If you're looking for a new touring bike in 2020, you're in luck — a proliferation of highly capable rides offers options that would have been pure fiction even a few years ago. But with that flood of options comes a head-spinning (and sometimes head-scratching) granularity in bikes called things like X-Road and All-Road and Endurance Road and Adventure and Gravel.

While the naming might be silly, what's certain is the bike industry has come around to what touring cyclists have known for years: namely, that tire clearance, a little luggage capability, and comfortable geometry make for bikes that do anything and go anywhere. The 23mm tire is nearly dead, and we're happy to pedal a nice 47mm with room left for fenders right over its grave.

If you’ve been reading Adventure Cyclist for a few years, you know that for the last few “Cyclists Travel Guide” issues, we've tackled buying advice in a more theoretical way. We believe that the more cyclists can name their needs and understand the numbers that work for them, the more empowered they are to get the right bike whether that’s with a helping hand from the pros at their local bike shop, a direct-to-consumer order over the internet, or even a parking lot Craigslist transaction. Knowledge is (buying) power.

But with the sheer volume of suitable new bikes available, for 2020 we’re playing it very, very straight. If you're shopping for a new bike this year, we've compiled what we think are some of the very best across a number of categories to suit the dyed-in-the-wool traditionalist, the new-school bikepacker, and even the battery assisted. You might not find the perfect bike for you in the next eight pages, but just like a good bike tour, you've got to start somewhere.
All the classics fall into this category, proving that the old adage of “fast, cheap, or good — pick two” is a perfect fit for the archetypal touring rig. Spoiler alert: they ain’t fast. What they are is a ton of bike for low-to-mid-four figures. Budget an even two grand, and you can walk out of the shop with bike, racks, and bags as ready for the Katy Trail as for Kazakhstan. We’ve reviewed every model here (most more than once) in a long-form Road Test, which you can find at adventurecycling.org/archive.

Fuji Touring
No doubt about what this bike is built for, the Touring is as classic as they come. Sporting rim brakes (Fuji dropped the disc variant last year, but they can probably still be found on showroom floors), a 3x9 drivetrain from Shimano, bar-end shifters, and an included rear rack, this Reynolds-steel–framed option is no-frills and a heckuva bargain for a new bicycle at $900.

Surly Long Haul/Disc Trucker
For 1,350 bucks ($200 more for discs), this is probably the bike you think of when you close your eyes and dream about a long tour. Bosses galore, 3x9 shifting, variable wheel sizes depending on frame size — 26in. for smaller sizes, 700c for bigger — and tubes of Surly’s own 4130 chromoly, the Truckers remain stalwart options not just for their reputation for bombproof reliability, but also for their incredibly wide availability thanks to being owned by distribution giant QBP — most any bike shop in America can order one for you.

Trek 520
Trek’s longest-running model (introduced in 1983) got a big update in 2018, which moved the venerable 520 squarely into the modern age. Unlike the other legs of the touring bike stool from Surly and Fuji, Trek spec’d shifters (combined shifter/brake levers) on the new model while hanging onto the classic 3x9 drivetrain. With disc brakes, included front and rear racks, and the aforementioned shifters, the 520 costs nearly double the Fuji at $1,680 but offers a much more modern package.

Whether it’s a full-custom dream bike or just a little more of a Gucci build on an otherwise economical frameset, $2,000 can buy quite a lot of bicycle. Of course, it’s not unusual anymore for top-end performance bikes (including touring performance) to crest five figures, so two grand is a relative bargain. But for many, it’s the mark where your non-cycling friends might start scrunching up their noses at the notion.

Jones Plus LWB
Jeff Jones has long preached the gospel of big tires, but his swooping framesets and truss forks were the stuff of dreams for most. Well, even though he’s had more traditional diamond frames and bikes on offer for a few years now, his recent foray into overseas production to bring complete Jones bikes down to the price point of the masses is rapidly spreading the good word. The LWB (long wheel base) can be ordered with big 29 x 2.8in. knobby or smooth tires, features Jones’s own beloved H-Bar, and is ready to go without a wait for just a hair over $2,000.

Co-Motion Deschutes
For essentially the price of a typical frameset from the Eugene, Oregon–based Co-Motion, you can buy the Deschutes as a complete build. The steel frame is still made right there in Oregon, and the paint job is still as deep and glossy as anything from Co-Motion (there’s only one color per year — Ivy Green for 2020), but at a fraction of what you might expect for Made in America. Using road shifters and a super-compact double crankset mated to a mountain bike cassette and rear derailier, if one of the five standard sizes works for you, this might be the best value out there for a traditional touring rig.

Tout Terrain Tanami Xplore
If you want your gears out of the elements, there are two (main) choices for the bicycle traveler: Rohloff’s Speedhub or a Pinion gearbox. Both very German, both with forumfuls of proponents and skeptics. Both pricey. Both, it must be said, very cool. We’ve spent a bit more time aboard Pinions in the last few years and have been impressed by the 12- and 18-speed versions, and that’s what we’d put on a Tanami Xplore from Tout Terrain. It’s going to set you back about five grand depending on spec, but it’s a lifelong bike with Dedacciai steel tubing, integrated rear rack, dynamo power, and a heckuva reliable drivetrain. Prefer Rohloff? The standard Tanami runs just about the same price with gears in the hub.
ack mounts, triple cranksets, burly steel tubing, and dropbars, that’s the tried-and-true list of ingredients for a round-the-world-capable touring bike. Bolt on some racks, hang four panniers and a handlebar bag, and pedal to the edge of the map.

Full-blown touring bikes don’t see the kind of annual “updates” that iterate other bike categories with a steady stream of incremental (and arguably unnecessary) changes. Generally that means touring bikes have stayed affordable — in some cases, models haven’t changed price for half a decade while enjoying a rising tide of component quality.

But don’t be fooled by a static spec sheet. The recipe for what works when fully loaded still holds up. You can’t go wrong with the trusty pickup truck of the cycling world.

**CURVEBALL**

**Brompton**

How far can you ride a Brompton? We assumed we knew the answer to this question when our time aboard the Lilliputian bike was limited to parking lot loops. Commute to work in the city? Sure. Multiday journeys? Adorable, but no. After a summer putting in some miles though, we’ve seen the light. You’re going to have to pack lightish, but with a little creativity this clever folder will reward the minimalist with the kind of travelability that opens up, well, everything. Plus, if bicycle travel itself invites human interaction, you can safely multiply that by tenfold aboard a Brompton — you will make new friends.

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**Co-op Cycles ADV 1.1**

Truth be told, this whole category is something of a Hall of Fame — when you want touring to play the hits, this is the set list. But if the 520, Trucker, and Touring make up three-fourths of the Mount Rushmore of touring bikes, the fourth titan must be the Novara ... er, Co-op Cycles ADV 1.1. Sure, it lacks the instant recognizability of the Novara Radonee nameplate that it supplanted, but the rebranded ADV has all the same touchpoints — 3x9, bar-cons, racks fore and aft — plus some big upgrades like TRP’s excellent Hy/Rd cable-actuated hydraulic disc brakes. At $1,400, the cornerstone of the outdoor retail behemoth’s expanded bicycle line still delivers.

“Some bikes in this price range suffer from marketing-induced multiple-personality disorder. 'I’m a road bike! No, a gravel bike! A commuter? Cross-country tourer? Just buy me, for the love of God! I’ll do anything, I swear!' Not the ADV 1.1. It knows its capabilities and limitations. It will perform specific functions and balk at others. It may be represented by the International Brotherhood of Teamsters.”

— Patrick O’Grady, August/September 2018
**UNDER $2,000**

- **Salsa Journeyman**
  New in 2018, the Journeyman sloughs off convention as soon as you see it — those fat tubes could only be aluminum. Available in a huge number of configurations in both 700c and 650b wheel sizes (and lots of flat or dropbar builds), the Journeyman family starts at $950 for Shimano Claris and climbs to $1,500 wearing SRAM Apex. Anywhere along the line, though, you’ll find rack and fender mounts, wide-range gearing, good tires from Teravail and WTB, and an incredibly versatile bike that might be aimed at the “entry level” part of the market but would make a huge range of cyclists very happy.

- **Marin Nicasio**
  Though Marin has some extremely good (and good-value) bikes in the full-blown loaded touring and bikepacking segments, it’s the Nicasio that anchors the brand’s broad “Beyond Road” bikes. Simple, steel, and smart, the Nicasio starts at 800 bucks with entirely functional if unspectacular parts and trim. The top of the line is more than three times as much, but has a dropper post, hydros, SRAM Rival components, and thru-axles. But you probably don’t need all that and Marin knows it, otherwise why would the low-end Nicasios be so darn good?

