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The New E's of Transportation Podcast

Episode 2 – Ethics

Opening (0:00-0:58)

Jennifer Toole: There is a growing conversation around the role that ethics plays in the transportation profession. As we design systems that encourage more people to walk, bike and take transit alongside motor vehicles, what ethical responsibility do we have to protect the traveling public?

Bill Schultheiss: Our job as the expert is to inform, so we need to remove the car centric values language out of our discussion, and really focus on the safety outcomes and the quality of life outcomes, so that people understand the real choices they are making.

Jennifer Toole: There is an urgency to the conversation right now, fueled by the continued rise of pedestrian death and a new focus through Vision Zero on eliminating all traffic deaths and serious injuries.

Jeff Paniati: More and more, transportation professionals are recognizing that the ethical responsibilities start with public safety and putting safety first.

Jennifer Toole: From Toole Design Group, this is The New E's of Transportation. I'm **Jennifer Toole**.

Conversation (1:05):

Jennifer Toole: I am sitting here in our headquarters in Silver Spring, Maryland, with my colleague **Bill Schultheiss**. He's the Vice President of the firm and also our Director of Sustainable Safety. So welcome Bill.

Bill Schultheiss: Good morning.

Jennifer Toole: And also, I'm really excited to welcome **Jeff Paniati**, he is the executive director and CEO of the Institute of Transportation Engineers, a job he has had for just about three years. He was formally with the FHWA for 32 years and held the highest career position in the agency. He's brought tremendous new leadership to ITE, and I would say a welcome fresh perspective, so big welcome to you, Jeff.

Jeff Paniati: Thank you very much Jennifer. It's a pleasure to be here.

Jennifer Toole: This focus on safety is not a new thing for ITE, and ITE journal just published an article around the ethical responsibilities of engineers to protect all users including pedestrians. It was a really great article, it was in the July issue. Are you seeing a change in terms of how we think about our ethical responsibilities as transportation professionals, and what do you think that will mean for the future?

Jeff Paniati: I appreciate highlighting the article in the ITE journal, because I thought it was a great article as well, and the credit really goes to the ITE Ethics Committee, which put together the article and the examples in the article.

If you go to the ITE canons of ethics, and they outlined these in the article, there are a number of canons that apply to safety and apply to the case that they highlighted. But first and foremost is that "the member we'll have due regard for the safety, health, and welfare of the public." I think Vision Zero is causing us to look at the ethical responsibility through a new lens

As our own ethics committee a lot of people think about ethics, they think about it in a different context, more in a business context. But in this article, and I think more and more, transportation professionals are recognizing that their ethical responsibilities start with public safety and putting safety first.

Jennifer Toole: Yeah and the article was really…it set up a scenario where an engineer was asked to compromise safety for political reasons and other reasons, and I think it really set up a real-life example that people are faced with almost every day. What kind of feedback did ITE get about that article?

Jeff Paniati: I mean, I think it has been generally positive. I think it's caused some conversations, there is one going on in our ITE Community right now about Vision Zero and…you know Vision Zero is a concept that I think a lot of people struggle with, particularly engineers. They focus on the zero, and the fact that we are so far away from it today, so how can we possibly conceive of a world of zero.

Jennifer Toole: Yeah.

Jeff Paniati: And I think you have to translate the goals of Vision Zero around this idea of putting safety first, and of taking actions over and over that move us in the direction of zero. You know, it is a journey, it's not something that we're going to get to overnight, but if we don't accept it as the only acceptable outcome that we should be after as transportation professionals, we'll certainly never get there.

Jennifer Toole: Yeah.

Jeff Paniati: and I saw some conversations and some thinking and some struggles, and I think that's ok. I think we have to have the discussions and debates, and recognize the fact that this's not going to be a straight line and we're not going to go directly down to zero, and it is going to take some tough decisions and…that's all ok. So, if this article and ITE's initiative on Vision Zero and engagement of firms like Toole Design in this conversation, open up the dialog and get us thinking about this issue, I think that's all positive.

Jennifer Toole: Yeah, I agree. Bill - the same question – what do you see changing in our profession when it comes to the conversation around the ethics?

Bill Schultheiss: I mean I think Jeff really brings up a great point that it's not that it's a new idea, this issue of focusing on safety and ethics, but what is absolutely new I think is now we are starting to talk about the "why" in what we're doing, the values that underly the ethics, and you're seeing people speak up, such as on the community Listserv.

