residential code in the City, to about 6 feet. We will have probably 10 foot walls where we will tie into the abutment underneath the bridge.

Kathy: Is that 10 foot on all the designs?

Jennifer: Yes, because of the girder clearance underneath. We are going to tier the wall with planting, with standard codes. On the north alignment we have are 12 foot walls, which is the least amount of walls. It does go through the regulator station. I have been coordinating with Source Gas. They don't have an exact cost for relocation; from what I know and talking with Matt, he thought it would be costly. Talking about tying in with the trail, some of the options allow us to pave out a little of the area because we will be catching grade there. Talking about the south curve, this has the most amounts of walls because of the space constraints. If we did consider moving the pedestrian bridge, that would get some of the wall cost down. Also, in regards to plants, because of space, we will not be able to put trees in, only smaller plants.

Jessica: For the more southern residents that are right next to the bridge, we are concerned about the noise and moving the alignment further south.

Shelley: So if we lose the trees, we lose barriers which means there will be more noise?

Jennifer/Julia: Yes.

Mike G: Would it be possible to put in a 10 foot wall, a barrier on the south side for noise?

Jennifer: Yes, if that option were selection, a noise study might be required. That would tell us if or what wall were required. So as far as cost associated with the walls, the slide option would have a minimal amount of walls, it is fairly clean and neat, and the regulator station is not impacted, and there is not as much impact as the south. Utilities which we have already talked about, we are going to be using a portion of the pedestrian alignment bridge to carry a portion of those utilities. The sanitary sewer will have to be on the highway bridge. It will not be like the Grand Avenue Pedestrian Bridge was where we are going to be doing a lot of aesthetics and hiding things. It will be your standard pedestrian bridge structure and we will hide the utilities the best we can. As far as Source Gas, I have not received their estimate yet; he did say it would be a lot.

Terri: I am not sure that we would pay for that cost. We have a franchise agreement with those guys and we are renegotiating that agreement. In the existing one, it says that if we need to move some of their structures for a transportation project, then we just ask. So it could be that we just ask, and they move it. It could be that we negotiate it and we pay for a portion of it. But I think there are a range of possibilities.

Mike G: Just a quick question to make sure, earlier you had mentioned Source Gas; but it is actually Black Hills Energy. Right?

Julia/Jennifer: Yes, yes, it is Black Hills Energy.

Jennifer: Okay, the last thing I want to discuss before I hand it back to Julia to discuss the pros and cons is the construction impacts which I think we have also already gone through. The Atkinson Trail will have to be closed during the bridge demo work and the replacement work. We are looking at doing a detour; depending on the alternative that gets selected. The other thing we talked about is intermittent night closures during replacement work. The South Grand 27th Street intersection will have some phased construction and traffic shifts. I know they are having difficulty accessing some of the businesses with the construction currently going on there because we met with some of the adjacent landowners. The contractor may need some of the lanes on South Grand Avenue for temporary staging, which might be impactful; we will discuss that with the public. Okay, so now I am going to pass this to Julie to kind of put all this together for you.

Julia: We have covered this already, so I will try to be quick. With the north alignment there are three lanes, with an intersection and separated pedestrian bridge structure. You have two lanes, generally open because we do have the night closures, with minimal permanent impacts to the adjacent landowners to the stream/crossing. It requires the existing gas regular station to be relocated, it makes the sewer line construction and maintenance a little more difficult because it's on the curved structure, you have four walls in disturbed areas because you're building off line and this is the longest construction time estimated at 2 years. (Julia discusses the rest of the options through slideshow within Commission group; not giving specific location names only design details.)

Sandy: Would you have intermittent impacts on that third option? Like when you build the substructures like the abutments, and in maybe five days?

Julia: Yes, so we think you could build the abutments underneath the existing pile while it's in place; we are looking at micro piles for the foundation and so you can fit a rig under.

Terri: So Julia, so one season of construction for the straight alignment, one season of construction for the south curve and two seasons of construction for the north curve.

Julia: Yes.