- **Fuji Jari**
  Fuji’s pricing can make even industry insiders do a double-take. A disc brake–equipped, well, anything, for $700? That doesn’t sound right, and yet the entry-level Jari is just that. The family tops out at a little over two grand, and a carbon prototype was displayed atop a trade show plinth last year, but it’s the two models for less than $1,000 that offer the most intrigue. When asked for a good first bike for the bike travel curious, the Jari is always one of our first suggestions.

- **GT Grade**
  Okay, fine, it’s right at $2,000 and we just reviewed it last issue, but bear with us for a second. A carbon bike from a big brand with lowrider mounts and hydraulic discs? Yeah, it’s a screaming deal if you’re in the market for a bike that could propel you to the front of a charity ride or smooth out the miles — and if you don’t think carbon can be smooth, you should look closely at those whippet seatstays — between B&Bs, it’s hard to find a better deal.

**OVER $2,000**

- **Niner RLT 9 Steel**
  Best known for going all in on the 29er craze in the mountain bike world more than a decade ago, Niner makes a mighty fine adventure bike in the RLT 9 Steel. There’s a more affordable aluminum version, but with Reynolds 853 tubing, the brand’s full carbon fork with rack and fender mounts, and a plethora of build options, it’s the steel version you want. Race Dirty Kanza and then ride home, wherever that may be. Starting at $2,700 with a Shimano GRX 400 build.

- **Moots Routt 45**
  Yeah, fine, we’re projecting here — this is a dream bike (specifically, it’s one of ours). From the perfect welds to the titanium cockpit parts, there isn’t much to dislike about a Moots, except its ability to make your wallet superleggera. With complete builds starting at nearly $8,000, this isn’t the sort of bike you buy twice, but the Steamboat Springs brand wears high-end components, U.S.-made wheels we love from Astral and White Industries, and for a few bucks more (and what’s a few more at this point?) you can have the company’s YBB softtail rear suspension. Plus, it looks like a Moots, which is the nicest compliment we can pay a bike.

- **Open U.P.**
  Look around the industry today and you’ll see plenty of bikes with dramatically drooping driveside chainstays to create a compact gravel bike with clearance for a lot of tire. But it was the Swiss wizards at Open who pioneered what’s become a kind of foundational gravel bike in the carbon U.P. Run up to a 2.1in. mountain bike tire or keep things skinny, this is a bike whose reputation outstrips its considerable starting price ($2,900 for the frameset). Whether you knew it or not, this is the gravel bike that deserves a lot of credit for starting the category.
What qualifies as a light touring bike? We have no idea — we’ve seen carbon road bikes with little more than a rain shell and a credit card stuffed into a top tube bag and stylish commuters pulling multiday duty from an overstuffed front basket. In today’s market of adventure and gravel bikes, there is a huge spectrum of bikes for riders who spend the vast majority of their saddle time on day rides but like to tour once or twice a year. Our advice: the vast majority of people will be happier aboard one of these versatile rides than a full-blown touring bike.

CURVEBALL

Rodeo Labs Trail Donkey
We’re not entirely sure how to classify this chunky carbon combo from Colorado, but when we saw a fully loaded model roll into Adventure Cycling HQ last summer, we took notice. With a frame that tips the scales at a race-ready three pounds and build options that start with Shimano’s mid-level GRX group and climb from there, this is a Tour Divide race–worthy ride that should be equally at home exploring Forest Service roads on the weekends. Not quite a dropbar mountain bike, not really a gravel racer, and surely not a road machine, the Trail Donkey might not be right for you, but if it is, it’s really right.

Specialized Diverge
Beginning at $1,100 and climbing to $10,000(!), the Diverge family from Specialized may not have been the first category-blurring bike, but it’s the one that changed the most minds. We regularly hear from readers who have customized their Diverges to a nearly unrecognizable degree in search of some niche need and from bike travelers who now believe in a “quiver killer.” Bottom line, this is a platform that can toe the start line or take off cross-country. And starting a bit under the $2,000 mark, completes feature the Future Shock, 10mm of travel under the stem that doesn’t sound like it will make a big difference but is an absolute game changer.

"... The second divergence (get it?) from many other gravel bikes is the exceptionally low bottom bracket.”

– Nick Legan, April 2019
**UNDER $2,000**

**Salsa Timberjack**
“What mountain bike should I buy?” is the question. More often than not, “Salsa Timberjack” is the answer. Great value, modern-but-not-silly geometry, smart spec, and versatility make the Timberjack, and we’re sorry for this in advance, a jack of all trades (really very sorry). The frame is aluminum, which makes sense with 27.5 x 2.8in. tires underneath, and is ready for three water bottles or any assortment of strapped-on bags. Buy the SLX build with 27.5+ wheels for $1,400 (dropper post included) and never look back.

**Surly Bridge Club**
The redesigned Bridge Club wearing knobby tires (as opposed to the city spec) is another jack of all trades, a king of multiple surfaces, a winner of hearts. Okay, fine, we don’t actually know how to play bridge, but this is an extremely good bike at a great value. For $1,200 you get a platform that’s ready for a trip to the pub or down the Divide. SRAM’s SX Eagle group pushes the benefits of a super wide-range 1x drivetrain even further down the price scale, and the WTB hoops and tires are ready for a lot of surfaces, even if Surly missed the mark by not springing for tubeless-ready rubber from the factory.

**Bombtrack Beyond**
Sliding in at the price limit, the Beyond is a 29in. wheeled dropbar bikepacking machine in the mold pioneered by the Salsa Cutthroat (see next page) and Fargo. Steel framed, festooned with mounting points, and featuring a SRAM 2x10 drivetrain cribbed straight from mountain bikes of not that long ago, the Beyond is right at home on dirt with tubeless 2.0in. tires from the showroom floor, but a swap to slicks would offer a competent and comfortable on-road touring machine as well. With a rapidly improving distribution network, Bombtracks should be showing up at more shops near you soon.

**OVER $2,000**

**Trek 1120**
Normally, a laundry list of proprietary parts would send us running for the hills. We want swapability, versatility, uhh, already-in-the-toolbox fixability? The 1120 from Trek is none of that with an alloy frame and carbon fork sporting some very unusual mounts for the bike’s bespoke racks. And while we can see how that might leave you high and dry one day, it’s worth the risk because they’re so smart. Borrowing plenty of cues from the brand’s Stache 29+ line (a favorite of our editor), the 1120 offers a special combination of unloaded performance and firewood-strapping capability for $2,650.

**Tumbleweed Prospector**
This off-road touring bike was built around a Rohloff from Day One. Owner Daniel Molloy wanted something very specific when he founded Tumbleweed, and he’s got it in the Prospector. It’s offered as a frameset for $1,450, a frameset plus Rohloff kit for $2,700, or a complete build for $4,300. The Tumbleweed is most comfortable wearing 27.5+ rubber and some nice sweeping flat bars like those from Jones or Tumbleweed’s own brand-new Persuaders.

**Jamis Dragonslayer**
Jamis was out front with the now-common 27.5+ tire size when the brand brought out its Dragonslayer at the 2015 Interbike trade show. Sure, 29+ had shown up here and there, but alongside bikes like Rocky Mountain’s groundbreaking full-suspension Sherpa, it was a harbinger of the trend to come. Lucky for Jamis, a Reynolds 520 steel adventure platform has aged quite well, and the top-spec S1 offers a lot of bike for $2,500, including a SRAM GX Eagle drivetrain and Shimano hydraulic brakes, a favorite spec combo among Adventure Cyclist editors.
Want to get an argument started? Ask around about the origins of bikepacking. Framebags appeared in Sears & Roebuck catalogs more than 100 years ago, and touring in the vast majority of the world happens on dirt. So is it luggage style or surface or tire size that pushed the needle from “touring” to “bikepacking?” We’re not sure, but for the sake of this buyers guide, these bikes are best suited to off-pavement touring. And for the record, National Geographic editor Noel Grove, who worked with our cofounders on their Hemistour article in the magazine in 1973, seems to have coined the term.

**Kona Honzo**

Sure, there are limitations even soft luggage can’t overcome, but if your ideal bikepacking trip contains a little more shred than bed, the Honzo is the bike for you. A 29er hardtail (available in steel, alloy, and carbon versions) with progressive geometry and components tuned toward the pure mountain biking end of the spectrum, the Honzo and bikes like it (Ibis DV9, Santa Cruz Chameleon, and Diamondback Sync'r Carbon) offer a one-bike solution to the mountain biker who wants to do some overnights and maybe a bit more.

