

## **Special Board of Public Works Meeting Meeting Minutes April 5, 2019**

A special meeting of the Board of Public Works was held on Friday, April 5, 2019, at 1:00 p.m. in the Auditorium at City Hall, 229 Main Street, Nashua, NH 03060.

Mayor Donchess, Chair, declared the meeting to order at 1:00 p.m. and called the roll.

### Members Present:

Mayor James Donchess, Chair  
Commissioner Joel Ackerman, Vice Chair  
Commissioner Tracy Pappas  
Commissioner Kevin S. Moriarty  
Commissioner G. Frank Commissioner Teas

### Also Present:

Ms. Lisa Fauteux, Director, Division of Public Works  
Mr. Andrew Patrician, Assistant Director, Division of Public Works  
Mr. Steve Dookran, City Engineer  
Ms. Mandeep Gill, Senior Staff Engineer  
Mr. Mark Saunders, Assistant Construction Engineer  
Mr. Stephen Dookran, City Engineer  
Alderman Ernest Jette, Aldermanic Liaison

**MOTION:** Commission Pappas made a motion to approve the agenda as presented.

**MOTION CARRIED: Unanimously**

### Public Comment

There was none.

### Discussion: Pavement Degradation Fees

#### Ms. Mandeep Gill, Senior Staff Engineer

As part of the degradation study, a score was assigned to the utility cuts and a graph was created by Stantec. In this graph what they have done is on the XS there is the age of the utility cut and the YS is the PCI index. There are almost 183 scores, indicated by green marks, on the graph. After plotting the PCI scores on the graph they ran a deterioration curve. You can see that a utility cuts average life for a patch done in construction is approximately 13 to 16 years. After evaluating all of the patches, Stantec selected 227 roadway segments which were paved between 2001 through 2017 and similarly assigned a PCI score to them. In this graph, FS shows the age of the road in years and YS shows the PCI condition. A road which is brand new and paved in 2017 had a PCI of 100 being the best and the roads that were paved approximately 20 years ago have a score of around 40. 50 or even lower. Once all of

the PCI scores were put in the graph, Stantec did a deterioration curve and they believe that the age of the road before it needs reconstruction is approximately 28 years. Once you plot these curves together you get a degradation analysis. You can estimate the pavements life loss by plotting the two curves together.

On the same graph, FS shows the age of the utility cut or the age of the road and YS is the PCI score.

The first step is to overlay all of the graphs, the second step is to establish a baseline PCI which is a score of 25. The reason we selected 25 is because if the road or utility cut has an access score of 25 then you have to reconstruct it. A utility cut curve will need reconstruction at 8 or 15 where a road will need a reconstruction at 8, 20 or 22. These two graphs help us estimate the useful life area underneath the curb. We did both of the values and by subtracting the values we get what the average life loss was due to the cut. Based on those values we calculate how much the degradation fee is. We input both the area of the equation and then we know to construct an amount of square feet of road it costs us approximately \$10.48 and then we multiply with the area in the equation and get the degradation fee. We did different scenarios, the first one shows if a patch is installed in one year or three, the patch (inaudible) that is life loss. If we install a patch in a 3-year old street then this area shows the amount of life loss of the road pavement.

When we install a patch on a 5-year old street, this area shows us how much life we have lost. The fourth scenario is when a patch is installed on a 7-year old street. You can see it becomes smaller.

Commissioner Pappas

I'm curious as to why that is.

Ms. Gill

It's because the road is also aging and the utility patch does not cause that much of a negative impact so if it's a brand-new road and a patch is installed then we use more usable life. If it's a 7 or 8-year old street and you install a patch, the road has already deteriorated over the 8 years and the patch probably has a PCI similar to what the existing 8-year old road has.

Mr. Stephen Dookran, City Engineer

The first graph, the top left, is a patch on a new street. The second graph shows a new patch on a 3-year old street. The shape of the new patch stays the same and the same amount of life is left but the street is older so the life left on the street itself is less. Then you go to the 7-year old street and the patch is new but it's going to take another 15 years to get to reconstruction so there is pretty much zero loss in life.

