

**Board of Public Works
Meeting Minutes**

October 12, 2016

A special meeting of the Board of Public Works was held on Wednesday, October 12, 2016, at 3:00 p.m. in the Auditorium at City Hall, 3rd floor, 229 Main Street, Nashua, NH 03060.

Mayor Donchess called the meeting to order at 3:00 p.m. and called the roll.

Members Present:

Mayor Jim Donchess
Commissioner Paul G. Bergeron
Commissioner Tracy Pappas
Commissioner Joel Ackerman

Members Absent:

Commissioner Kevin S. Moriarty

Aldermanic Liaison Absent:

Alderman Ken Siegel

Also Present:

Ms. Lisa Fauteux, Director of Public Works
Mr. Steve Dookran, City Engineer
Mr. Andrew Patrician, Division of Public Works Operations Manager
Attorney Celia Leonard, Assistant Corporation Counsel, City of Nashua
Attorney Andrew Prolman, Prunier & Prolman, P.A.

MOTION: Commissioner Pappas to approve the amended Agenda as presented.

SECONDED: Commissioner Ackerman

MOTION CARRIED: Unanimously

Public Comment - None

Administration Department

Attorney Leonard

We did not bring a plan but there has been a development agreement with the preferred developer in that area. They have made great strides over the years and we are coming to a close. There is a city road there, Bancroft Street which right now is a paper street. History shows that it had houses on it at one point prior to the flood. The city purchased the land as part of the levy project so there is no current road on the land but it is city land and a road was there. The developer is going to build the road and is going to do some innovative things. They are going to have permeable pavement under the parking to allow for drainage. In exchange for using that road and site plan approval and other things, they have agreed to maintain that road as they construct it for at least 20 years so this is the maintenance agreement that would go in the registry. It will run

with whoever owns the property and the city can enforce it. The developer or whoever owns that property will plow it and maintain it. Before it comes back to the city they have to give the city written notice of at least 2 years prior to allow the city to inspect the street and allow time for any maintenance issues to be resolved prior to the city accepting it to come back into our portfolio of streets that we maintain. That's what the agreement says.

Commissioner Pappas

I think we have a meeting next week.

Director Fauteux

The 27th.

Commissioner Pappas

It's out of my comfort zone to approve something without seeing it and without having advanced notification. I know, for example, that we had some verbal agreement regarding the skateboard park and it's no offense to any of the attorney's here. I would either be forced to vote no or to table it until we have more information. I won't move to table it because that's non-debatable and I don't want to cut anyone else's discussion off.

Director Fauteux

I just want to respond to that. I agree, Commissioner Pappas, we do like to get things to you ahead of time. I had a conversation with Attorney Leonard and they have a closing that I believe is on October 28th.

Attorney Leonard

That's correct.

Director Fauteux

This unfortunately is kind of hot of the press. It was just completed and they were concerned I think that if they brought it before the Board on the 27th and there were changes that could delay the closing so that's why it is last minute.

Commissioner Pappas

I will let other people speak before I make the motion to table. I feel badly about it but other things that have happened in that area, I can't vote for something that I can't see. I know that we have this here but I don't if you would like to take a look at that. I don't know how other people feel.

Director Fauteux

When we had the discussion about this one of the things of concern was that typically the city a street such as this, one of the things that concerned me was the pervious pavement. The city is really at this time, although we would love to put in more pervious pavement, we really are not suited to maintain it so that was one of the reasons that I was in favor of this agreement for 20 years. In 20 years I believe the city would have the right, at that point, to take the street over. This is still a city street; they would just be responsible for maintaining it. That's what this says in a nutshell. For that reason I would be in favor of this street being maintained privately for now.

Mayor Donchess

If we adopted this on the 27th does that create any problems?

Attorney Leonard

No, if it's adopted on the 27th then we can close on the 28th.

Mayor Donchess

Okay.

Commissioner Bergeron

So this is currently just the paper street so they will just be maintaining or building the paper street so they have all of the expense. Who drew up this agreement, our legal department?

Attorney Leonard

We worked in conjunction with the developers and attorneys, there were three of us.

Commissioner Bergeron

Who negotiated it? Are you comfortable with the 20 years that it would come back to the city? Is that something that the city wanted or is that something that Renaissance wanted?

Attorney Leonard

It was negotiated out.

Director Fauteux

I would be comfortable with that and again, we need to accept it so if it were is disrepair or there was something wrong with the street then we certainly could refuse the acceptance of the street.

Commissioner Bergeron

Should we approve or not approve this, this goes where after us, Infrastructure or does this go the Board of Aldermen?

Attorney Leonard

We weren't having to go anywhere else since it dealt strictly with the maintenance of a road, which we believe under the Charter is under the purview of the Board of Public Works.

Commissioner Ackerman

Relative to the 20 years, obviously there is no cost to the City of Nashua. What are the criteria set for after the 20 years so the road will be acceptable? Is that listed in this documentation or is it whatever the standards are at that particular time?

Attorney Leonard

That would be the latter. We did get into a discussion on standards and we found that because of the permeable pavement, the city has no current standards for permeable pavement and 20 years is fairly lengthy period of time. We left the standard to be the reasonableness of the parties in 20 years but also, again, the city must affirmatively accept it so the city doesn't just have to take it as is but based on our knowledge at that time we will be able to assess it better I am sure.

Commissioner Ackerman

Director Fauteux, what is the current standard, it's not permeable pavement?

Director Fauteux

We use all impervious pavement now.

Commissioner Ackerman

Assuming that is the same standard 20 years going forward, assuming technology doesn't change, what would be the cost to the taxpayers to change the road from what it is going to be to what we would assume that it should be?

Director Fauteux

Assuming that we couldn't care for the pervious pavement?

Commissioner Ackerman

Yes.

Director Fauteux

I am not sure what the cost of paving the street would be but certainly the city wouldn't accept it if we didn't feel we could maintain it. We could pave and I don't think it would be all that costly for the developer to pave it at that time if that is what we decided. I would like to think that in 20 years we would have more pervious pavement throughout the city. That would have to be redone within 20 years, that's not going to last 20 years.

Commissioner Pappas

For folks watching I think to explain the difference might be a good thing.