**Salsa Cutthroat**

A bike designed to be ridden long distances off-road, and fast, the Cutthroat proudly wears the Great Divide Mountain Bike Route under its down tube, and for good reason. The new-for-2020 model features Salsa’s latest vibration-reducing frame tech, the addition of a 52cm size, and a slightly longer and slacker geometry. Make no mistake, the Cutthroat is the Baja 1000 racer of the bikepacking world, but if you want to go fast, it can’t be beat. It starts at $2,700 with SRAM Apex, but the $3,300 version with Shimano’s GRX 600 2x drivetrain strikes us as the ideal build.

“Clearly Salsa is paying attention to the needs of bikepackers and touring cyclists. Although the Cutthroat lies on the racy end of the cycling spectrum, any rider can appreciate its light weight and comfortable ride.”

– Nick Legan, May 2018
How can you find the right touring bicycle if you’re not looking for a bicycle at all — perhaps a recumbent trike is in your future? Or maybe your bike tastes trend toward the tandem? Are you looking for a “tailwind on demand” to match speeds with a touring partner or just want to get a lift so you can arrive each night a little less spent? You’re in luck because the Golden Age of Touring Bikes extends beyond the

### UNDER $2,000

**Catrike Eola**
A recumbent tadpole trike has a few advantages when it comes to manufacturing — namely, the adjustable boom means you only need one frame size — but Catrike’s ability to make a $2,000 trike in the U.S. is still an achievement. The Florida-based brand has long been known for speed and quality, but with the Eola’s launch last year, they offer an entry price point too. With 20in. wheels, a 1x drivetrain, and BB7 brakes, its spec should look somewhat familiar to the touring cyclist, even if the gear range is a little on the high side for heavy loads. Still, if you’re on the fence and value domestic production, the Eola gets a long look.

**Aventon Pace 500**
We haven’t ridden the Aventon, but it’s slim pickings for eBikes under two grand and the non-assisted Aventons we’ve seen have impressed with their quality for the dollar. You only get an advertised range of 30 miles at this price, so plan accordingly, but if you’re looking for a commuter and a little boost to hit overnight escape velocity, the Pace 500’s rack mounts and upright commuter-style geometry should allow you to dip a toe into the electrified world without breaking the bank.

**KHS Milano**
Yeah, it’s $2,100, but you try to find a reputable tandem under two grand. (Seriously, give it a try, and let us know if you succeed!) As you’d expect in a bicycle built for two, tandems command a higher price than a comparable single, which is why KHS’s Milano offers an intriguing entry point. Made from aluminum and sporting a triple drivetrain, the KHS can take racks and fenders, features disc brakes with monster 203mm rotors to slow things down, and could easily be geared a little lower for heavier loads. And while KHS might not be known for their graphics, they are known for great alloy frames at a great price.

### OVER $2,000

**Cruzbike Q45**
The suspended Q45 from Cruzbike is going to get some questions — the brand’s front-wheel drivetrain doesn’t look like anything most cyclists have ever seen. But that unique drivetrain configuration is what gives Cruzbikes their reputation as excellent climbers by offering more leverage than you might get on other recumbents. Throw on the available rear rack and put the 26 x 1.75in. tires on the tarmac. A benefit of the Cruzbike design is (relatively) easy packability, thanks to the fact that half the frame is effectively a swingarm.

**TerraTrike Rambler E.V.O.**
Electric assist continues to trickle into more and more models of all kinds of machines, but TerraTrike’s Rambler E.V.O. was one of the first when we reviewed it in 2017. The current model features a Bosch motor mounted in the “bottom” bracket at the crankset. With a 400 watt-hour (wH) battery, the Rambler E.V.O. essentially matches one of the most common configurations in the eBike world today and should be good for reasonable touring range (though longer trips will still necessitate a spare) and provide excellent reliability. It’s not cheap at $4,500, but if you’re looking for industry standard e-assist on a trike, this is it.

**daVinci Designs Tailwinds**
Riders looking for a unique pedaling experience together have long sought daVinci Designs bikes for their ability to coast independently. With the addition of a Shimano STEPS E8000 electric motor, the Tailwinds suddenly becomes a sort of ultimate tandem touring machine. The folks at daVinci tell us that the demand for electric assistance is skyrocketing and the $9,000 price tag isn’t a deterrent — after all, it’s two bikes in one!
traditional. Anecdotally, the recumbent trike market is exploding (and laid-back two-wheelers remain popular), e-assist technology well suited for bicycle travel has arrived in every category, and a range of price points, styles, and configurations are available to suit pretty much anyone. Never tried a recumbent or an eBike? The odds have never been better that there’s a dealer stocking some near you.

**CURVEBALL**

**HASE Pino**

Is it a tandem or a recumbent — or a recumbent tandem? All three, and none of them, the recumbent/upright combo offered by the HASE Pino line is a unique configuration (fans of Bilenky will recognize it) that’s just right for some. By placing the riders’ heads close to one another, conversation is easy, and no one’s view is obstructed. We’ve never ridden one and have a few questions about handling and weight distribution when fully loaded, but for the right tandem pair, there’s not much else like it.

**Tern GSD**

Okay, one more. The Tern “Get Stuff Done” uses the same twin-battery approach to dealing with range that Riese & Müller favor, but the GSD is a bike built for utility. Load up the kids, the groceries, the firewood, whatever, top off the batteries (400 and 500wH, respectively), and you’re rolling for up to 150 miles. Or max out this 20in. wheeled cargo bike’s 400 lbs. capacity, pop it into turbo mode, and wonder why you ever needed a car.

**Riese & Müller Delite GT**

As lithium-ion batteries increase capacity in the same size and motors get more efficient, range anxiety around eBikes will steadily decrease. But we’re not quite to the long-range battery-powered future just yet, and the Germans at Riese & Müller attacked the problem with a “more is more” mentality. Just put another battery on it! What they created was the Delite GT, a very expensive ($7,200), fully suspended, twin-battery eBike that combines a Teutonic eye for detail and a little brute force to solve a problem. Today the Delite GT only features a single battery, but the twin power pack lives on in the $8,200 Superdelite, which offers a massive 1,000wH of power.

“Bikes like the Delite GT show that long-distance touring is possible using current technology, but the motor and battery create a vicious cycle of increasing weight that then requires extra batteries to extend range.”

— Nick Legan, April 2018

**SHOPPING FOR A RECUMBENT?** You need to know your X-Seam, a measurement to determine sizing in a reclined position. Sit upright against a wall at a 90° angle and measure from the bottom of your heels to the wall. Note: some brands suggest leaning on a board angled at roughly 60° and taking the measurement from the edge of the board instead of against a wall. Consult your dealer or preferred brand!
Jude Gerace
founded Sugar Wheel Works, a studio that focuses solely on handbuilt bicycle wheels, in Portland, Oregon. Each wheel is designed with the rider in mind, hand-tensioned, and finished to the highest standards. Jude sold the company to Breadwinner Cycles in 2019 and continues to support the efforts of the new owners.

Peter White
has been in the business since 1975 and has owned and operated Peter White Cycles, in Hillsborough, New Hampshire, since 1988. He specializes in wheelbuilding and touring and commuting bikes.

BY DAN MEYER
When it comes to bicycles, frames get all the attention. But without the quiet competence of wheels, we’d all be just be sitting in place, going nowhere. If bicycling is magic, wheels are the spell.

Wheels — good wheels — are especially important for touring cyclists, who subject their rigs to heavy loads over long distances, often in rough terrain and bad weather. And whether you’re riding across the country, around the world, or just to the next town over, chances are good that you’ll find yourself a long way from a bike shop, so you can’t afford to have wheels popping spokes and going out of true at the drop of a Da Brim. What you need are wheels you can rely on.

Years ago, things were simpler. If you wanted a reliable wheelset for your Schwinn Paramount, you strolled into your local bike shop and asked your friendly neighborhood wheelbuilder to lace up a pair with 36, 40, or 48 spokes. Done and done. But things have changed: hubs are wider, rims are stronger, components of all kind are lighter, and the vast majority of wheels today are assembled in factories.

No longer the standard, hand-laced wheels are now “artisanal,” and the discerning touring cyclist is left with questions: is there any benefit anymore to wheels made the old way? If you can save a few hundred bucks buying off-the-shelf wheels made in a factory that churns out thousands of them, why would you pay more? For that matter, does the classic touring wheel with 36 or 40 spokes apply anymore? Can you get by with just 32, or even 28? And why are hubs so loud?

To get some answers, I spoke to a handful of professional wheelbuilders.

