Clever Devices

REACT IN REAL-TIME WITH DISRUPTION MANAGEMENT

An Enhanced Module for CleverCAD

INTO THE UNKNOWN WITH **DISRUPTION MANAGEMENT**

It happens every day. You publish a schedule, and some type of service disruption occurs that requires you to adjust it. Sometimes it is something big, like a significant snowstorm that paralyzes your city or a water main break that clogs up a major roadway. However, often, it is just road congestion or a traffic accident that pushes your vehicles off schedule. While you cannot control these unexpected circumstances, you can control how you react.

But, if your response process is manual and parts of your organization are not in the loop on the new service plan, there can be confusion across departments and in your reporting. Most importantly, when your customers do not know what's going on, when they are waiting for a vehicle that doesn't come, or even worse, one passes them right by, they get frustrated and angry. So, schedule changes not only create a customer service problem, in the age of social media, it often creates a public relations problem for you as well.

The **Disruption Management Enhanced Module for CleverCAD®** reduces the manual nature of the actions taken when a disruption happens and ensures that all systems get updated simultaneously. As a result, everyone from your dispatchers, planners, and managers to your drivers and riders have the same service information. Unifying your operations. Everyone is aware of all the changes as they occur in real-time.

REAL-TIME **PASSENGER UPDATES**

Your customers need to get where they are going. Therefore, they plan their schedule around yours. However, when your published timetable does not match the service you actually provide, customers become annoyed. When this happens, they may look for alternative means of transportation that they perceive to be more reliable and easier to use.

With the Disruption Management module for CleverCAD, your riders are informed of service changes in real time, guaranteeing that the information you provide to your customers is always in sync with your operations.

When you make a change to your schedule, the system automatically updates all your onboard systems, including your automated announcement and onboard signs, as well as your wayside solutions. So those on your vehicles know how the service change impacts their ride, and those waiting at a stop will know when the next vehicle will arrive.

Your mobile app and your website are also updated, so everyone at each stage of their journey understands what the new schedule is. With real-time information, customers have accurate information to plan their trip and are less likely to be frustrated by unavoidable service disruptions.

IMPROVE AND AUTOMATE **OPERATOR INFORMATION**

Without an automated system designed to handle detours and other service interruptions, your dispatchers typically rely on a voice call or a text message to the driver of the affected vehicle. No one, except for these two individuals, knows what's happening. There is no formal record of the schedule change, which means your reporting and metrics can become skewed. In addition, the information on the Transit Control Head (TCH) will not update, which can cause confusion or, perhaps, even distract the driver.

The Disruption Management module automatically informs the driver when you deviate from the planned schedule. Thus, the driver's Transit Control Head (TCH) gets updated with the new route path and explicit turn-by-turn directions, and Headway is updated to reflect the adjustments. In addition, on-time performance metrics modify to reflect the change for more accurate historical reporting.

Address Long-Term Disruptions That Occur Early in a Pick

An unexpected disruption, such as an unplanned road closure can be very frustrating when it happens early in a pick after you've communicated the schedule to your riders. With the Disruption Management module, you can enact between pick adjustments that can span until the next pick without the need to create a new schedule. Best of all – since your website, your app, and your signage gets automatically updated your riders get the latest schedule information in real-time.

THE FOUR BASIC ELEMENTS OF **DISRUPTION MANAGEMENT**

There are four main elements our solution uses to manage service disruptions. They include Bus Bridge/Shuttle Services, Same Day Service Changes, Detours, and Service Restoration. Each element functions slightly differently to enable you to restore or create the services your ridership demands.

Bus Bridge/Shuttle Service

With the Bus Bridge element, you can quickly create a brand new trip to accommodate a significant disruption, such as a train breakdown or a large crowd condition, such as a major sporting event. The new service immediately imports to CleverCAD. where dispatchers can add or adjust stops to accommodate the situation and desired route. When the driver logs on, they see a new service and can view the route and turn-by-turn directions on the Transit Control Head (TCH). BusTime® will then make predictions for the new service as it would for any other block. The route and stop information is also displayed for passengers to see on their devices and onboard the vehicle.

Same Day Service Changes

In certain circumstances, dispatchers may need to modify the schedule in anticipation of fewer riders. The Service Day Change element is particularly useful when a forecasted storm is likely to impact ridership, and your agency needs to reduce the number of vehicles on the road. Passengers are made aware of the planned changes, and all passenger-facing systems are updated with the new plan of service in real-time.

Detours

Detours can happen for many reasons, and while some may be planned, too often, they are unexpected. With the Detour element, you can re-route your vehicles to adjust for the road closure, creating an entirely new path for the bus. As with all other elements, your passengers (including those who may already be onboard) are notified of the unexpected change of service. The dispatcher enters the detour instructions and sends the driver the new route path and turn-by-turn directions.

Service Restoration

The Service Restoration element enables dispatchers to react to unplanned disruptions caused by traffic congestion or even unexpected increases in ridership. Dispatchers can address these issues by canceling a piece of work, a specific trip, or a block. They can then fill or reassign a different vehicle to perform that canceled work. They can issue a turnback to address severe gaps in service occurring in the opposite direction to get the bus back on schedule. Moreover, when a bus is overcrowded, dispatch can instruct the driver to Express past a stop or series of stops, skipping over stops, and only discharging passengers which can help alleviate gapping and get the bus back on schedule.

MORE ACCURATE REPORTING & ANALYSIS

When your dispatchers are forced to deviate from the schedule in an ad-hoc manner, there is no way of tracking those changes and it becomes difficult to determine the real effect they have on many of your agency's KPIs. However, with our Disruption Management module, the system automatically updates with the new plan of service, recording the actual service performed which means that on-time performance, missed trips, and other important metrics are captured for analysis. You can flag adjustments to determine what the unplanned changes had on metrics like wait assessments or headway. Moreover, because all of these metrics get logged into a historical reporting tool, you can use them for more accurate, fact-based schedule planning.

DISRUPTION MANAGEMENT BENEFITS YOUR AGENCY AND RIDERS

For Riders

Because your riders receive real-time updates of service changes as they happen, down to the specific route, bus, and stop they frequent, they can plan accordingly for a seamless trip utilizing the most up-to-date information.

For Operators

Your drivers are automatically informed when the schedule changes. They have specific instructions, a new route path if necessary and explicit directions on the Transit Control Head (TCH). These tools also reduce radio traffic which can be distracting to your drivers.

For Planners and Managers

Because all adjustments are logged into the historical reporting tool, your agency can leverage the information collected for more accurate planning based on historical data.

When there is a need to make long-term adjustments between picks, Disruption Management makes it easy without creating an entirely new schedule.

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