Director Fauteux

Permeable pavement is coarse so it drains. It also needs to be vacuumed and maintained whereas impermeable pavement does not drain and is easier to maintain and that is what we pave our streets with now.

Attorney Andrew Prolman, Prunier & Prolman, P.A.

I represent the Renaissance Downtown Nashua, the developer for the project. If this matter is to be tabled until the 27th it is critical that we obtain approval on the 27th. Please tell us what you would like to see in addition to the easement document as it would be very helpful for us to know that going into that meeting.

Mayor Donchess

People could either articulate questions now or if questions come up in the next week or so they could direct them to Director Fauteux who could then communicate with Attorney Prolman.

Attorney Prolman

I thought you may have had it but we will submit the full plans that go along with Bancroft Street and what the builder intends to do with the layout. If there is anything more, please get it to me ahead of time.

Commissioner Pappas

I wanted to wait for commissioner comments to go over this but I would really find it helpful if we got our packets on the Friday before, sometimes we get it on Monday's. I guess if it's that critical I would respectfully request that we receive the packets the Friday before.

Director Fauteux

Normally that is our practice but this, unfortunately, wasn't ready at the time. That's why you didn't get a heads up.

Commissioner Pappas

I understand but I don't think that any of us want to just be a rubber stamp. Again, I fully realize the timing was not great and that's just how it worked out.

Attorney Prolman

There are many moving pieces to this one.

Commissioner Pappas

I am sure.

Mayor Donchess

When do you think you can get the material?

Attorney Prolman

This afternoon. I thought you may have had it. I have it.

Mayor Donchess

So the Board will get that long before the next meeting. Please forward that directly to the Board.

Commissioner Bergeron

I would agree, this is the first we have seen of this and we don't have the plan so I am not sure what my questions are. I am sure that it is probably fine but I would like to be certain.

Commissioner Ackerman

I don't know what I don't know because I haven't read the whole thing.

A. **MOTION:** Commissioner Pappas to table the Bancroft Street Maintenance Agreement, date specific, to the October 27, 2016, meeting.

SECONDED: Commissioner Bergeron

MOTION CARRIED: Unanimously

Paving Workshop

Director Fauteux

We have with us today Bill Scarpati, Principle Asset Management Specialist from Stantec. Stantec has put together a great presentation regarding pavement management here in the city including a look at our pavement management software which is Cartegraph, our existing conditions, some of the back log and some different scenarios including what would happen if we continue to spend about \$2 million per year, what would happen if we had an equilibrium scenario if things stayed the same and also what might happen if we got to an optimal PCI.

Commissioner Pappas

Are we still able to use Cartegraph?

Director Fauteux

We are using Cartegraph; this is what this is from.

Commissioner Pappas

So we have figured it out?

Director Fauteux

Yes.

Commissioner Pappas

So we are going to hire someone else in addition to what we have used from the Cartegraph?

Director Fauteux

No, Stantec is using Cartegraph to help us with this, to continue the plan. We had someone who did all of the data collection and then Stantec came in and put it all together and put a plan together. We are not asking for any approvals, this is more of a presentation and a discussion.

Commissioner Pappas

But again, the Cartegraph, in addition to doing this work, that's supposed to keep us up-to-date over in the wastewater treatment facility?

Director Fauteux

Yes, for asset management. There was never a problem with asset management. There was a paving module that had changed, they updated their paving module and many of us were familiar with the older module so it just took some adjustment to get up-to-date on the new one so I think we've conquered that.

Commissioner Pappas

I didn't mean to sound like a nick pick but it seems like we've spent a lot of money through the years. In my 10 years it's like well this is going to be the end all be all and it doesn't work so that's why I am asking the questions. I thought this was going to be presented by staff so I was thrown a little bit of a loop here.

Mr. Bill Scarpati, Principle Asset Management Specialist, Stantec

We have been working as a consultant to put together the pavement management system piece of the larger Cartegraph Asset Management System. I understand that you just received this report today or perhaps yesterday. My presentation is really around this so don't feel like you need to dive into this right away. There is a five point agenda that I want go through real quick. The Pavement Management Study Methodology, the Pavement Management Philosophy, Current Pavement Conditions in Nashua, Future Budget Scenarios and Recommendations and Questions.

As Lisa said, MDS, another firm, had come out last fall and conducted a citywide pavement inventory; 300 miles of inventory of the paving conditions. These were smaller block to block segments. We came in and we merged the segments to create what we call paving management segments, larger real project limit projects that are going to be like future re-surfacing or reconstruction. On each of these segments the pavement distress identification and quantification was performed and closely documented the different types of distress like potholes, alligator cracking and in measuring the quantities. It was a visual inspection; there were no test pits of cores. Based on the visual inspection to distress it and we calculated what we call a pavement condition index, a PCI score on a 0 to 100 scale; 0 being a road that's nearly impassable and 100 that is a road that is in excellent condition. All of this information is in Cartegraph and we then calculated what we call a network priority ranking so if we have two streets with the same PCI it's the comparative merit of repairing one over another so the arterial collective would get repaired before the local dead end street.

Commissioner Pappas

Does that take into account the number of cars that go over the street per day or guesstimate that?

Mr. Scarpati

It's an estimated. It's part of an asset management system so as you get more data and studies that all gets inputted. It's a central line of location and you start to make smarter decisions about that.

This slide illustrates the life of a pavement as it relates to PCI over time. During the pavements life it goes through what we call intervention phases or PCI treatment bands. Up at the top roads are in excellent condition and require nothing and are in a do nothing condition category. As they deteriorate they fall into what we call the routine maintenance treatment band. This is where we do some crack sealing and maybe an isolated skin patch. Roads that fall under preventative maintenance treatment band are in need of more than a routine maintenance effort, it's more of an extensive crack seal or perhaps some full depth patching and then coming back with a thin overlay or there are other treatments out there like micro surfacing chip seals that help preserve oxidation of the pavement. Further on, roads that fall in that structural improvement treatment band, this is where we need a thick overlay and not just to seal the surface but to provide added strength to resist traffic loading. These are streets where we do mill and fill, resurfacing, grind and overlay and grind and inlay. Finally, roads that have failed are in that bottom band in the base rehabilitation treatment band and these are where we do full depth reconstruction reclamation. The whole idea is as the road deteriorates it costs more and more as it goes through these treatment bands.