Mike Varley built his first set of wheels in 1989 and put them to the ultimate test by riding cross-country. The wheels are still rolling on that same bike, a now infrequently ridden 1984 Salsa. Varley builds every wheel that leaves his shop, Black Mountain Cycles in Point Reyes Station, California.

Nick Sande has spent nearly three decades in the bike industry. He’s been a professional wheelbuilder for Quality Bicycle Products, Knight Composites, and Sugar Wheel Works. His other favorite round things are cookies and cookies.
Your wheel needs will differ depending on whether you’re riding self-supported across the U.S., on an expedition across Africa, or lightly loaded from one hotel to another in western Europe. The more weight you’re carrying and the farther afield you’re traveling, the greater your need for heavy-duty wheels. But if you don’t plan on carrying as much weight, you can get away with lighter wheels for a sprightlier ride.

With that in mind, let’s start with the question that is sure to get the most letters.

How many spokes do you need?

“The more spokes, the better,” said Mike Varley. “An increase of four spokes (from 32) is a big increase in the number of spokes sharing the load.” So 36 spokes will make for a stronger wheel, but you also need to take into account what rim you’re lacing those spokes to. “You could have a 36-spoke wheel, but if the rim is a 425g road rim and you’re using something like a DT Revolution spoke, that might not necessarily be as strong as a 32-spoke wheel with a thicker butted spoke and a 500g rim,” Varley continued. “But in general, a well-built touring wheel with 36 spokes will be fairly trouble-free.”

One of the benefits of talking with a professional wheelbuilder versus pulling something off the shelf is that people who build wheels for a living tend to think holistically instead of focusing on a single detail like spoke count. “With technology advancements, we can rethink the whole wheel setup and customize solutions,” said Jude Gerace. “The variables to consider are the width of the rim, the weight of the rim, the depth of the rim, when it was manufactured, the size of the tire, circumference of the rim, rider weight, where and how the rider is carrying additional weight, and how rowdy the rider is on their bike and where they plan on riding.”

Gerace went on to consider the example of a 200-pound cyclist carrying 40 pounds of gear on a bike with 700c wheels. “If the rider has a history of breaking wheels, I’d want to know more about that and then might amend the prescribed wheel based on new information,” she said. “The best place to add strength is in the amount and/or gauge of the spokes.” So if we started from a baseline of 32 spokes, Gerace could prescribe 36-spoke wheels if the rider tends to break wheels, or she could recommend sticking with 32 spokes but going with thicker butting. Or, if the rider is carrying especially heavy loads and tends to break stuff, she could lace him up a 36-spoke wheel with thicker butted spokes.

The only member of the panel to come out against 36-spoke wheels was Nick Sande. “Thirty-six spokes are not necessary for a strong, reliable touring wheel,” said Sande. “While this count may have been the norm even a few years ago, rims and spokes have gotten stronger, reducing the need for all those spokes.” Sande also pointed out that availability is a concern for 36-spoke wheels. “With the exception of eBike components (which are overbuilt for safety), we’re becoming limited in finding high-quality parts to make 36-spoke wheels. Thirty-two is the new 36. Twenty-eight is even acceptable in many cases.” Sande did admit that 36-spoke wheels still have a place for especially heavy riders, tandems, cargo bikes, and machine-built wheels. “The extra spokes partially make up for the lack of build quality.”

So just in case you’re more confused now than before I asked the question, let’s recap. According to our panel, if you want a strong, reliable set of wheels for touring, you can’t go wrong with 36 spokes. That said, there are a lot more factors to consider when planning a wheelset for your touring bike, and if you don’t plan to carry much weight and if you’re pretty easy on gear, you could get by just fine with fewer than 36.

What kind of spokes should you get?

It may surprise you to learn that there’s more to choosing spokes than silver or black. Spokes differ in material (steel and aluminum), how they attach to the hub (J-bend or straight-pull), and their thickness (straight-gauge, butted, or bladed).

As to the material question, the vast majority of spokes out there are steel. Aluminum spokes tend to be proprietary, such as from Industry Nine or Mavic, and therefore must be laced to the appropriate
hub and rim. To keep things simple, we’ll stick to steel spokes.

So should you get J-bend spokes or straight-pull? (Note that your hubs will dictate which kind of spoke you can use: hubs made for straight-pull spokes will not work with J-bend, and vice versa.)

Sande mentioned that before you start thinking about J-bend vs. straight-pull, you need to make sure you get spokes made of good stainless steel. “I’m partial to J-bend spokes over straight-pull, although they’ll both build into fine wheels,” said Sande. “J-bend is a little easier to build and much more likely to be stocked at bike shops if that unfortunate situation arises where you need a replacement.”

Varley noted that straight-pull spokes can be replaced without having to remove a cassette or rotor, and that they generally have a longer fatigue life because they don’t have a bend where they attach to the hub. “The benefit of the straight-pull spoke’s longer fatigue life can be closely matched with a J-bend spoke if the spoke is cold set where it passes over the flange during the build process,” Varley said.

Gerace touched on yet another tally for J-bend. “While straight-pull has some advantages, J-bend is much more common and doesn’t suffer from rotating under load,” she said.

Next, straight-gauge, butted, or bladed? Every member of the panel agreed that bladed spokes (also known as aero spokes) are plenty strong enough for touring applications, but they’re expensive and their aerodynamic advantage won’t do much good. “When you’ve got 70 pounds of stuff on your bike, it really doesn’t matter if you can descend a particular hill coasting at 35 MPH or 36 MPH,” said Peter White.

The consensus seems to be that butted spokes are the way to go. “Straight-gauge is generally too stiff and often made from inferior grades of stainless steel,” said Sande. “Butted spokes go through an extra forging process that adds some strength to the spoke,” said Varley. “A butted spoke is more elastic so it is more forgiving over rougher terrain. It should have a longer fatigue life when properly built.”

Sande also mentioned that butted spokes allow your wheelbuilder to choose from different thicknesses to better suit your specific needs. “Based on the varying thicknesses of the spokes, you can also tune your ride specifically based on your overall weight, riding style, wheel diameter, etc.,” Sande said. “2.0/1.8/2.0mm is a good thickness, but one could also use a 2.0/1.65/2.0mm spoke if you’re looking for a more supple ride and your overall load weight is under 250 pounds.”

Butted spokes do cost more than straight-gauge, though. Gerace mentioned that she would build with good straight-gauge spokes if cost were an issue for the customer.
What about rims?

Rims too have changed a great deal over the decades. The old box-section rims of yesteryear are long gone. “Historically, rims were made from softer alloy and were much narrower, which necessitated 36- or 40-hole wheels for durability,” said Gerace. Modern rims are stronger, lighter, and stiffer.

“The stiffer the rim, the fewer spokes you need,” said White. “For example, 30 to 40 years ago, we didn’t have really stiff rims with deep V-section profiles. The V-section profile makes the rim extremely stiff, which means that with a heavy load on the wheels, you get less change in spoke tension with each revolution of the wheel. That means you get a very strong wheel with fewer spokes.”

With modern rims, you can also go wider, to better support larger, high-volume tires, without adding a lot of weight to the wheel.

Hubs

Certain aspects of your hubs will be determined by your frame, such as the width, axle type (quick-release or thru-axle), and brake type (disc or rim). Everything else is up for grabs.

Most hubs come in one of two bearing flavors: cartridge or cup-and-cone. Cartridge bearings are taking over, but you can still find hubs with cup-and-cone bearings, especially for rim-brake road applications. There was some disagreement among our panel members as to which kind of bearing is best for touring.

“Cartridge bearings are simply replaced when worn out,” said Varley. “This requires special tools to do the job properly. Cup-and-cone hubs can be easily serviced with simple cone wrenches. A good cup-and-cone hub, like those from Shimano, are probably sealed better than most cartridge bearings.”

For international travel, Gerace prefers hubs with cup-and-cone bearings for their easier serviceability. But White mentioned that parts are more difficult to find. “With cup-and-cone, you can often replace the cones, but if a cup wears, they are often impossible to get.” With cartridge bearings, you can always bring extra cartridges and have a shop replace them if need be. But because you need special tools, like a bearing press, you might have difficulty if you’re far afield.

Sande mentioned that one of the benefits of cartridge bearing hubs is that, for many brands, you can pull off the end caps and freehub driver, exposing the bearings for a quick cleaning, without tools. Talk about a boon for field serviceability.

Without prompting, a couple members of our panel brought up freehub body material. “The most important aspect of choosing a hub for touring is to choose one with a steel driver body and not one with an aluminum driver body,” said Varley. “A steel driver will better handle the cassette cog spline wanting to dig into the driver.” Sande agreed. “Steel is the heaviest, toughest, most reliable, and least expensive material for freehub bodies,” he said.

