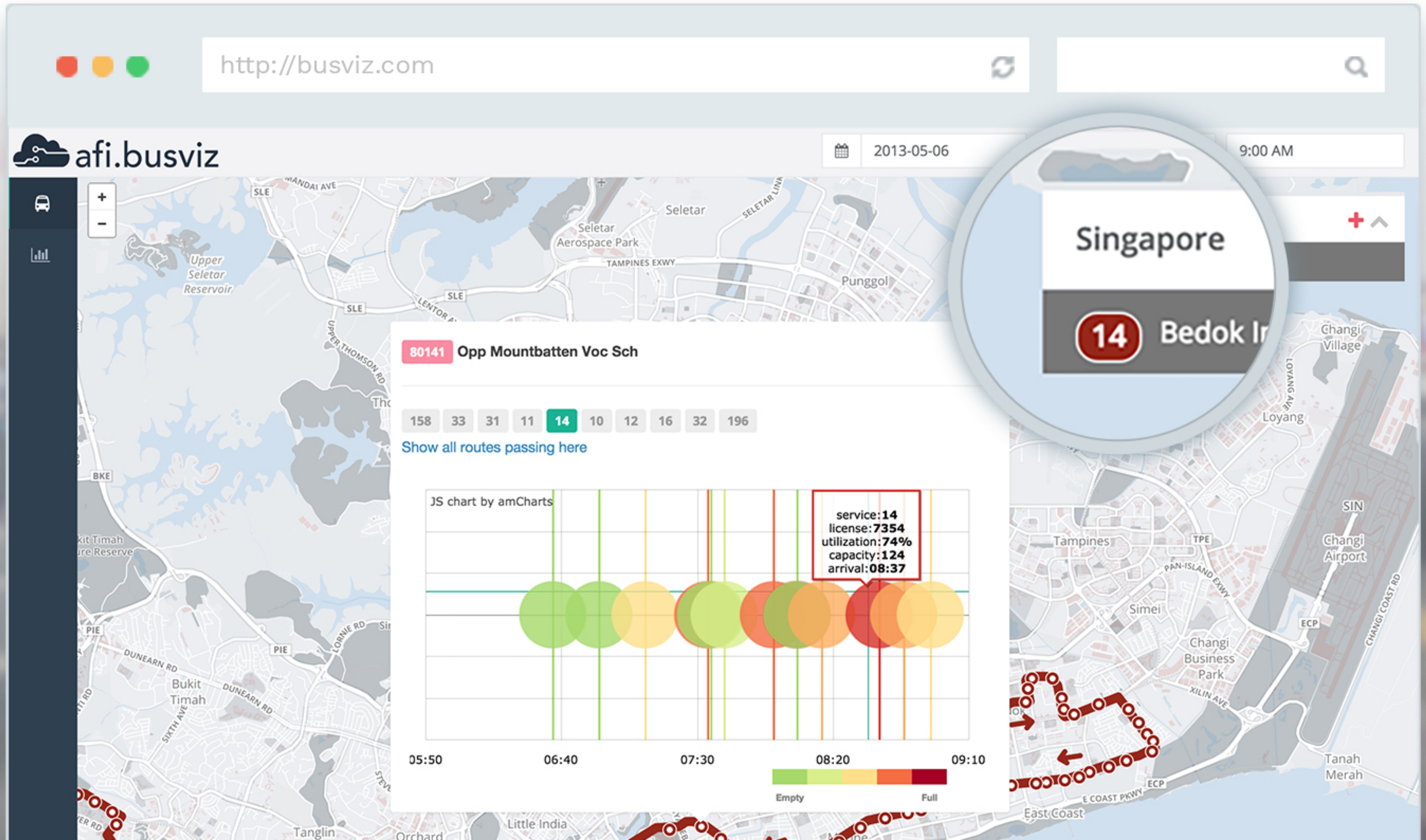


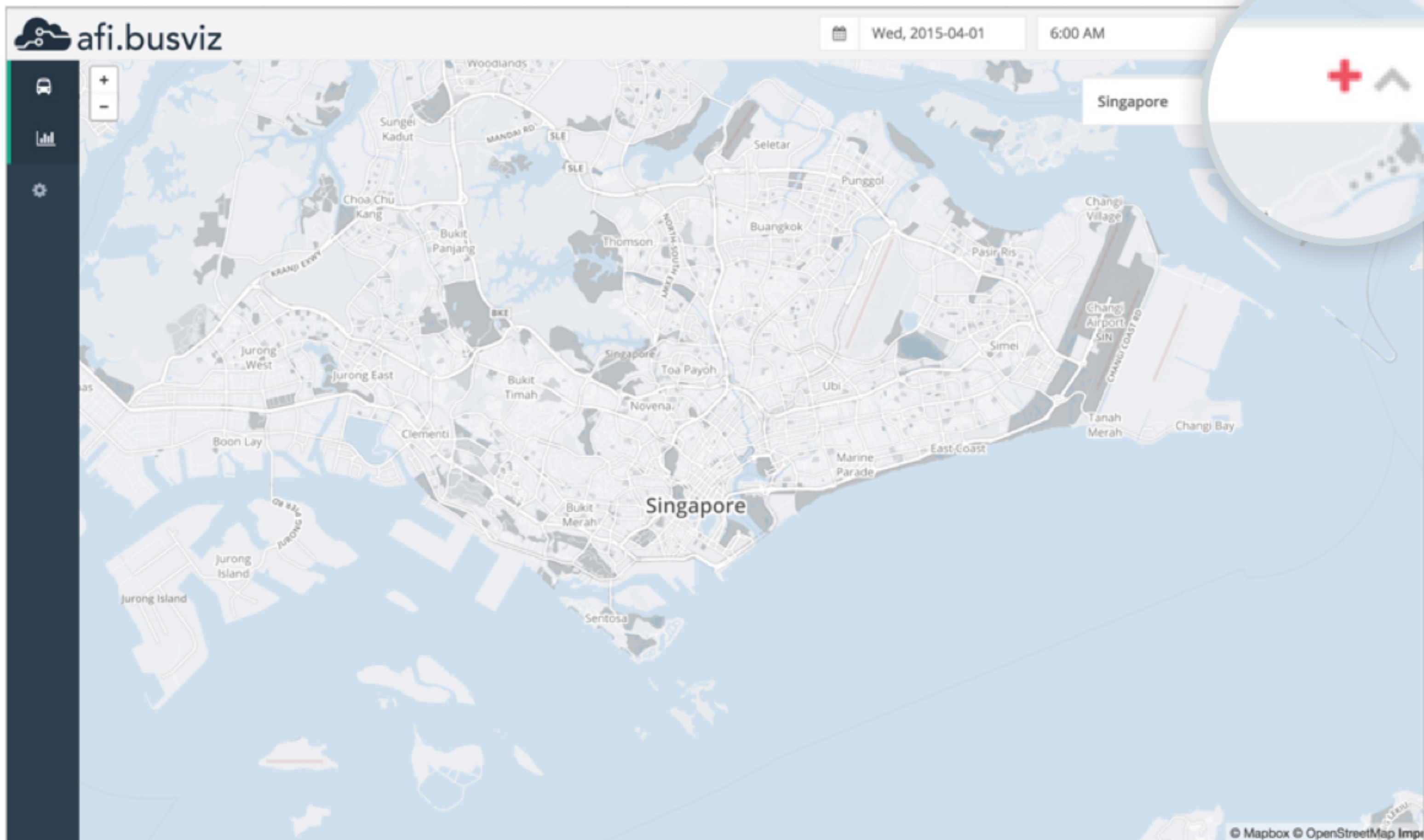


1. Busviz is a performance reporting tool that helps you monitor and improve the performance of your bus fleet

2. It connects directly to your AVL and APC data and visualizes it, letting you easily identify bus bunching and visualize network capacity, congestion and delays



