Subject: RE: update: yesterday's meeting with WSDOT re SR-520 bridge expansion joint nuisance noise

Date: Tuesday, June 28, 2016 at 3:29:52 PM Pacific Daylight Time

From: Alex Morcos

To: Cynthia Adkins, Michael Sauerwein, SR520Bridge@WSDOT.WA.GOV, al57retire@aol.com, aoi@oz.net, arublowsky@yahoo.com, bcompany6@comcast.net, billandlin@aol.com, c.radford@comcast.net, candydoud@msn.com, carmstrong@mariners.com, chandan.chauhan@gmail.com, cherrych@microsoft.com, chgrinstein@yahoo.com, cornell@cqc-inc.com, d_ty@comcast.net, daviddoud@hotmail.com, David Yee, Dawson.Yee@microsoft.com, Diane.Evans@shredit.com, dlan@microsoft.com, doud.sarah@gmail.com, Drew Blazey, gagvjean@gmail.com, gcstenge1@live.com, haandrews3@comcast.net, heija@heija.com, holsapple@aa.washington.edu, info@whitsittenterprises.com, jay@bdainc.com, jeangamick@gmail.com, jgarone@gmail.com, jjdoud@hotmail.com, jmarthur74@gmail.com, joan.mcbride@leg.wa.gov, john.f.harris@outlook.com, johandrewsrr@hotmail.com, julieylstra@comcast.net, kamie.sargent@comcast.net, laurelpr@seanet.com, ldix@comcast.net, lisa_hawk@msn.com, lnorthd@comcast.net, lthompson@seattletimes.com, maria@langworthyresearch.com, mark@nelsonarchitecture.net, marymagnano@yahoo.com, mayor@ci.yarrow-point.wa.us, mayor@huntpoint-wa.gov, mehtakumar@hotmail.com, melindasatterlee@gmail.com, michelleylan@yahoo.com, Mitch Wasserman, murrays@exchange.microsoft.com, oeljtjenhome@gmail.com, palvimehta@hotmail.com, parkernancy@yahoo.com, parkervic@yahoo.com, parks@seanet.com, pasewark@mindspring.com, Patty.Kuderer@leg.wa.gov, Penny Martin, pewtorhouse@outlook.com, priyasarathy@hotmail.com, r.j.santi@comcast.net, Randy Reeves, rcallan@advrenaltech.com, richard.rogers@comcast.net, richp@mindspring.com, rodneytom@hotmail.com, roy.n@agileasing.com, RSarathy@perkinsoie.com, sfetch@outlook.com, steve@broback.com, steveclin@yahoo.com, stevepr@acm.org, syarmstrong@comcast.net, valerie@parrish.net, Stephen.Uy@gov.wa.gov

Attachments: mageba modular expansion joints.pdf

Thank you Council member Adkins for the detailed summary of the meeting. I look forward to working closely with Larry Kyle from WSDOT and his team on fixing this problem as soon as possible. Although we scheduled meetings for the Council Committee as a Whole, with Staff and WSDOT for the third Monday of each month at 10am, I certainly hope we will not require more than a couple of meetings to get a solution identified and approved. Of course, the committee will be available for additional meetings on a short notice if needed.

The committee asked that expert(s) from the manufacturer of the expansion joint, mageba, be present at our next meeting on July 18 (10am). Staff and WSDOT will be coordinating with mageba's experts meanwhile to have questions answered in preparation for the meeting.

For the information of all on this email, it turns out mageba is aware of the noise problem caused by their expansion joints. As you can see from the attached summary document which has a collection of information readily available on the mageba website, the manufacturer has offered and implemented noise reducing options to expansion joints on bridges all over the world. This document was shared with WSDOT and the committee requested that it be addressed to mageba's experts for answers about possible implementation on SR 520.

Mageba states the following about a bridge retrofitted in 2009 in Germany "The use of Type LR-LS joints thus minimises the noise caused by vehicles crossing the joints, WHICH CAN BE A CAUSE OF SIGNIFICANT DISTURBANCE TO THE LOCAL COMMUNITY". This is done by using noise-reducing sinus plates which, according to the manufacturer, reduce the noise by 80%.

A similar solution was implemented on mageba expansion joints on a bridge in Poland in 2011 (see attachment).
The good news is that WSDOT is considering using the mageba optional sinus plates on the west side of SR 520 that is in construction. WSDOT and mageba will report back how this can be retrofitted on the east side expansion as well.

Thank you all for your patience with this challenging problem. I am hopeful that the great minds working on this will soon identify a solution and we can revert back to being totally proud of OUR Guinness Book of Records bridge without exception.

