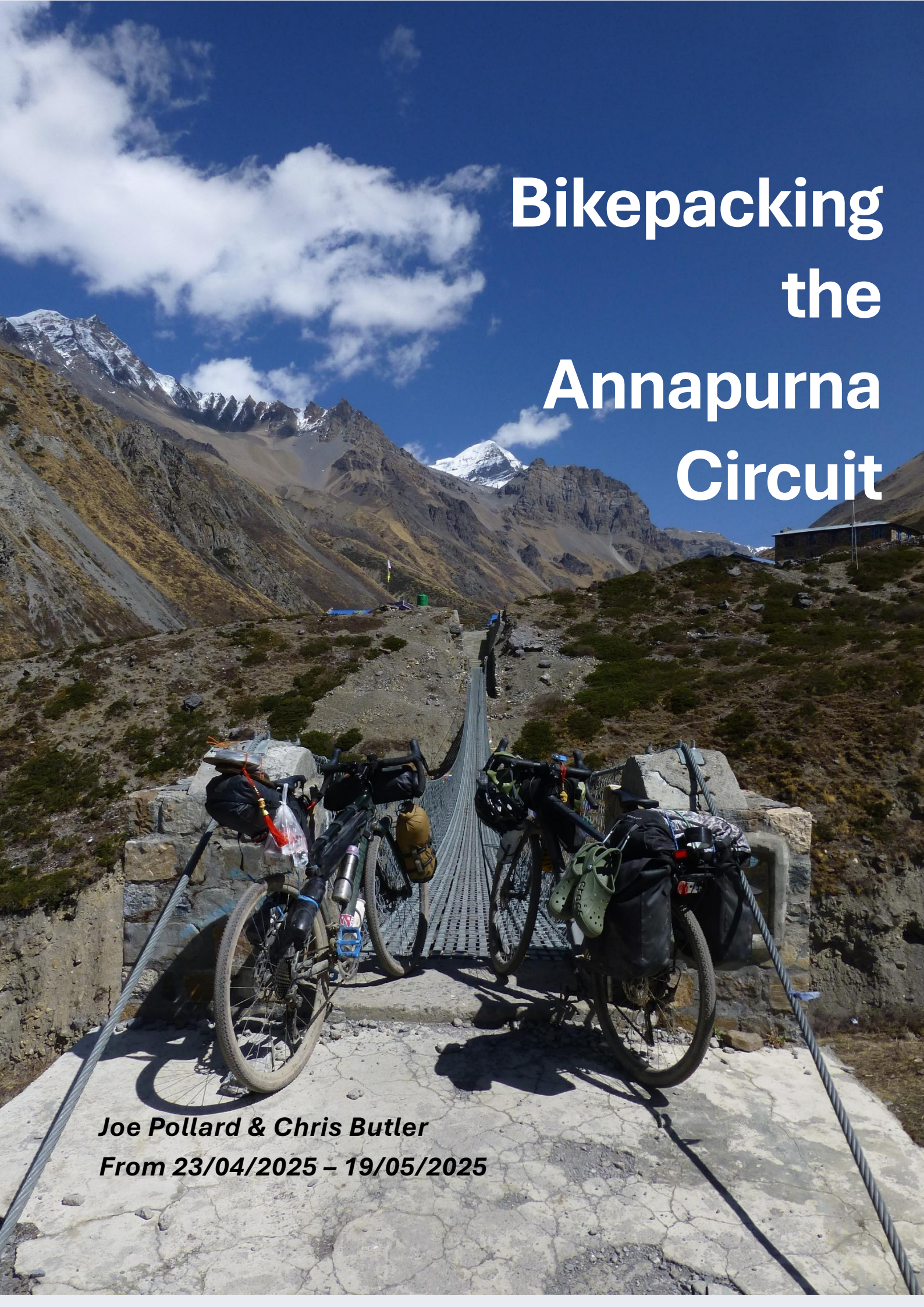


Bikepacking the Annapurna Circuit

Joe Pollard & Chris Butler

From 23/04/2025 – 19/05/2025

Abstract

This report recounts our 25-day bikepacking expedition around Nepal's Annapurna Circuit, completed between April 26 and May 19, 2025. Travelling entirely under our own power, we set out to test our endurance and self-sufficiency, while experiencing one of the world's most celebrated trekking routes by bicycle. Starting from Pokhara and climbing to the 5,416 m Thorong La Pass, we encountered an incredible diversity of terrain, weather, and culture. Along the way, we witnessed first-hand how new road networks and hydropower projects are reshaping the region. While these developments have brought greater connectivity and opportunities for local communities, they have also transformed the remote, trail-based character that once defined the circuit. Our journey became as much about understanding these changes as it was about physical challenge and exploration. Through this expedition, we gained a deeper appreciation of the balance between progress, tradition, and preservation in Nepal's high mountains, and the resilience of the people who call them home.

Introduction

The Annapurna mountain range, located in central Nepal, forms part of the greater Himalayas. The renowned Annapurna Circuit is a trekking route that spans diverse landscapes—from subtropical forests at lower elevations to arid high-altitude deserts and alpine passes. Traditionally, the full circuit covers approximately 200 kilometres on foot, though recent road developments have made it possible to shorten the journey.

Historically, this trail served as a vital trade route between Nepal and Tibet. However, the expansion of road networks into lower-altitude sections has significantly altered the dynamics of the region. While infrastructure improvements have contributed to a rise in

Figure 1: Source https://www.thehimalayakingdom.com/annapurna-region

overall tourism, many villages that once thrived on foot traffic are now being bypassed. As noted in the report by Bardecki et al. and its cited sources, this shift has sparked protests among local residents. Guesthouses, shops, and restaurants that previously catered to trekkers are seeing fewer visitors, as buses now transport hikers directly to higher points along the trail.