Commissioner Pappas

We have used mill and fill and it has worked well for us. Can that be done more than once on a road?

Mr. Scarpati

Sure.

Commissioner Pappas

So let's say that we ran out of money and we would not be able to pave a road and the area had previously been milled and filled can we do that again?

Mr. Scarpati

It depends on the type of crack and the foundation. There are a lot of variables that go into it but typically, yes you can. Each time you do you would probably mill a little deeper to bond a new overlay to the original binder intermediate course.

Commissioner Ackerman

Is that depth relative to your nomenclature of inlay versus overlay?

Mr. Scarpati

The depth is relative to the underlying foundation support and the load that is being applied.

Commissioner Ackerman

So what is there in terms of being overlay and inlay?

Mr. Scarpati

When I say inlay I typically...if there is a poor utility cut or a water trench going down the road we would do a 12" cut-back and mill out that and restore the trench. That's what I refer to as a grind and inlay so it's sort of inlayed into a newer pavement that is in good condition.

Commissioner Pappas

Have you taken a look at how they are supposed to do the utility cuts here because my understanding is that we have a pretty decent program compared to other New Hampshire cities?

Mr. Scarpati

We did not look at the utility cuts per se here. We have done a utility cut study in another city in New Hampshire and other places outside of New Hampshire and they certainly have a detrimental effect on the life of the pavement, especially newer pavements and that's why; I believe the city has a five year gate moratorium, especially on the newer pavements. As you cut and breach that pavement, to (inaudible) the workmanship is not the same.

Commissioner Pappas

My understanding is that I think we run a little bit more of a tighter ship than other cities do in New Hampshire regarding what we require for patching so you might want to take a look at what we have moving forward.

Mr. Scarpati

We did not look at the street opening rules and regulations but there are certainly requirements that you would want of the utility companies. Certainly if there is a loss to pavement there is a fee that is usually associated with that; a dig fee.

Commissioner Pappas

Right but I think that rather than using fees I think that they kind of have to go above and beyond but I think most cities do. I don't know where that would be documented.

Director Fauteux

I don't think we have done a comparison. Maybe Steve Dookran knows but we do; you are correct Commissioner Pappas, in that we do have a very aggressive policy on street openings.

Mr. Steve Dookran, City Engineer

All restoration for utility cuts calls for a 3-foot cut-back; about a minute ago you talked about a 1-foot cut-back. We established that by ordinance several years ago. It does cost a bit more by the utility companies or whoever is cutting the street and they have griped about it but we haven't seen any reason to reduce it and it is beyond what most other communities in New Hampshire are doing.

Mr. Scarpati

Here are some treatment band examples up at the top left. Manchester Street has a PCI of 98. There is some slight raveling going on there, open void texture, it's do nothing right now but it's the reason why it's 98 and not 100. The routine maintenance you've got a longitude or seam is opening up where the two pavement mats were put together to get a PCI of 93 so you can see the longitude crack in need of some crack sealing. 83 over to the right is the preventative maintenance. You can see that you have a little more of a crack in here. This is a good candidate to do an extensive overlay and come back with what we call a micro surface to restore and prevent further oxidation and cracking of the pavement. Then at the bottom you have a PCI of 55 structural improvements on West Hollis Street. You have more pronounced cracking, more severe; notice the orientation of the cracks in the wheel paths which indicate some structural failure. This is probably a street that's going to require a deep mill and come back with a two lift overlay. Finally we have a street at 29, this is base rehabilitation. Clearly with all of the alligator cracking, this is Tinker Road, I believe this section was repaired late this year but this is something that would need to be ground up or full depth reconstruction.

Commissioner Pappas

When you folks do this stuff or take this stuff into consideration, for example, I know that Tinker Road, I think it gets flooded a lot and is there something different that we do for that.

Director Fauteux

We did a part of Tinker Road this year. Tinker Road has drainage issues and we haven't been able to address them the way we want to address them because it would take half of our paving budget just to do Tinker Road. We did overlay it and it looks much better than it did and we expect it will last for the next 10 years or so. Those drainage issues will eventually need to be addressed.

Commissioner Pappas

So when we take a look at a study like that does it take stuff like that into consideration or not?

Mr. Scarpati

It does. On this go around we did not have a drainage index but there are definitely other variables within the asset management system that we can pull in to sort of do what I call a cross asset analyses to be a little smarter. Right now this is just the surface investment plan so as you get your sewer and your drainage, storm and other infrastructure in there then you can start to make a better and stronger program.

As of last July, the average PCI in the City of Nashua was a 77.2 so you can see it is pretty much smack in between the preventative maintenance treatment band.

Commissioner Pappas

I'm surprised.

Director Fauteux

I know why Commissioner Pappas is surprised. This number is a little bit deceiving in that this doesn't separate major arterials and residential streets. The major arterials are in better shape and this is sort of skewing that a little bit. That's one of the things that I have asked Bill to look at, to separate the two because I think you will find a much lower PCI if you are just looking at residential streets.

Commissioner Pappas

Right because that doesn't look that bad.

Mr. Scarpati

So this chart breaks up the 300 miles of streets in the city. In green you have 71.6 miles that are in a do nothing condition treatment band, 33.2 in need of crack sealing, 1/3 of the network lays in that preventative maintenance treatment band. This is really critical because it's on the downward side of the deterioration curb so they are ready to jump into the more expensive band. You also have a significant amount of streets in need of structural improvement, 76.6 which is the second largest band and then your base rehabilitation is 15.1 miles is barely manageable.

Commissioner Pappas

Were these all of the roads in Nashua?

Mr. Scarpati

That's correct.

We also determined the outstanding backlog to be just a little over \$50 million. The backlog is the cost of bringing up all of the streets to a near perfect condition within 1 year. It represents how far behind the network is in terms of its present value today. You can see right away that the purple and the yellow piles that 1/3 of the network represents \$20 million and more importantly, more than 1/2 of the backlog is in need of structural improvement and base rehab so there's a big backlog and unfortunately it's not in the purple. As I stated earlier, the network is really at a critical point where we need to look closer and pay attention. We looked at six different funding scenarios and please note in the report, we just recently ran an extra scenario so in the report we are only going to have five of the six that I am going to talk about. First we ran a zero funding budget 10 year scenario and what would happen to the PCI which represents a worst case scenario.

