

2.4 Existing Trainer Technology

There are four types of bicycle trainers that are commonly used for indoor cycling. *Roller trainers* consists of roller drums on which a bicycle's wheels may spin freely (2.4a). *Wheel-on resistance trainers* (aka. turbo trainers) allow for the bicycle to be fixed into a stationary position with some resistance applied to the rotation of the rear wheel (2.4b). *Direct-drive trainers* are similar to wheel-on trainers where the bicycle is fixed in a stationary position, but with at least the rear wheel removed. This allows the resistance to be applied directly to the bicycle's drivetrain (2.4c). The fourth type consists of a completely independent platform that does not require a bicycle to operate. (Alff, 2011)



Figure 2.4: Bicycle Dimensions

(Zwift)