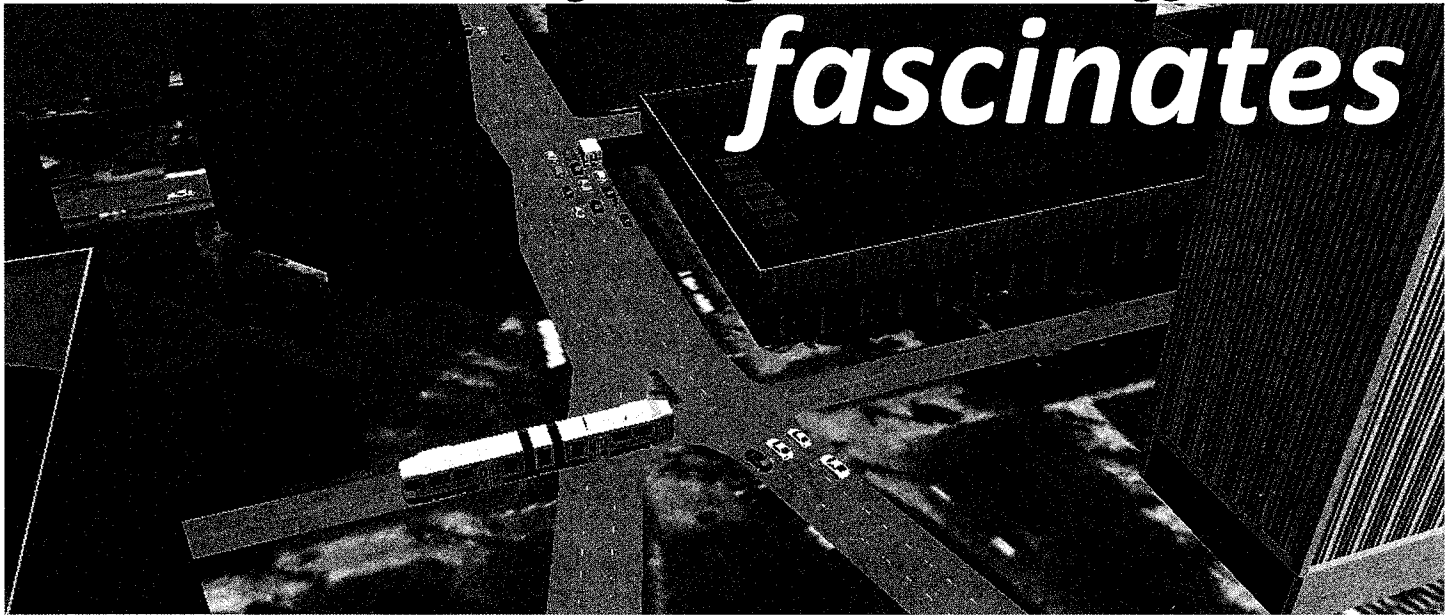


# GBNRTC

Newsletter for the **GREATER BUFFALO-NIAGARA REGIONAL TRANSPORTATION COUNCIL**  
Metropolitan Planning Organization For Erie and Niagara Counties

## *Simulation of regional traffic*

# *fascinating*



A view of simulated traffic and light rail in downtown Buffalo

**N**othing has ever riveted attention at GBNRTC's public meetings as has recent computer animations of regional traffic, showing the real-world movements of individual cars, trucks and transit along major roads and intersections.

It's generated by a TransModeler version of an advanced technology known as "three-dimensional, micro-simulation," as integrated with the regional TransCAD travel model. It has the potential for dynamic representation of complex traffic and congestion issues and alternative ways of dealing with them.

As described in a transportation memo, it allows even the layperson, as well as the professional, to visualize transportation patterns rather than to wrestle with them by studying mathematical tables or complicated theories.

"TransModeler has a built-in capacity to think on its own," says Stephen Szopinski, manager of the GBNRTC program. "It's the real thing. It's dynamic. It's not something made up. Those are actual traffic counts that you see on the screen.

"You don't have to make mistakes in the field anymore. Micro-simulation will tell you what the

impacts are of adding a new ramp, for example, or a new interchange, or a new lane or road, or of a traffic incident or accident. Before you make a mistake in the field, you make the mistake on the screen.

"It has all the origin and des-

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mination patterns, all the turning movements, down to the intersections level, built into it. So if you make a change you can see the impacts on traffic region-wide, something you could never do before. You could, for example, make a change in the timing of a traffic signal in the model and see what the impacts would be.

“Even if a road has to be closed, because of a major accident, or whatever, you could have the potential to change the traffic patterns quickly on parallel routes, change the timing of signals, through coordination with NITTEC (Niagara International Transportation Technology Coalition).”

However, Szopinski emphasized that the model’s capability is dependent upon the quality of “what you put into it.” He said, “It takes a ton of coding, a ton of labor

to put into this model what it takes to make them work correctly.

“You have to get all the widths of your streets, all the signage at intersections, whether there’s a traffic light, a yield sign or a stop sign, a no-turn-on-red sign. You got to get all your intersection timing and phasing.

“It takes an enormous amount of information. And once you get all that you have to calibrate it to those space conditions and to am, mid-day or p.m. hours, or traffic peaks, etc., so that the model shows what happens out in the field.”

Michael Davis, who has a Master’s Degree in geographic information systems from the University at Buffalo, is helping to develop a Regional Simulation Framework for the Buffalo-Niagara region.

“It is a work in progress,” he said. “It is something that day by

day is being perfected. There are so many different aspects to it, such a wide range of details within the software.

“It can be challenging, but also very interesting. Sometimes there are unexpected outputs of change that are imminent or can be expected in the future. I see it as a valuable resource for transportation planning.”

The TransModeler system is being used to assess alternative ways for modifying the Scajaquada Expressway to harmonize with the surrounding Delaware Park context. Szopinski indicated it would also be used to assess alternatives for a new Outer Harbor Bridge over the Buffalo River, and alternatives for moving the Williamsville Toll Barrier and improving the Interstate 90-290 corridor.

## ***Mother Nature knows best, Riverkeeper says***

**T**he executive director of the Buffalo-Niagara Riverkeeper has urged regional leaders to be more innovative in protecting the Erie-Niagara region’s lakes, rivers and creeks from contamination by storm-water runoffs from area roadways.

Julie Barrett O’Neill has called for greater application of “green infrastructure” as an efficient and cost effective way to safeguard regional water systems. The idea is to use “natural systems,” such as rain gardens or green roofs, to help in controlling contamination from runoffs. She suggested landscape improvements with roadway work

as a practicable approach

“We live in one of the most water-rich regions in the world,” she declared, in a report to the GB-NRTC’s Policy Committee, which comprises the region’s political and transportation leadership.

“Ninety percent of North America’s surface fresh water is in the Great Lakes and that is 20 percent of the globe’s surface fresh water. That’s extremely significant and that percentage is growing as we have polar ice caps melting into the ocean.

“Part of the trade-off made by the Great Lakes region in winning Congressional approval of the Great

Lakes Compact, which prevents diversion of our own waters to other states, was that we implement our own water conservation program. We can’t say to other communities that they can’t have our water if we are throwing it away.”

She noted that progress has been made by her organization, in collaboration with the state and federal governments, in cleaning up regional shorelines. But her focus was on the challenge of sewer overflows, which are largely driven by storm runoff from paved surfaces. Rain falling onto roadways picks up whatever pollutants are on those roads and carries them