Commissioner Pappas

You mean if we put nothing into it?

Mr. Scarpati

If you put nothing into the roadway network what happens to our average PCI on a backlog.

The next thing we looked at is historically we have been spending \$2.3 million and we looked at it from a worst first perspective so these are the streets that everyone is complaining about and we go to the worst PCI and we work our way up the list until we exhaust the money and everything deteriorates and we do it all over again.

Commissioner Pappas

When you say you worked through the worst PCI is that also considering the amount of traffic on the streets?

Mr. Scarpati

That's correct.

Looking at the same appropriation we looked at what we call an allocation strategy; trying to be a little smarter about how we spend that money. All of the other scenarios going forward actually use this approach. It's the pavement management philosophy; it's a balanced attack which I will explain in a little bit more in more detail. Next we looked at what we call the equilibrium scenario which looks to spend \$5.9 million per year, \$59 million over 10 years and then we also looked...

Director Fauteux

So the equilibrium is we keep things as they are today, no better, no worse.

Commissioner Ackerman

Which is the 77.2 PCI?

Mr. Scarpati

That's correct.

Director Fauteux

Yes but that is a little bit deceiving and again, I've asked Bill to run that and we will present that to you at a future meeting. I think if you looked at the residential streets you will find a much lower PCI than combining the two.

Commissioner Pappas

But even some of the arteries they didn't find...like you will separate those out because I think some of the arteries are bad.

Director Fauteux

Yes, Amherst Street definitely needs some work so does Broad Street but that's just an overall.

Commissioner Ackerman

On the previous slide it showed the different scenarios of the PCI indexes mapped out. If we looked at what we are currently doing, is it indicative that we are working to the far right of that scale as to which roads are currently on our pavement list or did we not look at that?

Director Fauteux

I'm not sure I understand.

Mr. Scarpati

I am not sure historically how the spending has happened.

Mayor Donchess

To the far right is the structural rework; the streets that are in the worst condition. Commission Ackerman is asking historically if we focused our paving efforts on those streets...

Director Fauteux

Those streets that are in the worst condition?

Commissioner Ackerman

Yes.

Director Fauteux

Yes, absolutely we have but we also balance that with the major arterials because we obviously can tolerate a lower PCI on a residential street than we can on a major arterial. You don't want to let the major arterials go into any kind of structural failure because then it's going to cost a considerable amount of money.

Commissioner Ackerman

So we were doing less and less preventative and we were waiting until they got really bad, is that correct?

Director Fauteux

No, not necessarily but sometimes it's better to do a street that can accept an 1" overlay rather than Tinker Road which needs a total rebuild because we just can't afford to do that. It's a balance so I wouldn't say that we've done just the worst of it. We have had such a limited budget that it's been more of a band aid approach.

Commissioner Pappas

I'm getting the sense that in the last few years that we have spent a little bit more on paving.

Director Fauteux

We have, absolutely; about \$2.3 million I believe and I think we only had \$1 million for many years.

Commissioner Pappas

So we've doubled in the last few years.

Commissioner Bergeron

When we have a lower PCI, say like a 38, who determines what we are going to do there as far as...so it's a 38, who makes the decision on what we are going to do there as far as mill and fill, patch, etc.?

Director Fauteux

Engineering.

Mr. Dookran

What we have been doing since 2001 is we have been using the VHB Road Management Program. The standard VHB Road Management Program at that time recommended that we use a benefit value index in choosing our streets. The highest benefit will come from the streets that have the highest traffic. We put all of that information in as well as the cost of rebuilding that street so that's why you saw all of the major roads were coming off first. We realized that the neighborhood streets were suffering and never getting on the list because we were doing major streets twice in a short period of time and not even getting to the side streets so we started a bottom approach looking at the lowest PCI's for residential streets and picking a number like 35. The scale is a little bit different using zero to one hundred. The VHB meant something very different, very low was in the 20's when a street really needed to have major work. We carved the residential streets at the low PCI say at number 32; anything in the 32's would get done in this program this year. So we do the highest benefit and the lowest PCI and we thought that was a good balance for the \$1 million that we have spent for so many years until 2 years ago; it did increase to \$2.3 million. In terms of treatment, the arterials and collectors were getting a mill and an overlay and the reason for that you don't want to keep building a street up, you want to make sure you preserve the curb. On a residential street we didn't find that it was cost effective to do all of the milling so usually we just go in and do a shin and overlay. Those are programs that even though might be a little bit more cost effective in its approach we won't get in the life expectancy on those treatments and neither will we have done any preventative like crack sealing or thin overlays. We are just considering those now in this new program.

Director Fauteux

I think it's important to note to the city engineer's points that we just don't have enough money. As you can see, the equilibrium scenario, just to stay as we are today is \$5.9 million per year. We are spending \$2.3 million so every year that we only spend \$2.3 million we are going backwards. There are so many streets that need to be paved; it's very difficult to choose. We were trying to spread that \$2.3 million or utilize it in the best way that we could.

Mr. Scarpati

We also looked at spending that \$59 million of 10 years which is what we call a front loading scenario where we spend more money up front and address deterioration early on and ten scale back to a budget that is more in-line as to what is being spent today at \$2.8 million.

Director Fauteux

But that's still an equilibrium scenario so that just keeps us where we are today. I just want the commissioners to understand.

Commissioner Pappas

So the only way we are going to get anywhere is...

Director Fauteux

Is the very last; that's correct Commissioner Pappas.

Mr. Scarpati

The last scenario is really a progressive funding program that's going to improve today's PCI dramatically and that's looking at a \$7.5 million per year appropriation. This bar chart shows us the whole pavement management philosophy so what we are trying to do is allocate a certain amount of money to address the streets that are on the cusp of going from one treatment band to another so it's kind of a worst first within the treatment band but you are spreading all of that money across the treatment bands as opposed to starting at the far left and working your way up.

Commissioner Pappas

Can you repeat that once more?

Mr. Scarpati

This is the allocation strategy so rather than spending all of the money and starting at the worst, the pile at the left and working your way up. This is spending money on the streets that are on the cusp of going from one treatment band to another. It's not animated here but these dotted boxes represent an interjection of funds to take these piles and move them over to the green.