One more thing to think about for hubs is the freehub design. Unless you’re touring on a fixie or a unicycle (why?), your rear hub has an internal mechanism that allows you to coast. This is called a freehub, and there are a few different designs out there, but the most common is the ratchet-and-pawl mechanism. If you’ve ever used a ratchet wrench, it’s pretty much the same thing.

Our panel members didn’t express partisanship toward any specific freehub design. Of the most common kinds of freehubs — ratchet and pawl, DT Swiss’s star ratchet, or Chris King’s Ring Drive, which is similar to star ratchet — as long as you’re getting a quality hub from a well-known manufacturer, chances are good that it can handle the rigors of touring. But the panel had a few interesting things to say about engagement.

“That prefers a higher-engaging hub — it’s less stress on the wheel overall, and under load the bike will climb and accelerate from a stopped position

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''easier," said Gerace. "Engagement can be related to reliability in some cases, but it's not necessarily true." Sande said that high engagement is more important for off-road touring than on-road, but he also mentioned that you don't want too little. "When you get to 20°, there is a tendency for your legs to wind up before the hub engages, which creates a spike in torque that can eventually lead to premature spoke fatigue and/or cogs digging into an aluminum freehub body.”

Varley mentioned something to consider if you’re looking at a hub with a star ratchet design. “If using a star ratchet, go with the option that gives you the fewer number of ‘teeth’ instead of the higher number of teeth that provide quicker engagement,” said Varley. “The star ratchet with fewer teeth has bigger interfaces and will handle touring loads better.”

Yet another thing to consider when discussing hubs is noise. Those hubs you can hear from a half-mile away, the ones that sound like an army of angry cicadas? They tend to be premium hubs with high engagement. “In general, the quicker the pedal stroke engagement, the louder your hub will be,” said Sande. “But the freewheeling noise varies more from brand to brand rather than system to system.” Hub manufacturers have caught on to the fact that, especially for mountain bikers, customers like noisy hubs. So while premium hubs tend to be loud, you can certainly find inexpensive hubs that make a lot of noise. For that matter, if you prefer quiet hubs, you can find good hubs that are mostly silent.

But for touring, especially if you’re going off the grid, the most important thing is to make sure that you can keep your hubs rolling. “I think that if you’re going to take a complicated hub requiring proprietary tools, it could lead to some frustrating moments, depending on where and how long you’re on the road.” said Gerace. “In general, it’s a good idea to know your equipment as best as possible before leaving on a tour. For me personally, I would take a higher-engaging hub that can be pulled apart with a hex wrench.”
Nipples

This is an easy one. There are two options for nipples: brass or aluminum. I’ll let Peter White sum this up for you: “Any wheelbuilder using aluminum nipples for touring wheels should immediately retire and get a job stocking shelves at the local supermarket.”

But seriously, without question, every member of our panel voted in favor of brass nipples. Aluminum nipples will save you a little bit of weight but at the cost of reliability. “BRASS! Always brass,” said Sande. “Aluminum has a shorter fatigue life, and corrosion will eventually cause them to crack, even after just three years.”

“It’s quite easy to round off the flats on aluminum nipples when trying to get enough tension to correct a warped rim,” said White. “Brass nipples are far better for this, with only a small weight penalty. And brass nipples are less expensive.”

Hand-laced or machine-built?

This might be the toughest question. You shouldn’t be surprised to learn that every member of the panel, wheelbuilders all, agreed that hand-laced wheels are the way to go. Nor should you be surprised to find out that they emphasized that if you want good, long-lasting wheels, you should find a wheelbuilder who knows what they’re doing, not just any schmuck with a truing stand. “A poorly built handmade wheel is likely no better than a machine-built wheel,” Varley said. (Machine-built in this case refers to wheels mass produced in factories using some combination of machines and human labor.)

“Wheels that are handbuilt by a person who understands evenly tensioned spokes, knows the optimal spoke tension for the spokes and rim selected, and uses a calibrated tensiometer will give you the best results!” said Sande. “If you’re investing in good quality parts, it makes the most sense to have a qualified builder to bring those components up to their maximum potential. Why waste pedal strokes or money on a wheel that was built to only 80 percent of its optimal tension and with spokes that aren’t evenly tensioned, especially with a wheelset you’ll be relying on in the middle of nowhere?”

Gerace emphasized that the benefits go beyond just having a more reliable set of wheels. A wheelbuilder can help you navigate all the options and customize a build to your specific needs in a way that something off the shelf could never replicate.

But not everyone can afford handbuilt wheels. For some, machine-built wheels are the only option. Luckily, our panel members have some suggestions.

“If you had to do this on the cheap, look for a name-brand spoke like DT Swiss or Sapim,” said Gerace. “The spoke quality is infinitely better than an OEM spoke and will make a big difference. If you stop at a shop for a check-over, make sure you or the shop removes the tire and uses a tension meter.”

Sande agreed that if you’re going to buy machine-built wheels, it would be smart to include the cost of taking them to a professional to be retensioned. But Varley noted that, at that point, you might as well spend the money on custom wheels. “A machine-built wheel likely did not have the spokes stress-relieved during the build process,” he said. “That’s why the spokes pop and creak on the first ride — that’s the spokes unwinding and settling into their neutral state. The spokes weren’t set against the hub flange. There was likely no spoke prep used. To properly retension a machine-built wheel, it almost needs to be completely detensioned and rebuilt.”

White noted that machine-built wheels make sense for inexpensive, mass-produced bikes that won’t see many hard miles, but the machines just can’t meet the needs of touring cyclists. “For loaded touring, you must have high tension, and the tension must be even from spoke to spoke. If not, the lower-tension spokes will be losing and gaining tension with every revolution of the wheel, resulting in breakage due to work hardening of the metal.”

Wheel in the sky keeps on turning

If you’ve gotten this far, you’ve probably noticed that our panel members don’t like to give out specific, prescriptive advice (aside from brass nipples, of course). “It depends” is rarely a good answer, but in the case of wheels — like so much else with cycling — your needs are personal and unique. As unsatisfying as it may be, the answer to the question “What wheels do I need for touring?” nevertheless is “It depends.”

Dan Meyer is the Deputy Editor of Adventure Cyclist.
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Editor’s note: We’re excluding Shimano’s new 12-speed groups in this review mainly because we have yet to try them, but also because the cassettes require a new, proprietary freehub body called Micro Spline. (In general, we prefer cassettes that fit on the standard, ubiquitous Shimano HG freehub body, which is probably what you’ll find on your bike. Hence our review of the NX level of Eagle: unlike the more expensive Eagles, NX doesn’t require SRAM’s proprietary XD freehub body.) Shimano’s 11-speed 1x groups may be outdated now, but they’re still widely available in the aftermarket.

Shimano arrived a bit late to the 1x party. After sticking to its double-chainring guns while SRAM was on the second generation of its 1x 11-speed groups, Shimano finally brought the goods.

The 11–46T cassette has a slightly smaller range than SRAM’s 11-speed 10–42T cassette — 418 percent versus 420 — but it fits on a standard freehub body. Shimano also spread out its gearing range more unevenly compared to SRAM: the range at the high end is more closely spaced, with bigger jumps at the low end. The jump to the lowest gear, from 37T to 46T, is a big one.

The long-cage XT derailer boasts an adjustable clutch for chain retention and an on/off switch for removing the wheel. The trigger shifter is standard Shimano fare, with one surprise: the upshift lever can click through two gears at once. (You have to spring for at least XT to get this feature; SLX doesn’t have it.)

I used the XT group for two seasons on a couple of different mountain bikes, and on everything from trail riding to overnights to weekend trips. With a 30T chainring, I had a low enough gear for climbing the steeps (19 gear inches on 29 x 2.4in. tires), but I would spin out pretty quickly on descents, which is less of an issue on dirt than on the road. The shifting was crisp, precise, and simple to tune, and I was always surprised at how easily I could shift into that big cog, even under load. Modern clutch derailleurs are a marvel — I never once dropped the chain. And that double upshift feature? At first I thought it was a gimmick, but then I found myself using it all the time.

There are less expensive 1x groups out there, and there are groups with bigger cassettes, but XT 11-speed is a solid performer with a good gear range. If you’re in no hurry to shell out for a new hub just to use Shimano’s new 12-speed groups, XT won’t let you down.
that SRAM, the company that put the first viable 1x drivetrain on the market, pursued some aggressive and successful marketing campaigns.