Kathy: My concern with the slide thing is that, just like with GAB, it won't work and then we are going to be facing a complete shutdown without any really good alternative.

Julia: The GAB slide didn't not work. They could still do it; they could still do it even now. They just decided they didn't want to pay for it. In this case, it's a medium cost option figured in, around $600K for it. Could it be a little more than that? Yes. Could it be a little yes? Sure.

Mike G: So, where are we in the process here? Are we going to move forward with more design work on these three options, or are we at the point now where we need to decide on an option and move forward?

Terri: Yes, we are at a point where we need to choose. We are going to go to a public meeting with these and if you guys have an opinion, we would love to have that opinion as well.

Kathy: When is that next meeting?

Jessica: The meeting is Wednesday the 16th, at the Community Center.

Julia: Ok, so back to the options. In regards to the roundabout, it will take truck traffic, it will accommodate trucks. It has to meet the CDOT standards.

Terri: I have never seen the turning radius analysis, but CDOT was anticipating scraping that roundabout for the detour route if we were going to run the full detour through.

Kathy: I would rather not have the roundabout on just one side, why put a signal on the other side? I would like to see it just flowing on both sides of the bridge.

Julia: The benefits of a roundabout, and certainly this could be done by a signal, but I think why we picked a roundabout is because you have about $500K of savings because you don't have to make another lane of bridge, about $200K of savings because you don't have to put in a signal, and then you save on not having to maintain the cost of a signal. So again, you can put in a signal, but when you can fit a roundabout, it does seem like a better idea.

Jessica: I think for the neighbors, the adjacent property owners; all of them asked when the roundabout was going in. They are all under the assumption that it is going in, and they all said, I believe all, said this was a great intersection for a roundabout. Of all the intersections in town, this one was the best candidate. I do not think we heard any negatives about putting a roundabout there.

Julia: Right. So they come in here and they all have to be in one lane to get around the roundabout.

Kathy: Can they fit the mini roundabout in, or not?

Julia: So we will look at a mini roundabout, but some of the benefits of a regular roundabout, you get more capacity out of it, things like that. But we wanted to show are the biggest impacts so when we looked at a mini roundabout, you're basically just having the impact reduced. Full size would have the most property impacts. So I think one way to look at it is, here you have a big temporary impact for a short period of time. All of the others are good solutions that work, but are not ideal, but they avoid that temporary impact. If we could do anything we want, and there was no traffic, we would probably build this (discussing slideshow images with Commission). So if you want this solution that is kind of the best in the end, but it has a risk associated with it certainly, versus the other options that work and are good but are least optimal.

Shelley: What is the time frame for the slide?

Jessica: Ideally I would get the design completed this spring, and would be able to go to bid this year after GAB. I think the advantage of doing it that way is we have contractors in town that have the experience in that area already mobilized with the slide option, if we go that route, there are some mitigating factors, which drives up the cost. Ideally we will be able to plan the budget for this and have a better idea. It also depends on the time of year when we would do this.

Mike G: I would like to say from a Council perspective, I think it would be helpful if we could get a formal recommendation from this Commission to the Council. I know Kathy and I take your all opinions very seriously.

Tanya: From my perspective, I am inclined to go with the right hand most option, maintaining the existing alignment. I am always looking at it from the bike pedestrian perspective, and the overall flow. I feel pretty strongly that the roundabout at the intersection is probably better from that perspective. You know there is some awkwardness associated with the bike travel through those intersections but you have more opportunities to cross and particularly that area time of day, at least from my observations, there are different traffic demands on it at different times of day and the roundabout accommodates for that much more effectively; it's much more versatile. As far as other impacts, just the proximity to the property, it seems like those are mitigated with the right hand most option. I am not an engineer, so I cannot speak to the risk of the slide and other components but it seems like broadly from a public relations perspective, if you can have something really harsh for a shorter period of time, it is perhaps better than the longer more drawn out impacts.

Sandy: Excuse me. So pretty much, we are looking at three options. In reality, we should vote on one.