The resulting PCI for those scenarios, the black represents the zero budget scenario which is the worst case scenario so you can see that the PCI goes from 77 to a 45. The red and the orange are the historical budgets; \$2.3 million each year so the red represents if I do the worst first, if I change my spending strategy, not my money but I get a 5 point increase in my PCI value; again the PCI is the average over the city including residential and arterials. You can that those scenarios are still regressing and the pavement conditions are deteriorating so we need to look at an equilibrium scenario and hence the purple and the green line. The purple represents that \$5.9 million each year so you can see that the PCI stabilizes at a 75 ten years out and then that green front loading scenario where we are spending \$10 million up front gets us a nice jump in the PCI 5 years out and then \$2.8 keeps it slightly regressive but more or less continues with an equilibrium pattern and finishes out at an 80 and then that \$7.5 annual appropriation would be right up to 90 which would put you right in the routine maintenance treatment band. On the backlog side of things you can see that the backlog balloons with the black line from \$50 million, this is a zero funding scenario to \$181 million. The historical budgets are in the red and the orange so again, just by changing the way we spend that money there is a \$10 million savings over 10 years at \$2.3 million annually and then the purple and the green are again that \$59 million over 10 years. You can see that the front loaded scenario drops that backlog and the progressive funding scenario, that last new scenario that we just recently ran is not included in this report. That's \$7.5 million progressive funding program. That actually drives the PCI; it cuts it more than half.

So recommendations and in conclusion, the City of Nashua needs to increase its roadway funding. Clearly the \$2.3 million isn't enough. \$5.9 is needed at a minimum just to maintain the conditions and what I neglected to also add is that the backlog costs only represent the pavement costs so inside a curb, the curb and the pavement structure. It does not include sidewalk, drainage, lighting and underground sewer, etc. Certainly investigate the likelihood, as you can afford, front loading when you can. Certainly when you go to front load and you start to spend an ample amount of money on the roads you want to have tight, good coordination with

the utilities. The last thing you need to do is be paving and then having them cut up and creating a jigsaw puzzle of our network.

Director Fauteux

The city engineer and his staff have already met with the utilities multiple times to discuss options.

Mr. Scarpati

Practice routine and preventative maintenance. I did not see any evidence of cracked sealing. Cracked sealing by far is the most effective way to save and preserve and to maintain a pavement in New England. We have three stop cycles and once the water gets into the pavement structure through the cracks it does a tremendous amount of damage even though you are milling and filling you never get down to that crack that now has permeated into the lower layers and now is able to reflect through very simply. The city should embark on some type of preservation maintenance program. Having a 1/3 of the network in this category; you need to look at different types of treatments; chip seals, micro surfacing; they each have pros and cons with them but certainly start the pilot and we've talked about different treatments with the department to find the right mix that's going to be desirable for the constituents and yet performs up to the city engineer's expectations. Also, conduct what we call project level evaluations on streets that we go to make a large investment and we resurface base rehab to close and test pits, let's see what we have for a stratification and then do a pavement design and make sure that we are not under designing or over designing for our pavements. Lastly is to continue the pavement management, obviously the Board and the city have made a significant investment in the asset management system. It's an on-going process; it's not just a one-time study. We develop a plan, you monitor the network, you set goals; we are looking at having a new metric in addition to average PCI and backlog but also looking at what the average in backlog is for the collector network and establishing a minimum threshold condition and then the neighborhoods. I know that a lot of the neighborhoods fall in that structural improvement treatment band. The past program like VHB did the right thing; the common sense thing to do is to spend money where you have your higher ADT's. The plan that typically goes forward will be more arterial collective focused and then in the later years as you catch up, the neighborhoods start to get rebuilt. That's it.

Mayor Donchess

Are there any questions or comments?

Commission Bergeron

Are the other scenarios and other charts that you had in here as well?

Mr. Scarpati

On page 20 we are looking at a table that has the year, the funding level, the PCI level and the backlog. We did create that chart for five of the scenarios that you saw here. The only one that's not in here is that \$7.5 million, that progressive funding.

Commissioner Pappas

But the front loaded one is?

Commissioner Bergeron

Yes, on page 26.

Director Fauteux

We will get this updated as we get the additional data as we separate the arterials and the residential streets and look at what the average PCI is on both of those. The other too that this plan does, and I want to look at things a little bit differently to present you is that the pavement management software automatically has for the first 6 years doing almost all major arterials and it's about roughly 90% to 10%; 10% are residential streets and 90% are arterials. I don't think that should be our plan. I think our plan should be far more aggressive in the neighborhoods so we are going to look at what a 60/40 split would look like. So 60% on arterials and 40% on residential streets and present that to you as well.

Commissioner Pappas

But on this table on page 20, it does break down regarding the arterials, is that correct?

Director Fauteux

It does not, it's all together.

Commissioner Pappas

I remember at one point seeing that Canal was on an arterial. That was done in 1997. Weren't we trying to get bonding for it and I remember Canal being listed and Concord was not. I remember Canal being done in 1997 and I don't remember Concord being done since 1994. In the breakdown that we have of the listed streets here, so let's say I am looking at the back of the report where they are listing certain streets, does that list take into consideration...

Director Fauteux

Canal is on here.

Mr. Scarpati

This listing in the back, Appendix A, is the backlog. This is every street in the city sorted alphabetically; the PCI and what the treatment needs are today. Five years from now it may need something more significant but that's the cost of today, the PCI and the NPR, the network priority ranking. Also not that this backlog, again, we are a little behind, we did not update this to reflect the 2016 paving that was done recently over the last three months and also future 2017 streets that are going to be paved with the Broad Street Parkway additional funds. Those are still listed in here as a project.

Mayor Donchess

In thinking about the front loaded strategy of \$10 million per year, is there a limit to how much the department can handle logistically in terms of contacting the utilities, the residents, letting them know of the 5-year no cut policy and all of that and how much do you think the department, in terms of dollars expended, can handle in 1 year?

Director Fauteux

I wouldn't recommend the front loaded strategy. I don't think it's a good one because it keeps us exactly where we are today and I think we should shoot to get better than we are today. I don't think where we are today is acceptable necessarily so I think some form of the last scenario is the best.

Mayor Donchess

The progressive schedule?

Director Fauteux

Yes.

