

The Theory of Urban Transportation Simplified



BY GRANT FURLANE



Introduction

We have all read about really intriguing theories. We are influenced and live by these theories. Psychodynamic theories. Sigmund Freud laid the foundation for psychodynamic personality theories with his proposal of the id, the ego, and the superego. Then there is the theory of relativity by Albert Einstein, an explanation of how speed affects mass, time and space. We still challenge this theory in every aspect of science today. There are Trait Theories, Social Cognitive Theories, Biology, and of course the Theory of Evolution.



In today's world we still look at all of these, but what about the theory of urban transportation. Of course I have made this up but that's the point. It's not a law or set of laws. It's a theory that will be part of hundreds if not thousands of theories, and that's a good thing.

We first have to agree (or disagree if you like) that the future of the “smart city” is much more than a collection of smart buildings, smart cars, smart buses, shared mobility and more. These all are major components or influencers in our future world. But what if we cannot actually move freely and as frictionlessly as possible around the city? These great innovations become less valuable and maybe in many cases useless.



The Theory of Urban Transportation

So let's simplify this like any other theory. We know we use simple equations in many theories like $1+1=2$ or $x=y^2$ so let's simplify this for our theory. If I start at Point A (my point of origin) and travel to Point B (the final destination of my planned trip) I have successfully made a "smart city" trip to Point C so $A+B=C$. I may have a super smart car or bus and arrive at a super smart building or community.

So the answer is NO.

But when you consider today's complex world and the introduction of Quantum Theory 1 plus 1 is not 2. Okay I get it, quantum is another theory, but it has meaning. That is, very few trips are completed as planned. By understanding the "journey" and having the ability to recognize and connect devices, businesses and people, we can not only react to disruptions in our journey, we can actually predict the outcomes. We can then make all trips more efficient, take into account the environmental impacts, green initiatives, rules, laws and thousands of other real-time data and make the journey better and as smart. Hence there are subsets of the $A + B = C$.

That is, as you make your journey, not only will you be more efficient and productive as technology guides you, we will help you avoid complications or disruptions like car accidents, congestion, weather and any other live data.



Sub Journeys

Sub journeys between A and B and how they are handled will determine how smart and complete your Urban Transportation Model is.

So we have to connect through the journey with the sub-journey influencers. I am on the highway and it's slow or not moving.. can I avoid it by cutting off and driving to a park-and-ride mass transit facility? If so, when I get to my destination, can I connect with rideshare, maybe rent a car, or simply take a bus or walk? This is a disruption, but not difficult to resolve with an interconnected plan already implemented based on live data. Then there are apps and dashboards connected to offer help and of course services. We are all connected to all types of dashboards.

If I book you lunch and need to be picked up, the same holds true as I am on another sub trip, but I am busy and hungry and need to also pick up a few things. In this scenario, I need to be connected to all the drive-thru restaurants, preorder preferably by voice and simply drive in and out. This way there is no stopping to pay or sit anywhere and hold up lanes.

Perhaps I need to buy a lawnmower. So I order it and my vehicle is guided on the most efficient route and when I get there it's ready. No waiting, no calling phone numbers, walking anywhere unless necessary, and then on to your next sub journey.

So "A" (all the sub-trips along your journey) plus "B" (smart communities/cities) equals "C" (Smart Urban Transportation). There you have it! Well, we have a framework. It is a science that needs to be improved and yes more to come...

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ABOUT THE AUTHOR

Follow me as I offer more insights as to how smart systems must integrate simple things like garbage pick up, snow ploughing and other city services that affect the Smart City and of course our journey!

Mr. Furlane brings over 40 years of technology experience specializing in Smart City Transportation, Network Security, Cloud Computing, Loyalty programs and Parking, Transit and Tolling industries. He has been involved in over 600 million dollars in Technology investments and was contracted to lead the initiatives of several large public IT companies. He aggressively built three transportation technology companies that established the vanguard for tracking and monitoring vehicle movement. His companies developed and sold integrated control systems for major airports, hospitals, and parking lot management companies.

He is considered to be an expert in Threat Prevention Automation using Artificial Intelligence architecture with Machine Vision.

