

# BACON'S REBELLION

The Op/Ed Page for Virginia's New Economy

## When All Else Fails, Try Capitalism

**Community leaders in Tysons Corner are at wit's end to find ways to reduce traffic congestion. One tool they haven't considered is congestion pricing. Here's how such a scheme might work.**

By James A. Bacon

Tysons Corner is a business success and a planning disaster. Located at the epicenter of Northern Virginia's world-class IT industry, the one-time country crossroads is a must-be-there location for anyone doing business with the Pentagon, CIA or Homeland Security. Tysons has fabulous malls, fantastic restaurants and state-of-the-art office buildings. But it has achieved commercial stardom in spite of itself. The business center is unwalkable and untransportable. Nightmarish traffic congestion threatens to choke off growth.

The brightest minds in Fairfax County, a jurisdiction that boasts one of the highest education levels in the United States, have struggled and failed to cope with gridlock. There is broad-based support for extending the Washington Metro system to Tysons, but the fate of the \$4 billion-plus project stands upon shaky financial assumptions. Even if the rail line gets built, the higher densities granted to property owners around the Metro stops could bring in so many new people that congestion could actually get worse.

Heavy rail, Transit-Oriented Development, Transportation Demand Management plans... none

of the conventional planning tools seem to offer much hope. But there is one strategem that no one in Fairfax County has given serious consideration to: congestion pricing.

Congestion pricing -- charging motorists for entering congested areas of the urban center -- has worked in Singapore, London and Stockholm. The concept is being applied experimentally even in United States locations such as the Puget Sound. Virginia transportation officials



have bought into the congestion-pricing idea for HOT lanes on the Interstates. Why couldn't it work in Tysons Corner, too?

In a companion column, "[The Oregon Solution](#)," I explore how mileage fees and congestion pricing could form the basis for restructuring Virginia's transportation funding system. As applied to Tysons, the idea would be to charge motorists for using local roads, with rates varying by the level of congestion and time of day. Such a program would accomplish worthy goals that have heretofore remained elusive: It would reduce traffic to a level where it flows most smoothly, in effect increasing the capacity of local roads. Congestion pricing also would incentivize people to carpool, ride buses or engage in other crea-

tive forms of ride sharing. Over the longer haul, injecting market dynamics into Tysons Corner transportation would encourage landowners to re-develop their properties in a more balanced, transportation-efficient mix of uses that make it practical for more people to walk or bicycle to work.

To flesh out how such an idea might work, I contacted Bern Grush, founder of Skymeter, a Toronto, Canada-based start-up, who has developed a vehicle-positioning system for administering congestion-pricing programs. Grush's pioneering technology holds out the potential to revolutionize congestion pricing by making it more flexible and less expensive to administer than any other system now available.

Grush knows what he is talking about. A serial entrepreneur, has an IT background in both geographic information systems and financial back offices. With Skymeter, he is combining the two disciplines to create a system that uses satellite technology to measure the location, distance and times that cars and trucks travel, and then charges them for entering congestion zones. "A position-based, road-tolling system is a geographic information system, and it's a financial payment system," he says. "You need those two elements."

(I discussed some of Grush's ideas about using pricing mechanisms to ration parking in a recent column, "[No Such Thing as Free Parking](#).")

Grush conceived the idea for

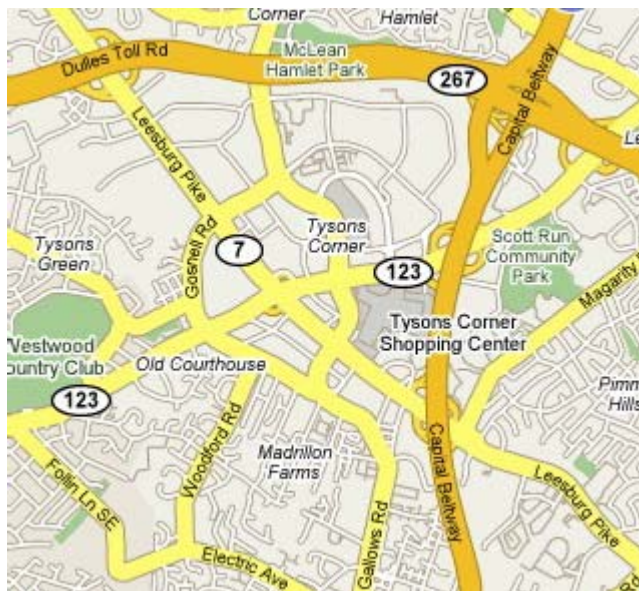
Skymeter in 2002 after getting a speeding ticket. He was riding with his six-year-old-daughter in the car, and he wasn't too happy about the incident. He began thinking about it: "If my cell phone could ring me when I was speeding... If I could set my own alarm... To do that, I'd need a GIS system, which would know the speed limits on each road."

As Grush noodled the idea, the GIS system got more ambitious and encompassed more information. Eventually, he made the link with congestion pricing and he saw the opportunity to overthrow one of society's most intractable problems: traffic congestion. As he shared his ideas, he was told that one obstacle -- the "urban canyon" problem, tracking vehicles in cities with high buildings that blocked satellite signals -- was insurmountable. The intellectual challenge intrigued him. After focusing on the problem, he claims, he cracked the code. Says he: "I've showed [my solution] to the people who said it couldn't be done. They said, "It looks like you solved it."

