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“Industry View on Concrete”
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Where do you start when you have been asked to present a topic called “Industry perspective on concrete?”

That’s a big topic, when the group you are speaking to is made up of concrete pavers, precast/prestress concrete manufacturers, concrete pipe manufacturers, ready-mix suppliers, cement company representatives and Department of Transportation officials.

I looked for a common element that might hold everyone’s interest for 25-30 minutes. First, everyone in the room is to some degree involved with transportation and with that said, funding is always an issue. But, instead of speaking directly to funding, I thought I should discuss what it means when we say “long term.”

But to do that, we need to move around that topic a bit to truly explore if something is long term, what makes it long term and then ask again if it is truly long term.

Transportation funding is a choice a population makes as to how much I am willing to invest of my limited resources to maximize my personal mobility.

Several months ago (maybe a year ago), I was discussing funding with a friend, a neighbor, and I said to get the public excited and engaged in a transportation funding debate, we need a bridge to fall down.

I said this in the context that it would fall down without hurting anyone. I honestly believed that if this happened, that there would be a public outcry to invest more public dollars in transportation infrastructure. Maybe even enough excitement to raise taxes to generate enough dollars to repair all of the Commonwealth’s aging bridges and roads.

Ironically, three months later, a bridge over Interstate 70 in Western Pennsylvania fell down. The media got somewhat excited, the DOT and Governor’s office announced that it was a failed concrete box beam and not to worry, we will replace the bridge and repair any others like it.....END OF NEWS STORY. The fact that the bridge was 50+ years old – my aging infrastructure story – and hit many times by trucks because it was too low for today’s trucking.....got little or no press.

The public outcry never came. The DOT had to put out some emergency bridge contracts without any additional funding and my idea that the public would be outraged was flawed, but why?

Our infrastructure, because of the long term nature of its design and construction, deteriorates imperceptively slow. As a live frog will leap from a hot frying pan, but die

in a pot of water brought to a slow boil, our highway infrastructure is a frog slowly being brought to a boil.....which does not ever generate a public call to action.

But, if our designs and construction are long term in nature, why do we need to do anything? It is with this thought, that we begin what is long term?

I have traveled to Europe several times and while driving have observed their highway construction techniques. I have seen first hand a 5' deep, 20' wide trench being backfilled with quarry rocks 3' deep to be the foundation of a 2' thick roadway cross-section.

How many people, I asked, have relatives that lived in the United States 350 years ago?

I have been in towns in Europe where new houses are the ones built around 1500 AD and the older ones are 700-800 years old. Some have been occupied by the same family since their original construction.

They build all their infrastructures with the same mind set. It redefines long term because their view on civilization is different. We all tax our citizens to pay for the infrastructure. Either a gas tax, general tax or direct toll – regardless how we get the money....we get what we think we are paying for.

The demand for our tax dollars is great. Teachers and state employee pension funds, health care, schools, local real estate tax reform and typically how much media time a topic gets will create a corresponding reaction of political attention.

How does transportation compete for airtime; how does it get attention?

If you do not want congested roads.....

If you do not want to worry if the bridge your on will fall down.....

If you do not want to worry about your teenage child crashing because a safety improvement was not made.....

.....we must start redefining long term investments so that we do the job once and we do it right.

We know how to build long-lived pavements. We know the science behind drainage and the advantages of deep bases and smooth roads.

We have construction manuals that can spell out the best engineering solution, but we are always caught with the tension on a project and in design – between doing something 'good enough' and doing it long term.

If you want a 100 year bridge, great, Europeans build them all the time, but is a 100 year bridge really long term or just longer than we are used to building them?

For our traffic management, we can be less disruptive if we rebuild a pavement every 7-10 years at night, when my kids are not driving and the media cannot take good pictures of traffic backup. But we know how to build roads that we would not have to resurface or rebuild for much longer periods.

Unfortunately, we are more than willing to spend the next generation's money for an aging population's social security benefits and retiree health care, and it also appears the next generation will have to pay to rebuild a transportation system that we have put a band-aid on and built only to last our generation.

If we adopt a butterfly's view (who lives 4-6 weeks) of long term, then we are ok, but I need to ask what truly is long term – 400 years, 200, 100, 50, 25 – is 10 to 15 years really long term?

We need to change the public's perception of long term. Currently, I think long term is defined by how much we have to spend and can an engineer design something within our budget that is safe. We need to turn this around. We need to ask the engineers what to build so we will not have to rebuild for a very long time and build that.

Absent closing a road or bridge and causing mass hysteria.....which as I discussed earlier.....does not work. We cannot create the crises necessary to get media and political attention.

Transit can stop buses and trains from running.....that creates a crisis
Teachers can stop teaching.....that creates a crisis
Senior citizens can be denied access to top shelf prescription drugs.....that creates a crisis

But as engineers, ethically there will be no manufactured crises to rally public support. The slow building of our transportation infrastructure will continue due to lack of funds.

If highway officials, in the short term, stop doing what they do.....maintain roads in work zones.....the public would actually see less construction and be happier.

But real long term solutions require us, to require our politicians, to act in the best long term interest of the Commonwealth and invest in long term transportation solutions.

We will not shutdown our system to get attention, but lack of long term ideals will collapse the system during the next generation.