Mike G: Sandy, I don't think we can vote right now. These pictures look nice, but I mean there are so many other factors that go into this. We are throwing out a bridge slide, utility relocates and we do not know the cost. That one cost alone with the utility relocates could sway our decision from one alternative to another, in my opinion. What we are voting on are three nice looking schematics at this point. They have done a lot of work and I think they still probably have a lot to prepare as far as putting together a structure selection report.

Julia: So as far as the structure selection report, whatever of these three options are selected, then we will look at the structure and determine will it be steel or concrete, because…

Mike G: So you are not looking at the different alternatives in the structure selection report?

Julia: We have already decided that it needs to be a single span bridge because of impacts to the river. We looked at some of the pier locations that have already been vetted out. There's not much more engineering that we are going to do to select between the three of these. They are all at 15-20%, and we will take one to 30%.

Kathy: And you feel fairly confident that all three options are fairly close in price cost?

Mike G: The range is about 1 million you said; so about 4.5-5.5 is the general range.

Julia: Yes. Yes.

Terri: Excluding any other costs.

Commission agreed.

Sandy: I would say we don't have really all the factors that we would like to access for the community. I think that we can probably say, of the three opinions we have from his presentation, we tend to lean one way to the other.

Julia: Do you have some specific concerns or any questions that we could answer because we didn't present everything that we looked at. There are drawings and other details we have not discussed because they will be significantly more expensive and difficult to build and so those costs are all factored in (here).

Jessica: I think what Julia is kind of getting at is that we cannot take all three to 60% plans because there is a limited budget for the designs. So what we are trying to do is gauge your opinion and the community's perspective, things like that.

Kathy: Refresh my memory. The temporary utility relocation will be much more difficult with one of those. I realize that option has the relocation of the gas.

Julia: No, it is very similar. Bringing the sewer onto the pedestrian bridge is not an option. The sewer stays on the roadway bridge. We would probably, temporarily, put a sewer line on the pedestrian bridge but we would

have to pump it. It won't work gravity wise. So you have to pump, get it going, and then do the slide, and move it back onto the roadway bridge. That is a complication, I suppose, of the whole utility piece.

Shelley: The bottom line is we are going through a lot to move the alignment of the bridge just to avoid that window of closing it down. I don't know if those impacts are worth that.

Julia: We worked on the GAB project and we talked a little about the same things with the slide. So coming into this project, I knew that the slide was on the table, this setting is the "everything" that a slide is. It's just set up well for it. But, I was very skeptical having just come from that project and I was sure that this was my favorite option. We went through all the analysis and eventually became convinced that there are really great things about the slide. You get the bridge where you want it in the end, and have just a little bit of heartache in the meantime.

Dave: So ten years from now, which one of these solutions allow us to move traffic through the best?

Julia: A straight alignment is a little bit better for traffic. This intersection is lined up really nicely here. So I would say, I think they all work.

Lee: I think from the standpoint of peak hour, the roundabout rated a little bit higher from a queue and delay stand point. The off-peak, we are only analyzing the am and pm for one hour where we want this thing operating well. I think that is where the roundabout really succeeds.

Sandy: I am willing to pick one of these three, but I am really not very happy that the design on each one of these is about the same capacity as what we got now. That's a disturbing thought to me. I understand South Bridge changes the whole scenario, so I really don't like spending all this money for the same kind of capacity we have right now.

Jessica: In the design process, we did look at potential alignments that could be widened in the future. I think the straight alignment we liked because it could be widened to the north at some point. The slide option, is there potential to widen that if needed?

Julia: Absolutely. You have abutments here, you can widen to both sides, you could widen to just one side. Let's say you wanted four lanes and you decided you were going to do a two lane roundabout, you're going to have lots of impacts here. A signal would have smaller impacts. It depends on what you are looking for there; you might have to tear out a roundabout and replace it with a signal, or maybe make a bigger a roundabout.

Mike G: Would it be possible to widen the south curve alignment, just two lanes to the north?