Ms. Gill

As Steve specified, as the street ages from age 1 to age 8, the life lost by the installation of a patch reduces.

Ms. Gill reviewed the below chart.

Pavement Age	% Life Lost Due to Utility Cut	Pavement Investment (sq ft)	Proposed Fee (\$/sq ft)
1	47.1%	\$10.48	\$4.93
2	42.3%	\$10.48	\$4.43
3	36.7%	\$10.48	\$3.85
4	30.25%	\$10.48	\$3.16
5	22.4%	\$10.48	\$2.35
6	13.1%	\$10.48	\$1.37
7	1.8%	\$10.48	\$0.19
8	0.0%	\$10.48	\$0.00

Ms. Gill

By the time you reach year 8, the life lost due to utility work is 0.0% and I think at that point, I think our degradation fee should be almost negligible.

We compared Manchester and Concord to Nashua and you will see the City of Nashua charges zero for a permit fee where Manchester charges \$200 and Concord charges \$220. As the chart below indicates, Manchester and Concord both charge more than Nashua for all fees.

City	Street Opening/Permit Fee (dollars)	Inspector Fee (dollars/hr)	Pavement Degradation Fee (\$/sqft)	In frastructure Damage Fee (\$/sqft) - greenbelt/sidewalk	5-Yr Moratorium Streets Fee
Nashua	\$0	\$0	\$0	\$0	\$0 (overlay edge to edge)
Manchester	\$200	\$50	\$5	\$1.50	Pavement Life Reduction Factor (2 to 3 times Pavement Degradation fee)
Concord	\$220	2 hrs included (additional charge will be billed)	\$5	\$2.50	Pavement Life Reduction Factor (2 to 3 times Pavement Degradation fee)

Mr. Dookran

The infrastructure fee refers to everything outside of the pavement, the sidewalk or anything cut into the outside of the pavement.

Ms. Gill

Our recommendation is that there should be a degradation fee for all street openings made by private contractors. It should be a sliding scale and all fees should be adjusted on an annual basis using ENR cost index.

Mr. Dookran

As well as some of the other fees that both Manchester and Concord are charging, a permit fee inspector fee, infrastructure fee or even a multiplier for the streets with a 5-year moratorium. It's kind of hard to justify those other things but certainly, degradation, based on the study, can be justified.

Commissioner Ackerman

It's hard to justify what, the permit fees.

Mr. Dookran

The other fees like inspector fees. They are on the city's payroll. We would need more inspection and we should charge a fee or more inspection, not to hire a new employee but to hire outside inspectors. I know we are not providing enough inspection. We simply don't have enough staff and we have a lot of digs and I think we need more eyes out there.

Commissioner Pappas

I completely agree with that.

Mayor Donchess

When you say a certain amount per square foot, is that the patch?

Mr. Dookran

The patch.

Commissioner Ackerman

I thought I saw in the first slide that they are supposed to repair 3 feet from the edge of the trench over to the left and the right.

Mr. Mark Saunders, Assistant Construction Engineer

It is for the trench that is affected but they are still required to do cutbacks along with the degradation fee.

Commissioner Ackerman

Are the cutbacks included in the square footage?

Mr. Saunders

No.

Commissioner Teas

On average, based on the amount of work that's done by the utility companies, what type of revenue volume does this mean for the city and what happens with that money. Secondly, do we get work done faster because we are not charging them and would this negatively impact their doing work for us in a timely fashion?

Mr. Dookran

They have complained over the years about our restoration standards being more stringent. Pennichuck gave us \$1.5 million towards repaving the streets they were on as opposed to just going in and cutting back. We prefer to spend the money on total reconstruction because in the end, we get a full street done as opposed to a patch or an overlay.

We have stricter standards and therefore we should have better results than other cities. The studies show we have slightly better results. I think the reason we have only slightly better results is because the restoration done by the contractors or sub-contractors are to the standard because we don't have enough eyes out there. On any given day we can have up to 50 construction locations. We really need to be there watching them. The patches should be doing better. The reason why we get a 3-foot cutback on both sides was because the trench itself starts failing and the 3-foot cutback was supposed to capture the failing slope.