To better understand these transformations, we plan to traverse the entire circuit by bicycle, ensuring we pass through all affected regions. According to a travel industry publication, the route has lost much of its original charm due to these changes. The road expansion is also linked to increased hydroelectric development, largely driven by Chinese investment. Although these projects were intended to promote economic growth, they appear to have coincided with a decline in tourism overall.

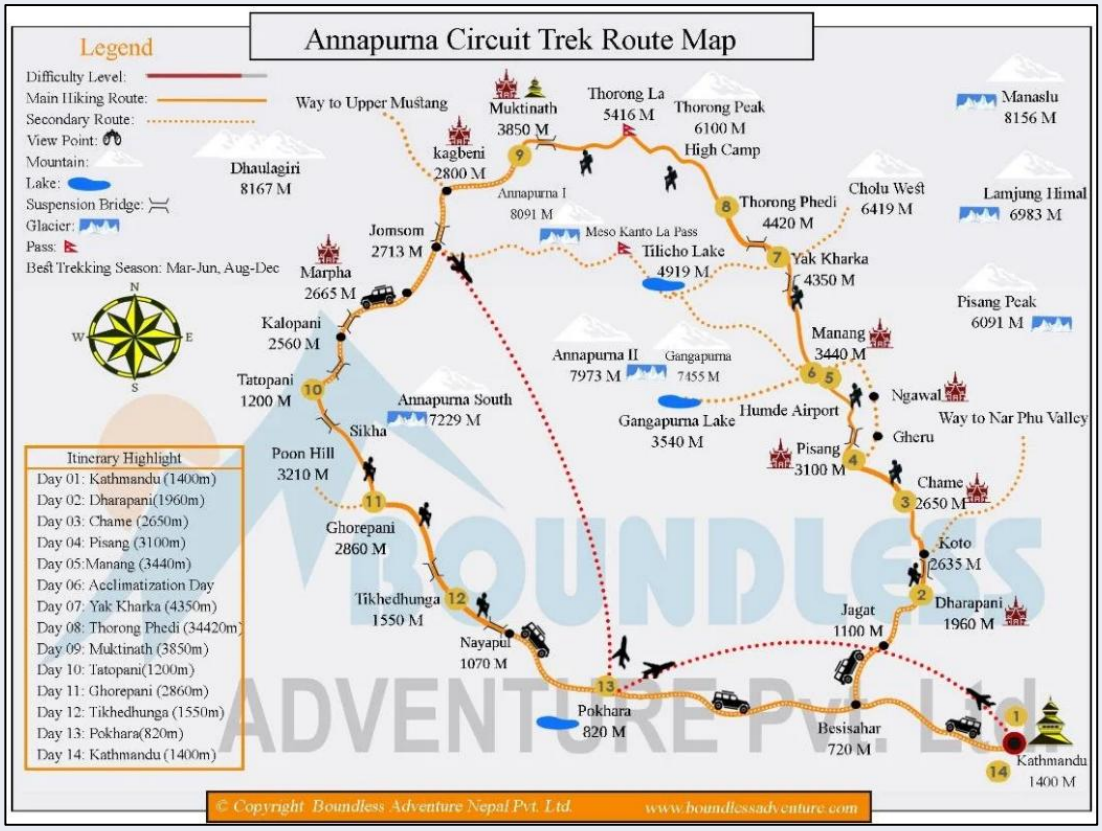


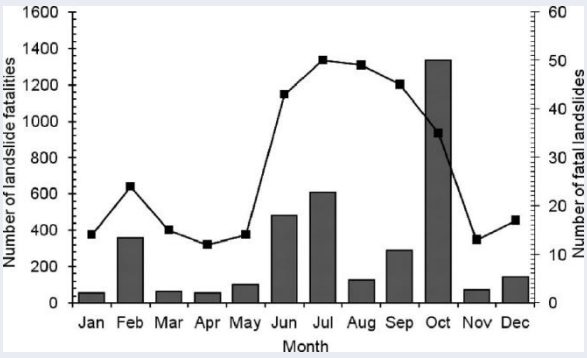
Figure 2: Annapurna circuit map found at https://walkingincirclesuk.com/hiking-guides/annapurna-circuit-trek-a-complete-guide

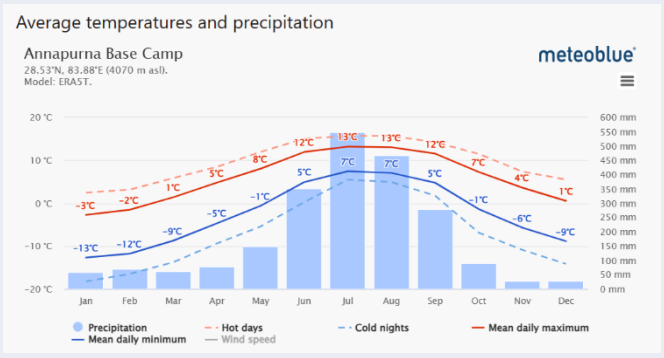
The Annapurna Circuit

The Annapurna circuit traditionally starts and finishes in Pokhara, although many trekkers now start at higher up towns such as Chame and Manang and travel via motorised transport. Typical stops include the major towns as follows: Pokhara→ Chame → Pisang → Manang → Thorong La Pass → Muktinath → Jomsom → Tatopani → Besisahar → Beni → Pokhara. Traditionally it is trekked counterclockwise. In the event of dangerous weather conditions, this allows for easier access to shelter and a longer (safer) ascent. Typically, the trek takes 21 days in full, and travels over the Throng La pass at 5416 m. The route crosses two river valleys: Marsyandi (east) and the Kali Gandaki (west) The route in circulates the Annapurna mountain range, consisting of 4 peaks with the highest the notoriously dangerous Annapurna I, a summit of 8091 m.