Mayor Donchess

Do you think we can logistically handle \$7.5 million per year?

Director Fauteux

Yes. It will be tough but I think we can.

Commissioner Pappas

So for front loading we are putting a lot more money in the beginning but if we front load it wouldn't we be saving more streets from going down to the...

Director Fauteux

You get an initial bump because you are spending \$10 million. It raises the PCI a little bit but not significantly.

Mayor Donchess

The front loading strategy said roughly \$10 million for 4 years and the \$2.3 or \$2.5 for another 6 years.

Director Fauteux

But that's still an equilibrium scenario so it's really not going to get us far. It provides a little bump in the early years but again, it's an equilibrium scenario so whether we spend the \$5.9 million we are really in the same point after the 10 years.

Commissioner Bergeron

I think for us it has always boiled down to what are we trying to accomplish. The benefit that I would see to the front loading is immediately paving a bunch of streets and people would see an immediate impact and then obviously it's how we are going to pay for it, it's certainly not coming out of the public works budget. It's something that we have discussed and we would go to the Board of Aldermen and bond the money and how are you going to pay for it and that's really where the first 4-year strategy comes in. That particular strategy is also rolling it back after the first 4 years to \$2.8 million and we don't necessarily have to do that if we get bond.

Mayor Donchess

Could we logistically handle \$10 million per year?

Director Fauteux

I'm concerned about \$10 million. The city engineer seems to think we can for the 4 years. I think if we continued after 4 years I would be concerned about whether the utilities would be able to keep up with it.

Frankly, I don't know where we would ever come up with the money to be able to pay that. The next couple of budget years are going to really tough.

Commissioner Bergeron

The other part of it is that where would we come up with the \$7.5 million?

Director Fauteux

For every \$1 million dollars there is about \$100,000 bond payment, am I correct on that, Mayor?

Mayor Donchess

Maybe a little less if you did a twenty year bond.

Director Fauteux

For the first couple of years if the Mayor was able to continue to allocate the \$2.3 million we could use that money to pay the bond but then when we get to a certain point....So that would probably would get us through a couple of years anyway, maybe a little beyond that of paying and then after that we would have to allocate more money to be able to pay for the bond, if we were looking at the \$7.5 million.

Mayor Donchess

At the current rate is you did a twenty year bond, like \$1 million costs, even principle payments, there would be a \$50,000 principle payment plus it could be as low as 2.5% or maybe a little bit more on the interest so that would be \$75,000 to \$80,000 per million dollars in the first year; the year after you borrow the money. At that rate, if you borrowed \$7.5 million you would need to pay \$600,000 in year one, meaning with a \$2.3 million budget you would still have \$1.6 or \$1.7 million left over so you could bond for about 3 or 4 years and have the bond payments covered within a \$2.3 million budget and then at the end of that 4 years you would not have anything to cover the additional years but in 4 years there might be some other revenue or strategy developed.

Director Fauteux

That's correct.

Commissioner Bergeron

Either way we are looking at bonding, there's no other way to do any of this.

Mayor Donchess

That's correct. There is no way for us to pay \$7.5 or \$10 million out of current funds without bonding.

Commissioner Bergeron

What was the leftover from the Broad Street Parkway money?

Director Fauteux

I don't know that we have that number finalized quite yet.

Mr. Dookran

\$4.4 million

Director Fauteux

Oh, then you mean for the paving?

Commissioner Bergeron

Yes.

Director Fauteux

I thought you meant overall.

Mayor Donchess

So the first \$4.4 million would come out of the Broad Street Parkway project; out of the bonds that have been and will be sold for the Broad Street Parkway project.

Commissioner Bergeron

We've talked about the crack sealing in the past, have we looked into that any further?

Director Fauteux

We haven't been able to because we just don't have any funding to do that but our plan would absolutely include preventative maintenance and crack sealing would be part of it. Also, probably not chip sealing, I don't think that would go over well here in Nashua but there are other types of sealants we would test.

Commissioner Bergeron

That's something that most of our residents will say all of the time, "why aren't you sealing?"

Director Fauteux

Yes, I mean we want to do that, it's just with \$2.3 million we haven't had the money to do any.

Commissioner Pappas

Would we be able to cover say the crack sealing in our regular budget because it seems like it wouldn't last that long. I wouldn't want to use bonded money for something that doesn't last all of that long. How many years does crack sealing get you?

Director Fauteux

It gets you a lot actually because it increases the longevity of the pavement so if that is something we want to incorporate, in fact I think there was a chart that showed that, didn't it Bill, that showed what the breakdown would be in terms of preventative maintenance.

Mr. Scarpati

Yes, on page 22; based on a \$2.3 million budget; the pie chart to the right would be your distribution of that \$2.3 million. Again, this is for arterial, collector, the whole thing including residential. So, 57% of your budget would go to structural improvement, 17% to base rehab, 22% to preventative maintenance and then 4% of the budget should be for crack sealing.

Commissioner Pappas

Okay, so the blue part would be the crack sealing?

Mr. Scarpati

Yes.

Mayor Donchess

Who does that? Is that contracted out?

Director Fauteux

I think the street department will be able to do some of the crack sealing.

Mayor Donchess

So that could be over and above the street paving program?

Director Fauteux

We could do some of that, yes. It depends on the extent.

Mayor Donchess

Do we have the equipment?

Director Fauteux

Yes but not to do the regular slurry seal.

Commissioner Pappas

I do think that one of the things that I've heard from people is that they do want the roads improved but they wouldn't want to bond something that doesn't have that much longevity.

Director Fauteux

That would definitely be part of the plan.

Commissioner Bergeron

The street department has done a great job at the mill and fill program, outstanding. It's almost to the point where they have paved some of these streets. I am just looking about how much more bandwidth the street

department would have if we added the crack sealing and some of these other things as well and the investment in equipment for crack sealing; nothing really?

Director Fauteux

It would be pretty minimal but we would have to see what the magnitude was. I'm only saying that it is a potential, I am not saying that it's definitely something we should do.

Commissioner Ackerman

Obviously the city needs to take appropriate action and this is going to be for FY 2017. What would be the next steps, other than getting some additional information from Stantec and the analysis from the engineer, what would be the timeframe that we would need to go ahead and make a decision? What's the process to allocate a bond?

