

Streamlining lawn care and exploring marketing areas

For many homeowners, nothing beats a lush lawn. Unfortunately, not everybody has a thumb that's green enough to make it happen consistently. That's where the lawn care professional steps in: the local expert—sometimes a small businessperson—who knows how and when to fertilize, what products to use, how often to mow, and the best strategies for dealing with insects and weeds.

For a long time, a solid work ethic and the right tools and products were enough to make a lawn care business successful. For many gardening entrepreneurs, those ingredients still work. But today, computers and GIS software are becoming part of the business of caring for the grass, and one lawn care professional in Ontario, Canada, is showing how it's done.

Building a business

Dr. Green Lawn care is one of the fastest-growing lawn care firms in the southwestern Ontario area, in and around the city of Toronto. The company, founded by Lou Van Haastrecht in 1988, is a classic example of a small business quickly getting bigger. Lou's wife, Lorraine, joined the firm in 1992, and each of their six children has an active role in the family business. Starting with about 1,500 customers in the late 1980s and early 1990s, the company now has about 14,000 customers and employs forty to fifty workers from spring to late fall.

Dr. Green Lawn care belongs to a number of professional organizations, including Landscape Ontario, and is an international member of the Professional Lawn Care Association of America.



Dr. Green Lawn care's Web site, at www.doctorgreen.com, provides information on a range of services and also offers free tips on maintaining a healthy lawn.

Providing a service

Dr. Green Lawncare has a fleet of about twenty trucks, each driven by a lawn care specialist on a specific route. Each day, those specialists combined provide fertilizing, weed control, and other services to eight hundred to nine hundred customers. Each service call takes about ten to fifteen minutes. Dealing with 75,000 customers each season, and getting vehicles and specialists to the right locations as quickly as possible, is a tough task. At one point, company management were concerned that the specialists were losing too much valuable time just trying to find customer locations. The use of standard maps just wasn't getting the job done.

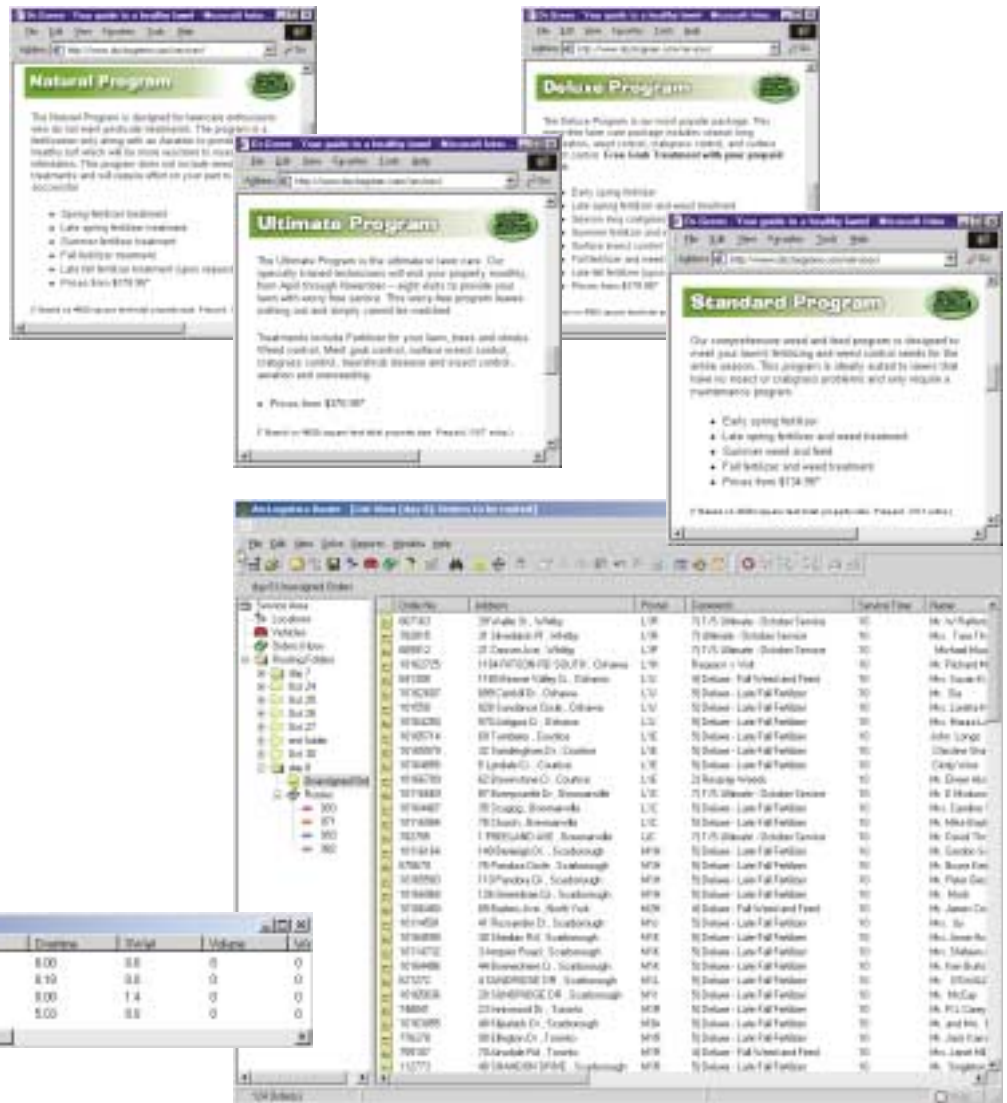
Knowing that change was necessary, the company looked for help. DMTI Spatial, Inc., a GIS consulting firm in Markham, Ontario, recommended the company use its CanMap RouteLogistics, a data application developed with ESRI's ArcLogistics Route. It's a product that helps fleet owners reduce operating costs, improve routing and scheduling, and realize improved customer relations through better on-time delivery of services.



