

Transportation Profession as Visionary?
A Collaborative Call to Action for a New Paradigm
by
Christie Marcella and Bryan Jones

Albert Einstein, known for his intellect, also possessed immense vision. He said, “If you always do what you always did, you will always get what you always got.” Doing what has always been done is the current MO for most professionals in the transportation industry. How many times have you walked into a room and people’s excitement deflates at the sight of you with your manuals and standards in tow. I think our profession’s image can change if we recognize where we need to go. After all, we are in charge of getting people from point A to point B. Can’t we also move our profession to a new, more visionary place?

Charles Marohn, president of the nonprofit Strong Towns, in his article “Confessions of a Recovering Engineer,” suggested that many of today’s problems were created from the systemic transportation approach of designing roadways based on rigid standards: proposed design speed for the roadway classifications, future traffic (cars) volumes, safety, and cost of the project. He went on to say that the world (or the public) would generally prioritize things differently with safety first, then cost, traffic volume and speed. We know our relationships mechanically: direct correlation of speed and potential fatalities in a collision, or the direct correlation of travel lane width and friction on a roadway with a motorists' speed. These relationships, however, aren’t going to cut it with changing communities. Our adherence to an automobile accommodating system keeps us narrowly focused on standards and requirements without looking at the greater picture, or whether or not our standards are even creating the communities people want to live in. Our profession is currently suffering from the problem of not being able to see the forest for the trees.

The Standards and Liability Trees

Safety as defined by many in the transportation profession is building roadways to adopted design standards to establish tort liability protection. Current standards mean we often build the roadway to the highest design speed and largest possible vehicle volumes. Because of this approach, modifications to the network that could improve safety for drivers, bicyclists, and pedestrians are often rejected because they do not comply with the adopted design standards. We recognize that lawsuits are traumatizing and costly, but we cannot allow litigation to stifle progress. Maybe our professional organizations need to lobby for tort reform? Recognizing that could take a while, a short-term solution could be engaging our organizations’ attorneys to be advocates and defenders of innovative solutions we want to implement. I’m pretty sure attorneys can find a way to support some deviations from our standards so that we can enhance the safety and livability of our communities. After all, our current standards are still resulting in 32,000 deaths on US roadways every year. We are so blinded by the tall (think of stacking all your manuals) tree

of standards and the money tree (think of all the costs of litigation) of liability that we are losing sight of the forest, which is the people we serve and vibrant, livable communities we should be trying to create. The irony is that the same liability excuse that comes into play when we introduce a new design feature does not work both ways when we have outdated standards that are "established" but result in injury or deaths to bicyclists and pedestrians.

The Community Forest

What if rather than standing behind all of our tall standards and liability trees, we flew high and looked down on our communities, and based our decisions on the big picture, the forest. And what if that forest was based on the following vision: *Creating active and thriving communities for all people to foster healthy lifestyles by maximizing connections and options in the way people live, work, play, and move.* Why do we need a new vision? Because the demographic landscape of America is not the same as it was in post-World War II, the era of the largest public works project ever constructed - the federal interstate highway system and birth of the suburb as a development pattern.

There is a disconnect between what the people we serve are asking for and what we have previously developed or are delivering as the solution. The world is changing and so is transportation. We are seeing trends that vehicle miles travelled per capita are reducing, parklets and curb cafes are popping up in our right-of-ways, carsharing rather than car ownership is on the rise, as is bikesharing. The new generation doesn't want the suburb as much as their parents did. They are waiting longer to get driver's licenses due to laws and cost of driving. The vehicle does not have the same meaning of "freedom" as it once did. There is a preference for a more urban lifestyle where public transit, walking and biking offer transportation options, flexibility and connectedness. Leaders must be more proactive in coming to grips with today's new normal. Transportation professionals need to see how this desire for greater connection in this and the next generation will change our current physical landscape and decide what they can do to help it.

New York City is arguably the world's most innovative city and a great example of community based transportation. What did they start with? A vision document called PlaNYC. They are leading the way in transportation and sustainability with new standards and they aggressively addressed their worst 6,000 intersections for collisions. Janet Sadik-Khan, the NY City Transportation Commissioner, notes that businesses along these roadways are seeing noticeable increases in revenue (50-85%). New York City is moving people safer and more effectively now than when they were solely moving people in cars. If a city as large as New York City can change their rules and standards, this demonstrates that where there is the desire, change is possible. When was the last time you considered breaking the rules or creating new rules? What real or perceived rules are holding you back from creating an incredible community?

Fruits of the Tree: What the New Forest Promises

If we use a vision as our starting off point for strategic risks and bold decisions, instead of page 237 of the AASHTO manual, there are plenty of benefits this approach has to offer.

Save Lives

If we take the focus off cars, and design our roadways and communities to support transportation choices like walking and biking, we promote healthier mobility. Our nation has some of the highest health care costs and is often regarded as the highest in health ailments. There is a significant body of public research that has associated a transportation system that encourages driving and discourages active transportation with the rise in obesity and respiratory ailments leading to chronic diseases that account for over half the deaths in this country. At a Pedestrian Counts conference in Los Angeles in 2012, a medical doctor said if we as a nation spent ten percent of our medical costs on improving active transportation, it would address nearly fifty percent of medical related costs.