After the opening to foreign travellers in 1977, the route became iconic in its challenging but beautiful landscape, including hikes to the highest lake in the world; lake Tilicho. In it's current state, it is possible to get by motorised vehicle transport to Manang, and Muktinath on the other side of the pass. In between are solely footpaths (although cyclable for the most part).

Meteorology on the circuit





The circuit has two main trekking seasons — pre-monsoon (March–May) and post-monsoon (October–November) — when skies are generally clear, temperatures moderate, and trails dry. During the summer monsoon (June–September), heavy rainfall affects the lower valleys, causing landslides and swollen rivers, while the winter months (December–February) bring snow and freezing temperatures above 3,500 m, often closing Thorong La Pass. For this expedition, we chose to travel at the end of April and throughout May. This is the lowest risk of landslides and avalanches. In addition, it is just after the main trekking season, hence teahouses will be less crowded.

Aims of the expedition

1. Complete the Annapurna circuit via bike packing.

2. Complete the circuit without the use of motorised transport. Where most hikers use shuttle buses at the beginning and end of the circuit. We aim to prove that the whole loop can now more readily be accessed via human power, through adopting cycling as a mode of transport.

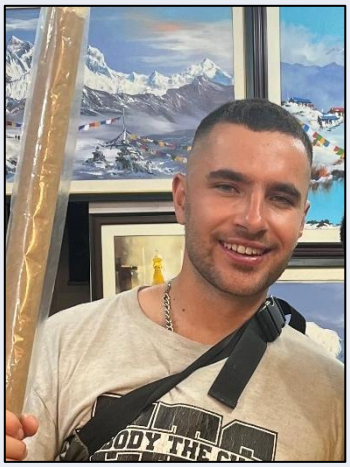
3. Assess the impact of increased road access to the higher regions of the trail. The reduction of hiker foot traffic the villages in the lower regions and the increased commercialisation of the trail.

Team bios

Details and experience of the team:

Joe Pollard: Completed a PhD in Materials at Imperial. Warden of Imperial halls of residence 4 years. First aid trained. Fieldwork first aid trained.

Experience:



- Bike packing in Rwanda (2 weeks, Jan 2024)
- Wild camping in the Dolomites, Italy (1 week 2023)
- Hiking in the Andes, Peru (1 week 2022)
- Wild camping in Snowdonia, Wales (Multiple times 2019-2024)
- Vaccines: Covid, Typhoid Yellow Fever, Hep-A, Tetnus, MMR, Flu, Rabies

Chris Butler: Completing PhD in Materials at Imperial. First aid trained. Fieldwork first aid trained. Undergrad in mechanical engineering at the University of Nottingham.

Experience:

- Bike packing Normandy, France (July 2024)
- Cycling in Scotland, island hoping (Multiple times 2016-2024)
- Off-piste skiing France, Italy (Multiple times 2017-2024)
- Hiking in the Scottish Highlands (from birth)
- Vaccines: Covid, MMR, Td/IPV, Flu, Rabies, Hep – A, Typhoid

Equipment

Figure 3: Bike setup on leaving Pokhara (Chris left , Joe right)

Bike setup & equipment

- Ribble Gravel AL (left) bike with Pirelli Centura Adventure 45mm tyres, Boardman Adv 8.9 (right) with Continental 45mm gravel tyres.
- Shimano GRX 400 group sets. Flat mtb pedals. Shimano GRX hydraulic disk brakes.
- Bags: Chris- Oxford aqua evo saddle bag (11l), top tube tab (4l) & handlebar bag (9l). Font fork cage and dry bags (2x 5l). Joe – 2 x 22 l rear pannier bags. 6 l handlebar bag. Small frame bag.
- Water carrying capacity: Chris 3.6 l, Joe 3.5 l.

Bike spare parts

- 10 speed quicklinks x2
- 10 speed chain links x 8
- Brake pads x 4
- Tyre boot kit
- Inner tubes x 6
- Tyre levers x 6
- Chain lubricant
- Rear derailleur hanger
- Tyre pump x2
- Zip ties & buckle straps
- Gear cabling
- Assorted spare hex bolts
- Brake cleaner
- Mounted lights
- Mountain biking helmet

Clothing (One set each)

- Lightweight Down Jacket
- Shell raincoat
- Thermal Underlayers Top & Bottom
- Padded waterproof trousers
- Breathable t-shirts
- Padded cycling shorts
- Over-shorts/sports shorts
- Cargo trousers
- Hiking boots
- Flip-flops/sandals
- Cat 4 sunglasses
- Cycling glasses
- Buff/Dust protector
- Sun hat
- Wool hat
- Thick gloves
- Thick socks and sports socks

Additional equipment

- Sleeping bags x2
- Katadyn Hiker Pro water filter – borrowed from Exploration Board
- Iridian Satellite Phone & Sim – borrowed from Exploration Board
- Garmin InReach Mini 2
- SteriPen UV Portable Steriliser
- Charing cables & portable chargers
- Headtorches x2
- Detailed map & Compass
- Passports & Conservation area permits

First Aid kit

- Triangular bandage
- Gause bandage
- Crepe bandage x2
- Trauma pad
- Antiseptic fluid
- Blister plasters
- Duct tape
- Paracetamol & Ibuprofen
- Diamox
- Survival blankets
- Scissors
- Electrolytes
- Iridium
- Sun cream