DMTI Spatial, Inc., on the Web at www.dmtispacial.com and www.desktopmapping.com, is a major Canadian GIS product and solutions provider that helped Dr. Green Lawncare streamline its fleet operations.

Dr. Green LawnCare's service area is in a part of southwestern Ontario known as the Golden Horseshoe. It's an area that includes several communities of various sizes throughout the greater Toronto area. Streamlining and GIS-based management of the company's routes started with loading key information into a computer and organizing it: names and addresses of lawn care clients, vehicle start and stop times, the number of minutes that lawn care specialists will be at given locations, types of service each customer will receive, among other factors.

Dr. Green offers a range of service levels ranging from very basic to very complete, and the ability of ArcLogistics Route to keep it all straight and display it spatially helps managers see trends, spot problems, improve service, and reduce transportation costs.



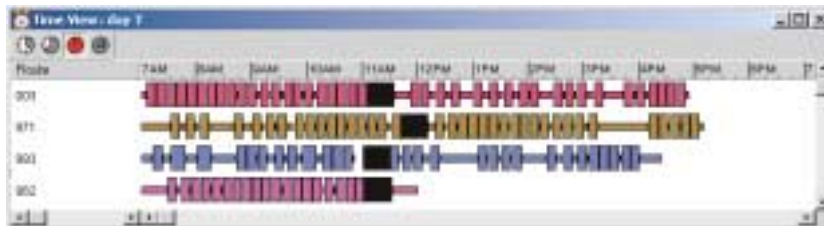
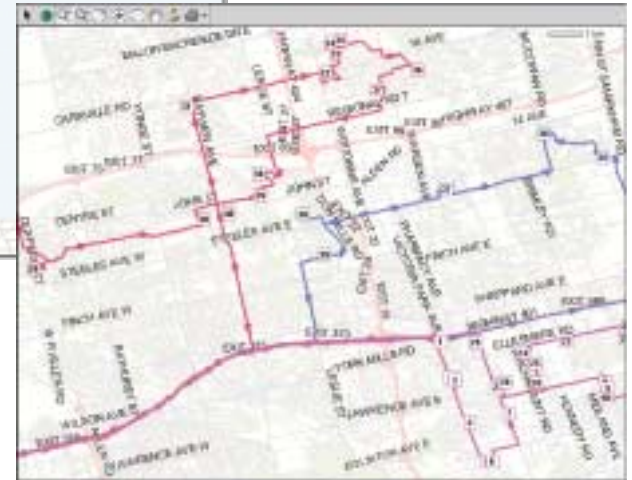
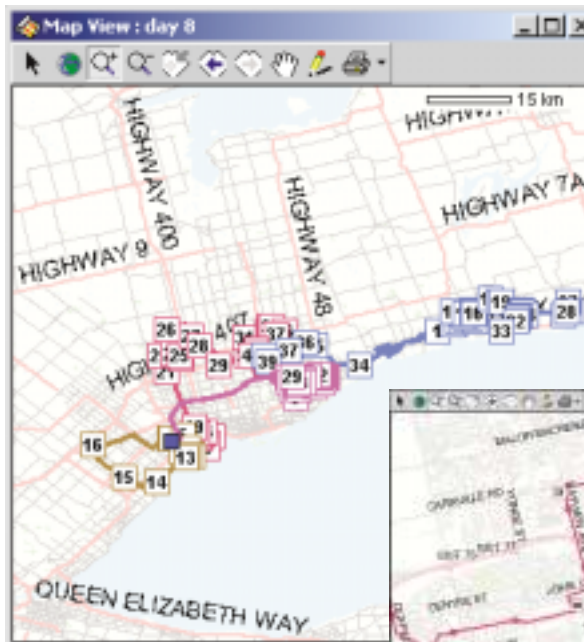
| Name | Order | Cost | Est. | Distance | Weight | Volume | Qty |
|------|---------------|------|----------|----------|--------|--------|-----|
| 003 | Tim Foddes | 40 | \$127.30 | 149.2 | 0.0 | 0 | 0 |
| 004 | Grand Roadcut | 37 | \$455.06 | 206.8 | 0.0 | 0 | 0 |
| 083 | Ear | 35 | \$272.57 | 290.3 | 0.0 | 1.4 | 0 |
| 082 | John | 19 | \$192.56 | 81.3 | 5.00 | 0.0 | 0 |

Visualizing routes

With the software up and running, dispatchers and managers can better see where service technicians will be on any given day. Maps like the ones on these pages use different colors to show, for example, which service techs will be working in which sectors of Dr. Green's territory. One map shows routes over a wide area, while the other map displays the routes zoomed in, with numbered service stops more clearly discernible as specific locations.