Commissioner Teas

If we increase the fees, does that give us the ability to hire more inspectors to ensure the work has been done appropriately to ensure longer life of the road?

Mr. Dookran

Yes. The fees will capture the loss of life and it will go into repaving or reconstructing but having an inspector fee will help us hire somebody.

Mayor Donchess

Are you recommending both the degradation fee and the inspector fee?

Mr. Dookran

Yes.

Mayor Donchess

How much is the inspection fee?

Mr. Dookran

Manchester is \$50 per hour and Concord has the first two hours for free and then it's \$50 as well.

Mayor Donchess

If they were digging would we have an inspector out there for the entire job?

Mr. Dookran

I don't think it's necessary to be there 100% of the time but they should be there a lot more regularly than we presently are.

Mayor Donchess

If we did the inspection fee at \$50 per hour, would you see this being done by city employees or by outside contractors?

Mr. Dookran

A combination of both.

Commissioner Teas

Right now, the utility companies say we are too stringent and now we are going to charge a fee. Will this cause them to be less responsive or are they legally bound to fix problems.

Mr. Dookran

They are legally bound but how they would respond, I don't know. The proposed fees would still be less than Manchester and Concord's and we would have a sliding scale and they don't.

Commissioner Teas

Do we have any sense of the amount of revenue it would produce for future street repairs?

Mr. Saunders

I think it was close to \$500,000 annually based on 600 permits on a 5' x 5' cut.

Mr. Dookran

The money would be put into the paving program.

Commissioner Moriarty

Are you proposing to lower the standards to 2 feet?

Mr. Dookran

No.

Commissioner Ackerman

After all of the work that has been done on Kinsley Street, are the utilities being required to bring it up to the paving standards that are currently in place?

Mr. Dookran

Yes.

Mayor Donchess

It's incredible how long they have been working on that street.

Director Fauteux

Liberty Utilities is working there now.

Mr. Dookran

They won't be done until July.

Commissioner Pappas

Are they done on Amherst Street and Broad Street?

Director Fauteux

Yes.

Commissioner Teas

What would be a reason not to implement this, is there a negative to this?

Mr. Dookran

We could have a premature failure on the streets that have patches on them, streets that are 0 to 7 years old.

Commissioner Teas

It's a win for the taxpayers. The only negative I can see is friction between the utility companies and the city but they are legally bound to do the work and we are not asking for anything that's outrageous versus our peer group.

Director Fauteux

The utilities went after Manchester and Concord trying to not allow them to charge the fees and they lost.

Mayor Donchess

They went to the New Hampshire Supreme Court and lost. The study is very helpful in defense of the fees. I think it would hold up.

Commissioner Moriarty

Why aren't you proposing a permit fee?

Mr. Dookran

We are not going to change the way we do permits. I don't think I could justify that.

Commissioner Ackerman

The current ordinance states there is a 5-year moratorium, does the slide reflect the additional cost?

Mr. Dookran

The highest loss of life is in the first and that's why there is the highest fee, \$4.93 per square foot.

Commissioner Pappas

I've noticed some lousy patches over the past couple of years and you can tell the difference.

Mayor Donchess

Having more inspectors would really help with that.

Alderman Jette

I've noticed that we have manholes, drains and things and the new pavement doesn't always match the manhole. When you travel over it, it's not smooth. Why is that happening?

Mr. Dookran

We strive to have the pavement match the manholes. Catch basins are usually kept a little lower. I think what you are talking about is a year later the manhole has sunk and then it's a dip.

Alderman Jette

As a bicyclist, it's very dangerous if you ride over one and there is a big dip.

