

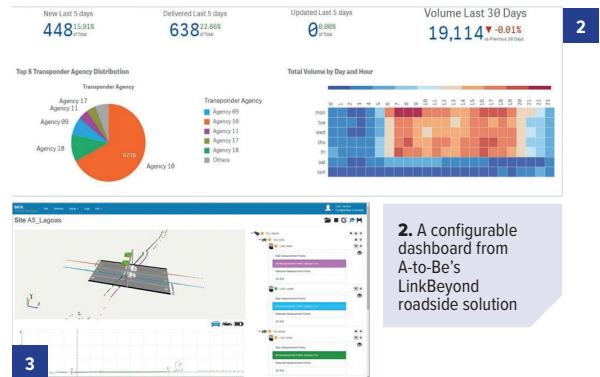
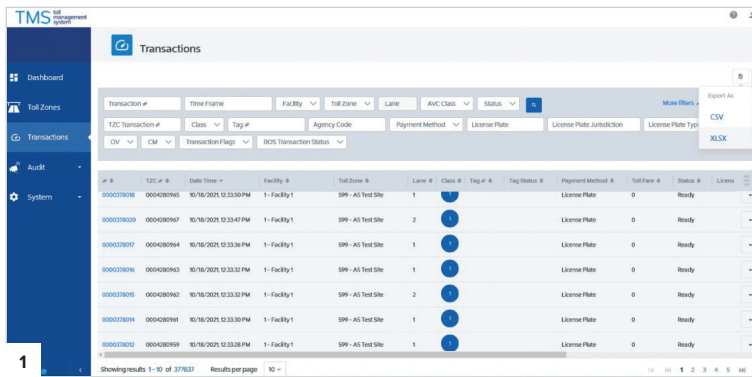
Flexible, future-ready tolling

Building flexibility into tolling systems is one of the key ways in which operators can prepare their facilities for the future

11%

The growth (CAGR) expected in the global electronic toll collection market between 2021 and 2027

Source: GM Insights



If toll facilities are to adapt to changing traffic levels and uncertain futures operators must stay abreast of evolutions in methods and create systems flexible enough to manage every resource efficiently while satisfying customers' needs. Agencies seeking a future-ready open road tolling (ORT) solution can build flexibility into their system in two important ways.

First, agencies must be ready to build or expand tolled assets and to embrace new technologies and tolling mechanisms. One often-overlooked hindrance to this expansion lies in the procurement of tolling technology and the relationship between the toll zone controller (TZC) and the toll facility host (TFH).

Older systems closely couple the TZC to the host, meaning that adding additional zones to an existing tolled asset is virtually impossible. Each new asset requires procuring not just new roadside equipment and new TZCs, but also a new TFH. This need not be the case today. With the rise of microservices-based system architecture and REST API integrations, newer systems can add new tolled zones or assets to one host, making efficient use of the agency's existing investments.

The most flexible systems can accommodate new methods of tolling, such as A-to-Be's roadside solution that also supports Bluetooth-based tolling transactions. Rather than only processing app-based transactions through ALPR, the TZC can integrate with Bluetooth beacons that communicate directly with the driver's smartphone app allowing for a real-time

1. A flexible ORT solution like A-to-Be's LinkBeyond allows employees to search transactions by any parameter

transaction. By decoupling the TZC from the host, agencies can flex their assets to expand their tolling technology – for example, by adding A-to-Be's Bluetooth technology, or even to enable V2X communications.

Human resource challenges

Beyond technology, all tolling agencies must do more with fewer resources each year – especially human resources. With the competition for talent hotter than ever, agencies must find ways to help their employees contribute as much as possible to keep tolling systems running correctly and to minimize leakage. Agencies considering new roadside technology should seek ways to expand their employees' capabilities.

Today's TZC and TFH technologies no longer rely on lines of code to make queries, need a software expert to adjust a dashboard, or require multiple programs to view all the details of one transaction. Toll operators can demand a simple, intuitive user interface (UI) that helps their employees do more without needing extensive software expertise.

Whether they are viewing easy-to-configure real-time dashboards to detect a hardware problem faster, searching based on any

3. Flexible tolling systems can incorporate data from multiple systems through APIs, like A-to-Be's MoveBeyond incorporates vehicle profiling information from laser providers

transaction parameter to uncover patterns, or viewing 3D volumetrics data directly within the TZC interface to understand a class mismatch, a user interface that provides more data in one place with fewer clicks will help agencies maximize their investment in their employees. This also will empower each employee to do more to keep the system running smoothly. An internal study by A-to-Be found that a clean, consistent interface also reduced onboarding time for new employees.

Today's tolling operators face challenge after challenge. A modern roadside system can help agencies move the needle on all their goals by building in technology and employee flexibility. A roadside solution built with this in mind can equip agencies to meet the challenges they encounter in the coming years, starting by incorporating some of the best technologies available today. No one can predict the future, but by choosing a flexible system, they can prepare to meet whatever lies ahead.

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