Notable equipment: The SteriPen performed excellently throughout the trip. We didn't suffer from illness associated with poor water quality throughout the trip. The SteriPen can only work with high transparency water, which was usually always available. The sleeping bags were not necessary. However, at basecamps the nights are extremely cold, and insulation of the lodgings is thin. A warm sleeping bag, although heavy, seemed essential and improved the quality of our sleep in preparation for the long days over the summit. The Garmin InReach Mini 2 allowed us to update family where the signal and wifi was lacking (the majority of the circuit). It also comes with a satellite SOS button for emergencies. A portable and rechargeable lamp added so much comfort when at the basecamp guesthouses and throughout electricity shortages, allowing for reading in the

wind-down or waiting sessions. Finally, a special mention to Acetazolamide, which greatly helped to avoid altitude sickness.

Training

Physical training

Strength and conditioning training were planned twice a week in the gym focusing on cardio and leg endurance. Further weekly interval and VO2 max training were undertaken at Regents Park and Richmond Park in the two months prior to the trip.

Equipment preparation and testing

The west coast & highlands (26-29th March):

The Scottish Highlands provided an excellent combination of gravel riding, steep uphill and remoteness, which was perfect for testing the capabilities of our bikes and ourselves. The training trip spanned three days, with cycling to and from a house located on the edge of Glen Ure. In order to get to the house, we cycled along the Caledonia way from Fort William. On arrival, we cycled through the foothills of Glen Ure along mountain paths. We very quickly realised that the bikes were far too heavy with all of our planned equipment attached. This allowed for a streamlined equipment list, with only the truly essential items and clothing. This also provided some motivation for some last physical training sessions before embarking on the adventure. In total the trip was 96 km on roads and bike paths, with a further 40 km on mountain paths and gravel routes. The total elevation gain mapped was 2667 m over the three days.

Logistics

Travel arrangements:

Flights to Kathmandu were necessary, with an option for an internal flight to Pokhara on arrival. Pokhara is the start and endpoint of the circuit. Flights to Kathmandu included a layover at Istanbul. It is important to check the airport policy on satellite phones. For instance, they are illegal if stopping through Delhi. The internal flight to Pokhara was from the same airport, hence logistically easier than travelling into Kathmandu for a coach. In addition, the flight was more than capable of handling our oversized bike boxes. For the return journey from Pokhara we took the overnight coach, whilst much cheaper it was longer, and the bike boxes only just fit in the luggage.

Permits & Visas:

The only required permits were Annapurna Conservation Area Project (ACAP) Entry Permit. Permits for access to the Annapurna Trail were required and were easily obtained by visiting the tourism office in Kathmandu, which was our first point of call upon arriving in the capital. 2 passport size photos are required per person, but the can be taken and collected from photoshops nearby. Visas can be applied for beforehand and collected from the Embassy of Nepal or can be purchased in person on arrival. Under 3 months is USD$40.

Insurance:
A specialist insurance policy for the trip was written by Jade-Stanley insurance, which covered travel, health and the cycling touring aspect across the Annapurna Circuit, up to 6000 m. Most other insurance companies either did not cover high-altitude, or cycling as the main mode of travel.

Food and accommodation:

Hospitality for trekkers is a major income for locals on the circuit. Teahouses are located at regular intervals, providing locally grown food and rooms for sleeping. As we were travelling after peak season, there was no need to book ahead for accommodation. However, at peak season this may be a requirement at the basecamps and high camps. Most of the teahouses allowed for us to take the bikes inside or even store them whilst we left on the hike to lake Tilicho. Trekking shops were only available at the major towns above 3000 m on the circuit, such as Chame, Manang and Muktinath. Taking out cash was less common, with no withdrawal machine in between Manang and Muktinath.

Medical arrangements:

