



Whitepaper

# Mitigating COVID-19 safety concerns using a cloud-based system



The Future of Mobility

*Many agencies are experiencing huge reductions in ridership during the COVID-19 pandemic. Others are seeing bus services slashed, causing overcrowding on subways and trains at a time when social distancing is most critical. Making sure “essential workers” stay safe while taking public transit is especially important during the pandemic, as these folks don’t have the option to work from home.*

# Mitigating safety concerns during COVID-19

The APTA Operating Practices Working Group (OPWG) currently gathers data from all agencies around the country on how their ridership is affected. Never before have agencies needed accurate and real-time ridership data more in order to dynamically plan their everyday services.

A first step, however, is making sure standard procedures are in place. INIT uses a powerful tool called Object Maintenance Information System (OMIS) with dual purpose: 1. The tool is used to monitor and maintain the Automatic Passenger Counting (APC) equipment to ensure it is working correctly. 2. The tool is used to track and maintain the cleaning efforts of the vehicles to reduce and prevent the spread of the COVID-19 virus.

With such a system, agencies get daily critical notifications about cleaning procedures (Figure 1) and are alerted to any defects on certain equipment on a train or bus. This information is also directly shared with stakeholders so

safety liabilities are reduced, and faulty equipment can be repaired quickly.

Accurate ridership reporting is naturally important for FTA funding, but it is especially essential in being able to document and receive support due to the negative effects on ridership during the current COVID-19 crisis.

In addition, APC data is received after a train leaves the station. However, real-time ridership data is becoming more important because with it, operators can actively cancel doors on a specific car or direct passengers if they determine that a passenger load is reaching a certain threshold. This real-time counting information would aid in keeping some social distancing with passengers, subsequently relieving the angst of “essential personnel” riders during this pandemic, as well as preventing the spread.

<u>Vehicle number</u>	RTD_114	<u>ObjectID</u>	5285	06/04/2020
<u>Adresse:</u>	80110 S Elati St	Denver	2701	
<b>Inspection type</b>	<b>COVID-19</b>			
<b>Inspection date:</b>	<b>06/04/2020 10:19:06</b>	Light Rail Maintenance	Cleaning Procedures COVID-1	
Mop floors	Using a proper concentration mix of disinfectant	Done X	Not done	
Step wells	Using a proper concentration mix of disinfectant	Done X	Not Done	
ADA ramp	Using a proper concentration mix of disinfectant	Done X	Not done	
Stanchions	Using a proper concentration mix of disinfectant	Done X	Not Done	
Hand Railings	Using a proper concentration mix of disinfectant	Done X	Not done	
Hand straps	Using a proper concentration mix of disinfectant	Done X	Not done	
Doors and handles	Using a proper concentration mix of disinfectant	Done X	Not done	
Backs of doors	Using a proper concentration mix of disinfectant	Done X	Not done	
Walls, side wells, bulkhead walls	Using a proper concentration mix of disinfectant	Done X	Not done	
Ceilings	Using a proper concentration mix of disinfectant	Done X	Not done	
Lights and fixtures	Using a proper concentration mix of disinfectant	Done X	Not done	
Articulating section	Using a proper concentration mix of disinfectant	Done X	Not done	
Overhead panels	Using a proper concentration mix of disinfectant	Done X	Not done	

Figure 1: Cleaning checklist



“Unless you can accurately identify the negative effects the coronavirus pandemic has had on your system, relief funding, and funding in general will be harder to justify.”

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## Making Informed Decisions

Setting high benchmarks allows agency stakeholders to make informed decisions about which services to tailor in a well-timed manner. INIT’s Object Maintenance Information System (OMIS) is providing the valuable information that helps agencies quickly adapt in changing situations.

For instance, agencies can use valuable data with:

- Transparency in the form of web-based test reports which can be accessed by all agency stakeholders and viewed historically during the maintenance or commissioning process.
- Data for vehicle cleanings with assurance that all components are covered.
- Information on GTFS stop identifications.

- Data on defective components. For instance, vehicles which are reporting out of specification as it pertains to APC quality, and vehicles which do not report APC data at all, are flagged for both the data analytics team and maintenance personnel to see.

- Work order notifications for issue resolution.

While the FTA does not certify specific products, the implementation of OMIS is clearly beneficial as it can be used in the maintenance plan required for NTD reporting. Remember? Ridership data and funding are tied hand in hand. Unless you can accurately identify the negative affects the COVID-19 pandemic has had on your system, relief funding, and funding in general will be harder to justify.

By adding a feedback loop from a systemic perspective, you can promote negentropy, or the systemic promotion of order within the system, which is critical during times like we are experiencing now.