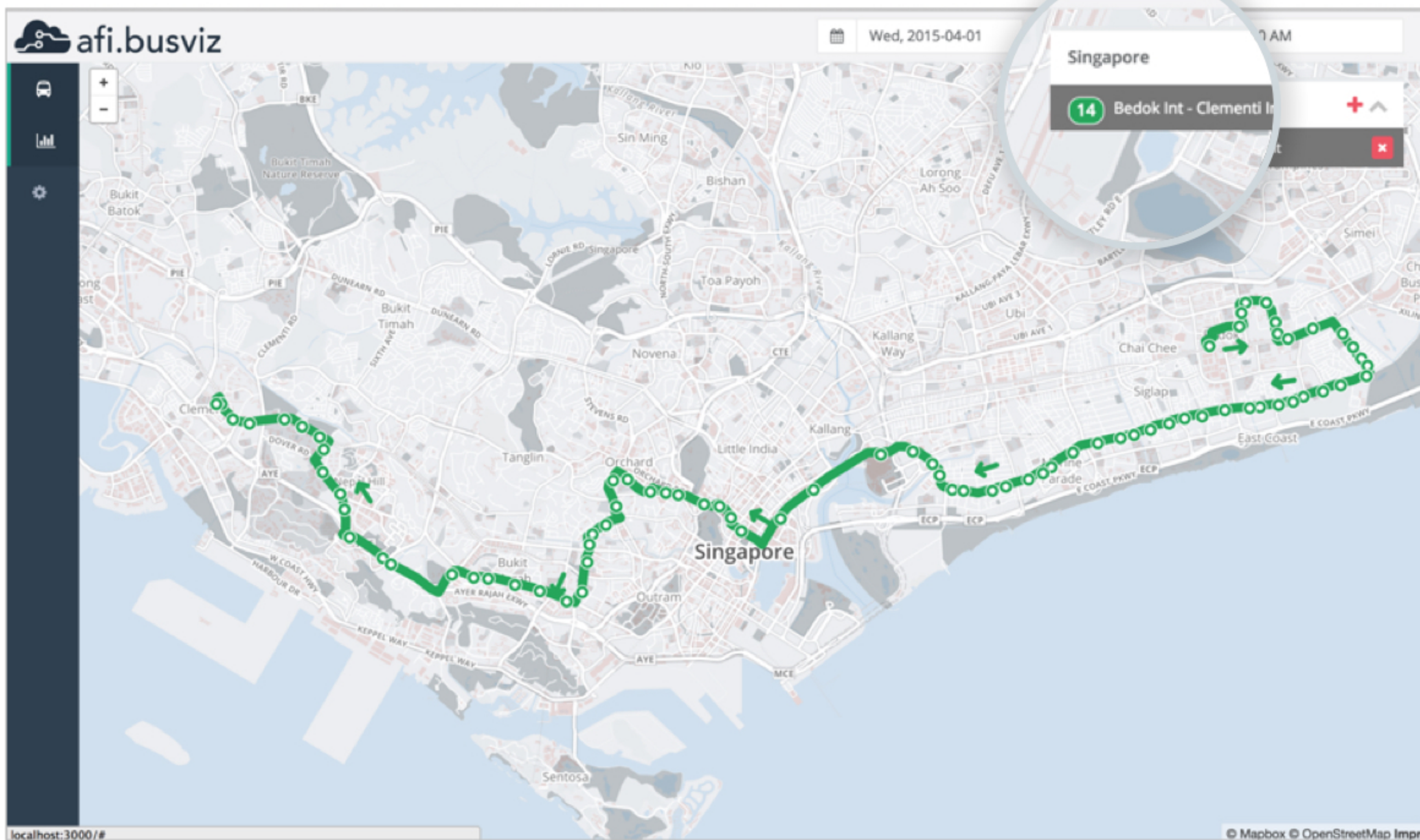
We can add a bus service directly to the map. Service 14 is an important route that goes downtown and connects the east and west parts of Singapore



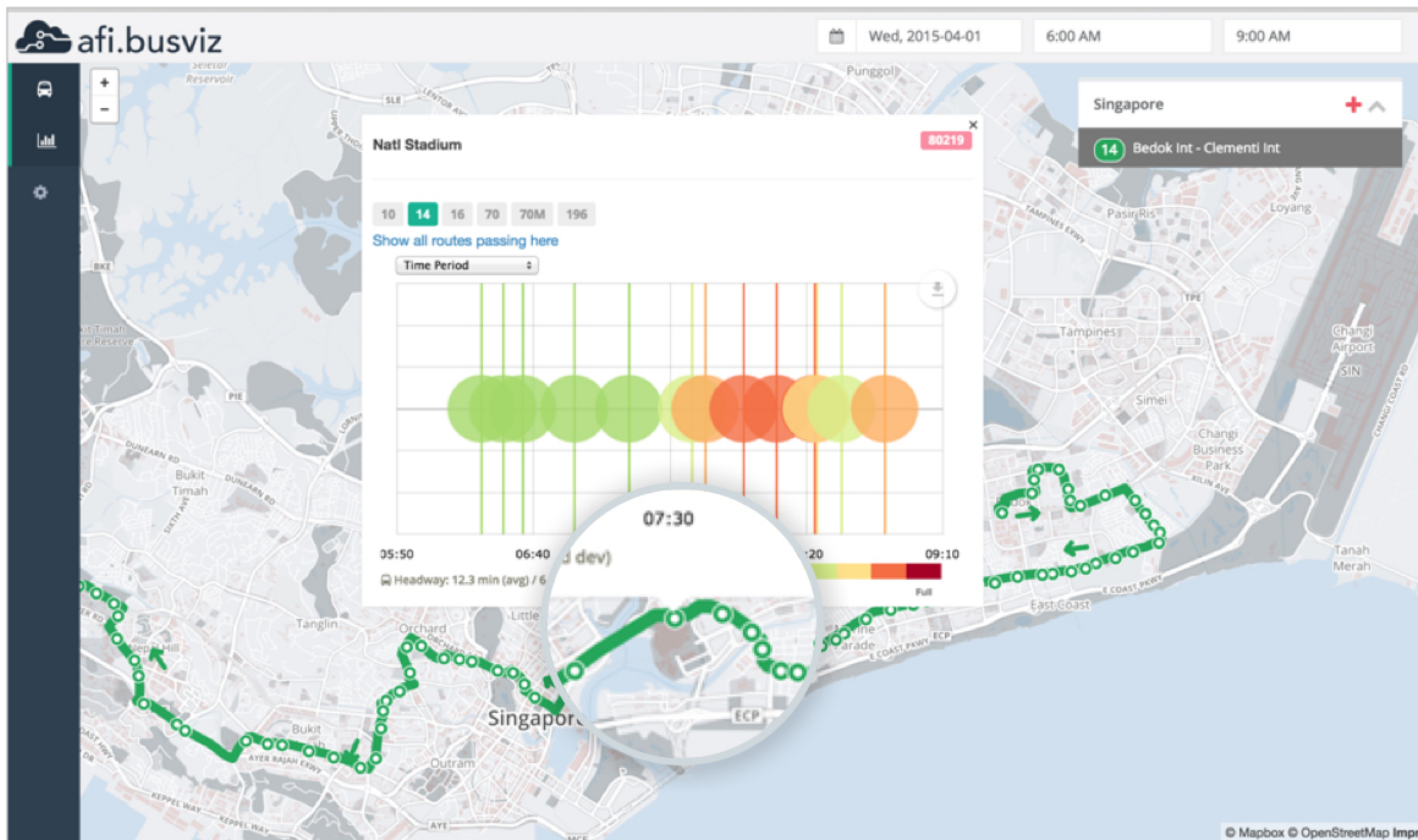
We can add service in either the inbound or outbound direction

