Six months ago, who would have thought it would be easy to spec a 1x, 2x, or 3x dropbar drivetrain with a similar 20- to 100-inch gear range without smoke and mirrors? The arrival of SRAM’s new 1x road groups — Force 1 and Rival 1 — as well as other components just hitting the market makes this a reality.

Pair a single 34T chainring with a SRAM 10-42T cassette for a touring gear range of 22 to 93 inches. Match a 40/28T mini-compact crank with an 11-36T cassette for gears running from 21 to 100 inches. Or spec a more traditional 50/39/30T triple with an 11-34T cassette for a range of 24 to 125 inches.

Companies like Kona, Marin, Salsa, and about 17 others are taking advantage of SRAM’s 1x groups and new mini-compact cranks — those that fill the gap between road and mountain doubles — to offer adventure bikes spec’d with drivetrains catering to all types of back-road riders.

Shimano’s road drivetrains are still geared too high to be considered for touring, but new products from boutique manufacturers like Gevenalle and Lindarets/Wolf Tooth work around Shimano’s issues for adventure riders.

After years of complaining about the lack of low touring gears with matching dropbar levers, why the sudden embarrassment of riches?

For one more American riders seem to be interested in the Tour Divide than Europe’s Pro Tour, and sales of traditional Euro-centric road-race bikes have slowed to a trickle.

Sales of gravel and adventure bikes outsell many brands’ race bikes. So this year companies opened the floodgates of not just one or two new adventure bikes, but rather entire model lines of gravel and adventure touring bikes. The

Editor’s Note: In last year’s Cyclists’ Travel Guide (April 2015), we looked at “The Drivetrain Dilemma,” a dearth of components to provide adequate gearing for the self-supported touring cyclist. The void — caused in part by Shimano’s decision to end the cross compatibility of road and mountain bike drivetrain components in 2010 and the steady migration of drivetrains to 10- and 11-speed models — left product managers for many bike brands scrambling for combinations of holdovers (Shimano’s still-manufactured, cross-compatible 9-speed XT derailier), third-party components (Microshift bar end shifters), or high-end alternatives (Rohloff internal geared hubs). Or they just built bikes with rack mounts and touring geometry but saddled them with standard road bike gearing to take advantage of the OEM options most readily available to hit customer-demanded price points. What a difference a year makes. As Bicycle Retailer & Industry News’ Matt Wiebe discovers, a touring cyclist suddenly has the world on a string, or perhaps a derailier cable.
pressure is now on component makers for greater drivetrain flexibility.

“For so long, we all made copies of Pro
Tour bikes and sold them to riders who
were not going to race, weren’t flexible
enough to fit on them, and ultimately
weren’t served by the product,” said
Ron Ritzler, SRAM’s drivetrain product
manager.

“In the mountain bike world, you
can get the perfect bike for the type of
rider you are and your terrain of choice,
and now that spirit is appearing on
the road/new-road/gravel-road/tour-
ing side. It’s cool to see it happening,”
Ritzler said.

It’s worth noting that for years
Ritzler oversaw SRAM’s push to 1x on
the mountain side. Given the success
of SRAM’s 1x mountain drivetrains, it
comes as no surprise that after Ritzler
was given road-drivetrain responsibili-
ties two years ago, the result is road 1x.

SRAM’s Force 1 and Rival 1 parts of-
erings are not entirely new component
lines; rather they extend the range of
current groups. The road 1x groups are
built around an XD-Driver–specific 10-
cog cassette; rather they extend the range of
current groups. The road 1x groups are
built around an XD-Driver–specific 10-
cog cassette, compatible long-cage rear
derailers, and single X-Sync chainrings
from 38 to 54 teeth. Matching levers
— only the right shifts — can be had in
hydraulic disc or cable brake versions.

“I do think 1x systems can replace a
triple for many situations, but not all.
It totally depends on the rider we’re
talking about and what they’re looking
to accomplish,” said Aaron Abrams,
Marin’s senior product manager.

Marin’s Four Corners adventure line
is typical of how product managers are
integrating the new 1x systems. The
base-level $1,100 Four Corners is spec’d
with a Shimano Sora 50/39/30T triple
and a 9-speed 12-36T cassette for a gear
range of 23 to 115 inches.

The Rival 1 spec’d $2,310 Four Cor-
ers Elite comes with a 40T chaining
and an 11-speed 10-42T cassette for a
range of 26 to 110 inches (watch for a
Road Test in the May issue).

“The 3x9 Sora gearing fits a rider
who likes the versatility and may not
know exactly what they will be doing
with this bike over its lifetime. Also, the
perception of beginning riders, in my
experience, tends to be that more gears
are good because they don’t know exactly
what they’re going to encounter,”
Abrams said.

“While a 1x system may be clean-
er and less hassle, you do lose a bit of
range. But on a higher-end bike, a rider
would generally know more about their
ride and an ideal build to support them
through their adventure,” he said. “In
our mind, the simplicity and weight
benefits of 1x systems make a lot of
sense on this type of bike.”

Abrams, like others spec’ing 1x
drivetrains, notes that a simple chain-
ring swap completely changes the bike’s
personality. Switch to a 42T chaining
and gears of 28 to 115 inches are more
than enough for a race-pace pavement
ride. Pop on a 34T ring and gear range
drops to 22 to 93 inches, ready for load-
ied panniers and backroad touring.

Most SRAM 1x drivetrains for
adventure touring come with the 38T
chaining for a gear range of 25 to 104
inches. A few, like the Salsa Cutthroat,
opt for a mountain bike crank and its
36T chaining for 24 to 99 gear inches.
Unlike Shimano, SRAM’s cable-actuated mountain and road drivetrain components and shifters can be mixed.