Mayor Donchess

I think we are looking at fiscal '18 at this point because we've got money in the current budget, at least some for next spring but it would be between now and the end of the fiscal year or before, it could be earlier. I would say we'd need to propose something pretty quickly. We could propose probably the first year of bonding and sort of come up with an overall plan; if it was the \$7.5 million plan we could propose the initial year of bonding. The requirement for that is to make a resolution that goes before the Board of Aldermen and then have a public hearing then they would have to approve the bonding by ten votes. Of course, we would probably make a similar presentation to the Board of Aldermen so they were informed before we propose any specific course of action so that they are up-to-date on all of this. I think that could be accomplished early in the year. We would give them the presentation and propose the bond sometime this year, it takes a month so we could probably have something in place by early next year and then we would have to decide from there when to sell the bond and begin the project.

Commissioner Ackerman

If that all gets approved as you have just articulated, when then might we be in a position to start the paving? Is it going into after July of next year?

Director Fauteux

If the goal is to have it approved for the next fiscal year then we would have to put this out to bid and that will take some time. If we don't have approval until July 1, I think it will be tight.

Mayor Donchess

But we might get approval before July 1.

Director Fauteux

If we could put it out to bid this spring then yes then we could start by July 1.

Commissioner Ackerman

My perception is that we'd be available to do many of these projects, paving and rehabbing from July through October and then again in the spring of the following year and then the follow on bond is for the next fiscal year, is that how that works?

Mayor Donchess

Yes.

Commissioner Ackerman

Thank you, I would be in full support of that.

Commissioner Pappas

We had talked about; we had one of those lucky winters that we had money left over and we had a discussion on the money that was left over and it would be my wish that we put most of it into paving. I don't know exactly how much money that we did have left but I would hope that the majority would go towards that. The only other thing that I thought might have some savings was if we allocate a certain amount of money to softening the blow if folks want to by some of the recycling carts; that we could subsidize that. I remember talking about the leftover money but I don't remember if we made any decisions about it.

Mayor Donchess

What happens at the end of the year is that all of the leftover money from all of the departments is consolidated and then I propose a list of escrow or projects that we would allocate some of the leftover money to and a lot of it went to...the surplus consists of two basic elements. Number one is money that is not spent and number two, revenue which might exceed the estimates of the budget. This year we proposed a list of \$2.3 million of escrows in total for the city; \$700,000 went to the CERF which is the Capital Equipment Reserve Fund which is largely public works equipment or public works related. We also have police department vehicles and other things but in any event we did for public works escrow money for a new paving machine for the mill and fill and that was \$80,000.

Director Fauteux

And also for infrastructure improvements, some park rehab, we have funding for a couple of park employees so there were a number of things.

Mayor Donchess

I think on the paving since we are going to be bonding millions of dollars and since we've got \$4.4 million coming in from the Broad Street Parkway in reality whether we allocated \$50,000 or \$100,000 doesn't make a material change. The mill and fill paver is directly for paving.

Director Fauteux

Right now what we are using for our mill and fill program is a sidewalk paver which really isn't conducive. The actually street paver will help us to be a lot more efficient and get that done more quickly.

Mayor Donchess

We can maintain and improve the mill and fill program with the new paver.

Commissioner Pappas

So we are just using a sidewalk paver and not a real paver?

Director Fauteux

No, both, we have one but it is on its last leg, it's down all of the time but mostly the sidewalk paver.

Commissioner Pappas

Can we rehab that so we have a second one?

Director Fauteux

It's really, really old.

Mr. Andrew Patrician, Division of Public Works Operations Manager

The regular paver that we currently have is a 1999 and the company is no longer in business and we can't get parts for it so now we are just trying to band aid it together to keep it on the road now so we wouldn't be looking into rehabbing that. It's on its last leg and that's why we wanted to get another paver this year that will be bigger, faster and more efficient so we can keep the mill and fill going.

Commissioner Ackerman

One thing that I did notice is we brought up Canal Street and it doesn't appear to be in here. The fact that it's missing from here, does that change any of the numbers or the conclusion?

Mr. Dookran

(Inaudible) on Bridge Street and (inaudible) Canal is here.

Director Fauteux

Thank you. I was asking the same thing.

Mr. Scarpati

It's under a different name, that's right.

Commissioner Ackerman

What again does NPR mean?

Mr. Scarpati

It's the network priority rank. It takes into account ADT and functionally class, the type of arterial collector versus a dead end street. It also takes into account pavement type so if you have a concrete road versus a hot mix asphalt road you can weight one against the other. Right now that is not being accounted for in Nashua. Each of these values are all weighted and PCI is also a part of that so the higher the PCI the higher the NPR. It's kind of like the benefit value that Steve was referring to but it's basically the comparative merit of the value that is used to weigh one street versus fixing another street. The higher the number the more beneficial the repair is.

Mayor Donchess

I do have a patching question which is we normally require that if someone cuts the street they patch it and if it is a limited area it compromises the street to some degree but traffic can basically handle it but in one area on an arterial street, that is Amherst Street from around where the Edgewood Cemetery is going west down about ¼ of a mile, not all the way down to the Henri Burque Highway but most of the way there is a long patch that's maybe 2 to 3 feet wide...

Director Fauteux

We did that.

Mayor Donchess

That must have been a utility patch, right?

Mr. Dookran

It was Liberty Gas.

Mayor Donchess

I was thinking that it was a gas patch but the policy, as applied in that situation, means we don't just have a little bumpy spot but a section of road that's at least ¼ mile long and it wrecks the whole street. I was wondering in that situation when we are not just doing a section in front of a house but the whole length of a street whether we could impose a more rigorous requirement of repaving the whole street. That whole section is terrible now because of that patch that they did and it goes on for more than a block.

Mr. Dookran

Let me address that. That section of Amherst Street has been on our paving list for a while; however there is the requirement to do the utilities so we had put off the paving until the utilities got through their work, major gas work which is done now and Pennichuck has just started the water replacement. When that's done then we will have the full restoration. Liberty hasn't gotten out and done its full cut back.

Mayor Donchess

So they haven't completed their patching?

Mr. Dookran

No, the reason is the water work is going to impact the gas trenches.

Mayor Donchess

So it's not done?

Mr. Dookran

No, it's not done; it's being done in stages.