The screenshot displays the 'afi.busviz' web application interface. At the top, the date 'Wed, 2015-04-01' and time range '6:00 AM' to '9:00 AM' are visible. A search bar on the right contains 'Singapore'. A modal dialog box titled 'Single Service' is open, with a sub-tab 'Common Corridor'. The 'Service' dropdown menu is set to '14 - Bedok Int - Clementi Int'. Under the 'Direction' section, the radio button for 'Bedok Int - Clementi Int' is selected. A green 'Add' button is highlighted with a white circle. The background is a map of Singapore with various districts labeled, including Jurong West, Jurong East, Boon Lay, Clementi, Bukit Merah, and Seritosa.

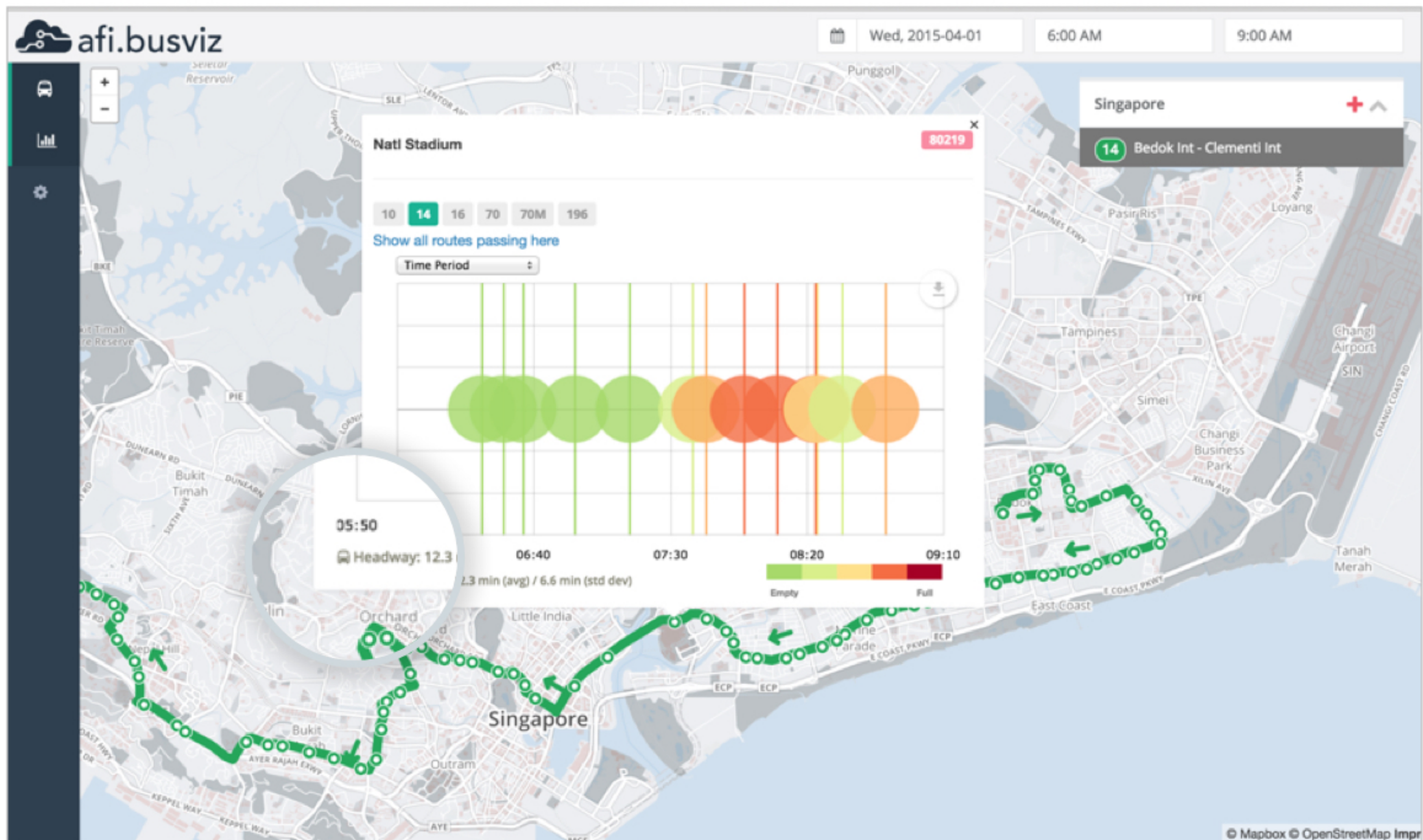
Clicking on the service number highlights the bus route. Each circle represents a bus stop. The arrows indicate the direction of travel



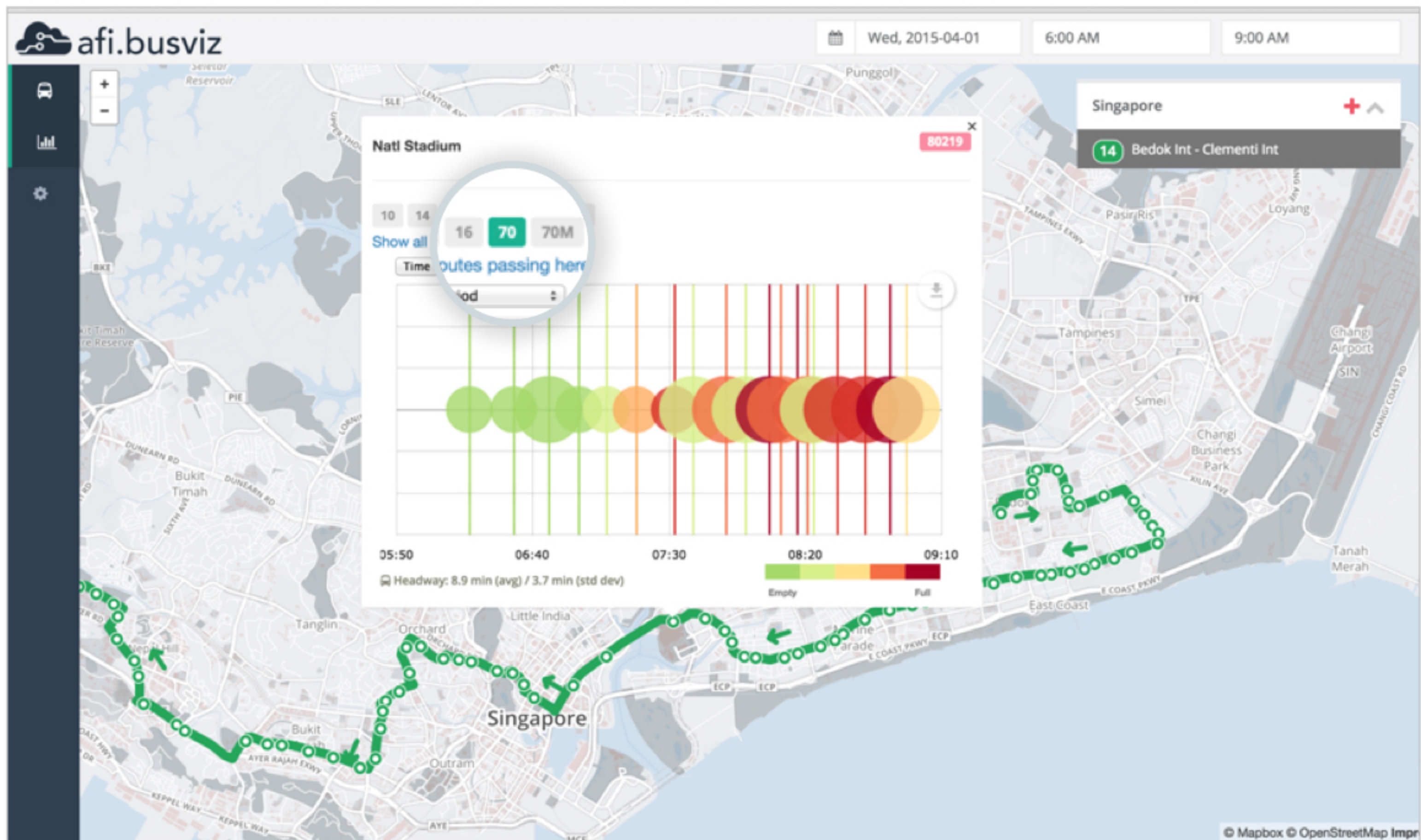
1. By clicking on a bus stop, we are going to see a visual representation of data collected as if we were an observer standing at a bus stop on Wed 1 April, 2015 from 6 am - 9 am (am peak)
2. Colors represent passenger occupancy (red - very crowded, green - empty)
3. Size represents vehicle capacity (small - single deck buses, big - double deck buses)



