

# Small Operational Changes Bring Big Cost-Cutting Results for Transit Agencies

Special to *Passenger Transport*

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One of the biggest asset categories public transit organizations have on their balance sheets is parts and maintenance inventory. This can run from a few million dollars for mid-size operators to tens of millions for larger agencies.

It also happens that many public transit systems are sitting on mountains of unnecessary and obsolete spare parts worth millions of dollars. In some cases, they're even ordering more of what they don't need—just to ensure against service outages.

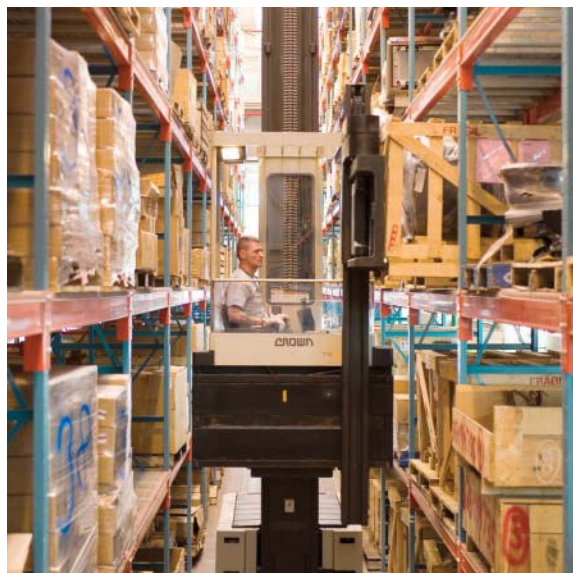
- What if you could save millions of dollars by reducing parts inventories, and at the same time help improve the service you deliver to your customers?
- What if the increased cashflow from inventory reductions could be channeled for other purposes?
- What if you could achieve this by making a small change in the way you conduct inventory planning—without turning the organization upside down?

Of course, the point of this article is that you can accomplish all of these things. But it will require the addition

of some key technology, because planning for service parts is tricky. This is because, while some parts have very predictable demand patterns, as much as 70 percent of service parts move slowly or intermittently. Intermittent demand, where periods of no parts consumption are interspersed with periods of seemingly random demand, is exceptionally difficult to forecast.

Two major public transit systems, the Société de transport de Montréal (STM) and MTA Metro-North Railroad, have addressed this challenge by adopting innovative demand forecasting and inventory optimization software designed specifically to focus on intermittent demand. Both have substantially reduced their inventory spending and total inventory investment while improving their ability to meet required service levels.

In a little over a year, Metro-North has achieved a net savings of almost \$4 million in inventory reductions, using software that solves the intermittent demand forecasting problem and provides accurate estimates of the inventory and safety stock needed



Warehousing large quantities of spare parts can be an economic drain on a public transit agency.

Photo courtesy of MTA Metro-North Railroad

to meet its desired service levels. This savings is the result of the second part of a multi-year plan to balance parts inventories at a level about 15 percent below where they were when the system started the project.

To achieve that goal, Metro-North followed a multi-stage process:

- Stage 1, process improvement: address basic workflow and processes to improve inventory management practices. During this stage, Metro-North was able to reduce its inventory by

\$7 million. Further savings would require adoption of new planning technology.

- Stage 2, introduce Forecasting and Inventory Optimization technology: establish new, right-sized safety stock levels and reorder points to achieve required service levels. Metro-North achieved a net \$4 million in savings at this stage by rescheduling or canceling planned purchases as it identified overstocked items, while also increasing purchases for items found to be understocked.
- Stage 3, achieve new inventory equilibrium: Over time, parts consumption will gradually reduce inventories to the new, lower levels necessary to achieve service level goals. In Metro-North's case, this period may take two or more years and is expected to yield an additional 15 percent (or more) inventory reduction.

STM began its inventory optimization process sooner, starting in 2008, and is now well into Stage 3. The Montreal agency had a large intermittent demand problem and a massive inventory with over 200,000 unique parts.

The system began by looking at its internal processes, setting targets, and planning its approach, then deployed

**OPERATIONAL CHANGES** CONTINUED ON PAGE 26



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## OPERATIONAL CHANGES CONTINUED FROM PAGE 20

the same forecasting and inventory optimization software solution as Metro-North.

STM was able to reduce its inactive inventory by 24 percent. Parts availability also increased by 18 percent, to 94 percent. But the bottom line is that, since the start of its inventory reduction program, STM has seen a 13 percent reduction of its existing parts in stock of

\$4.4 million (Cdn.), to \$29.2 million.

The experiences of Metro-North and STM demonstrate that public transit organizations can realize huge organizational benefits by making a small change in their service parts operations—by changing the way they plan and using the right tools and processes to find the right balance in their parts inventories.

## SANTA CLARA CONTINUED FROM PAGE 23

measures taken to ensure safety around construction areas and efforts to lessen impacts on the community. The team also engaged members of the community by staffing informational booths at local community events. The public is very interested in the project, and VTA

project staff understand the importance of staying in contact with the community during construction.

Within a few short years, that single symbolic BART railcar at the groundbreaking will be replaced with frequent BART service in Santa Clara County.

## FORT WORTH CONTINUED FROM PAGE 17

■ DFW North Station. A station located between Grapevine and DFW Airport will enhance commercial developments planned for the area. This station also will serve as a key link to DART's passenger rail service planned to serve areas from east of the airport to U.S. 75 Central Expressway and beyond to

the east.

■ DFW Airport Station. The final northeast stop on TEX Rail's alignment is a station between Terminals A and B at DFW Airport. It will serve employees, airline passengers flying into and out of the region, or passengers who wish to transfer to DART light rail.

## UTA GROWTH CONTINUED FROM PAGE 22

for providing one of the most successful transportation programs in Olympic history.

These successes led to one of the greatest growth periods in UTA history. UTA now serves the entire Wasatch Front and portions of adjacent rural counties.

We are in the midst of a major transit expansion that, when complete, will feature more than 140 miles of light and commuter rail, Bus Rapid Transit, and streetcar. UTA reported 42 million boardings in 2011 and is on track to exceed that number this year.

What led to this success? There are many factors. First and foremost was to gain the community's trust.

We had to start small and be successful the first time out of the gate. We made sure that we delivered what we promised by making decisions and sticking to them. We used proven technology to ensure that the end product worked. Success breeds success, and once we demonstrated that UTA could be a reliable steward of the public's funds, voters were more willing to invest in future projects. Our recent expansion has been approximately 80 percent locally funded.

Relationships have been critical to our success as well. We rely upon the visionary leadership and support of elected officials and community leaders, the confidence of the FTA, and the help of such institutional partners as Utah DOT, Union Pacific, and many others. The big message is that you can't do it alone. You have to make friends, be easy to work with, and find innovative ways to make it happen.

Despite our successes, we're not finished. We want to have transit in every neighborhood and a pass in every pocket—to make public transportation so convenient that it becomes the first choice. Our goal is to have 90 percent of the population of the Wasatch Front within one mile of a major transit stop by 2030.

Today UTA is a partner in the Wasatch Choice for 2040 initiative, a long range plan that will enable us to reduce congestion and improve the environment. But it means changing the way we do things. It will mean the development of urban centers around transportation hubs—future homes, jobs, and stores focused so that people can live, work, and play without having to own a car. The changes may not come easy. But if we have learned anything here in Utah, it's that we're not afraid of a challenge.



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