You are seeing conversations about the impact of the decisions we have on the place, on livability, quality of life, and people are starting to ask those questions in relation to the decisions we are making, which, historically, were focused on…creating a car-focused society, and not having a wider discussion of the impact of that, what the values associated with that were.

Jennifer Toole: I want to talk a little bit about the differences between our country and other countries in terms of how we think about ethics around transportation. Because I think that we can learn some lessons from other places.

In Sweden, the responsibility for safety is squarely on the system of designers and transportation professionals. Yet here in this country we've have a strong focus over the past decades on changing behavior, and people have often cited this statistic that 94 percent of crashes are human error.

So Jeff, do you see that dynamic changing here in the US, and do you think we will come more like the Swedes when it comes to the responsibility for safety?

Jeff Paniati: Well first, I have to comment on that 94 percent statistic, because it's one that has frustrated me for a long time. I've always wondering why it isn't 100 percent because users are pretty much involved in every crash.

But I think the fact that we've suggested that its virtually 100 percent the user responsibility, and particularly the driver responsibility, I think, misses the opportunities that we have in the planning, design, and operation of the system, to affect how drivers behave, and what outcomes of crashes are. And all you have to do is to look at the differences in crash rates and severity on roads with different design characteristics, and operational characteristics to see that there's clearly influence in the way we plan, design, and operate roadways on the outcomes that come out of those roadways.

There are definitely lessons to be learned from the Swedes, but I think we also have to recognize Sweden is about the size of a state, and we have a much bigger geography and variation to deal with, and our culture is a little bit different as well. But the approach that they take that I think is transferrable, is this idea of designers and operators and planners of this system taking responsibility for safety.

And the underpinning of that are accepting the fact that humans are humans, and they will make mistakes, and that there is a human injury tolerance that we need to be aware of as we plan, design, and operate systems.

I think that's what's transferrable from Sweden, because I think that's how they have looked at safety for a long time. I had the opportunity to travel to Sweden in the late 90s when they were in the early stages of Vision Zero, and they were struggling with it too. And it's taken them a long time to get them where they are, so it's not what happen instantaneously, and they will tell you, they haven't got all figured out. They've made a lot of progress, and admirable progress, but they are still on the journey as well.

Jennifer Toole: Yeah, they have not reached to zero yet. So, they still have ways to go. Bill, how do you think we have evolved this way, this sort of, in this country, this sort of "it's the users' fault when a crash occurs" mentality, and what do we need to do to change that?

Bill Schultheiss: Something that I've become passionate about I think as you know, I've always loved history. Something that I've learned with my love of history as I keep reading - Our profession is deeply unaware of our role in some major events in this country's history when it came to segregation, supporting segregation through decision-making on highways, and how that led to what helped support white flight from cities, and how we use the highway funding system to fund the destruction of urban communities, and black communities, to put highways in, all to favor suburban travel, and the value system of this suburban, largely white population, through the city areas. And I think it's really challenged me to learn about that history and understand what was happening at that time, what was motivating some of those decisions, and then to be living in a world where the result of those decisions are very present with us.

I've found and what I talk about this with my colleagues when we're out doing trainings is, one they don't often know about this history, and then when they learn about it, they are very interested in knowing more, which I think is super positive.

But the third thing is what do we do about it, and that's really the hard part, because we spent hundreds of billions of dollars on this infrastructure, and we've now created a lifestyle that is really car dependent. That's a big challenge for us moving forward, I think is knowing that history, reconciling it, and then what's the action plan moving forward to resolve some of it while we address these safety issues that are really baked into the existing systems that are going to require us to make some changes.

Jennifer Toole: Yeah, a lot of work to do. And I think education, and understanding the past is a big part of solving the problems that we'll have in the future. So, I'd like to give some sort of practical examples of things that we can do. Every project has its constrains, right-of-way, budget, politics, and inevitably there are difficult choices to be made with regards to safety.

Something that might make one user safer might have impacts on other users in terms of travel time. So, I want to start with you Bill: What advice would you give to a roadway designer who's been asked to do something that they feel is going to compromise of safety to reduce travel time? And I feel that this is a real ethical dilemma that transportation professionals are faced with every day, so what would your advice to that person be?

Bill Schultheiss: I'll start with that baseline of like, we need to know that history, we need to know how that history is reflecting our design guidance, because a lot of the values of the 1940s and 50s and 60s are still reflected in today's design guidance products.