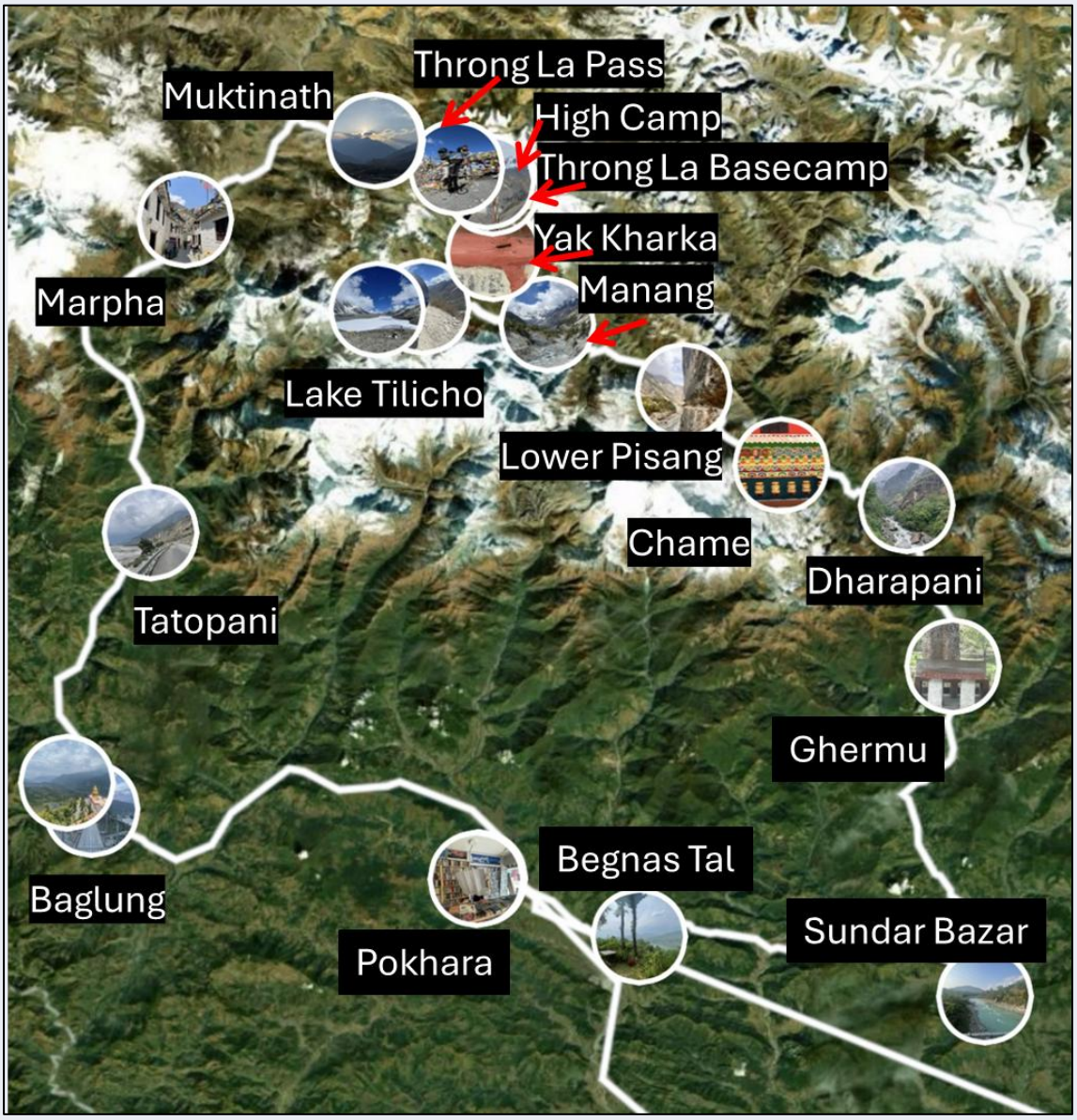
There are basic health posts/clinics in several villages on the Circuit, including places like Manang and Chame. These can handle minor injuries, general ailments and altitude-related symptoms. A helicopter service can be called in for more severe altitude related

illness (HACE and HAPE). However, this cannot fly at nighttime and in adverse weather conditions. The contact number for this is specific to the insurance policy. Fieldwork first aid and emergency first aid courses were undertaken before departure by all team members, and an appropriately stocked first aid kit was carried by one member of the team.

Communication

The mobile signal was non existent in between Chame and Muktinath. Teahouses often had WIFI, but this was temperamental. Power cuts meant that there was no WIFI at all past Manang until Muktinath. The Garmin InReach Mini 2 provided an excellent option for short messages to relatives, and as an SOS GPS device.

Route map



Route elevation

Distance: 400 km, Ascent: 12,400 m, Descent: 12,400 m

Diary

Day 1-4: Arriving and preparation




After a long flight from Gatwick to Istanbul to Kathmandu we touched down in Nepal. We get our bags and bike boxes onto a trolly and raced across to the domestic airport, the chaos of Kathmandu airport, was a sight to behold, people everywhere shouting and queues had no rhyme or reason to them. We got booked on the soonest flight to Pokhara, which left 5 minutes after we arrived. However, the words "We hold flight for you" left us feeling pretty confident we will get on board no issues. Our bike boxes and bags were rushed away in a melee of broken English and handshakes. We made it almost made it through security until Chris' bike lock was held back and he almost missed the flight.

Having touched down in Pokhara we got a tiny taxi to strap our giant boxes to the roof with some "rope" and made it to our accommodation. We got some breakfast and coffee and set about building our bikes and organising our kit. In the evening we got some beers and local food and watched a beautiful sunset over lake Pokhara.

The next day we got our *ACAP* permits and then got stuck into more of the local food later – Dal Bhat, which we would see a lot of throughout the trip. Joe got supplies and did some final prep work and we set off, eager for the road ahead.




Day 5: First day to Begnas Tal.

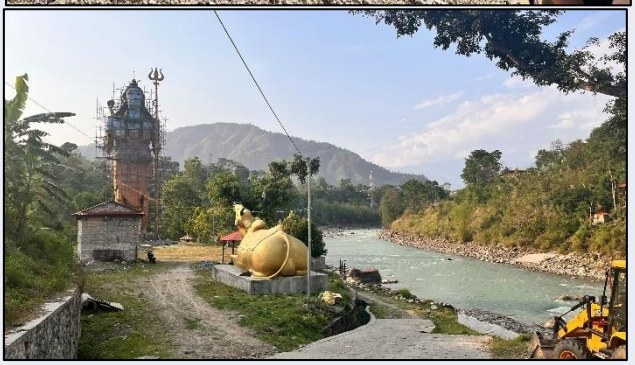
Distance: 12 km, Elev Gain: 318 m, Peak altitude: 840 m

The initial road out of Pokhara was in the middle of being constructed, this made for pretty grim riding avoiding heavy machinery, lots of dust and pollution and many dead ends and problem solving. Once we made it out of the city, the greenery flourished and the peaceful tranquillity of the countryside made for a much more enjoyable ride. The heat and humidity proved to be a challenge.

We stayed at a beautiful tea house tucked into a hill side overlooking the Annapurna region. The owner showed us his vegetable garden, his bees and shared a keen interest with bird watching. We had lots of ginger tea and looked out over the Annapurna mountain range.

Day 6: To Sundar Bazar.