ArcLogistics Route also can instantly produce graphic images that help businesses more clearly see what a service tech's or driver's workday actually looks like against a time scale, as the illustration on this page shows. For example, the tech on Route 003 has a number of short-term service calls that are geographically close together through the morning hours. The worker takes a lunch break at 11 a.m., then has fewer service calls in the early-through-mid-afternoon, with longer drive times in-between.

The tech on Route 971 has a stop at 3 p.m., then a cluster of calls after 4 p.m., while the tech on Route 993 has some long service calls from about 7:30 a.m. to just after 8. The tech on Route 982 is lucky or unlucky, as the case may be: he's working for only half the day.



Maps, directions, reports

In many companies, service techs and drivers have to juggle wide-format spreadsheets and route reports in one hand, then open separate map books with the other hand as eyes flash back and forth, trying to make sense of where the next route stop or service call is supposed to be.

That doesn't happen with GIS-based routing systems like the ones used by Dr. Green. On a daily basis, ArcLogistics Route—either by itself or coupled with other software products like the ones developed by DMTI and others—can produce route maps and directions in one handy format. The maps on this page display Route 003 in two views: One shows a cluster of stops near the shore, and fewer and more widely dispersed stops farther inland; the other map comes with printed, step-by-step, stop-by-stop directions for getting from one service call to the next.

Dispatchers can also produce their own summaries that are calculated and tabulated by the computer working with its software. These summaries help managers and business owners make informed decisions about routing and help show them how changes in routing can enhance their bottom line.



