

Sustainable Transportation on Campus and in the Community

Keynote Address: "Seeking Healthy Buildings"

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Thank you. Yeah, I was wondering what the architect was doing here, I thought, "transportation"- but, I'm delighted to hear that there's a building being considered and I hope I can influence some of the decisions here. I opted to call this, "Seeking a Healthy Building," as opposed to "Sustainable Buildings" because that's just kind of an- a bit of twist on, though I think the intentions are identical. I think a healthy building is one that looks at the health of individuals, looks at the health of the community, and the health of the planet. And they are all interconnected, so I believe the same solutions produce good health all around.

I'd like to propose that doing healthy building is a no-brainer. We've kind of missed the simplicity of it. I know that perhaps a lot of people here are left-brainers- like their details and numbers- but I kind of tend to be more right-brained, so I'm going to try to balance the two. I'd say, "So, why focus on health?" I think it all started probably with our grandmothers or mothers, who said, "If you don't have your health, you don't have anything." Right? And that may not be a hundred percent true, but it certainly changes your prospective.

I think we have a choice as to whether we want to have the planet on the left or the planet on the right (indicating Powerpoint slide.) From a global point of view, we can influence which way it goes. I think even very recently, looking at the disaster in New Orleans, I think it becomes so clear that right now, the city is not healthy, and all other priorities fall away. It's like, how do you get the city back to its health? And all the discussion about bottom line dollars or other priorities that have been around have dropped off. I can add, on a personal level, five years ago, I was diagnosed with cancer. And I survived that ordeal, but it changed my perspective. From then on, health becomes number one. Not how much money you make or what awards you get. The future generations become more important when you realize your own vulnerability. So instead of being so self-focused, you can begin to focus on the next generation and your community.

So, back to buildings, here. First, I'd like to do a quick review of the existing state of conditions or contexts of what too often happens; and then propose what I think are pretty straightforward fixes. Here's kind of our attitude toward energy. Buildings are often cited as using 40 percent of our- in the U.S- of our energy consumption, and to produce that energy, we produce an extraordinary amount of carbon dioxide, which equals climate change. So the obvious thing, which I think everybody else is talking about in transportation, is how to reduce that. So, in the building context, we can reduce energy and therefore help reduce these damaging side effects.

We love to start new. People want to start new buildings all the time- whether it's office buildings or houses, and so this mania to demolition seems incredible. Each building- the average home, when you build it and do a new demolition, it's 20 tons of waste. There's a statistic that says the average household produces 2.5 tons of waste a year. And I heard somebody make the suggestion that we should each take the garbage we produce in a year and just put it on our front lawn and just see what that looks like at

the end of the year, because we all have this wonderful ability- out of sight, out of mind. So, part of it is also to change our attitude about waste.

On water consumption, I just looked up the statistics, here. This is U.S. government statistics: the average person consumes 90 gallons of potable water a day. Now, what I think is interesting is almost half of it is in toilets, so you could say we flush down the toilet, one hundred- no it's 10 billion gallons of water a day that literally go down the toilet.

Everybody's complaining about the price of gas. I was wondering- I mean, I didn't go to the local store, but it's - each one of those bottles must cost around a dollar, so price of gas, if it's three dollars a gallon, price of water's eight dollars a gallon. How come there's not an outrage about that? When we have these clear rivers, potentially, with great drinking water that nature made for us and somehow we've gotten stuck paying eight dollars a gallon for it.

Well, there's a building- existing buildings- have terrible indoor air quality. They're sealed, they have mold, the ducts are filled with all kinds of noxious fumes, and they're invisible so it's a harder thing to capture, but it is an existing problem.

I think another problem is the psychological problem at the places that we work. It's not as easy to measure, and so people tend to cast it aside, but in fact, there is data that shows that our current lifestyle and work environments create additional stress.

So now to- enough about the problems, here I'd like to suggest some fixes. And these are- I'm not an academic, I'm a practicing architect, so I have a very practical attitude on all these things. These have been done. Each of these projects I'll show you have been done with very ordinary budgets. They're not- you know, people say (when) you go to environmental, it's going to cost 20 percent or 50 percent more, I don't agree with that. I think these are all very simple solutions.

So, by placing the priority on health, one way is just do more daylighting. Examples here are in stairways, hallways, your workspace. I mean, who would not choose to have a workspace that has a window? It's like- that's why I call it a no-brainer.

More natural ventilation. Imagine having a workspace where you could open the window. I think it was somewhere in the 50's we decided we could solve everything mechanically and seal the buildings and have master control, whereas I believe just let each individual control it. We all have different body temperatures, and so the idea here- this is showing the CK Troy building- every ten feet there is one big window, and it can either tilt so you get a little of an opening with- it's just a great, big opener, each person gets to control that, and each person gets a valve to control their heating. Imagine that. It's like, each person might be different. It's like we've been mass produced, right?

I think there are more employers that are starting to do things that recognize just those human needs for our general wellness. So, adding exercise rooms or outdoor spaces for lunch or coffee break.

More social spaces. Again, this is just a psychological part. There was other discussion about sense of community, that people want to get together. Creating spaces in the buildings that are natural.

Connecting with nature. I think that too often that's a forgotten ingredient- that people need that- and that it's also a stress reliever and a sense of wellness comes from that. These are two projects in Vancouver that have been done in the last 20, 25 years. They're both urban dead center. One is (indicating slide) - the small one on the right is a

Robson Square government project and the one- the other one is the rooftop of the public library.

So, to consider more alternate energy sources, these are becoming more and more available for buildings. Even solar panels that are right on the building or remote.

Consuming less water. This is one that we actually installed at the Troy building at the University of British Columbia, and these are waterless composting toilets. The numbers vary depending on what you consume, but it's something like- I think it's one hundred-sixty thousand gallons a year that are saved, but you can imagine instead of whatever I said earlier, 90 gallons a day per person, this is totally waterless and it produces one little bin of compost, safe compost, a year. That's what this- so that's what the end result of toilet. And it just aerobically takes care of it with natural compost. I mean, there's no reason not to do it in Idaho. Anybody here on the committee? So this- some more detail that this one has no sewer connection, and it- the fluid that is the byproduct goes into a little gray water trench in the front of the building.

Other people have spoken about this concept, obviously, it is more of a planning issue, it's to use less land. Therefore, you make things a more walkable distance, more compact design. Again this is what other people have already spoken of.

And I bring it back full circle to why do it, and I think it's clearly for the health of our future generations. It's clearly got to be a priority that we stop just thinking about what's good for us and what's good for the next generations, and also for the flora and fauna. That concludes my talk, thank you.