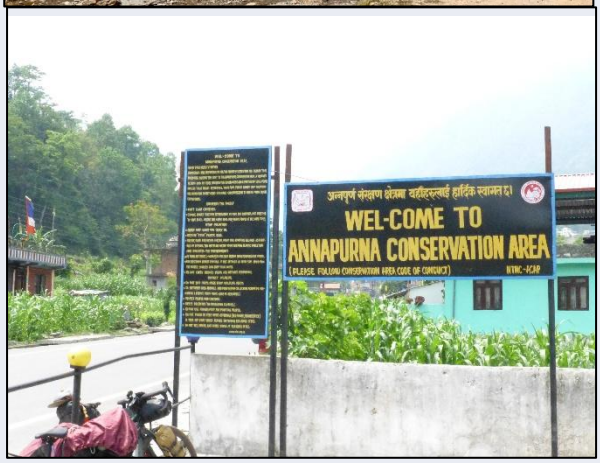


Distance: 50.2 km Elev Gain: 1180 m, Peak altitude: 1150 m

After enjoying some amazing banana pancakes with a fantastic view of Annapurna, we rushed off, with a big day planned ahead of us. However, about 5 km down the road the owner of the tea house chased us on his scooter as we forgot to pay. We paid him a little extra for his trouble and felt bad as we'd been so preoccupied with getting ready we totally forgot to pay. The rest of the ride went well, the scenery was stunning, and the road was changing between almost impassable to brand new tarmac. We ended the day in Sundar Bazarr and explored the temple nearby, where Joe went for a dip in the water and a teenage girl asked us to be in a tiktok video, we obliged.

Day 7: Starting the climb; to Ghermu



Distance: 43.5 km, Elev Gain: 1325 m, Peak altitude: 1100

We set off from the Sundar Bazar after waiting again for the rain to clear. The roads out were busy and a mix of tarmac and rocky dirt roads, but very straight. Quickly we arrived at the Annapurna Conservation checkpoint. We were greeted by the checkpoint hosts, from Pokhara. We cycled on through, immediately quieter with less traffic and the road turned dusty after a hydroelectric dam. The road continued to rise with the rover and the change from sharp hills to jagged mountains was superb. We saw many beautiful places for coffee but we carried on through. The road was a dusty track, with occasional cobbles. However, it was great for our gravel bikes. We noticed heavy traffic, jeeps lorries and motorcycles. The motorcycles mainly seemed to be tourists. The lorries either for the hydroelectric dams or construction. Eventually, we split from the hiking trail, thought a tunnel. The tracks worsened every time we passed a village or road construction site mainly because they pour water onto the dirt track which washes away the top sandy layer leaving lots of sharp rocks and uneven surfaces. The road became muddy and impossible to cycle through at periods. But on the higher dry points was good to cycle through. We arrived at our teahouse in Ghermu. The owners greeted us. We were exhausted by felt accomplished. We washed our bikes down and pushed them though to a balcony with a nice view of the river. We immediately ordered some food: Dal Bhat and Tibetan bread, which was deep fried bread and honey. The chef came out to greet us and we chatted, he told us about the hikers and tourers and how less fish were around now.

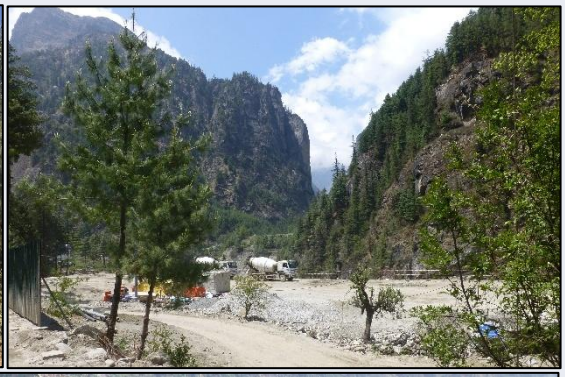
The dust from the heavy traffic and construction gave us both rough coughs. We slept with the sound of the waterfall and had a large breakfast the next day.

Day 8: Climb to Dharapani

Distance: 24.6 km, Elev Gain: 1300 m, Peak altitude 2700 m

It was raining the next day, we waited for it to stop whilst having breakfast. From Ghermu we aimed for Dharapani. A mountain biker ahead of us had told us a great teahouse to aim for. The roads continued to be a mix of dirt and construction roads with heavy traffic. However, the steepness increased, with frequent hills. We started strongly with frequent snacks, but the quality of the roads, with mud and silt made induced fatigued extremely quickly. By Dharapani, we were feeling exhausted. We chose a very pink, but lovely looking teahouse with a welcome couple as hosts. We ran down to the waterfall for a potential swim. It was brutally cold, and we only managed a quick dip. We ordered Dal Bhat and omelettes and Tibetan bread. The walls were thin, and we read to the sound of one of the neighbouring American hiker's relationship issues.

Day 9: Climb to Chame


Distance: 19.7 km, Elev Gain: 1170 m, Peak altitude: 2710 m

In the morning we ordered the set breakfast: potato curry, porridge, bananas and some toast. We set off, with intentions for Chame; a larger town at 2500m. This time we opted for a more conservative approach to the hills. Cycle where you feel it is most efficient, and push the steep hills. We made good ground and powered through the first large altitude rise of the trip. Through winding pinhead roads and more road construction. At the summit there was a peaceful farm with some cows and donkeys. Hikers looked impressed with our climb. Over the ridge we saw a gathering of vultures, riding the air currents above a forest on the mountain side. We then rode along to Chame. We found a teahouse called eagle-eye teahouse where we had lunch; pizza , omelette and Tibetan bread. In Chame there was a school, and some shops but not much else. We met some Aussies that were guided on a tour and chatted to them over dinner.