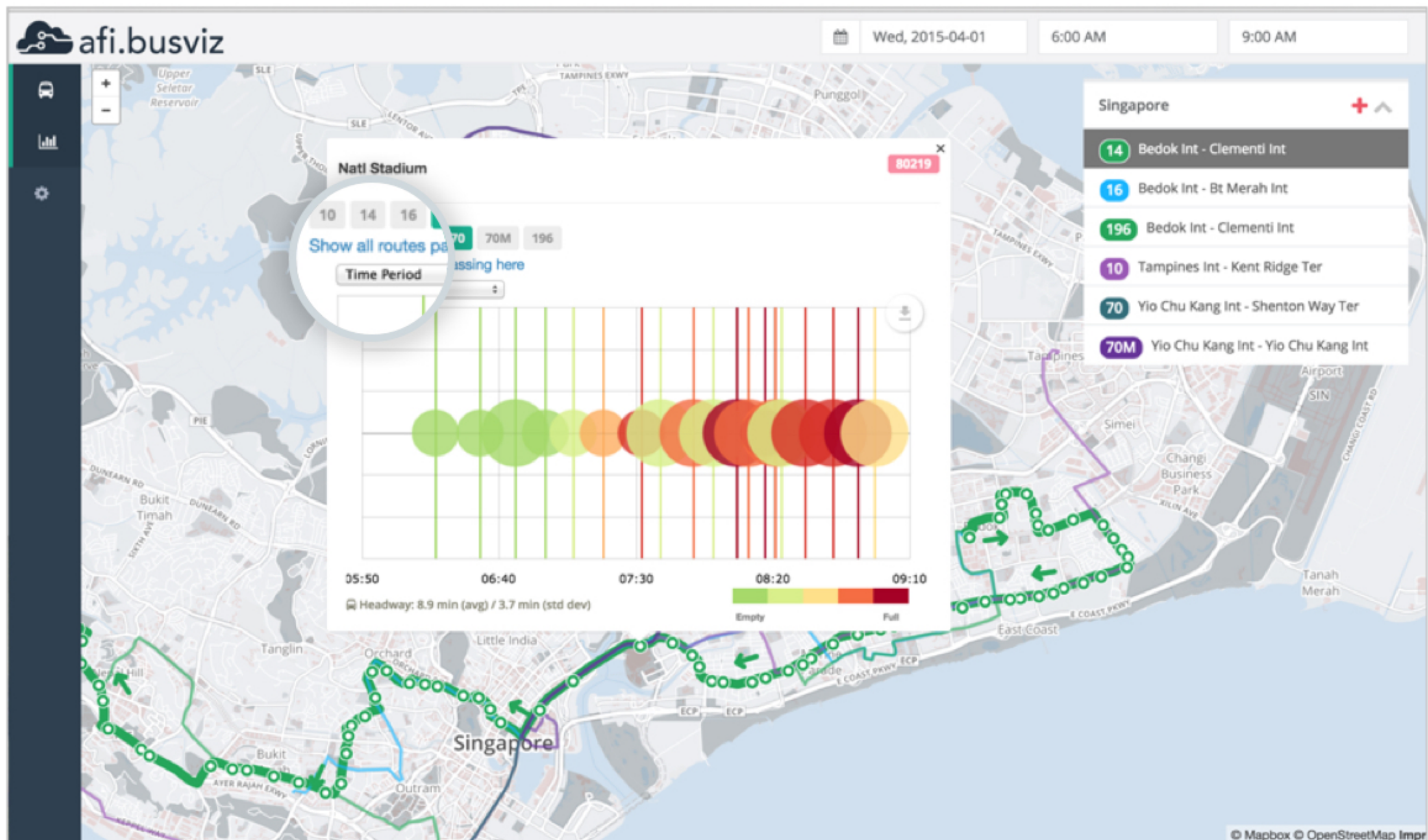
Because we know exactly when each bus arrived at the bus stop, we can calculate the headways and standard deviation (a measure of reliability)