That Level of Service tool is completely loaded with values, depending on how its applied. You know, historically the way we applied it is any congestion is unacceptable once it's beyond a Level of Service D or E, and when we start to talking about "Well, whose time is valued?", it creates a challenge, I think, in operating in certain environments where you can be prioritizing, say suburban commuters or rural…people coming from long distance away through a community. And you can make the case that their time is more important than safety of the local users and that's really where the tension lies. Because we do need mobility, we need economic development to occur and that requires mobility, but this issue of balancing has been out of whack for a long time.

So, I think the advice I would offer to the person is, know that history, but really embrace our ethics. I find that when you embrace our ethics and you really understand them, and you kind of bring a value system to it, that is focused on safety and quality of life, it can be empowering. And that it can unleash that sort of that inner problem-solving abilities of the engineer.

And you know, our job is, as the experts is to inform, you know so we need to remove the values-laden, car-centric language out of our discussion. And really focus on the safety outcomes and the quality of life outcomes so that people understand the real choices they are making.

Jennifer Toole: Alright, good. Over to you Jeff: What's some practical advice you would give to a transportation professional faced with that dilemma?

Jeff Paniati: I would echo some of what Bill said, I think it starts by remembering your ethical responsibilities, and I think that comes down to putting safety first. I think the good news is that we have better tools available to us today than we've ever had to understand the impacts of our planning, design decisions on safety and on the performance of the system. So, I think we need to use those tools so

that we can clearly understand the implications of a particular decision, and the trade-offs we are making, and maybe what alternatives are available to a particular direction that someone is advocating.

Jennifer Toole: Yeah, I think that's a great point. Especially around the tools that we have, that we haven't had in the past, to identify things that will have a real impact on safety. We know now that we can implement something like a rapid flashing beacon at an uncontrolled crossing, and we know exactly how many crashes that will reduce, and so we can draw on that research that have been done in the past few years to really quantify the impact of our designs on safety.

10 years ago, we didn't even have that as really an option. So, I think it's also really important for our transportation professionals to become conversant in those things and be able to cite the research and know the impact on, the real impact on crashes that a design could have.

We talked about the fact the safety is not a new thing in our profession, and I wanted to ask you, Jeff: What are some of the positive things that we can build on? Good things that we've done in the past that are in the right direction for safety and the right ethical direction for the future?

Jeff Paniati (21:32-23:16): I'm leading this effort with the Road to Zero Coalition on safe systems, and we're really centered around two elements: One is that we need to anticipate human error, and the second is that we need to accommodate human injury tolerance.

When we put in rumble strips alongside, alongside a roadway to be able to warn a driver, who might have, because of fatigue or distraction, be drifting out of the lane, we're anticipating human error, and we are trying to correct that error before it turns into a bad outcome.

I think our approach, again, is to put safety first. To be more attentive to anticipating human error and accommodating human injury tolerance, and to build off of the tools and resources that we've had in the past, and be creative and innovative about how we go about using our right-of-way, and using our various transportation, traffic engineering tools to safely accommodate the needs of all of the users of the system. I think if we do that, there are a lot of opportunities for us to put safety first and to build off of the practices that we've had in the past.

Jennifer Toole: There is a lot that we have done before to make our systems safer, and a lot about vehicle design, frankly, that we've done to improve the safety of the passengers of vehicles as well.

So, in closing, I want to talk a little bit about the old E's. There is some debate over whether there are three, or five, or maybe seven old E's, but Engineering, Education, and Enforcement are sort of the core E's that we've had in our profession for a hundred years. Do you see what the old E's evolving with the profession, and what do we need to do to help bring Ethics to the forefront?

Bill Schultheiss (23:57-26:53): I think we are still really captive to those E's because they are pretty fundamental, and they are hard to argue with. You know, education is important - people need to understand how to use the road system. We need to use enforcement to support the rules that we set as a society. But ultimately, I've seen it as somewhat of the failure to focus entirely on them – it hasn't been working.

When you look at those last hundred years of evidence of that, its largely failed and I think it's largely failed because…well, we've been able to be pretty proactive in improving the safety of highways – it's relatively easy because they are access-limited and its really one user type – but we've really struggled to bring that sort of system approach into more complex areas such as suburban areas and urban

areas because, we've largely tried to take the safety lessons we've learned, from the highways and apply it inappropriately to urban context and I think that's where there's been a lot of challenge.

I think some of that arises out of the fact that the E's are the presently structured, there's really no values system to them, they are independently siloed ideas of, that really are different actors. I'm not the police force as an engineer, I can just do engineering. I'm not the teacher, and as a person that can go out, other than a little bit at a public meeting, but I really am not at any positions to educate the public. So, I think that naturally results in a siloing of the effort.