But I think the real reason 1x has taken over is much simpler: in fact, 1x is much simpler. One derailier, one chainring, and one shifter make for a drivetrain that is much easier to install, adjust, and keep in tune. And now that 1x cassettes offer greater gear ranges, there’s little to no downside to going with a single-chainring drivetrain. (Old-school triples still offer a bigger range, but many of those gears are redundant, and whether you really need that huge top end is arguable.)

The 1x drivetrains reviewed on these pages are specific to mountain bikes, with a couple of exceptions. You can have SRAM Eagle on your dropbar bike, but you have to spring for the fancy wireless version (if you need to ask how much it costs, you can’t afford it). And Microshift’s Advent is available with any kind of shifter.

One further caveat: if you’re willing to buy aftermarket and mix and match brands, you can pair a 1x drivetrain from Shimano or SRAM to your dropbar bike. Microshift sells bar-end and thumb shifters for SRAM and Shimano 12-speed derailleurs, and bar-end, thumb, and dropbar shifters for Shimano 11-speed. Gevenalle makes unique dropbar shifters — essentially thumb shifters mounted on brake levers — for Shimano and SRAM 12-speed, 11-speed, and 10-speed.

Look at that pie plate! You know when the lowest cog is bigger around than your brake rotors that you’ve got a nice low gear. The NX Eagle cassette has a smaller gear range than its pricier siblings — 454 percent versus 500 for the 10–50T cassettes — but the 11–50T cassette fits on a standard freehub body. The NX derailier has a nonadjustable clutch to keep the chain on, and instead of an on/off switch, it features SRAM’s genius Cage Lock. You push the cage forward and lock it into place, making wheel removal easier than ever. I wish every derailier manufactory would license this design from SRAM.

Aside from the cassette, the main differences between NX and the more expensive versions are materials and tolerances. NX has more plastic parts and doesn’t shift quite as crisply as GX or higher, but the differences are academic.

I used the NX Eagle group for a busy season of bikepacking on my Surly Wednesday that I’d set up with 29+ wheels (look for a Road Test soon). It’s not a light bike, and I didn’t hold back when packing it either. (I even strapped a cooler to the front rack for a weekend trip.) Hence I made good use of that giant 50T cog. With a 30T chainring and 29 x 3.0in. tires, I had a low end of 18.3 gear inches, which was great for tractoring up steep, loose climbs. (Note that 29+ tires are very tall and therefore have a big effect on gearing. If you have an older mountain bike with 26in. wheels and, say, 2.25in. tires, you’re looking at 15.9 gear inches with the same 30T chainring.)

The NX Eagle group served on everything from local overnights, singletrack missions, and even a week riding self-contained on the Great Divide route in Montana. I never once wished for a lower gear, and I can count on two fingers the times I thought the 10T cog on the more expensive cassettes would have been nice. Like the Shimano group, I found NX Eagle easy to set up and keep in tune (SRAM includes a handy plastic guide to help you get the correct distance between the lower pulley and big cog), and I never dropped or broke a chain, or had any drivetrain issues whatsoever in the field.

NX Eagle is simply an affordable, reliable drivetrain with all the gears you’ll ever need, ready for any kind of bikepacking mission. Whenever I’m asked to recommend a wide-range 1x drivetrain, the answer’s always the same — NX Eagle.

**SRAM NX Eagle**

**SPEEDS:** 12  
**CASSETTE:** $100  
**DERAILER:** $107  
**SHIFTER:** $42
Microshift Advent is a bit of an outlier in this group in that 1) it’s 9-speed, and 2) it has a smaller range. With an 11–42T cassette, you’ve only got a range of 381 percent, which may or may not be enough, depending on your gearing needs. On the upside, Advent is very, very affordable. Like the Shimano and SRAM offerings, Advent has a clutch derailer and the cassette fits on a standard freehub body.

I used the Advent group exclusively on our All-City Gorilla Monsoon project bike (Road Test, Aug./Sept. 2019). Setup was a little trickier than what I’m used to from SRAM and Shimano, but once I got there, the shifts were solid and direct, if lacking in the crispness and tactility of the other manufacturers’ groups. Paired to a 34T chainring, I had a low end of 21.5 gear inches, which was plenty for riding local fire roads, a bit of singletrack, and loaded overnights.

The Shimano and SRAM groups are trigger-shifter only, but Advent doesn’t discriminate. Microshift offers trigger, dropbar, bar-end, and thumb shifters for the Advent derailer, so regardless of the kind of bike you have, you can probably throw Advent on it. I opted for the dropbar brifters for the Gorilla Monsoon, and I was pleasantly surprised with the shift action. I did, however, run into trouble in the second-to-lowest gear, in which the cable’s barrel end would interfere with something inside the brifter as the cylinder rotated into position. After an extended bout of exasperation, I finally emailed Microshift and was told that the Advent shifter requires a Campagnolo shift cable, which has a smaller, rounded end. I swapped out the shift cable and voilà! No more problems.

Advent’s affordability is perhaps most noticeable in its weight. The cassette is a bit heavy, but not much weightier than the NX and XT cassettes. The derailer, however, with its steel cage, is so heavy you can feel the pull of its gravity. In another nod to cheapness, Advent’s shifting gets a bit wonky as it wears and goes out of tune. But hey, look at that price. What do you want?
THE CASE FOR 1x ON YOUR TOURING BIKE

The drivetrains reviewed on these pages are admittedly dirt-focused bikepacking units. (In spite of its dropbar compatibility, Microshift markets Advent primarily as a mountain bike drivetrain.) But if you’re looking to simplify, modernize, or potentially lighten your dropbar touring rig, you shouldn’t dismiss them. The fact is, touring-specific triples are a dying breed, and, as Editor-in-Chief Alex Strickland found out with Shimano’s new gravel-specific GRX, doubles won’t quite get you there, at least not without some aftermarket modification. If you’re willing to give up a bit of top end — do you really need to pedal when you’re cruising down a mountain pass at 40 MPH? — modern 1x drivetrains could be the solution.

I could wax lyrical about the spiritual benefits of drivetrain simplicity — one derailleur, one shifter, one chainring, one cable — but if the idea of tossing an antiquated, tempestuous front derailleur and its trio of chainrings into the bin doesn’t appeal to you, maybe the numbers will.

The Trek 520, updated for 2019, is about as modern as a classic touring bike can get. It has disc brakes, an aluminum fork, and, yes, a triple. A mix of Shimano Alivio and Sora, the 520 has 48/36/26T chainrings mated to an 11–36T cassette. On 700c x 38mm tires, this gives you a low end of 19.8 gear inches and a top end of 119.8. Can a 1x match that? The short answer is no, but let’s dig a little deeper.

Let’s say a product manager at Trek got a wild hair and spec’d the 520 with NX Eagle. (As discussed above, the product manager would have to get creative to find a compatible dropbar shifter, but it could be done.) With the same tires and a 36T chainring, you’d have the same low end of 19.8 gear inches. Predictably, you’d lose a chunk of top end, with only 89.9 gear inches. If the product manager spec’d a GX Eagle cassette — requiring the XD freehub, as discussed — that little 10T cog would up your top end to 98.9 gear inches. That still seems like a big loss of top end, but like I asked above, are you really making use of that high gear?

Another common complaint from 1x detractors is that of chain wear and breakage due to the more extreme chainline angles at either end of the cassette. On the face of it, this seems like a valid argument. Surely, putting that much lateral force on a chain will shear it in half, right? Isn’t that why we’ve all been warned for decades about the dangers of cross-chaining? Thing is, I haven’t broken a chain in years. I don’t weigh that much, but I’m pretty fit, I ride with heavy loads, and I’m much more of a high-gear smasher than a low-gear spinner. Not only that, but I don’t know anyone who has broken a chain recently. Are our chains wearing out more quickly? Maybe, but I haven’t had to replace a chain more than once a season, which is perfectly reasonable.

Dan Meyer is the Deputy Editor of Adventure Cyclist.
A tip for creating your own route

AS ILLUSTRATED BY A SERIES OF UNFORTUNATE EVENTS DURING A TOUR OF THE STATE OF JEFFERSON

Tip #1: Check your route’s daily elevation gain

The first surprise was our ride out of suburbia and into rural Oregon: it was hilly. The initial 10 miles of our weeklong trip were a bruise, featuring punchy climbs and grades approaching 20 percent. We were already pushing our bikes. Luckily, we found a respite in the joyful descent on Sterling Creek Road to Buncom, which to my disappointment was not a rabbit community but a tiny ghost town. While we ate snacks and peeked into the empty structures at Buncom, an older couple parked nearby and began to pull their bikes off the rack. They were heading out for a day ride on the area’s quiet country roads, and were impressed that we’d ridden from Medford. I didn’t tell them how far we had yet to go.