GIS for market analysis

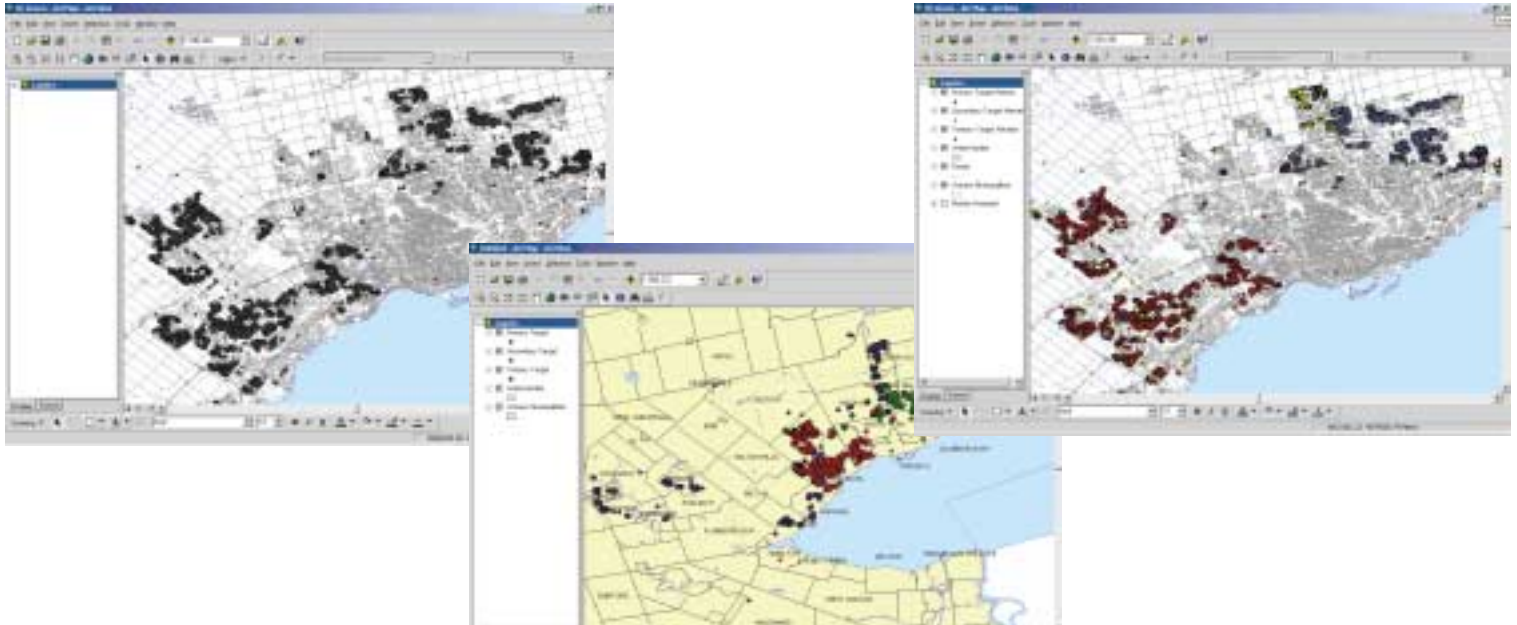
Dr. Green uses GIS for more than just route management. ESRI's ArcView 8.1 and ArcMap help the company learn about and analyze the market for lawn care services throughout its region. After geocoding the company's existing customers (as illustrated by the map at left that shows dark-colored dots), additional maps showing specific target market areas are generated. The map in the middle shows a primary target market area identified with red dots, a secondary target market area with

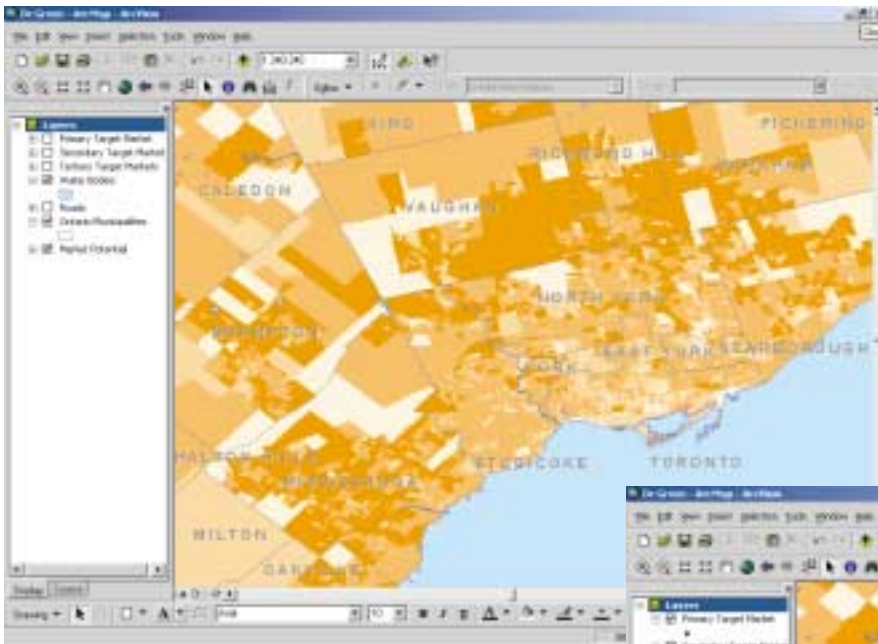
green dots, and a tertiary (or third) target market area with blue dots.