Grush also has solved a billing problem needed to make a satellite-based system work: non-refutable documentation that ensures taxpayers/customers that they're being billed fairly and consistently. Since then, he's run successful measurements in the toughest streets of Montreal, he says.

After working out of his home for three years, Grush has brought on a CEO, Kamal Hassan, to help run the company, raised outside funding, and moved the Skymeter team into

a Toronto business incubator. His big challenge now is convincing someone to take a risk with his system. Unproven technologies have a long selling cycle. Creating the political consensus for a proposition as radical as a congestion pricing system, whatever the technology, takes even longer. But Grush is convinced that Skymeter can bring market pricing to a realm -- parking and traffic congestion -- that has proven resistant to market solutions.



Sooner or later, Grush says, the politicians will come around. In urbanized areas like Tysons Corner, right-of-way acquisition is incredibly expensive. "We're running out of places to put roads. We can't build our way out of congestion."

"I can guarantee two things," he adds. "Number one, congestion pricing is going to happen all throughout the developed world. There's no other solution. Number two, it's going to happen using satellites. The only question is, will it be Skymeter, or will it be someone else's device?"

As I conducted a telephone interview with Grush in Toronto, he called up Google maps on his computer and summoned aerial images of Tysons Corner. He immediately perceived that the business district relies upon a handful of roads -- Rt. 7 (Leesburg Pike), Rt. 123 and a number of smaller arteries -- to bring in traffic from outlying areas. He also determined that the wide spacing between relatively low office buildings would pose few problems to his traffic-measuring technology.

The first step, he suggests, would be to draw the Tysons congestion district boundaries and establish something like a Tysons Traffic Authority to administer the congestion-pricing program. Because Tysons is bounded by the Capital Beltway, the Dulles Toll Road and low-density subdivisions, its limits would be easy to demarcate.

Next, working with local traffic engineers, planners and economists, the authority would determine which areas are the most congested, during which times of day, and what prices should be charged to reduce traffic to the point where streets would flow smoothly. A vital point: The goal would not to maximize revenue but to maximize street throughput. As a tactical matter, suggests Grush, start out with modest charges, so as not to provoke a political backlash, and increase them incrementally until they have the desired effect.

A number of practical matters would have to be addressed. How would rates be structured:

Would the traffic authority charge on the basis of the numbers of miles driven, or the amount of time spent in a congested area? Could the authority use the system to rationalize on-street parking as well?

More questions: How would you publicize the program? How would you make sure that people get transponders in their cars? How would you bill outsiders who don't have transponders -- could you sell daily passes on the Internet perhaps? What sanctions would you bring against people who don't have passes or transponders, and how would you enforce them?

A creative challenge would be devising ways to use congestion-pricing to encourage people to avail themselves of shared-ridership services. Most cars that enter Tysons Corner at present probably have two or three empty seats, Grush observes. "That's a lot of transportation capacity that goes unused. It's not empty road -- it's empty seats." You could take a big bite out of congestion by filling a fraction of them. Perhaps you'd allow taxi cabs to come and go for free -- among other advantages, taxis don't take up parking spaces. Perhaps buses, vans and jitneys could enter the congestion zone freely as well.

Another question: Should the authority cut rates for "green" vehicles with lower pollution emissions that would help the region meet clean-air standards?

A predictable objection to the congestion-pricing scheme is that it would cost too much to administer. If half the congestion charge winds up enriching outside vendors, what's the point? Skymeter aims to keep its charges to five percent of revenue, Grush responds. "We

are aiming to be like a credit card that takes a very small amount of each transaction," he says. "We're driving out every cost we can."

Another problem: People would not want to pay \$200 or more it would take to purchase and install a transponder in their cars, Grush acknowledges. One way to deal with that problem might be to "finance" the installation by tacking on \$4 or \$5 per month to the monthly bill. Another option might be to add a percentage of the service charge to the bill, or just to build the cost of the transponder into the rate structure.

The fun part of congestion pricing is figuring out how to reinvest the net proceeds. As I laid out in "The Oregon Solution," a critical aspect of setting up a congestion-pricing cordon is to keep faith with citizens by reinvesting the "earnings" into transportation improvements that will improve the mobility of the people who paid the charges.

In the case of Tysons Corner, that could mean making spot improvements that would eliminate bottlenecks on streets, or paying for traffic light synchronization up and down the Rt. 7 and Rt. 123 corridors. It could mean building comfortable bus shelters, subsidizing vans for the handicapped, organizing car-pooling programs — or underwriting construction of a tunnel so Metro could run underground.

No one has administered a congestion-pricing plan in the way that Grush envisions. The London, Stockholm and Singapore experiments, as successful as they have been, were blunt instruments by comparison. Those cities had limited flexibility to fine-tune rates for local conditions.

Until Skymeter-like congestion-pricing schemes become routine, there would be many prickly issues to work through. It would take a lot of testing and experimentation to see what delivers the desired results, Grush cautions. But Fairfax County and the unincorporated district of Tysons Corner have few other obvious tools at their disposal to tame traffic. In my estimation, they can't afford *not* to give the idea a try.

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