

# CASE STUDY



*The new Trapeze system enables schedulers to work more efficiently, giving them time to consider alternative scenarios and to look for cost-effective solutions.*



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# Toronto Transit Commission

## Reducing Costs with Efficient Scheduling

### BUSINESS PROBLEM

The Toronto Transit Commission operates more than 160 fixed surface routes, a light rail line and two subway lines serving a 632 square kilometre area. There are 1,311 peak buses, 172 peak streetcars, 90 subway trains and 6 LRT trains which carry more than 1 million passengers each day. The commission is divided into five bus, two streetcar, two subway/LRT and one collector division, with a total of 4061 full time operators.

The Schedules section of the TTC's Service Planning department provides scheduling for all divisions, and with ten sign-up periods per year, scheduling and runcutting are ongoing processes.

Bob Dorosch, Superintendent of Scheduling, remarks, "One of the greatest challenges faced by our scheduling department is time, or the lack of it. In 2001, there were 1,200 schedule changes, and with a third subway opening up this November, 1,600 changes will be made in 2002."

The schedulers were using an older, DOS-based version of Trapeze software with customized interfaces to time-keeping, and other systems that were time-consuming to maintain.

The commission required a system that would integrate scheduling data with other planning and operations systems and streamline many frequently performed tasks.

### GOALS

The TTC decided to migrate the existing scheduling to a Windows environment, and to build the new system on an integrated relational database management system (DBMS). The migration had to occur

### SNAPSHOT

|   |                               |
|---|-------------------------------|
| <b>Type of Operation:</b>               | fixed route and paratransit   |
| <b>Number of surface routes:</b>        | 167                           |
| <b>Number of peak surface vehicles:</b> | 1,483                         |
| <b>Number of operators:</b>             | 4061                          |
| <b>Trapeze Products Installed:</b>      | FX                            |
| <b>IT environment:</b>                  | SQL client-server NT platform |
| <b>Weekly scheduled hours:</b>          | 147,978                       |
| <b>Weekly pay hours:</b>                | 170,500                       |

seamlessly, without service disruptions.

The software also had to provide powerful, flexible functionality that would enable schedulers to find more efficient and cost-effective solutions to routing, blocking, and runcutting.

### SOLUTION

After carefully considering several vendors, the TTC chose Trapeze Software to implement the new scheduling system. Trapeze FX provides comprehensive route definition, blocking, runcutting, and rostering for fixed route services.

Numerous factors made Trapeze the logical choice, including the agency's experience with the Trapeze DOS product, the Trapeze project team's extensive experience migrating very similar systems, and their demonstrated understanding of the TTC's operations.

The software is being implemented in phases. The first division, Birchmount, went live in September 2002 running FX on a SQL server with seven NT workstations. The Birchmount Division has 14,494 weekly scheduled hours and 16,813 weekly pay hours.

The implementation approach at the Birchmount site involved running the old and new

systems in parallel over three sign-up periods to ensure that everything was running smoothly in scheduling the division's 23 routes and 450 operators.

The September schedule went "without a single hitch," Dorosch says. "The other departments that rely on our data weren't even aware we had switched over to the new system."

### RESULTS

The primary benefit has been improved crewing efficiency. The new system enables schedulers to work more efficiently, giving them time to consider alternative scenarios and to look for cost-effective solutions.

The TTC now has a solution that supports seamless data exchange with other applications. The modular architecture will enable the agency to build an integrated system gradually and as needs dictate.

### BOTTOM LINE

When the other nine divisions go live with Trapeze, the TTC could be looking at considerable savings and improved working conditions for the operators.