Also, if we think outside the box and use a community based vision, we can actually increase safety while still falling within standards. Don't believe us? In the City of Carlsbad, California, we have been implementing 10' travel lanes with 7' bike lanes on a number of streets with great success. We are not doing it on all roadways and yet we are definitely looking for opportunities to "repave and repurpose" our pavement during regular maintenance to enhance active transportation. On one of our roadways we had a posted speed limit of 35 MPH due to an 85th percentile critical speed of 37 MPH. By narrowing the travel lanes and adding bike lanes we were able to reduce the 85th percentile speed to 33 MPH. And as a result, we reduced the posted speed to 30 MPH. This roadway happens to be in close proximity to a high school and previously was one of the higher collision rate roadways in our city. Since the narrower travel lanes and bike lanes have been implemented, we have had zero collisions in six months. What is even better is we are within standard guidelines. AASHTO allows for engineering judgment from 9'-12' travel lanes and many of us have historically gone with the conservative 12' travel lanes. Twelve feet is the same width used for freeways, but I doubt I would find a local community where people want freeway-like speeds on local roads. So why are we using that standard?

Saves Money and Builds Prosperity

This new approach not only saves lives, it saves money, which for some organizations might be more important than saving lives. Most jurisdictions can't afford to maintain their transportation systems; some have deficits in the billions. There is political will and funding to build new projects and have ribbon cuttings, but maintenance of existing or new roadways isn't as glamorous for those outside our profession. Just think how much money we could save if our travel lanes were 1'-2' narrower over millions of miles of roadways. This includes everything from surface maintenance to speed enforcement for over-built roadways.

In addition to operational and maintenance savings, we would build wealth in our communities. Many people in America are spending 20-50% of their household income on transportation. Just think how much more disposable income they would have if they had a more affordable transportation system than the vehicle. Better connections and diverse

transportation options are what young professionals and future generations seek. These young professionals are what cities will need to recruit to have a workforce to become "intelligent cities" of the future. And a city's built environment can be a recruitment tool. When we look at our larger metropolitan areas like New York and Denver, they rebounded the quickest from the latest economic crisis. Some would attribute it to the fact that these areas offer the most job opportunities, extensive public and alternative transportation systems, greatest diversity in housing options, and strongest sense of community to rally in times of economic need. Their real estate also suffered the least. Where did real estate prices suffer most? The deserted subdivisions in insolated cities that focused only on providing services to a local economy predominantly in cars.

The Call to Action

Do you want to be a part of this exciting change in America's built form and mobility? Are you ready to fly up and look down on the forest? If you don't like flying, Andre Gide said, "You cannot discover new oceans unless you have the courage to lose sight of the shore." I believe our industry has the ability to take on a leadership role in our organizations and communities and we should be striving to be known for solving today's community problems with new solutions rather than just applying 20th century solutions. So what can you do?

Ask questions: We're not saying burn all our standards and manuals. We are saying we should ask, "Why is that the standard?" and "Does that standard need to be applied uniformly to all roadways, of all roadway classifications, in all communities and neighborhoods?" The counterintuitive question I asked when narrowing lanes was: "Can making the roadway feel less safe to a driver's perception (while still safe by all design standards) by narrowing the travel lanes actually increase safety by enhancing a motorist's focus and awareness of the roadway?" The answer was yes. Asking questions is the first step to reaching new solutions.

Document and share: Document what you are "trying" as an experiment. The lesson from a mistake is often more valuable than success. Write your community's vision so that everyone in your organization can work toward it. Share what you have done with others. Many transportation professionals and cities have been thinking out of the box and we need to highlight their efforts and have the support that something we want to try works. You do not have to tackle the biggest project first, start small with pilot projects and build up momentum for the new paradigm. Focus on where the people are already or want to be and enhance those areas and then enhance the connections to those areas.

Find allies: You'll find planners, developers, and advocates who want to work toward a connected community vision. Partner with them. Reach out to your attorneys and get them on board to try new things and defend you (if necessary). Convince your elected officials that a creative, vibrant community generates wealth and economic prosperity for all. With a team of advocates on hand, searching for those new shores, or flying high to see the forest won't seem so scary (and you won't be the only one to take the fall, if there is one).

So we might suggest from Mr. Einstein's quotes that we have to continue to open our minds to new experiences and ask new questions so that we can be creative and be seen not as the transportation professionals of the 1950s, but the visionary and innovative problems solvers creating the thriving communities of the 2050s. Innovation requires leadership, trust, and strategic risk taking.

Christie Marcella is an Associate Analyst with the City of Carlsbad Community and Economic Development Department. She understands the importance that the public realm plays in connecting people and creating thriving communities for people and businesses to prosper. She received her MSc in Urban Planning from Columbia University after which she worked in public involvement for transportation planning in New York City. She is now bringing her creative, change agent, and millennial spirit and energy to Carlsbad, CA.

Bryan Jones, TE, PTP, AICP is a Deputy Transportation Director with the City of Carlsbad where livable streets is a top strategic focus area. He also serves as a voting member of the California Traffic Control Devices Committee appointed by the State of California DOT to represent bicyclists and pedestrians as it pertains to standards, guidelines and policies in the California Manual for Uniform Traffic Control Devices. He received his civil engineering degree from UC Davis and his MPA from Norwich University. He is committed to building quality and sustainable organizations and communities that align and serve the community's goals and values. He strives to foster a professional environment where innovation and leadership can thrive within a team environment.