

BEST PRACTICES

Using Technology in Transit

GPS / Real-Time Tracking / Mobile Apps

Belmont, Mass.



Gregory Hartunian
President
Smart Software

MINNESOTA'S METRO TRANSIT IS faced with perplexing spare parts inventory challenges. Continually maintaining and retiring aging fleets and introducing new ones, they need to know how much of which parts to stock, work-off, or divest. And they need to do this while maintaining or improving service levels, and within budgetary constraints and cost-cutting mandates.

Traditional, long-standing planning practices cannot produce the answers Metro Transit needs to manage 24,000 parts, valued at approximately \$42 million, which support more than 1,000 bus, commuter rail, light rail and other vehicles. Part of the challenge is the sheer number of parts to managed, but there is more to it.

Much of Metro Transit's demand for spare parts is intermittent. Seemingly random and with no apparent pattern, intermittent demand is extremely difficult to forecast — and this is the case for 80 percent of Metro Transit's active parts. Because of this, inventory planning at the agency has been an overwhelmingly manual and tedious endeavor based on the experience and expertise of two planners. When it comes to intermittent demand, many inventory planners either make guesstimates of parts needs based on

experience, like Metro Transit, or don't bother to forecast them at all.

Investigating how other transit agencies address similar challenges, Metro Transit found that several peers are using a combination of specialized software and a method of inventory planning with considerable success. Metro-North Railroad and Société de transport de Montréal deployed specialized demand forecasting and inventory optimization software, that enabled them to add thousands of parts for new fleets and reduce the value of their inventory by 10 to 15 percent while improving service levels.

In conjunction with Smart Software's technology, Metro Transit is

using a service level driven method of inventory planning (SLDP) that will provide it with an action plan to simultaneously reduce its inventory and maintain service levels.

Planners found 10 percent of the company's inventory is obsolete and has millions of dollars of parts outside its inventory stocking parameters. Metro Transit found SLDP's critical benefit, beyond knowing inventory is out-of-balance, is to provide a statistically based path to solving inventory problems. It enables planners to weigh the trade-offs between service level and inventory costs. It mitigates risks involved in changing inventory policies by testing them before they're implemented, and provides positive results faster. 

To learn more about Smart Software's technology visit www.smartcorp.com

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