After 20 miles following the Applegate River, we crossed a bridge over the southern tip of Applegate Lake and turned onto a gravel road that would take us over the border into California. I hadn’t bothered to look at how long or steep the climb would be. It was a lot — 2,800 feet of climbing in less than 10 miles, and on loose gravel roads. It was also scorching, well into the triple digits, and every once in a while a car would pass, engulfing us in a cloud of hot dust. Alena was not happy with me. We pushed up the steeper hills and stopped in whatever shade we could find to eat snacks and hydrate. At the top, the road intersected with the Pacific Crest Trail. We exchanged friendly waves with a few people slinging on packs, but we didn’t have the energy to chat.

What I would do differently

Obviously, I should have paid much more attention to elevation gain while putting the route together. In the future, I may consider looking primarily at elevation gain instead of mileage when splitting up a route. If I had done that for this trip, I may have split our first day into two, camping at Applegate Lake the first night and then riding to Seiad Valley the next day.

BY DAN MEYER
MAPS COURTESY OPENSTREETMAP
After considering some options near Ashland, or simply piecing something together using Adventure Cycling’s Sierra-Cascades route, I decided on a loop of my own design. We would start near Medford, just north of Ashland on I-5, head southwest on backroads over the border to Seiad Valley, California, then west along the Klamath River to Happy Camp, north back over the border to Cave Junction, Oregon, east to the Oregon Caves National Monument, and northeast back to Medford. It was a Tour of the State of Jefferson [see p. 36].

What followed was an adventure in the very best sense. We faced minor crises (both natural and Dan-made), solved problems together, suffered together, and rode some amazing roads through beautiful, diverse landscapes. We witnessed the plight of rural America and met kind, helpful people in the same depressed towns. We barely scratched the surface of this part of the country. I would go back to Jefferson in a heartbeat.

I was considering our options for getting back to Medford when we came to a roadblock. There were fire trucks and hoses everywhere. But it wasn’t a wildfire — a local told us that a transformer had blown and showered sparks onto an old, abandoned mill. It burned to a crisp in 15 minutes. The fire crew was just cleaning up. But the road wasn’t open yet, and Alena and I were standing in the shade of a tree, trying to stay cool. We needed water.

I approached one of the firefighters and told her of our predicament. She walked to a truck and came back with bottles of ice-cold water. I could have hugged her.

After another 15 or 20 minutes, they finally opened the road. The local sheriff escorted us through the melee, weaving around the fire trucks and over flat, yellow hoses. I gawked as we passed the destruction. An old pickup behind the mill was nearly gone, its tires aflame.

What I would do differently
I checked InciWeb (inciweb.nwcg.gov) before the trip and confirmed that nothing along our route was already on fire, but it was hot and dry enough that something very easily could have gone up during our trip. If I were to do it again, I would start a few weeks earlier.

Tip #2: Check fire conditions
Finally, we began our descent. The road was loose, and I stopped often to make sure Alena was staying rubber-side down. It was a long 12 miles. We dropped more than 3,000 feet to the valley floor, where the road became much smoother before transitioning to pavement. It was cooler riding along Seiad Creek, but still hot. I’d been out of water since the summit, and Alena only had a few drops left.

As we cruised down Seiad Creek Road, passing a few homes here and there, we rounded a corner and saw (and smelled) smoke downvalley. “Uh oh,” I thought. I knew there had been bad wildfires in the area the previous year, but I’d assumed that we were early enough in the season to stay out of trouble. This was bad. Even if the fire was off our route, Alena has asthma and wouldn’t be able to ride in smoky conditions.

I checked InciWeb before the trip and confirmed that nothing along our route was already on fire, but it was hot and dry enough that something very easily could have gone up during our trip. If I were to do it again, I would start a few weeks earlier.

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Tip #3: Ensure that roads and campgrounds are open

The plan for Day Two was for a fairly short, easy day. We had a quick 15-mile ride from our campsite at Fort Goff to Happy Camp, where we stopped for a second breakfast and a few supplies. Out of Happy Camp, we climbed up Greyback Road (also known as Indian Creek Road), a scenic mountain pass that would eventually take us back into Oregon. Thirteen miles up the road, we turned off to West Branch Campground.

We soon ran into a sign saying that the road was closed. We rolled past the sign a little ways to check it out and discovered that the road had been completely washed out. I was convinced that we could just hike-a-bike through the washed-out section to the campground, but Alena wasn’t having it. She used her veto power.

We pondered our options. West Branch was the only campsite on our route between Happy Camp and Cave Junction. We could have found a place along the pass to wild camp, but we weren’t sure about access to water. We decided the best option was to make the big push up and over the pass and into Cave Junction, where we knew there would be camping and lodging options.

What I would do differently

In retrospect, I should have called the Forest Service ranger station in Happy Camp and asked about road and campground conditions. Had I learned ahead of time that the road to West Branch was closed, cutting off access to our campsite for the night, I would have thought differently about that day’s route. Doing that big pass in one day would have called for an earlier start and a hardier mindset.
Tip #4: Embrace plan B

The road closure was a blessing in disguise. It turned out that our original plan for Day Two was too short — we would have spent all afternoon and evening at West Branch. What in the world would we have done with ourselves?

Choosing to push all the way to Cave Junction more than doubled our day’s mileage, and we made the slog up and over the pass at the hottest part of the day. Not exactly ideal. But at least the traffic was light.

We stopped at an overlook a mile short of the summit. There was a picnic table, three stands for interpretive panels that were no longer there, and bees, lots and lots of bees. We also had a grand, panoramic view of the Marble Mountains to the east. We were squarely in the State of Jefferson. That vista alone would have been worth the hot slog, but just over the summit, we had another surprise waiting for us.

After pausing across the Oregon border at the Page Mountain Sno-Park to use the facilities, we got back on the road and were soon passed with friendly waves by a couple of motorcyclists, and then ... nobody. We had the entire 12-mile descent into the Illinois River valley all to ourselves, a 3,200-foot drop with perfect pavement and fast, sweeping turns. It was hands down the best road descent of my life.

What I would do differently

Absolutely nothing. The stress of devising an alternate plan and the suffering we endured on our way up to the pass — a 3,600-foot climb in 20 miles — only added to the sweetness of the descent.
State of Jefferson

In October 1941, in response to a perceived lack of representation in rural areas, the mayor of Port Orford, Oregon, called for several counties in southern Oregon and northern California to break away from their respective states and form a new one: the State of Jefferson, the 49th state. Jefferson's elected representatives stood on the steps of the Siskiyou County Courthouse in November 1941 and declared independence. John Leon Childs was inaugurated as governor of the State of Jefferson on December 4. But Jefferson was never recognized by the federal government, and the independence movement died out after the Pearl Harbor bombing on December 7.

Aside from a couple of minor attempts to restart the movement in 1971 and the early 1990s, the State of Jefferson remained an idea, part of the area’s culture. For example, the local public radio network is called Jefferson Public Radio. I later learned that part of our route was on the State of Jefferson Scenic Byway.

The separatist movement lay dormant until 2013, when several northern California county boards of supervisors — including those from Siskiyou, Modoc, and Yuba — voted to separate from California and form the State of Jefferson. No counties from Oregon have yet joined the modern separatist movement. More recently, the State of Jefferson organization, filing under the name Citizens for Fair Representation, sued California’s secretary of state, arguing that California’s 1862 law limiting the state to 40 senators and 80 representatives has resulted in an imbalance of representation that violates the 14th Amendment. Dismissed by the lower court, the case is currently pending appeal in the Ninth Circuit.
Tip #5: Incorporate things to do for short days or layover days

After a relaxing night in a wonderfully ratty motel in Cave Junction, Alena and I set off for a quick, 18-mile ride to Cave Creek Campground. The heat of the previous two days had worn us down a bit. To our delight, Cave Creek was just this side of a rain forest. The air was thick and cool, and there were ferns and broad-leafed bushes and other green things everywhere. Port Orford cedars towered over us. After picking a site and setting up camp, we rested for a bit, luxuriating in the lush atmosphere. Now this was how I’d imagined Oregon would be. Cave Creek was one of the loveliest campgrounds I’d ever seen.

It was still early, so we explored one of the several hiking trails that branch out from the campground, craning our necks to view the trees above and crouching to inspect the fungus and critters below. But the day’s primary goal was less than five miles up the road — the Oregon Caves National Monument.