Now we try to deal with that through collaborations with different agencies, but there's limits and I think the power of the Swedish approach is that we need to own it more. We actually are the ones writing the design guidance. We can do a better job as a profession of making that context-appropriate.

We can do a better job of doing the research to make sure we are making right decisions, and I think what's really exciting is that over the last 30 years, and the last 20 in particular, there has been an enormous amount of research evidence in this area of the types of treatments that work and why. The challenge we have is, that's great from an engineering perspective but how do you make the decisions of what to do? The 5 E's are really teaching you how to make a decision. What we are missing is a values system that underlies that, of how to make the decision.

And that's where I think, as we've been talking, there needs to be a shift. It should be an ethical-based decision making that factors in equity, our history of the damage done in some of the design guides that are inappropriately applied, and bringing an empathy angle to this, to understand the impact of these decisions on users, and wrapping those together to create a sense of shared values to inform these decisions that we make.

Jennifer Toole: Jeff, do you have any final thoughts on how the E's should evolve in the future?

Jeff Paniati: Yes - I think Bill makes a great point there about us being siloed, or in our own stovepipes. But I think if we're going to solve the problems we have, the challenges and seize the opportunities we have in delivering transportation to the public, it really is going to come from our community approach.

From bringing planners and engineers and policy makers, and technologists and public health officials and others together to solve and address these problems. And yes, it requires the system owners and operators to take more responsibility, but they can only, I think, achieve the outcome of Vision Zero by being part of the collaboration with the larger community, and that's really where ITE is heading, is to create a place where the community that can gather and exchange ideas and work on problems across those siloes or across those stovepipes.

Jennifer Toole: And really, if you look at the cities that are moving the needle on crashes through Vision Zero, it's the cities that have really embraced a multidisciplinary approach to traffic safety. It's not just the engineers working on it, or the public works departments, it's the police department, it's the health department, it's the education department - it's really a group effort.

Jeff Paniati: Yeah and I think that's where, for engineers and planners, that we need to be comfortable with and embrace those who have been advocates for Vision Zero. Sometimes it makes us uncomfortable that they advocate, but what they've been able to do is to get the attention of the politicians and the policy makers and to bring together some of the folks from other disciplines that we don't normally work with, like public heath, or work with as much as we should like enforcement. And they mobilize citizen groups to give us the environment to be more aggressive, and to be more creative, and to get more resources, frankly, to invest in creating better communities and safer communities.

And so that partnership with the advocacy community, I think, is an important one. One that sometimes can make us a little uncomfortable, but I think we've seen at ITE as we partnered with those communities is that there's a lot of benefit both ways. We get something from that partnership. We also give something in terms of our knowledge about how you really solve these problems on the ground. So, I do think this collaboration is key.

Bill Schultheiss: That is an amazing point because it really wraps in to our ethical duty to operate under our areas of expertise. We don't often possess expertise in health, in economics. That's where our planning partners, and other professionals, and even advocacy groups, can come in and round out our knowledge gaps.

I think that collaboration, whenever we've seen that collaboration happen, you've got the most amazing streets, you have really vibrant communities, that they are places that people want to be. And we should all be, I think, striving to do more of that.

Jennifer Toole: Lots of food for thought as we consider a transportation future that is rapidly changing, and the role that ethics will have in that future. I want to thank our listeners for tuning in, and a big thank you to **Jeff Paniati**, Executive Director and CEO of ITE, for participating today – thanks Jeff.

Jeff Paniati: Thank you very much, Jennifer, and I appreciate your leadership in putting this podcast together.

Jennifer Toole: And I also want to thank our own **Bill Schultheiss**, Director of Sustainable Safety here at Toole Design.

Bill Schultheiss: Oh, it was a pleasure. It's always a joy to spend time with Jeff, and I really appreciate what ITE is doing for our profession to advance this conversation. ITE is really a leader in this area, and it shows the importance of partnerships to make this happen. So, thank you both.

Closing (25:10):

Jennifer Toole: You'll find more information about the Institute of Transportation Engineers in the show notes for this episode, or on their website at ITE.org.

At Toole Design Group, our goal is to change the core values of our profession and focus our work on the needs of the people and communities we serve. We want you to be part of the discussion on the new E's of our industry. For more perspective on Ethics, and the other New E's, visit our website at tooledesign.com/TheNewEs.

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The New E's of Transportation podcast is produced by Nate Graham, and edited by K.O. Meyers. I'm **Jennifer Toole**. Thank you for list