Mr. Dookran

The brick that supports the frame of the manholes does eventually break down. It's very hard to construct these things and put traffic on them right away. There is a certain amount of loss when you reconstruct a manhole frame and then open it up for traffic. We continue to look for a standard that will have a longer life on manholes but the other thing is some of these areas have settlement where the ground does all kinds of things, especially in the winter. There is frost heaving and the ground around them lifts. You can't compare them with state roads because they don't have manholes. The catch basins along that run along the side of the street, you want to always keep those a little bit lower than the street to maximize capture. Because there is not a lot of traffic running on the catch basins, they don't break down like you will see in manholes.

There are company's selling a certain type of manhole cover that would last longer but it was twice the cost. The ones we use cost about \$700 - \$800 and it would be double.

Mayor Donchess

How many manholes does Nashua have?

Mr. Dookran

Probably 5,000 or 6,000.

Director Fauteux

I think it's higher than that.

Mayor Donchess

How many do we replace in a year?

Ms. Gill

For the sewers, it's about 500 and about 300 to 400 drains.

Mr. Dookran

The company that is promoting these newer manhole covers want to do a pilot project with us where they would put in one or two and see how they do.

**MOTION:** Commissioner Teas made a motion to favorably recommend to the Board of Aldermen that the proposed fees be adopted to include the \$50.00 per hour inspection fee.

Commissioner Pappas

Was the inspection fee included?

Mr. Dookran

We did not, we left it open for consideration.

Mayor Donchess

The \$50.00 per hour inspection would be included.

Commissioner Teas

That is correct.

Commissioner Ackerman

There will be no permitting fee, is that correct?

Mr. Dookran

Yes.

**MOTION CARRIED: Unanimously**

Mayor Donchess

I went over to Zeeco the other day and they were talking about a system of sensors that would be connected underground and would have a grade level emitter that would be able to detect a certain condition underground. Is there any kind of system that could be installed that could monitor and communicate with a central location sewer problems or degradation so we would know where there were sewer problems without having to scope the sewers?

Mr. Dookran

I know that there have been all kinds of technological improvements but the companies we work with tend to want to stay with the traditional method of dropping a camera in and looking at the various efficiencies or deterioration of the sewer network. I am not aware of anything that would send signals. We have over 300 miles of sewers and we would need a sensor every 10 or 20 feet.

I thought you were talking about pavement deterioration because there is a company, I think it's called Street Scanner. They equip their vehicles with all sorts of sensors on the tires and as they drive on the street the sensors send feedback on the condition of the street.

Stantec does it the old-fashioned way where they drive the streets and take notes.

Director Fauteux

We did something similar and we weren't very happy with it.

### **Non-Public Session**

**MOTION:** Commissioner Ackerman moved by roll call that the Board of Public Works go into non-public session pursuant to RSA 91-A:3, II(d) to consider the acquisition, sale or lease of real or personal property which if discussed in public, would likely benefit a party or parties whose interests are adverse to those of the general public.

*A Viva Voce Roll Call was taken, which resulted as follows:*

Yea: Mayor Donchess, Commissioner Ackerman, Commissioner Pappas, 5  
Commissioner Moriarty & Commissioner Teas

Nay: 0

**MOTION CARRIED: Unanimously**

**MOTION:** Commissioner Ackerman to come out of non-public session.

*A Viva Voce Roll Call was taken, which resulted as follows:*

Yea: Mayor Donchess, Commissioner Ackerman, Commissioner Pappas, 5  
Commissioner Moriarty & Commissioner Teas

Nay:

0

**MOTION CARRIED: Unanimously**

**MOTION:** Commissioner Ackerman moved by roll call to seal the minutes of the Board of Public Works non-public session of April 5, 2019, until such time as the majority of the Board votes that the purpose of the confidentiality would no longer be served.

*A Viva Voce Roll Call was taken, which resulted as follows:*

Yea: Mayor Donchess, Commissioner Ackerman, Commissioner Pappas, 5  
Commissioner Moriarty & Commissioner Teas

Nay:

0

**MOTION CARRIED: Unanimously**

**Adjournment**

Commissioner Ackerman a motion to adjourn.

**MOTION CARRIED: Unanimously**

Meeting adjourned at 2:37 p.m.