CCFC Benefits from ArcLogistics Route

Imagine being tasked with the responsibility for organizing a new program that would deliver meals to clients across Toronto. Imagine having to deliver the correct meal, to the right client, within an acceptable timeframe using volunteer drivers, many of whom are unfamiliar with Toronto's congested streets. This was the challenge facing the Toronto Chapter of the Crohn's and Colitis Foundation of Canada (CCFC) during their annual fundraising campaign called Let's Do Brunch! The volunteer team turned to ArcLogistics Route for the answer.

The CCFC is a national, not-for-profit, voluntary medical research foundation whose mission is to find the cure for Crohn's disease and ulcerative colitis - two forms of inflammatory bowel disease (IBD). Since 1974, the CCFC has invested more than $27 million in major medical research projects, the training of research personnel, the establishment of two world-class intestinal disease research units (at McMaster University and the University of Calgary), and the establishment of the CCFC Chair in Intestinal Disease Research at the University of Calgary.

Let's Do Brunch! is a national program that takes place throughout the month of November. It was developed as a way to raise funds for research across Canada while providing a healthy brunch for IBD sufferers and non-sufferers alike. Let's Do Brunch! takes a different shape in communities across Canada as each chapter can customize this event to suit the intended audience. In Toronto, the Let's Do Brunch! volunteer team developed a new program where brunch was delivered directly to participating households throughout the Toronto area.

A small committee of four volunteers, headed by Michel Resends, set to the task of planning, organizing, and realizing this new direction. This format presented a new challenge in logistics for the committee — how to ensure that the correct brunch order arrived at the right place at

the right time. Despite approaching various delivery companies and service clubs within the greater Toronto area for assistance, none was offered, and it became apparent to the committee that they would have to coordinate the deliveries themselves.

In an attempt to simplify the task and reduce the number of volunteers needed, they divided the city into three delivery areas and each area was delivered on a separate day. As well, the choice of brunches was limited to two basket types, a basic and a premium. Having established its delivery requirements the committee turned to ESRI Canada for assistance in the scheduling and defining of delivery routes.
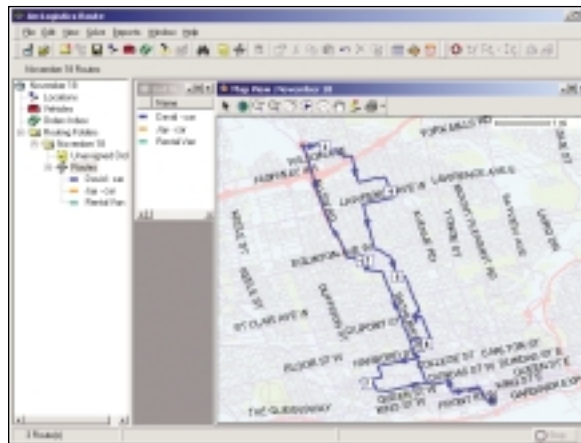
The Santa Claus Parade resulted in the closure of several major routes within the delivery area and added an additional routing challenge to the team.

ESRI Canada and DMTI Spatial provided ArcLogistics Route (ALR) and CanMap RouteLogistics at no cost to the CCFC for the duration of the Let's Do Brunch! event. With these tools in place, creating delivery schedules and routes for volunteers became a relatively simple assignment process.

Rica Saporta is a GIS Programmer at the Town of Oakville and a volunteer for the CCFC. "All brunch orders had to be placed 48 hours prior to the delivery date. Orders were taken by phone or fax and entered into a Microsoft Access database using a data entry form that populated a table called Orders," explained Ms.

Saporta. "The delivery information field structure in this table matched that required by ALR. The database also contained queries that separated orders by their delivery date and whether they are to be delivered or picked up. The table was then imported into a new ALR project, and each order was geocoded."

The Planning Committee captured the required information for all available volunteer drivers including the time they are available to start, the time they wanted to finish and how many baskets they were able to deliver. This information was added into ArcLogistics Route and a new vehicle was defined for each volunteer. The orders were then assigned to a routing folder, creating delivery routes for each volunteer driver.

The Reports Generator created route manifests with overview maps along with a load report for each volunteer. Drivers were shown how each order was broken down in the manifest in terms of which basket type was to be delivered, the number of baskets, the expected time of arrival, and the delivery window for each brunch.

"After the first day of deliveries, we were able to get feedback on how our system was working. Sure enough, drivers told us that following the driving directions in the manifest proved to be the best route between delivery points," said Ms. Saporta.

The Santa Claus Parade on November 18th resulted in the closure of several major routes within the delivery area and added an additional routing challenge for the team. The solution was to modify the street network data file.

To accommodate these one-day closures, a second street network file was created for the day of the Santa Claus Parade. From this data set, the street segments along the parade route were selected, and the travel settings for each of these segments were manipulated in ALR to make the segments undesirable for routing. As a result, drivers on this day were given route manifests that avoided the parade

route altogether, allowing them to complete their deliveries on schedule.

ArcLogistics Route, together with the RouteLogistics data, was an invaluable tool that assisted the Toronto Chapter with the success of the Let's Do Brunch! program. It allowed a small group of volunteers to schedule deliveries in a way that met customer's delivery time windows and minimized the number of drivers required on each delivery day. The detailed driving directions and maps provided by the Report Generator made it possible for volunteers not familiar with a specific area to efficiently deliver within it.

The Toronto Chapter of the CCFC is pleased to announce that this initiative raised approximately $10,000 – making a significant contribution towards research into Crohn's disease and ulcerative colitis.