

MICHAEL MEDINA  
Transportation Planner  
El Paso District, TXDOT  
and  
JEFF SHELTON  
Associate Transportation Researcher  
Texas Transportation Institute

The main underlying influence that DynaSmart provides to us is it allows us to look at a corridor versus any other software from going from a macro level down to a micro. The meso capabilities that DynaSmart enables us to do is have a pictorially if not a view that we could see where traffic is coming through and out. So it enables us to show the public and decision makers what will work, what won't work, with a visual display, rather than boring them with statistics.

What we've been able to do with DynaSmart is go to the MPO with our projects and have them look at the technical aspects of a project over another that might be in competition with being programmed into long-range planning. Through the technical analysis and through funding available, we've been able to push several projects to the plan.

Several mayors, several city council people, have come to the MPO asking for several projects to be implemented without any technical proof. With DynaSmart, we've been able to analyze if that project really warrants such validation being planned into the long-range plan.

Some of the audiences don't have a technical background so they can actually see this simulation model. They can actually understand how traffic is going, what's going on now and in the future.

With the District and the work that's been done through our other inter-agencies, we've been able to prioritize several projects over others that just came out of the public's perception of congestion. So with DynaSmart, it enabled us to program these and introduce them to the Transportation Planning Board and have asked them to support these projects, seeing that we have the technical data that DynaSmart offers over any other software.

The most unique thing about it is it runs true dynamic traffic assignment. Okay, a lot of the models today, especially like planning models, macroscopic models, they run assignments but they do it over 24 hours, meaning they'll tell you the congestion on the freeway, how many vehicles went over the entire freeway for the whole day. It's not going to tell you at 5:00 what traffic conditions are going to look like. It's just going to kind of give you a general picture, that's how many vehicles went over the whole day as opposed to a mesoscopic model or DynaSmart, you can see temporally how traffic is changing over time and that's one of the really unique things about this tool.

If you take the freeway to work every day and there's an accident today and you're 20 minutes late, you'll probably still take the freeway tomorrow. But if there's a construction zone going on for six months and you know you're going to be delayed every day, you might choose a different path. And this is kind of the unique thing about this tool. It can run assignment based on how traffic's going to impact over just one day as opposed to if there's a work zone where you would change your travel patterns, the software will actually do that for you and find alternate paths where you can improve your travel time.

Not only are you allowed to look at the impact on the freeway but you can look at the impact from a system-wide level. You can see how traffic is flowing on arterials the

frontage roads. Basically it's your whole entire network that's built in your model. You can actually analyze traffic away from the freeway to see how much it is impacted.

If you want to look at an accident on the freeway and how traffic is rerouted instantaneously, DynaSmart can do that as opposed to other simulation models that quite don't have that capability embedded in the model software.

If I had a choice to use any simulation software, I'd use DynaSmart and the reason being is just because of its true dynamic traffic assignment. You understand how traffic is going to react and how the network is going to be impacted based on any kind of disruption: work zone, congestion, special events. Anything that's going to happen within a city that affects traffic, this simulation software can analyze it and depict what really will happen and lets you anticipate future construction projects, too. So I would choose this over any other software on the market today.

The effectiveness and the benefit of using DynaSmart, it allows the district here at TXDOT to plan and program our projects in a way that we have never been able to do. So we're able to use several alternatives and plan and show the public and decision makers what our best options are.