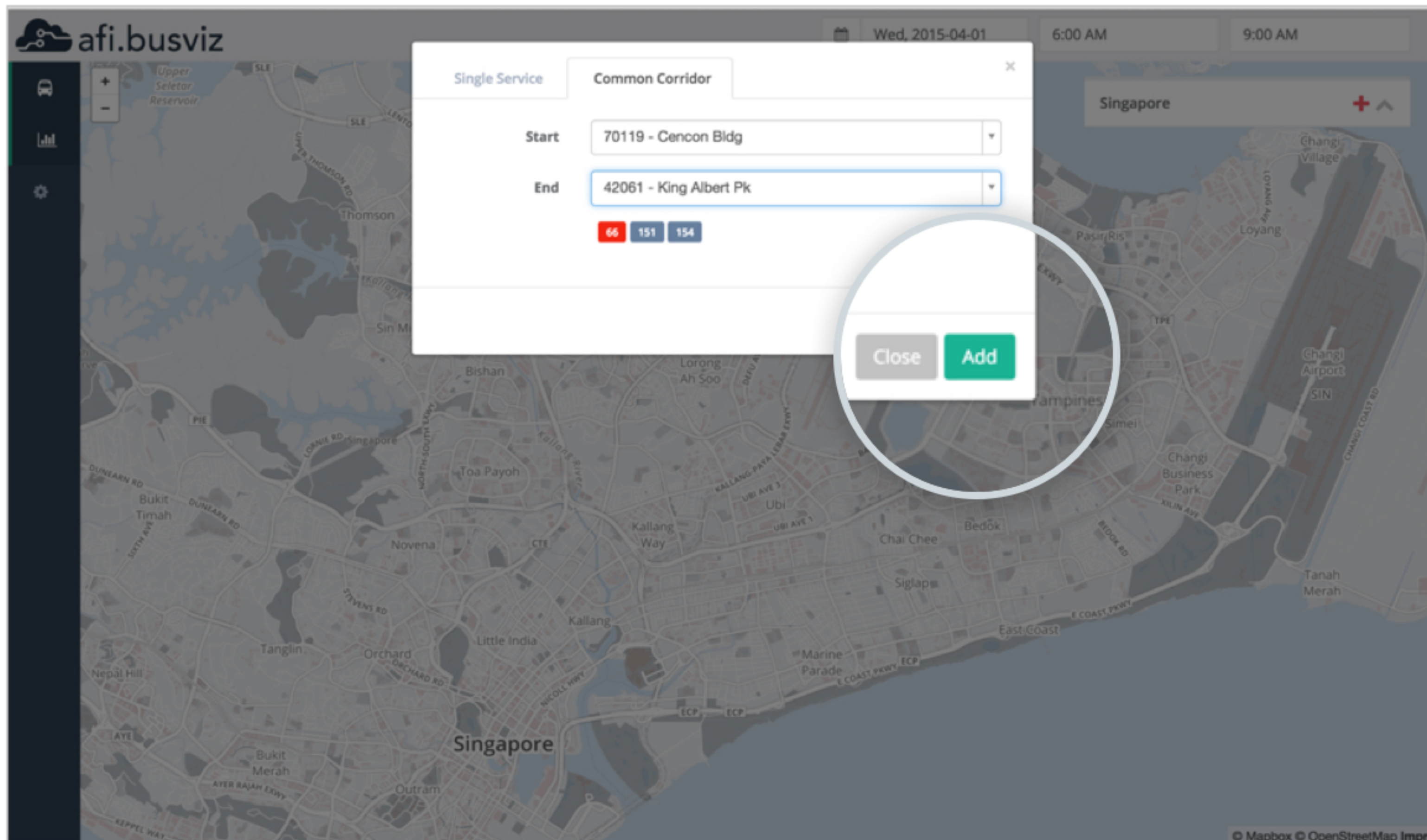
We can see data from different buses that visit that bus stop



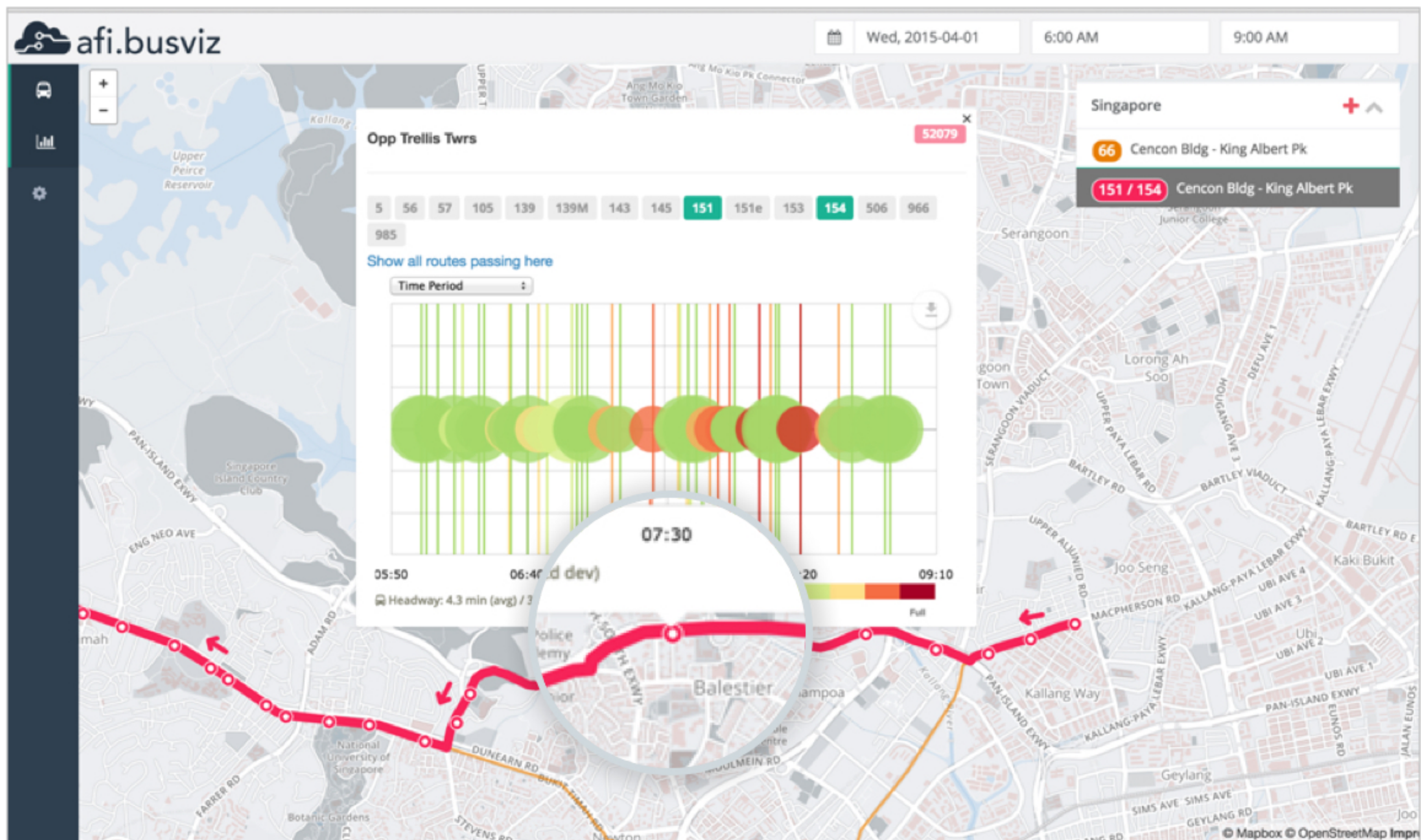
Or show all the bus services visiting that bus stop on a map to visualize accessibility