Julia: So the curve creates a significant complication to that. It would be one of those things that the devil would be in the details in terms of the structural engineering of that. I think it would be more complicated, but still doable.

Shelley: Timewise, do you need this recommendation today?

Terri: If you guys want to come to the public meeting, and offer input there, that would really be great. Like Mike said, I think he would appreciate opinion from this group at some point. And then send this to Council.

Shelley: Would it be too long to wait until the next Transportation Commission Meeting?

Terri: I don't know what these guys design schedule is…

Julia: When is the next TCM?

Mike G: It's the first Tuesday of the month.

Julia: So it would push our design schedule back if we waited; we were hoping to have this.

Mike G: Instead of Kathy and I relaying what you guys say, it would be really good if we got some kind of a document that Council could read that says what the majority voted on. I think it would be better received by the majority of the Council.

Terri: I think we could build that, and I would like to have the public opinion as well for the Council. But I think that we would impact the design schedule if we waited until the next TCM.

Sandy: Okay so this delays the design, we aren't going to build this for a couple of years. What the heck, it's a month; we aren't going to build it for two years still. It isn't going to make that much of a difference; it's just another month; if we could just come to a consensus here with one statement from the Transportation Commission...

Shelley: Well let's just come to a motion and see if it passes. I'll move that we approve the straight alignment and that we recommend to City Council that we prefer the straight alignment with the roundabout. Does anyone second that?

Terri: Also, I can talk to AMEC and if you guys really want to have a Council formal meeting, we could do that.

Sandy: Can I ask a question? Is everyone comfortable with that we are designing the bridge at the same capacity that we have right now?

Shelley: I am completely comfortable because I think we need South Bridge, it is a priority. We need to build South Bridge for many different critical reasons. This capacity is what is needed as far as we can see into the future for the Midland Bridge, if we have South Bridge in place. It needs to be a priority. We need to get the County more on board. CDOT wants to see it built.

Sandy: I agree with all that.

Dave: Ok, why can't we make a recommendation today? Why can't we make the decision today?

Mike G: I actually share that concern. As long as we aren't putting ourselves into a corner to where if we don't decide on an option, we can't expand it. In the future if we need a four lane, 27th Street Bridge and if we need

to scrape the roundabout and put a signal in there, that because we don't get South Bridge, then I think that's very important. I agree that South Bridge needs to be a priority and am assuming it's going to be built. I would also say that the next place to spend another $6-8 million dollars is that third bridge.

Lee: Yes and to add onto that, adding capacity to just this bridge is not the end of the project. You're adding it all the way to back to HW 82, you're adding to left turns to get off of the highway, you're adding capacity to 27th Street between the highway and South Grand, you're adding a second structure, you're creating a two lane roundabout at Midland and 27th and you're tapering those lanes a half mile north and south of that from four down to two.

Shelley: I think the costs are huge and underestimated if we don't build South Bridge.

Sandy: I totally agree.

Jessica: South Bridge has come up a lot in many neighborhood meetings with the adjacent property owners. I have been reassuring them that South Bridge is still being looked at and that we are still trying to find the funding. But we have funding for 27th. While South Bridge does impact this, we have to find some sort of solution for today.

Kathy: Well we will also need some alternatives if we are doing that. I would be interested in what you just said, Dave, I am interested to hear what people think.

Shelley: I would like to restate my motion: The slide option.

Sandy: I second Shelley's motion.

Terri: Does anyone have any more questions or comments?

Dave: I like the slide option. I will be interested to see if that is the option that goes forward; it is promising.

Sandy: Maybe we will change our mind when it comes up. We cannot get just any contractor; it needs to work.

Terri: We will also set the qualifications during the bid process. We wouldn't do this with an unqualified contractor.

Mike G: Ok, So all in favor of Shelley's suggestion, say "I", (Transportation Commission agreed, saying "I"); those not in favor say "nay", (no response).

Commission agreed.

Shelley: Meeting adjourned at 11:38am.

4. Adjournment:

The Commission agreed to adjourn the meeting at 11:38am.