Day 10: Lower Pissangs

Distance: 17.7 km, Elev Gain: 950 m, Peak altitude: 3880 m.

The morning we decided to split the ride to Manang in two: party to acclimatise but also because we were on schedule. We headed for Pisang and we could hike to the Green Lake in the afternoon. We adopted the pushing and riding strategy again. At this point both the road and the trail overlapped. The road passed through some stunning scenery, next to the river. Thou mountains were more rocky and jagged, which contrasted with the blue river. At one point the road was carved into the face of the mountain. We then encountered first real hill, which we pushed up most of. The road then entered a vast valley at the summit. We passed a Bob Marley teahouse in Pisang, where we stayed. There was a super energetic kid who enjoyed playing with our bikes. We had some lunch and headed out to the Green Lake. About a 45-minute hike away. It was green due to the algae, and there was concrete construction around it. Some wild horses decided to join us. After hiking back, the owners showed us to a hot shower. We had Dal Baht and chatted to some Canadian tourists who gave us some advice on where to stop: Muktinath at the

Bob Marley hotel the other side was meant to have good food. In addition, they advised us to pull into the lesser touristy Blue Lake on the next stretch.

Day 11: Arrival in Manang

Distance: 17 km, Elev Gain: 480 m, Peak altitude: 3540 m.

It was a beautiful morning. We aimed for Manang, but the bikers had told us about a Blue Lake which was in the way. We climbed for a while, but that quickly levelled out. The surroundings became fantastically dramatic, as if in a western. Craggy jagged rocks on the mountain side, with pines and circling vultures. The sun was strong. We found a dusty path that lead off from the road. Eventually we found the lake: much more untouched than the Green Lake. The lake was in the foot of the Annapurna range. We sat for quite a while before continuing. The dust road became concrete as it valley broadened. It wasn't long before we found Manang. Just as the roads became unrideable. We'd heard much about Manang, but it was smaller than I'd expected. The views were better. Immediately we met lots of European hikers, hotels and bakeries. We found a teahouse called the Royal Manang, with an elderly owner and cheap room price. We unloaded all our bags and ventured out to a bakery. We wandered around and had beef dhal baht for dinner at the teahouse.

Day 12: Well earned rest day


We had set aside a rest day in Manang before we set off on an acclimatisation hike to Tilicho Lake. Manang had everything we needed including a top up of some hiking gear. We hiked to the glacial lake opposite and beyond to a very wide, flat riverbed. We met the Aussies again. In the afternoon the local altitude health centre held some talks. They were very useful, more than anything confirming our own research. Interestingly, it was 4 British doctors and one Nepalese doctor at the centre. That afternoon I read in the sun, and we chatted to an Australian elderly man. He was very sweet and was on a hike with a Tibetan guide. Buff dal Bhat. Bed.

Day 13: Hike to lake Tilicho basecamp

Distance: 16.59 km, Elev Gain: 923m, Peak altitude: 4275m.

We started off on the hike early: 7 am with all our warm kit packed into foldable back packs. The sun was already intense. We walked out through the signposted trail and along

the farmlands that supplied Manang. Still cattle powered. The path ran alongside the river, slowly rising. A local yelled something at us and pointed at some goat looking animals that were grazing. They were blue sheep we'd later find out. Quickly the path rose and hare-pinned up a mountain. We took the path very slowly. The path levelled out along the ridge around 4100m. We followed this for an hour or so before we were greeted with a sign "Landslide Area". The mountainside at this point was full of jagged rocks standing above the crumbling gravel of what used to be the mountain face. The dramatic scenery we had admired from afar, we were now walking through. At this point the hiking traffic was high, we had a sense that the basecamp was near. Within an hour we had turned several corners and could see the camp. The weather had just stared to turn as we pulled in. We saw our old Ausie friend and decided to stay in the teahouse with him. The guide had a word with the owner, and we got a room for a very cheap price. As the sun faded cold immediately set in. We needed sleeping bags and the thick duvets to keep us warm. We emerged for dinner, the teahouse was now crowded but we found some room with the Ausie bloke. Overnight was freezing but somehow humid, and the proximity of the toilet was noticeable.

Day 14: Early hike to lake Tilicho and back to Manang

To the lake: Distance: 13.00 km, Elev Gain: 899m, Peak altitude: 5012m.

Back to Manang: Distance: 15.53 km, Elev Gain: 335m, Peak altitude: 5012m.

We woke at 4am. Flashing torchlights outside informed us this was a common time to start the hike. After some slow readying we left circa 5 am in the pitch black. We used Joes head torch and bike light to guide us through the village, avoiding the horses up onto the trail. It was initially steep. The distant caravan of lights guided us. Many hiker were already ahead of us. Within 20 minutes the sun had started to graze the tips of the peaks of the mountain in orange light. We didn't need the torches for long. Ahead of us some horses were making their way down. The last two males were having a fight. We carefully evaded them off the path, but watched as they reared and fought towards the hikers below. The ascend was

already difficult, forcing us to stop at regular intervals. Low mist and clouds filled the valley obscuring vision, yet above the clouds were the distance sunlit peaks, framed perfectly by the mist. Eventually the fog clouded everything, and we marched higher. Donkeys carrying people and provisions overtook us. Slowly we ascended through switchbacks. Near the summit of the hike the weather cleared, unveiling the snow and rocks surrounding. We reached the lake in full Sun. The lake was at the foot of a glacier and covered in a sheet of ice. Many hikers were already sitting and admiring. A hut sold coffee and tea, and we had our first celebratory Tunnocks. We knew the hike back to Manag would be long, and so we set off after an hour or so. The hike back was much faster, and we felt that we had acclimatised well. We arrived in Manag as the sun was setting.