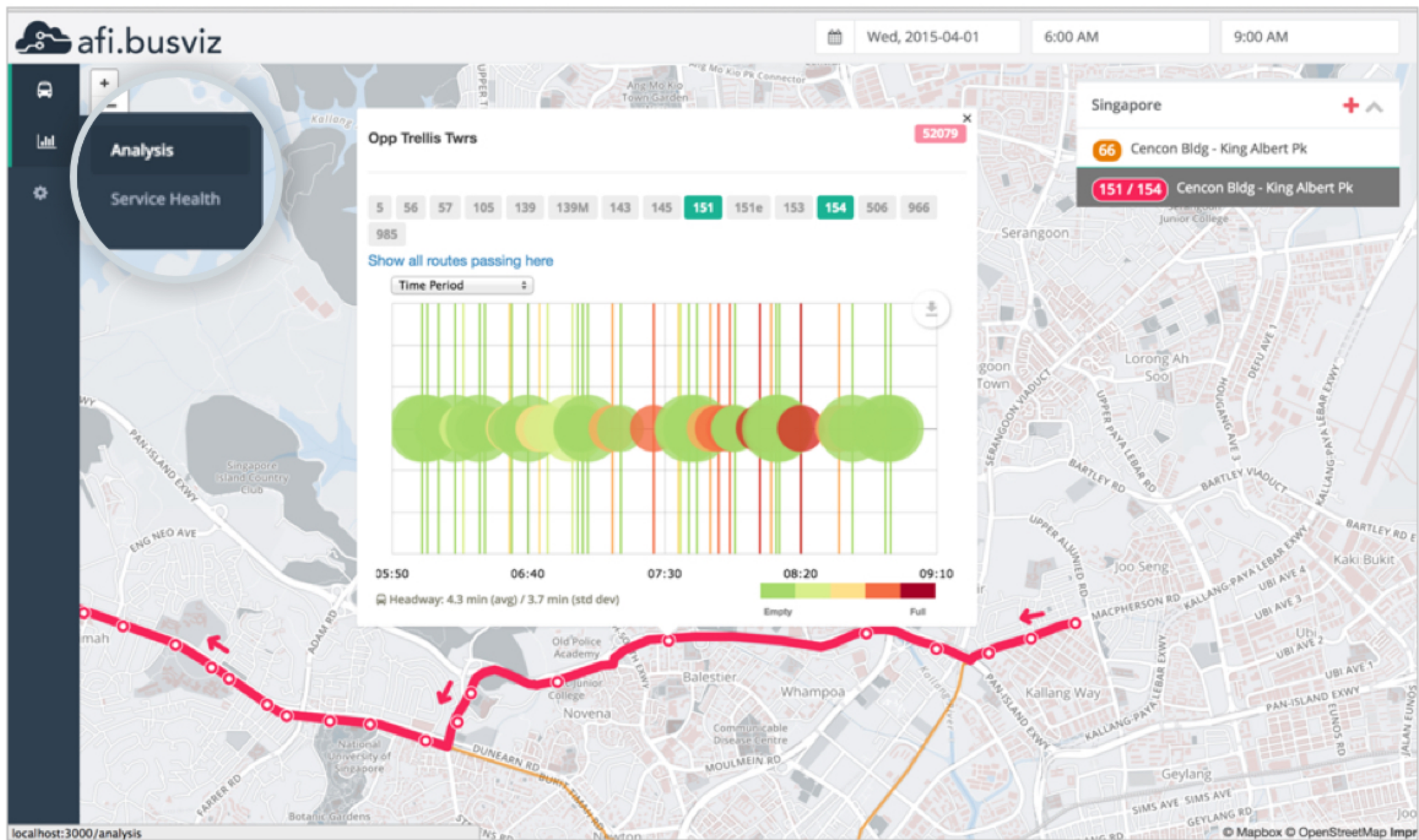
1. We can also analyze our data for common corridor services - multiple bus services that serve the same stretch of road
2. By specifying a start bus stop (70119 - Cencon Bldg) and end bus stop (42061 - King Albert Pk), an algorithm finds those services with bus stops in common
3. 151 and 154 have an exact match while 66 has a partial match (same start and end)



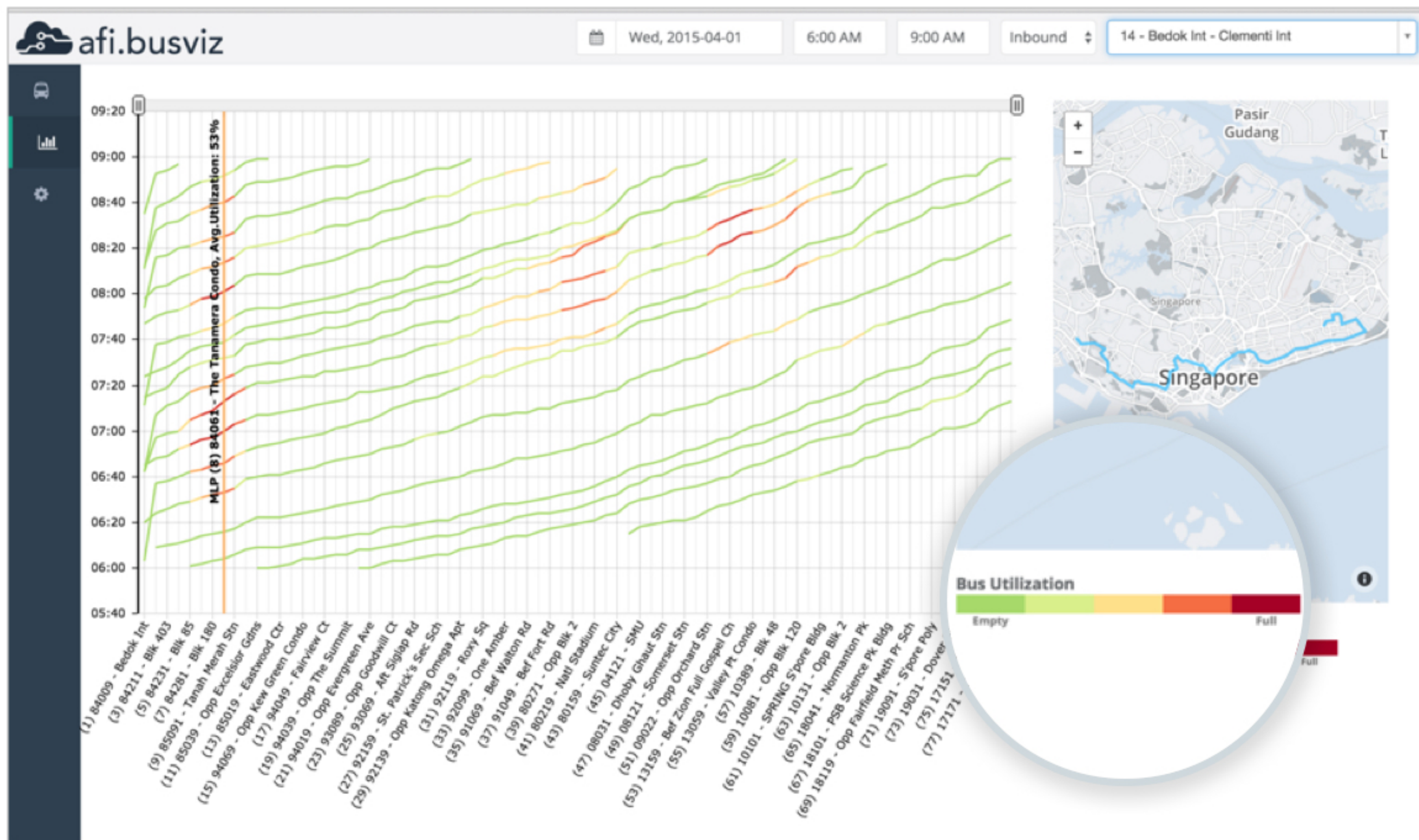
1. Clicking on a bus stop now shows you data as if 151 and 154 were operating as a merged service, with a much reduced combined headway
2. Accurately reflects the reality that passengers often have more than one option to get to their destination