“Of course I love 1x and will accept added expense and labor in order not to use a front derailier. I suspect many adventure-type riders, especially those with mountain bike leanings, feel the same,” SRAM’s Ritzler said.

Ritzler notes that for a super old-school build, one can shave an 11-speed time-trial aero-extension shifter into a dropbar end. Rival 1 and Force 1 rear derailiers are backwards-compatible with SRAM’s 10-speed dropper shifters for riders looking to repurpose an older bike.

**Mini Compact**

The new mini-compact road cranks from FSA, IRD, Praxis, SRAM, and others, when paired with an 11-36T cassette, open up another way to get touring gears.

Co-Motion’s Divide pairs a mini-compact FSA 42/28T double with a SRAM 11-36T cassette to get a 10-speed gear range of 21 to 105 inches. The Co-Motion Americano is a triple using an FSA 48/36/26 crank paired with a 10-speed Shimano XT 11-34T cassette for a range of 21 to 120 gear inches.

It’s arguable how useful gears over 100 inches are for loaded touring, but these mini-compact doubles are bringing something new to drivetrain options.

For comparison, match that same 42/28T FSA double crank with a 10-42T cassette and gearing runs from 18 to 115 inches. Current front and rear derailiers can’t accommodate the chain slack of that setup, but this combination gives you an idea of the potential of pairing a mini-compact with a wide-range cassette.

Wide-range 10-speed cassettes — 11-42T and 11-40T — are available from IRD, Praxis, and Sun Race. Aftermarket cog and chainring specialists, such as OneUp Components and Wolf Tooth, offer parts to add range to older cassettes.

**Small Manufacturers**

Because you can’t use Shimano dropbar road levers with unmodified moun-
tain bike derailers (see Tanpan sidebar), and because road derailers top out at 32T, road drivetrains from the component giant are not touring friendly. But a growing cottage industry is looking to change that.

If Shimano’s road derailers could work with cassettes of up to 40T instead of topping out at 32T, the situation would be entirely different. Thanks to the Lindarets/Wolf Tooth $22 RoadLink, this is now possible.

The RoadLink relocates Shimano road rear derailers down below the derailier hanger, allowing their use with up to 40T cassette cogs. The link works best with 10- or 11-speed long-cage “GS” Ultegra, 105, or Tioga rear derailers.

Other drivetrain options
As if the traveling cyclist’s drivetrain dilemma weren’t complex enough, here’s a list of some less traditional options, in addition to the well-known Rohloff internal geared hub:

- Sturmey Archer offers a dizzying array of internal geared hubs, including hybrid hubs (internal geared hubs that also accept traditional cassettes). sturmey-archer.com
- Shimano 7- and 8-speed Nexus internal geared hubs, as well as 8- and 11-speed Alfine internal geared hubs (marketed for city and commuter bikes, these hubs may not be durable enough for loaded touring). shimano.com
- NuVinci continuously variable internal geared hubs (again, durability for loaded touring is questionable). nuvincicycling.com
- Schlumpf Innovations builds a trio of internal planetary-gear two-speed cranksets that double the gear range of an internal geared hub. cyclemonkey.com/schlumpf-innovations.shtml
- Patterson Transmission, made by FSA under their Metropolis line, is a two-speed crankset similar to the Schlumpf models but significantly less expensive. pattersonbike.com
- Truvativ HammerSchmidt is a beefy two-speed planetary crankset designed for mountain bikes. sram.com/truvativ
- Pinion gearboxes are internal gearsets that house the bike’s entire bottom bracket assembly (and thus cannot be retrofitted) and are now available through multiple bike manufacturers in the U.S., including Tout Terrain, Carver, and others. pinion.eu/en

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“I originally targeted cyclocross riders looking for 1x options with Shimano drivetrains. But now I expect more than half my sales are to tourists looking to get a triple's wide gear range with a double,” said Marc Basiliere, Lindarets's founder.

Although the RoadLink moves a derailier down to work better with larger cassettes, Basiliere warns that chain wrap remains a limiting factor.

For an Ultegra RD-6800-GS derailier, chain-wrap capacity is 37T. So, mounted on a RoadLink and used with an 11-36T cassette, that leaves a 12T jump for the double up front. Matched with a 46/36T Ultegra double, the gear range runs from 28 to 115 inches, which is too high.

However, use one of the upcoming mini-compact doubles, say a 40/28T with an 11-36T cassette, and a range of 21 to 100 inches is possible with a Shimano road drivetrain and your beloved STI shifters. The question is how well the Ultegra front derailier shifts on chainrings slightly below its design minimum.

Another popular Shimano workaround comes from Gevenalle, who currently offers the only dropbar lever/shifter for Shimano's 10- and 11-speed mountain derailiers, like its $219 GX shifter.

“The GX is proving so popular that it has been hard to keep in stock on our website,” said Gevenalle founder Adam Clement. “We originally targeted gravel bikes rather than touring, but from what we have heard back, many riders are using their gravel bikes to tour,” he added.

Clement notes that the GX front shifter is friction mode only, so it works with any road or mountain bike front derailier from any maker.

Because Shimano mountain cassettes now top out at 46T, 1x mountain options exist for the road using Gevenalle levers, but Shimano lacks the 10T small cog of SRAM, so high gears will be a little short. However, pair GX shifters with a 38/28T Shimano mountain double and an 11-36T cassette, and gears run from 21 to 95 inches.

Gevenalle machines GX levers so riders can choose between short or long cable pull on the same lever, making it possible to mix and match cable