Best,

Alex Morcos - Mayor
City of Medina
c: 425-442-1420

From: Cynthia Adkins
Sent: Tuesday, June 28, 2016 10:26 AM
To: Cynthia Adkins
Subject: update: yesterday's meeting with WSDOT re SR-520 bridge expansion joint nuisance noise

Dear All,

Yesterday we kicked off our Medina City Council’s SR-520 bridge expansion joint nuisance noise committee-of-the-whole (COW), with a meeting among the COW, City staff, and WSDOT at 10:00am at Medina’s City Hall.

Who: In attendance for WSDOT were Larry Kyle, PE SE, Program Engineering Manager, SR-520 Bridge Replacement and HOV Program, and Stacey Howery, Communications, SR-520 Bridge Replacement and HOV Program
Council in attendance: Mayor Alex Morcos, Deputy Mayor Sheree Wen, Council member Cynthia Adkins, and Council member Patrick Boyd
City staff in attendance: City Manager Michael Sauerwein, Police Chief Steve Burns, Development Director Robert Grumbach, City attorney Kathleen Haggard, and City Clerk/HR Manager Aimee Kellerman
(Residents were also in attendance. I would post their names here, too, but I didn't want to do so without their prior consent.)

What: The City will be issuing official minutes from the meeting. In the meantime, in response to your requests for an update, here are a few of my key takeaways:

1. WSDOT, through and with the support of some of its most experienced engineering leaders, including Julie Meredith, Dave Becher, Greg Meadows and Larry Kyle, is committed to working collaboratively with us on this noise issue. This was also confirmed in a recent email from Roger Millar, Acting Secretary of Transportation. In particular, I was encouraged to hear at the meeting that WSDOT is continuing discussions with mageba, the expansion joint manufacturer, about possible feasible technical solutions. (mageba offers noise-reducing surface plates ("sinus plates") for the top of the joints, rubberized technology for between the joints, and muffling technology for beneath the joints.) We requested and WSDOT agreed to see whether mageba's technical experts could do a site visit soon and in any event prior to Europe's August holiday break. (The City is also evaluating expansion-joint and expansion-joint-noise-experts that can be added to the City's technical team.)

2. The COW, which is an advisory committee of the whole Council and whose purpose is to make recommendations to the Council, plans to meet with City staff and WSDOT on the third Monday of each month, at 10:00am. The meetings will be posted and open to the public. The City staff and WSDOT, with their respective technical experts, will also meet separately, on a regular basis, to identify, design, evaluate, model, price, etc., feasible technical solutions. WSDOT confirmed that the joint technical team will develop shortly and then share with us their detailed project plan.

3. Good news for the SR-520 bridge Seattle-side residents, which may translate into good news for the SR-520 bridge Eastside residents: WSDOT advised that, for the Seattle-side expansion joints that have not yet been installed, WSDOT's plan is to install mageba's combination technology -- the expansion joints equipped with noise-reducing sinus plates. The combination technology could significantly reduce the expansion joint noise. (Results vary, but, in some cases, mageba reports a noise reduction of 80% with use of its patented noise-reducing sinus
After yesterday’s meeting, I sent a thank-you note to the WSDOT team via email, and also included the following:

- As the technical team develops its project plan (project scope, goals (what constitutes success?), team, timing, tasks/deliverables, milestones, required resources, and budget), please kindly consider:
  - causes of noise and possible exacerbating factors (e.g., joints, as installed, may not be flush (or not as flush as they could be) with the highway surface; encapsulation of the cavity under the joint, which may be amplifying, changing and/or distorting the sound coming out of the top of the joint; whether the current sound walls are directing the noise up the bike-path, and, if so, what the impacts are on residents; the speed of the traffic, etc.),
  - possible confounding factors to keep in mind, and
  - possible noise-reduction solutions (including sinus plates, grinding noise-dampening grooves into the existing joints, additional/different rubber between the joints, additional/different muffling beneath the joints, additional/different sound walls (and of directional adjustments to the sound walls), and/or lower speed limits).

I also asked WSDOT, again, to consider an interim solution that I have been -- and many of you have been -- asking about for months (and which could be implemented relatively quickly, without a costly change order): reduce the speed limit on the Eastside of the bridge, during off-peak hours. (I believe this is one of the noise-reduction strategies used on the Seattle-side.) I'll keep you posted on whether that's a feasible interim, or long-term, solution. Finally, I also asked whether, for noise modeling purposes, there are learnings or technology the state government's technical team could leverage from the federal government's experts and technology at NASA's Langley Research Center, or perhaps at Boeing. (See http://www.nasa.gov/larc/new-acoustics-techniques-clear-path-for-quieter-aviation)

THANK YOU: Thanks so much to everyone -- residents, staff, experts, elected officials and others -- for being a part of the solution. Keep up the good work, and send me your suggestions, comments and questions. I'm more confident than ever that, with all of us pulling together in the same direction, effective feasible solutions will be implemented.

Hope everyone has a great day.

My best
Cindy

Cynthia F. Adkins
Councilmember, City of Medina
206-818-9043

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