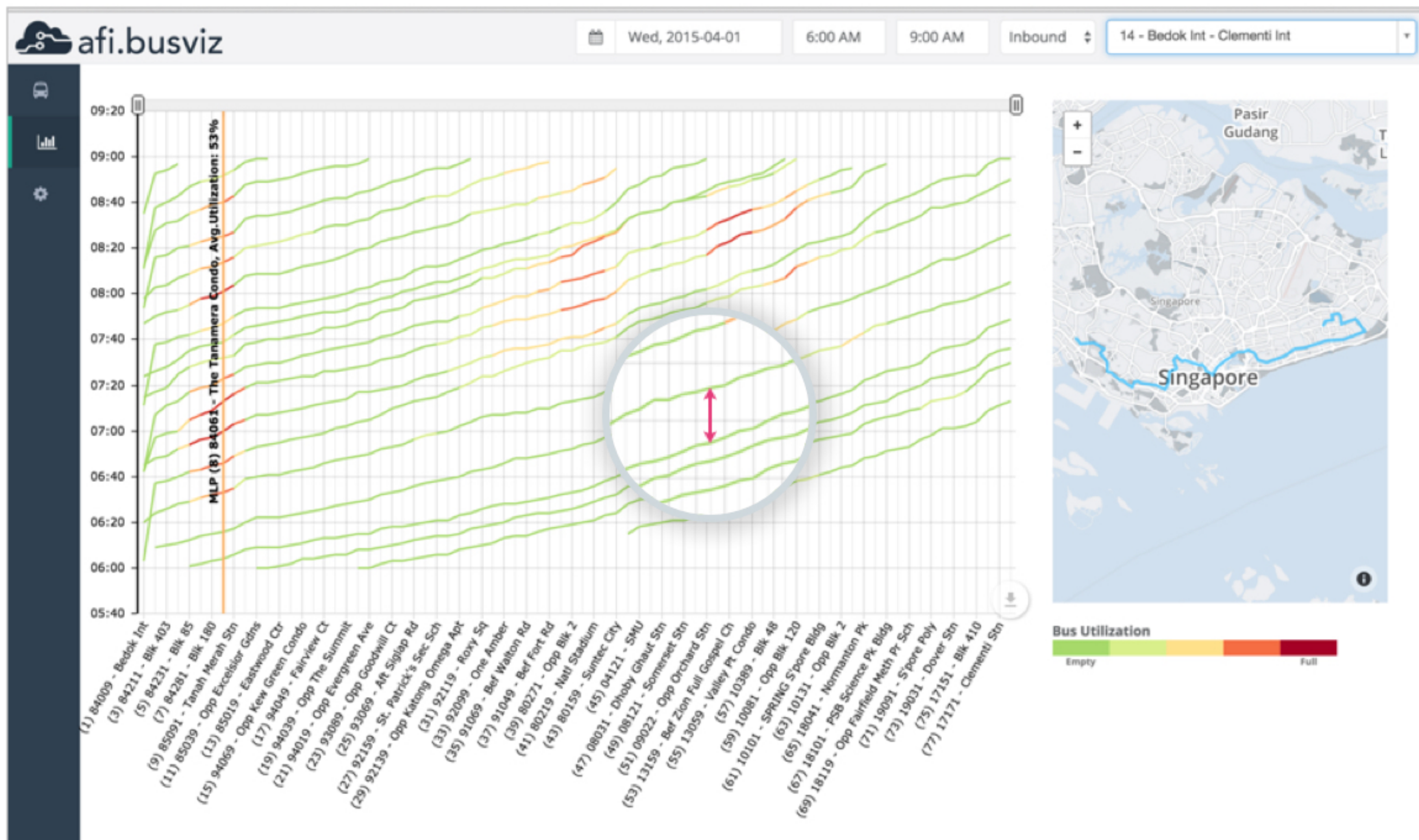
The Time-Space Diagram View shows how performance varies at the route level



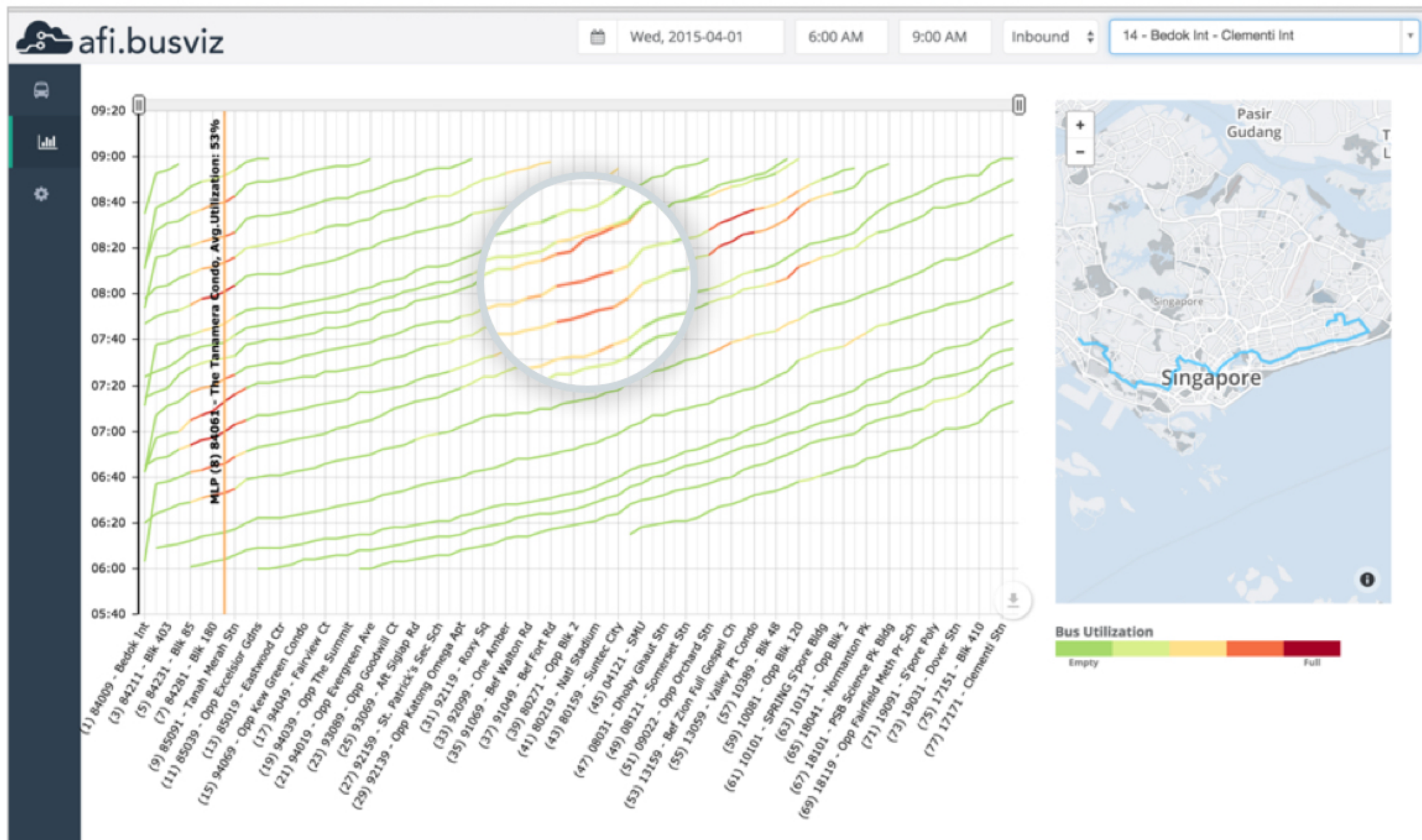
1. Each line represents the trajectory of a bus as it travels along its route
2. The color of each line represents passenger occupancy (red - very crowded, green - empty)