Mayor Donchess

It's really bad now.

Mr. Dookran

It turns out that is one of the streets that we put (inaudible) to use the surplus Broad Street Parkway money which we intended on paving next year. Hopefully water gets out of the way and we can do the full paving.

Mayor Donchess

But what I am saying is that if a utility does something like that, where again, it's not just a little section, it's an entire street, shouldn't the utility in that situation be required to pave the street rather than, I mean this patch, it's not even a patch, they have wrecked an arterial street for ¼ mile or ½ mile. Shouldn't the utility in that instance be required to repave it?

Mr. Dookran

That's a good idea however it's a hard sell.

Mayor Donchess

A hard sell to whom?

Mr. Dookran

To get a utility to cover the full cost. We've gone back and forth. The 3-foot cutback that I talked about earlier, they are highly against that. As Bill mentioned, a 1-foot cutback is typical in most communities. We've increased the cutback and not just in the pavement but also going onto the road box and replacing the gravels down to 18" deep as well as in the paving replacement you have to add no less than 5" of pavement and in the case of Amherst Street it would be 7" of pavement. All of that adds to their cost and they threaten us that it will be passed on to your rate payers.

Mayor Donchess

That might be but the rate payers; from the gas company it's a statewide cost so if the statewide rate payers make sure they don't wreck our streets then I don't mind that.

Mr. Dookran

In the end these types of streets do get restored properly. The gas is doing their trench which is about 3 feet and then they are responsible for another 3 feet on each side.

Mayor Donchess

But they haven't finished their patching.

Mr. Dookran

They are not done. In the end we have the street restored properly for the most part by the two utilities and then we come along and do a final surface restoration. They will, if they are not doing the final pavement, they

will give us money and now we have an account which was created to receive that money as of a couple of weeks ago.

Mayor Donchess

Okay, well now I sort of understand that they are only half way through but it's like a whole section.

Commissioner Pappas

The worst offenders are water. If you take a walk or drive down my street, it's kind of wrecked our driveways because they cut the whole street and that was about 10 years ago and so they did a very good job at patching but once you cut into the road...I think that within 2 or 3 years I think that it will be solved in the courts because I think the utilities are going to have to pay their due.

Mayor Donchess

There is a pending case?

Commissioner Pappas

There is, yes.

Commissioner Bergeron

Is that the same situation that's going on Main Street from Alds Street to basically the roundabout?

Mr. Dookran

That is the same situation. Pennichuck is just wrapping up their work and unfortunately it's too late to do rehab so we do our best job in patching it and hope it holds over the winter.

Mayor Donchess

Then they will do a 3 foot overlay on each side?

Mr. Dookran

Yes and if we choose to do it through our paving program they will give us some contributions towards the fund.

Commissioner Bergeron

What would be our, as a Board, our game plan going forward?

Director Fauteux

I think it would be helpful for you to have some additional information for instance what the PCI looks like if he separates the arterials and the residential streets. I think a decision needs to be made on what percentage of arterials we look at and what percentage of residential streets. Myself I think that 10% residential streets aren't enough. I think we should do more than 10% for the first 5 or 6 years; at least that is what I am hearing from folks. It's the biggest complaint I get, from residential streets. We would have to also make some decisions about that and then also make some decisions on what we would recommend for funding and we would have

to get from the Mayor what we can afford to find. Maybe let us sort of update this plan and then present it at the next Board of Public Works meeting and make some decisions. The city engineer and I talked about if we could do this and keep the major arterials in good shape, maybe a 60/40 split; 40% residential and 60% arterial for each year.

Commissioner Bergeron

If there is any way that we could get the information prior to our next meeting or at least the meeting after that because time is flying so if we think we are going to do a presentation to the Board of Aldermen by January.

Mayor Donchess

Before January.

Director Fauteux

Bill, do you think you can get that information to us by the 19th or 20th? We would have to have it for the commissioner's packets by the 21st. Is that too tight?

Mr. Scarpati

I think Thursday, the 20th is doable.

Director Fauteux

So if we get that we can get you the updated information in your packets and if not, if you are open to it, maybe we could have another quick meeting after that if we can't get rather than wait until the November meeting but that's up to you.

Commissioner Ackerman

I haven't the write up but it looks very good. I'm on the conclusion page. I know we haven't looked at it beyond that but beyond the 10 years is there any sort of recommendation based upon the analysis that's been done as to what steady state would look like beyond this? If so, can that be part of the follow-up report.

Director Fauteux

Yes, it's something I asked him to look at too, where would the funding go after we spent \$7.5 million, after 10 years what is the cost.

Mr. Scarpati

Typically we don't go more than 10 years out. It's just because of the data that's in there right now. There's not a lot of additional data but the more data we get in there, the more reliable the output becomes. Certainly to try to develop a 10-year plan is unrealistic but to look at the financial implications having that long-term view is definitely what this tool is used for. We typically do a five...

Director Fauteux

That's a good point. We wouldn't be presenting you with 10 years of streets because that would be a disaster because that could change. I wouldn't want someone to call me in year seven and say my street...

Commissioner Ackerman

Now that we have this asset management tool, Cartegraph, how often do we anticipate rating the roads? Is it every other year?

Mr. Scarpati

It's typically 1/3 of the network every year so that the data is no more than 3 years old.

Director Fauteux

And we would be able to hire Stantec to do that.

Mayor Donchess

Director Fauteux mentioned to me that she has an appointment for school for one of her daughters for which she needs to leave at 4:30 p.m. and it's already a little after that.

Director Fauteux

Thank you. I'm available for questions.

Commissioner Pappas

This was a very good presentation, it was excellent.

Mayor Donchess

Alright so we are going to update the report hopefully by the 20th for the agenda later on in the month.

Commissioner's Comments

Commissioner Pappas

This is a general reminder for folks regarding soft yard waste. I think sometimes in the fall that folks tend to have more yard waste in areas where it's not crowded on the streets, some folks will go ahead and put their leaves out so it's just a reminder to sticklers on the street who might think that people shouldn't be putting their soft yard waste out, I think the ordinance gives enough wiggle room that if it is not a problem with traffic that is allowed.

Commissioner Pappas motioned to adjourn.

Commissioner Ackerman seconded the motion.

Meeting adjourned at 4:33 p.m.