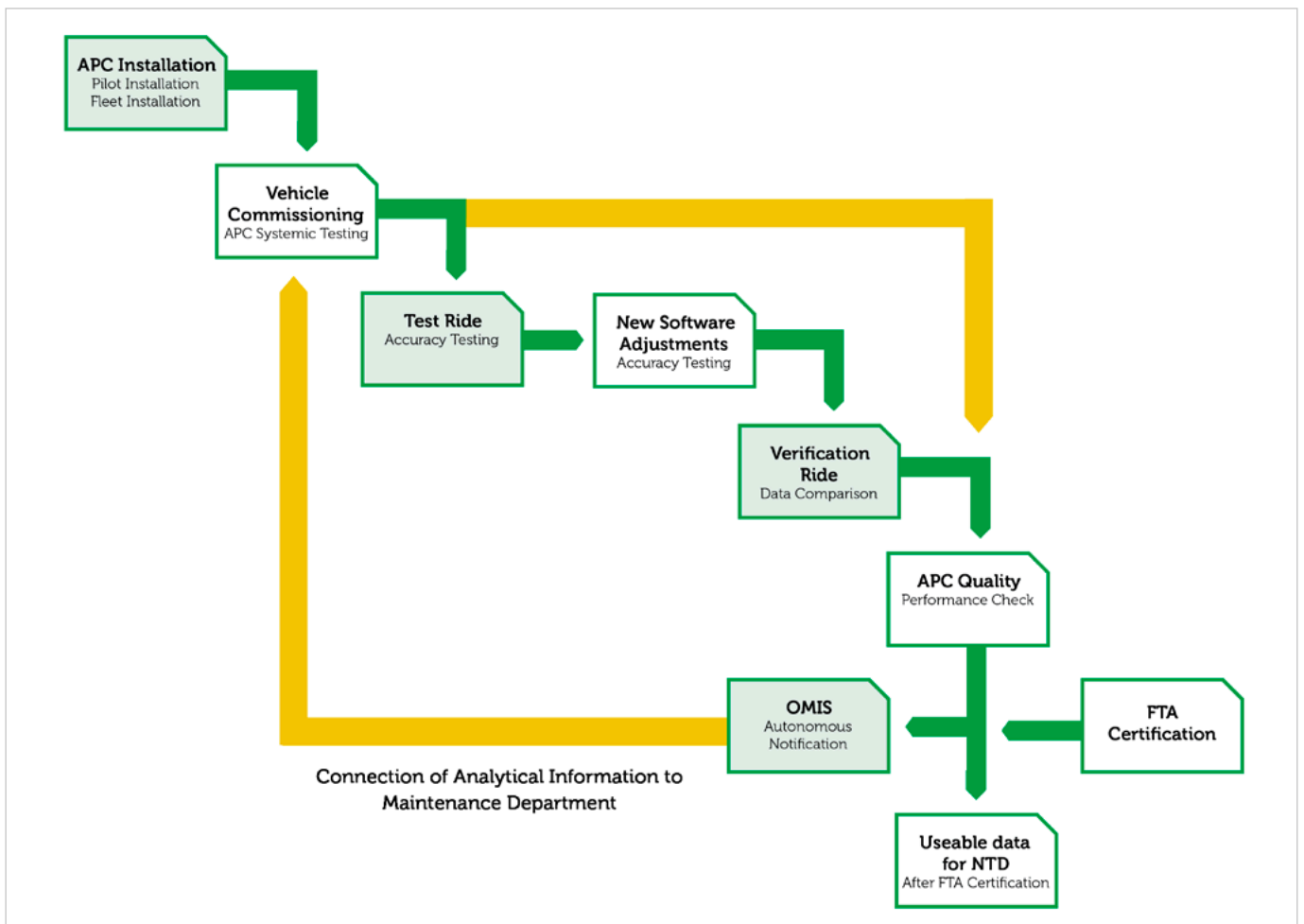
# Technical solutions for critical situations

Having the technical solution available to receive information regarding the working status for individual APC units is a great advantage. It allows for improvement of the quality of annual total unlinked passenger trips (UPT) and passenger miles traveled (PMT) from available APC data. Hence, the need for an object maintenance information system. However, the solution is not only a viable option as it pertains to APC components, but can also be used to serve a wide array of transit needs, including for GTFS Stop ID technologies which are becoming the next requirement for accurate passenger counting.

OMIS delivers a cloud-based commissioning of vehicles with daily email notifications based on the completion of commissioning and acceptance tests for each of the accepted vehicles.

- Creating checklists using cell phones
- Vehicle testing and acceptance with signoff via a tablet
- Interfacing with asset management systems
- 100% in house testing of vehicle hardware before shipping to OEM vendors
- Creating acceptance sheets during the commissioning process

Figure 2: Process flow of vehicle commissioning



## Reporting Dashboards

When entering the OMIS User Interface (UI), the dashboard will be the first item seen. On this dashboard, there are four areas of importance: the navigation panel, the filtering menu, the user setting, and the main screen. The figure below will show the location of each of these points respectively. Most important is the view of open vehicle reports. Daily, OMIS sends work order notifications to the maintenance team or interfaces directly with the asset management system if the interface is arranged.