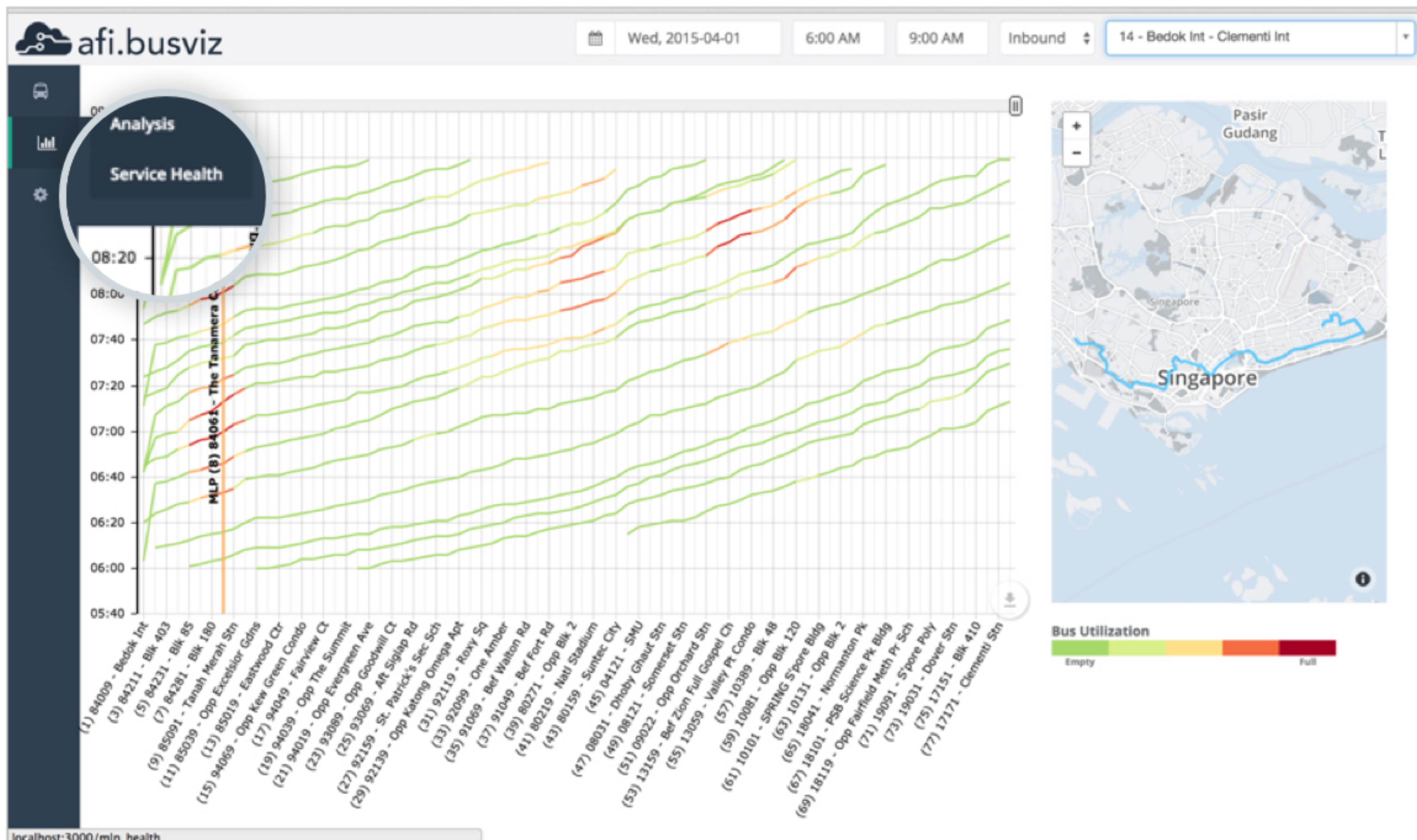
The vertical distance between trajectories represent the headway



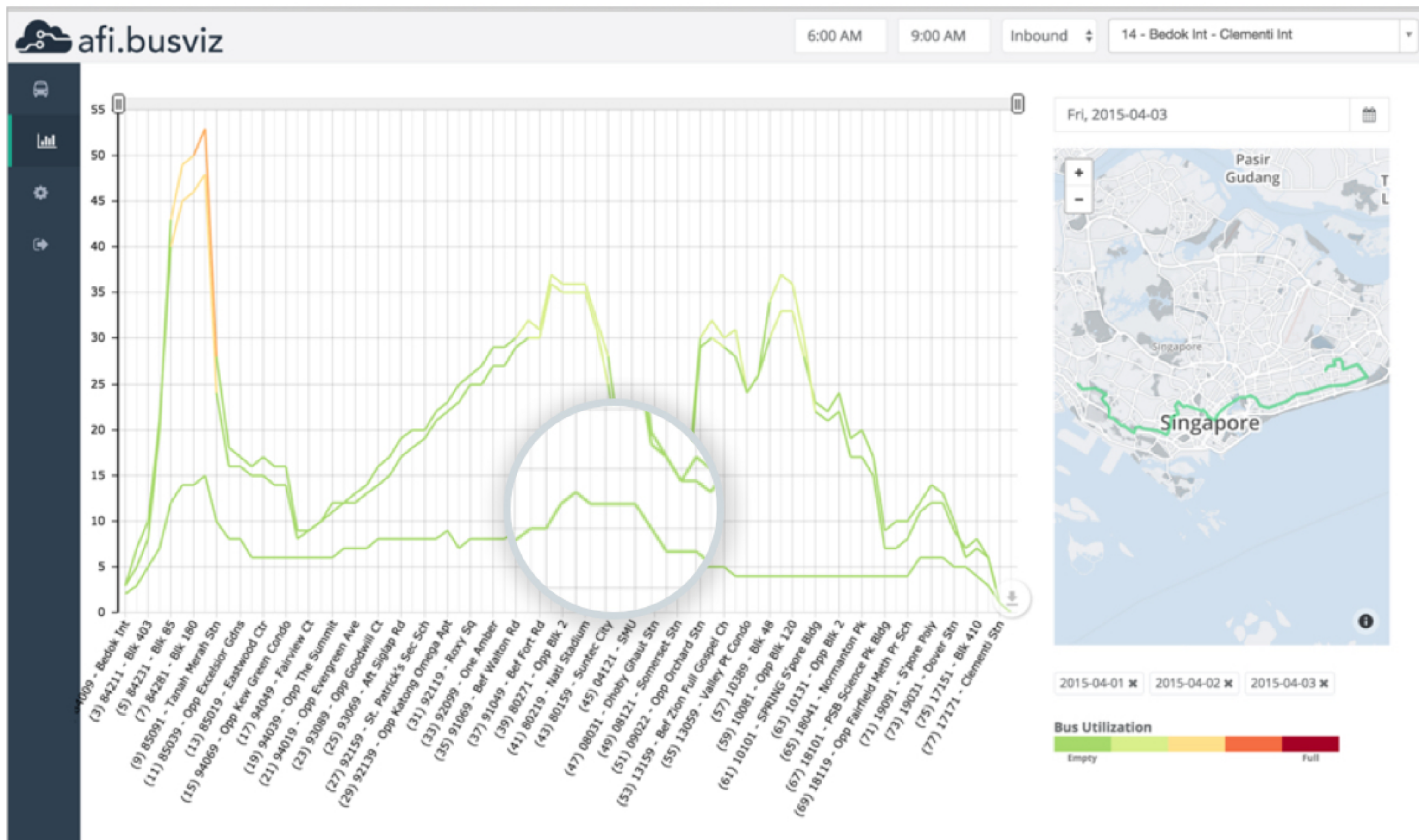
Classic bus bunching where an earlier bus picks up more passengers and gets delayed relative to the one behind it, can be clearly seen



So far, we have only looked at data from a single day



This allows you to understand if service problems are one time (e.g. in the case of a holiday) or systemic



HAVE A PROBLEM WE CAN SOLVE ?

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