Oregon Caves has a visitor center, an ornate hotel if you prefer not to camp, and a couple of restaurants, including one that pretends it’s a ‘50s diner. We shared a malt after our unloaded ride up from the campground. But the real treat is a tour of the caves. And if you do your homework ahead of time, you’ll learn that the last tour of the day is a candlelight tour. We were given lanterns (real ones, with candles), and we met our tour guide, a young park employee wearing old-timey clothes and a false beard. He told us he was Thomas Condon, a geology professor from the University of Oregon who visited the caves with his students in 1884. As he guided us through the caves — dark and cold and wet — he told us the story of how the caves were discovered and the first attempts to map them, never breaking character. It was adorable. Near the end of the tour, we stopped in a tight passage and Professor Condon instructed us to blow out our candles one by one. As each candle was extinguished, the cave grew darker and darker, until we were engulfed in impenetrable darkness. Nobody said a word. It was eerie. The Professor then pulled out a lighter to relight our candles.

What I would do differently

I would spend an extra day at Cave Creek Campground to explore more of the hiking trails and do more unloaded rides on the road to the caves. Caves Highway is a masterpiece — the pavement is flawless, traffic is light, and the descent from the visitor center is addicting. Running along a steep mountainside, the highway curves around several draws in half switchbacks, and preceding every steeply cambered switchback is a series of banked esses. Whoever designed this road is a genius. I fell into my sleeping bag that night still grinning from the descent.
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Tip #6: Choose terrain that your riding partner is comfortable with

For Day Four, the plan was to backtrack a bit on Caves Highway and get on a Forest Service road that would eventually connect us to a tiny little town to the north called Williams, where we could resupply and have lunch before taking the fun way east back to the Applegate River. On satellite images, the Forest Service road looked like a nice, paved backroad that would see little if any traffic, and it was. Then we turned onto what looked like a short dirt road that would connect us to the BLM road into Williams. Unfortunately, the short connector road was not that short, and it quickly turned from dirt to gravel to rock. Not to mention it was 2,800 feet of climbing (see Tip #1).

Thing is, I didn't mind it at all. It was steep and rough, but I'm a mountain biker first and foremost, so I get along fine when the road surface degrades in quality. In fact, I often prefer it. But Alena, being a road racer and still new to mountain biking and gravel riding, doesn't so much enjoy rough roads, at least not on a fully loaded dropbar rig. I could hear her cursing my name behind me.

Then a momma bear and her cub crossed the road about 100 feet in front of us. So there's that.

Things got a little better after a very steep, loose (and, honestly, frightening) descent, where we came upon a family fishing and picnicking at a pond. After exchanging pleasantries, we continued on our way onto a narrow, paved road with surprise bumps and cracks and more blind, high-speed corners than I'd ever seen. It was a blast.

What I would do differently

Trying to determine the quality of a road without seeing it in person is tough. In retrospect, I could have checked cycling-specific social media for beta. Strava’s Heat Map and Segment Explore functions are useful, as are Trailforks and MTB Project. Of course, apps are only helpful if someone has already ridden the road you're researching and posted information about it. That rough BLM road? Nada.
Tip #7: Embrace the unknown (or get a paper map)

After stopping at the little convenience store in Williams for a lunch of chocolate milk, chips, ice cream, and heaven knows what else, we headed south for Panther Gulch Road, which, aside from having the most badass road name ever, would take us into the next valley over. Or so I thought.

It was a hot, steep slog to the top of the road, and neither of us was in a good mood by the time we got there. What I thought would have been a simple up-and-over affair became more complicated when I realized that what we saw on the ground looked nothing like what I’d seen on any of my electronic resources. I was baffled at what to do. Another tally on my list of screw-ups this trip.

Luckily Alena knew that the simplest decision was the right one: we had to backtrack to Williams (downhill, thankfully) and get on the highway. I hate riding on the highway, but it seemed like a small price to pay. I also hated to reroute because it meant discarding my plan to get on Star Gulch Road, which would have taken us from Thompson Creek valley to Applegate River valley, closing our loop with what looked to be a fantastic road. Oh, well.

Rerouting also meant finding another place to camp. We found a campground at Cantrall Buckley County Park, on the Applegate River near the town of Ruch. Unfortunately, it was a circus, with noisy children everywhere. At least we got to use a real shower.

What I would do differently

The Panther Gulch Road debacle really highlighted my weakness for the ease and ubiquity of free electronic resources [see p. 41]. I should have gotten my hands on a Gazetteer and some Forest Service maps. They might not have made a difference, but at least I’d have done all I could short of driving the route ahead of time.

Tip #8: Enjoy it

Day Five was a good one. Out of Ruch, we rode to Buncom (again, no bunnies) and backtracked a little on Day One’s route before turning onto Sterling Creek Road, which dropped 1,500 feet on a curvy paved road to the cute little town of Jacksonville. We went into the first coffee shop we saw for caffeine and pastries, lingering at a table outside. I may or may not have taken a picture of my coffee to put on social media.

We enjoyed our last 10 miles on mostly flat, rolling terrain alongside vineyards and ranches to Phoenix, where we’d left our car. Lo and behold, it was still there! After packing everything haphazardly in the car, we drove to a cheap motel in Medford for the night before setting off the next day to the Green Springs Inn outside of Ashland. My buddy’s wedding went off without a hitch.

Epilogue

Despite a few minor issues, we declared our 2018 Tour of the State of Jefferson a success. The following year, Alena and I planned a dirt-road bikepacking trip together. We drove from our hometown of Missoula to Whitefish, Montana, and did the Red Meadow Pass Loop. With an audience of thousands of ravenous mosquitos, I proposed to her at Red Meadow Lake (a risky move with two more days of riding to go), and she said yes. What would I do differently? Not a damn thing.

Dan Meyer is the Deputy Editor of Adventure Cyclist. He’s getting married in June.
When planning a route, I have a hierarchy of tools. Initially I’ll use good ol’ Google Maps to explore the general area I have in mind, keeping an eye out for public lands, campgrounds, rivers and lakes, and interesting roads. When I land on something in particular — a campsite, a small town, a squiggly road — I’ll zoom in and check it out in as much detail as Google will allow. When I reach Google’s limit of usefulness, I’ll move on to another site: hillmap.com.

Hillmap’s standout feature is its split-screen mode. You can have a terrain map on one side and satellite on the other, for example, and when you scroll or zoom on one side, the other mirrors it. And there are options for what you can display: in addition to the standard map and satellite (both from Google), there’s CalTopo, ArcGIS USA, USGS, and others. You can also drop points, create a route, and add weather and slope overlays. If you’ve heard yourself say, “I’ve looked at this road on satellite images, and it definitely connects,” then Hillmap is for you.

For this route, I created the final product with something different: I used Komoot (komoot.com). Komoot is pretty neat in that you can create a route by plugging in a start/end point and adding waypoints, and the program will plot a route for you, including an elevation chart. Even better, you can choose whether you’ll be on a road bike, a touring bike, a mountain bike, or on foot, and Komoot will adjust your route to suit. But don’t feel like you need to go with the program’s routing — you can click and drag the route to adjust it however you want.

Komoot does cost money — $3.99 per region, $8.99 for a bundle, or $29.99 for the whole shebang — for which you get voice navigation, offline maps, and free updates. I bought a couple of regions so I could have offline maps on my phone during the tour. But you can play with Komoot’s online route planner for free and determine whether you like the system.

**WHEN TO GO**
This part of southern Oregon and northern California is a mix of dry, desertlike landscapes, lush forests, and everything in between. Spring and fall are the best times to visit. Avoid summer due to the heat and the chance of wildfires — during our visit in late June, we already were seeing temperatures over 100°F.

**HOW TO GET THERE**
Medford, Oregon, our jumping-off point for this tour, is 272 miles from Portland and 308 miles from Sacramento. The Medford airport is the third largest in Oregon and serves Alaska Airlines, United, Delta, American, and Allegiant. Alena and I drove with our bikes and gear from Missoula, Montana, taking the scenic route through Bend with a short detour to Crater Lake. Medford has a litany of hotels and a handful of bike shops.

**WHAT TO BRING**
Because of the mixed terrain on our tour, Alena and I brought our gravel bikes, which ended up being the right tool for the job. We both used bikepacking bags and carried five days’ worth of supplies, which we later decided wasn’t necessary considering the resupply options. I had modified my bike with lower gears and used wide, tubeless file tread tires, and I was very happy with my setup (with standard cyclocross gearing, Alena was less than happy on the steep climbs).

**WHERE TO STAY**
Camping is available at Applegate Lake, Fort Goff, Happy Camp, West Branch, Cave Junction, and on the way to Oregon Caves National Monument. Lodging is available in Seiad Valley, Happy Camp, Cave Junction, Oregon Caves, and Applegate. We stayed in an Airbnb in Phoenix, just south of Medford on I-5, the night before the tour and left our car there.