## Conclusion

More importantly, the integrated OMIS solution provided by INIT can not only better prepare transit agencies in the event of unplanned disasters such as COVID-19, but can continually promote the quality performance of vehicles throughout their life cycles.

For more information, read our case study: [Denver RTD Boosts Data Accuracy with Object Maintenance Information Tool](#), or [request a free web session demo](#) on how to improve your data.

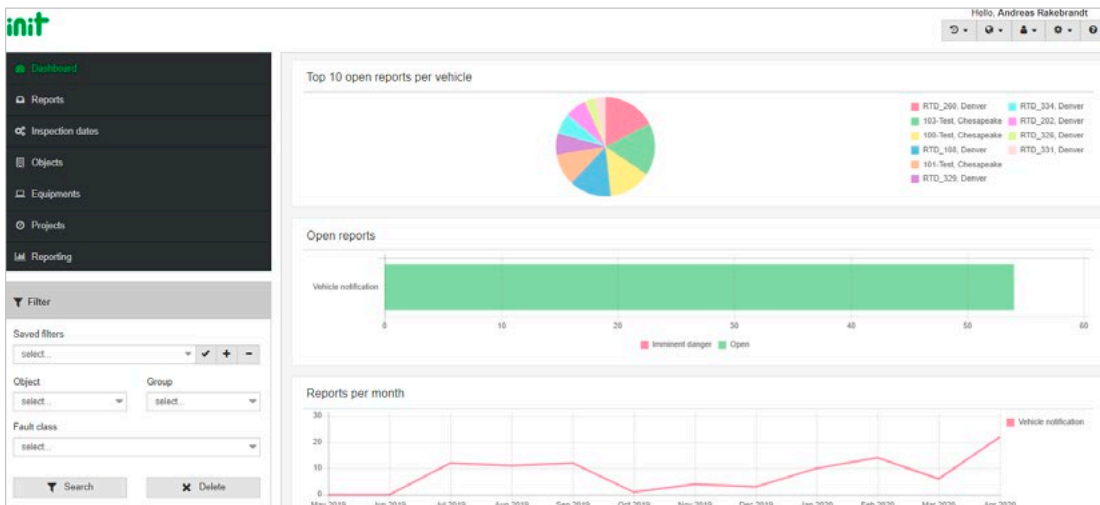


Figure 3: Navigation, filter, user setting and main screen

The screenshot shows an email inbox with a table of notifications. The table has columns for 'From', 'Subject', and 'Received'. All emails are from 'Omni' and are 'Unread'. The subject lines all mention 'Vehicle notification' for various RTD units. The received dates are all 'Fri 4/3/2020...'. Action icons for each email include a magnifying glass, a trash can, and a 'Print' icon.

From	Subject	Received
Omni	RTD_120 - Denver, S Elati St 2701 - 18027 - Vehide notification	Fri 4/3/2020...
Omni	RTD_108 - Denver, S Elati St 2701 - 18026 - Vehide notification	Fri 4/3/2020...
Omni	RTD_260 - Denver, S Elati St 2701 - 18025 - Vehide notification	Fri 4/3/2020...
Omni	RTD_277 - Denver, S Elati St 2701 - 18024 - Vehide notification	Fri 4/3/2020...
Omni	RTD_275 - Denver, S Elati St 2701 - 18023 - Vehide notification	Fri 4/3/2020...
Omni	RTD_123 - Denver, S Elati St 2701 - 18022 - Vehide notification	Fri 4/3/2020...
Omni	RTD_329 - Denver, S Elati St 2701 - 18021 - Vehide notification	Fri 4/3/2020...
Omni	RTD_115 - Denver, S Elati St 2701 - 18020 - Vehide notification	Fri 4/3/2020...
Omni	RTD_117 - Denver, S Elati St 2701 - 18019 - Vehide notification	Fri 4/3/2020...
Omni	RTD_269 - Denver, S Elati St 2701 - 18018 - Vehide notification	Fri 4/3/2020...
Omni	RTD_104 - Denver, S Elati St 2701 - 18017 - Vehide notification	Fri 4/3/2020...

Figure 4: Daily vehicle notification for each vehicle defect to inform the maintenance team



*If you would like to know more about OMIS, please contact Andreas Rakebrandt at [arakebrandt@initusa.com](mailto:arakebrandt@initusa.com). We look forward to hearing from you.*

*More than 700 customers worldwide rely on our integrated solutions to support them with their daily tasks*

- ◆ Planning & Dispatching*
- ◆ Ticketing & Fare Management*
- ◆ Operations Control & Real-Time Passenger Information*
- ◆ Analyzing & Optimizing*

*Moreover, public transit agencies can also master all requirements of electromobility and set up a single sign-on mobility platform using our integrated solutions. A robust package of operational services completes the INIT offer.*

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