

Simple comfort trumps all other e-bike features

By Edward Benjamin

In recent years, I have believed that the future of e-bike product development will be the increasingly sophisticated user interface.

The trend of my (and others) thinking, has been that the bikes will be connected to the internet, and that the important features to consumers will become the telematics, social media interaction, navigation, and interaction between the bike and technical support / engineering at the manufacturer and the dealer.

So no need to pay much attention to the chassis. I believed that all e-bikes would soon be pretty similar in features and function, like most sedans are today. And that all of them would be pretty reliable, leaving the rider to focus on playing with the media and smart features.



Recently, I have come to realize that almost all of these interesting features will be driven by phone apps. And that the bikes we are fascinated by, today, with sophisticated user interface / displays and on board telematics and ability to connect to the internet on their own, are unnecessary.

Almost all of the features that a consumer could desire can be resident in a phone.

So to create a smart bike, the only essentials are for the bike to communicate with the phone. And for the phone to be in a safe location on the rider or the bike. And for the phone to be heard by the rider through the phone speakers or maybe a blue tooth headset.

A phone can access location through GPS. A phone can sense a crash through its G Sensor. A phone can connect with and interact with phone call, text messages, Siri, and a variety of Blue Tooth and wireless devices.

So a bike that can report on state of charge, electrical activity and vehicle condition, is all that is needed from the bike chassis.

This shifts the interaction between the bike itself and the rider back to some familiar basics. But they are basics that the bike industry has long done poorly.

Riders touch the bike in several places. Each of these is worth consideration.

1. The appearance of the bike. A bike that is beautiful to the rider gives pleasure every time the rider sees it. An invaluable attribute.
2. The seat. It seems that all bike designers must be young, muscular men. For such riders, the smaller the seat the better. Sitting on muscles used for pedaling can cause discomfort. But...an older or less muscular rider will need more square centimeters of surface area to spread weight over. A seat that is too small will create concentrations of pressure that are uncomfortable. And gel padding, while heavy and not beautiful, is a blessing to many, perhaps most, riders. (Should I note that women

have a wider pelvis than men, so a tiny narrow seat is a bad choice for them? And that they buy more electric bikes than men do?)

3. The grips. If half of our nerve endings are in our hands, it makes sense for the grips to be as comfortable as possible. Well shaped, firmly padded grips that feel good to the hand are oddly rare in the bicycle world.
4. The pedals. Pedals that are easily found by the feet, easy to keep the feet in place, are also oddly unfashionable.

Another area of rider / vehicle interaction is perceived effort.

A bike that is easy to pedal has, historically, always been sought by consumers. Electric bikes are the easiest to pedal bikes ever. And that is part of their success. Oddly, some bike designers have limited the power to a token assist under the impression that riders want to be aesthetic and hold to the ideal of working as hard as possible to keep the ride “pure”. I note that riders who do not want any assist have the option of buying a bike without any assist at all.

And vibration: It seems natural that when so much money is spent by the designers and product managers on the propulsion system and chassis, a natural place to stop is when the suspension is considered. A large number of e-bikes have no suspension at all. Another large group has front suspension, often inexpensive suspension forks, only.

So the rider of an electric bike can expect, in general, quite a bit of vibration. And since the rider is usually traveling a little faster than a manual bike, that vibration can be quite harsh.

This not only fatigues the rider, but it also shortens the life of the battery, and other components.

The good news in all of this is that bike designers can focus on the bicycle part. And that there is a need for app developers to cooperate with the bike brand managers.