Using the GIS software and related marketing information products and data, Dr. Green discovered that the primary target market area, a compact geographic region in and around the Toronto suburb of Mississauga, had a potential to generate as much as \$8.9 million in gross sales. The secondary target market area, a subregion north of Toronto that includes Richmond Hills and Markham, had a potential of nearly \$7.5 million in gross

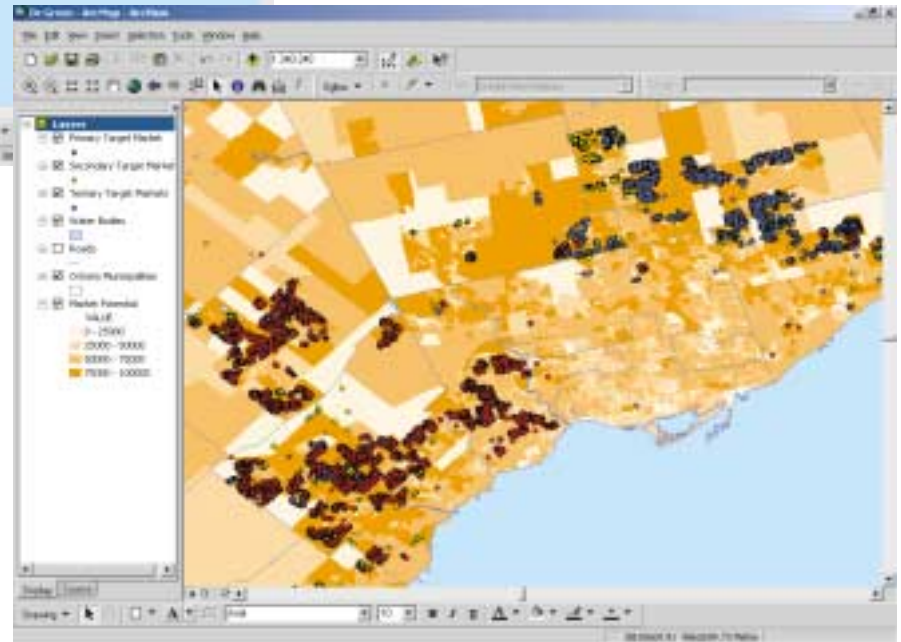
sales. And the third target market area, which includes a number of widely spread suburbs farther out from Toronto, had a potential of \$6.5 million in gross sales.

The map at right, which includes a layer of roads laid down over the target market areas, is the starting point for further examination of the transportation system Dr. Green would encounter, should the company decide to expand into a particular neighborhood or part of a targeted market area.





Additional GIS-generated maps like these, which show the locations of customers Dr. Green would like to sign on, help the company decide where to focus ongoing and future marketing and advertising efforts. Company owners say the investments in technology solutions have saved labor and other costs, improved efficiency, and significantly improved profits.



The software

ESRI ArcLogistics Route, and ArcView 8.1 with ArcMap.

The data

CanMap RouteLogistics data, CanMap Streetfile, and demographic census data for Canada.

Acknowledgments

Thanks to Lou Van Haastreht of Dr. Green Lawncare, Chris Thomas of DMTI Spatial, Inc., and Karl Terrey of ESRI.

