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'Green wave' for cyclists

It's just not fair. For decades cars have been whizzing through cities, unimpeded by constant stops at red lights. The phenomenon Germans call the *Grüne Welle*, or "green wave" (when a string of traffic lights turns green in sequence), has become an everyday occurrence in big cities, thanks to ingenious traffic control systems. Cyclists, however, constantly have to put on the brakes for red phases. Now, those days are over. Thanks to Siemens technology, cyclists can now experience the joy of the *Grüne Welle* on German streets.

Making life easier for cyclists

Every driver hopes to arrive at the next traffic light as it turns green, to catch a green wave. Carefully planned green waves ensure free-flowing traffic, reduce unnecessary braking and acceleration maneuvers, and thus make a proven contribution to reducing fine particulate and nitrogen oxide emissions. This effect is achieved by setting a series of traffic lights so that at a specific, constant traveling speed they can all be reached in a green phase. Until now, only cars have benefitted from the *Grüne Welle*. The technology was first introduced in Berlin's Leipziger Strasse in 1926. Today, according to the experts at Siemens, some 75 percent of city traffic lights in Germany are coordinated to produce the green-wave effect. In most cases, the green waves are based on average car speeds, and therefore offer little benefit to slower bicycle traffic. Thanks to Siemens technology, this is set to change. Soon, a smartphone app that sends a green-light request to traffic lights will help those on bicycles to reach their destination faster. Finally cyclists, too, will enjoy the *Grüne Welle*. Stopping at every traffic light, the strenuous effort of getting moving again, and lost time will all be history.

How does the green wave for cyclists work?

As the cyclist with the SiBike app approaches an intersection, the traffic light either automatically turns green in a matter of seconds or a green phase lasts longer. SiBike takes advantage of the benefits of satellite navigation technology. The cyclist's smartphone determines its position via GPS and checks whether the bike has passed a specific trigger point at a predetermined speed. When the bike passes the trigger point, the app reports its activation to the traffic control center. The traffic control center then issues a command to the traffic light controller and ensures that the cyclist gets a green light.

Lots of green with simple reprogramming

The green wave for cyclists offers multiple benefits for cities and their inhabitants. For one thing, more people will discover the bicycle as a means of transportation and leave their cars at home, which takes pressure off the environment and cuts down on traffic and noise. And the system is simple to implement. No construction measures are necessary; all that changes is how the traffic lights are programmed. This is comparatively inexpensive and can be implemented without a lot of effort.

A glimpse into the future

A step further is the vision of prioritized main traffic arteries for bicycles leading from suburbs into city centers, as well as a dense network of cycle paths within cities to maintain quality of life in metropolitan areas.