

## Innovative Folding Technology: The Ultra-Compact Tern BYB is 30% Smaller

Summer 2022 – Urban transportation specialist Tern offers the BYB (for “Bring Your Bike”) as one of its highlights: an ultra-compact bicycle that introduces an innovative way to fold. The BYB is 30% smaller than typical 20" folding bikes, and is Tern's smallest yet. The bike transforms into a small and slim package with one of the smallest folded footprints on the market—but still offers a surprisingly solid ride.



"The BYB is the culmination of four years of focused work by the team," stated Josh Hon, Tern Team Captain. "We had to develop some radically new technology for this bike and the manufacturing tolerances are, in the words of our factory partner, 'tighter than automotive'. But we're excited because new folding bike paradigms only come along every few decades or so, and we think the BYB falls into that milestone category."

In addition to its ultra-compact folded size, the BYB has a number of important features.

## Ready to Roll

Fold a typical folding bike and you need to carry it to move it anywhere—not fun in large train stations. The BYB has rack-integrated spinner wheels, and stands upright within easy reach. Wheeling the folded BYB on crowded subway platforms or rolling it into an elevator—all while holding a cup of coffee in the other hand—works just like trolleying a suitcase.



## Ready for Departure

With the BYB, a whole new world of flying with your bike becomes possible (and easy). The bike folds and fits into its own specially-designed hard-shell suitcase, the AirPorter Slim. Sixty seconds and your bike is packed and protected for your next flight—no tools or disassembly required.



## A Better Ride

With 20" wheels, the BYB has a natural advantage over folding bikes with smaller wheels. Add the stiffness and durability of the DoubleDeck frame design, a comfortably long cockpit, and premium componentry—and you have a better ride.

## All the Right Gear

A bike designed for commuting should let you bring your stuff, whether that's a change of clothes, workout gear, or your laptop bag. In addition to its own accessory line (see below), the BYB is also compatible with a range of Ortlieb® and KLIICKfix® panniers and bags to help you carry more.

"We spent a lot of time debating wheel size at the start of the project," stated Hon. "Some argued for using a smaller wheel which of course results in a smaller folded

package. But smaller wheels come with a compromise in ride quality. In the end, ride quality won out because if we and our customers are going to be on a bike, putting in miles day in and day out, it has to ride well."

"Some people might find it a bit surprising that we're launching a non-electric bike since the trend is going to electric," continued Hon. "But we see micro-mobility as a continuum of different types of trips and different sorts of mobility options. An e-bike lets you do the entire trip by bike and skip cars and public transport. But for many people, public transport is still the fastest and most cost-efficient option, and all they need is a last mile mobility device to get them to and from the station. Others might work in a city center that is car-restricted. For such short trips, people don't need electric—they need a mobility device that packs small and isn't a hassle to move and store. Hence the BYB."



The BYB lineup includes two models: BYB P8 with 8-speed Shimano Acera drivetrain and BYB S11 with 11-speed Shimano Ultegra drivetrain.

## **NEW TECHNOLOGY**

The BYB incorporates ten separate Tern patented technologies, with highlights listed below.

### **TriFold Technology**

BYB uses a patented method of folding a bicycle—with two hinges in the frame and one in the handlepost. The positioning of the two hinges is incredibly complex—so complex that the patent includes a mathematical formula that describes the hinge positions, as well as alternative positions.

### **DoubleDeck Frame**

The BYB inherits the DoubleDeck frame design and the burly trapezoidal tubing from the GSD for a stronger, lighter frame.

### **TFL Joint**

Each hinge is also loaded with patented technology and represents the state of the art in folding bicycle technology. The hinge rotates around stainless steel pivots sitting inside smooth Icus bearings. Levers lock shut automatically with strong aluminum pins. The TFL Joint is a complex 3D shape with internal interfaces with the frame tubes for a strong, durable connection.

### **Anchor Bolt**

The folded bike is locked together with a strong and patented Anchor Bolt mechanism, so the bike always stays securely locked no matter how you lift or carry the bike.

### **Physis RF**

Most folding bikes feature overly flexy handleposts which result in a ride best described as "riding a wet noodle". The 3D-forged Physis handlepost is known for its stiffness and strength. This latest RF version pairs with the stiff frame to form the foundation of the BYB's excellent riding characteristics.

### **Metro Transit Rack**

The Metro Transit Rack was designed to let the BYB stand vertically when folded, and features spinner wheels that make maneuvering the BYB in crowded spaces a breeze. It pulls double duty by also working with small and mid-size panniers, like the Ortlieb® Sport Roller.

## **ACCESSORIES**

### **AirPorter Slim**

Built with Hinomoto® spinner wheels and ultra-light polycarbonate, the AirPorter Slim is a custom-fit hard-shell suitcase for the BYB—no disassembly required.

Dimensions: 525 x 325 x 860 mm (20.7 x 12.8 x 33.9 in)

### **PopCover**

The BYB isn't just easy to fold and trolley, it's also extremely easy to cover—simply grab the PopCover, pop it open, and you're ready to go.

### **Pack Rack**

This frame-mounted front rack is small but strong. The Pack Rack can be used as a handle to trolley the folded bike and, best of all, it does not affect the folded package size.

### **Stow Bag (S)**

Designed exclusively for the Tern BYB, the Stow Bag offers padded protection and adjustable straps so you can easily bring your bike everywhere—from trains, buses and cars, to weekend getaways and longer trips out of town.

### **Luggage Truss CMT**

The BYB features the same front Combo Mount as the Tern GSD. With the Luggage Truss for Combo Mount, BYB riders can enjoy a wide ecosystem of baskets, bags, and panniers designed for the KLICKFix® system.

### **HQ Bag**

The HQ Bag is a slim office bag designed to fit all your daily essentials and to work brilliantly on or off the bike. The recessed KLICKfix® adapter makes carrying the bag a lot more comfortable since there are no protruding parts.

### **Go-To Bag**

A spacious messenger bag for the Luggage Truss CMT. The Go-To Bag is loaded with features but the best might be the Fidlock® magnetic buckle.

### **Kanga Rack**

The Kanga Rack is designed for your stuff—backpack, laptop bag, or bag of groceries. An ingenious KlickFix® strap system adjusts to bags or packages of all shapes and sizes and cinches them tight.

Visit [www.ternbicycles.com/byb](http://www.ternbicycles.com/byb) for more information.

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