Day 15: Rest day in Manang

We loaded back up on provisions and Diamox, which you could buy from any of the stores there. We played some card and ate and drank in the darkness of yet another power cut.

Day 16: Back on bikes climbing to Yak Kharka

Distance: 11.03 km, Elev Gain: 571m, Peak altitude: 4038m.

From Manang we were advised to climb no more than 500 m per day, to minimise the risk of altitude sickness. We left Manang on the hiking trail, no more road from here. Immediately we encountered stairs leading up to a path leading along the side of a valley, away from the river of which we had been travelling on all this way. The trail was sandy

but firm and quite smooth – with only thorned bushes to watch out for. We cycled for hours, only encountering one local man on a horse. The valley flattened into large grassy flats surrounded by the mountains, with yet more blue sheep. We crossed another hanging bridge to find a field of Yaks. We'd been told to stay away from the Yaks by the doctors in Manag, for the fear of being gored. Another local ahead of us threw stones at the Yaks, to move them off the path. After a short period more cycling though more Yak planes, we reached Yak Kharka. It was a small town consisting of only teahouses. We much preferred smaller houses to the large ones. They were often quieter, and better equipped. We cycled past the large teahouses, seeing other hikers which we had become familiar with at this stage eventually finding a small house with a fantastic view which was slightly further up the tail. After some yak dal bhat and some chilling with the view we went to sleep. Just as we fell asleep we notice some of the gnarliest looking centipedes crawling along the ceilings. The owners laughed at us in the morning and said were completely harmless.

Day 17: Climbing to Thorong Phedi

Distance: 8.24 km, Elev Gain: 591m, Peak altitude: 4589m.

There are generally two options for travelling over the pass, either to stay at the lower Thorong Phedi camp and travel over the pass in one day or to split the pass into two days, staying at the high camp for one night. We decided it was sensible to split the climb into two, as we were already feeling the altitude. Thorong Phedi lower camp was renowned for often being fully occupied during high season, so we set off early to beat some of the traffic. Many other guides were also setting off at this time. On the singular tracks the hiking traffic was the highest we had seen it. We met yet more Aussies, who took some photos of us. We reached a fork in the route – we asked a guide which he recommended for us. He was adamant in the shorter route, which may be slightly steeper but lower overall. Another guide told us to take the longer route. It seemed nobody really knew so we took the lower route with the least hikers. The route initially led us down and over a valley, with sharp switchbacks on the opposing side which were exhausting at such high altitude. However, the rest of the route was much steadier, travelling through landslide risk area on the side of the steep valley. The view into the basecamp was superb, set on the side of a steep mountainside with fantastic cliff faces and views of distant mountain ranges. We saw the second route emerge from the other side of the valley, the hikers on that route travelled over an immensely long hanging bridge to reach the camp. Stopping for a while at the main camp, we decided to try for a smaller camp which was one hundred metres or so further up the mountain. It would mean a shorter day for tomorrow, and we still had some energy left. There was no power in the evening. And as soon as the sun set the temperature dropped. We read by our portable lamp, and joined the other hikers in a stove heated living area followed by a watching of the Matrix.

Day 18: Short but steep climb to High Camp

Distance: 5.91 km, Elev Gain: 371m, Peak altitude: 5222m.

The route to high camp was simple in theory. A 500 m climb up the side of the mountain. We could almost see the high camp. We had also decided to offload some of the weight of the bags into light backpacks to make the man handling of our bikes much easier. This was we could shoulder them and hike up especially steep sections. Many of the hikers planned to travel over the whole pass, and would have set off very early. Progress was extremely slow, but we could stop and admire the view every time we needed a break. The blue sheep were back, much closer this time. The high camp was completely empty, everyone has left to complete the pass, so we had pick of the rooms. The day had been short so far, so we thought that an acclimatisation hike would be a good idea – to head up to the viewpoint and about 500m further up the trail. The viewpoint covered the whole valley to the next mountain range. It was almost impossible to take in everything that we were looking at. A hailstorm started to hit us as we carried on further up, so we turned back around pretty quickly and sheltered in high camp until it passed. Some fried rice later and we slept pretty heavily, with occasional waking for minor altitude sickness symptoms. This faded with an additional dose of Diamox.

Day 19: Over the top: The Throng La pass and a bumpy ride down to Muktinath

Distance: 18.52 km, Elev Gain: 564m, Peak altitude: 5416m.

We set alarms for Sunrise, and had breakfast watching the mountain peaks slowly start to find the light. Both of us were feeling quite broken at this stage from the lack of good sleep, and questionable food hygiene. The altitude meant frequently stopping, a lot of hydration and long breaks. We were only pushing our bikes up, and few hikers passed us with much lighter gear. After a few hours of pushing up we could see the summit, accompanied with mounds of colourful prayer flags. We reached the top and had a celebratory Tunnocks. There was another hut selling hot drinks, so we had a ginger tea and looked over the next stretch of cycling, thankfully it would be downhill. The man hosting the hut explained he did this during the hiking season and went back to being a Gurka for the rest of the year. After an hour we set off down towards the regio of Mustang. The scenery immediately changes, with much less steep, wider valleys. The route down was still steep however, and for the first part we were still hiking the bikes down. Soon the track became rideable, and we could start to slowly ride down sections, controlling the descent with the brakes. The track became much steeper as we neared some buildings, which signified the end of the pass. However, we took a wrong turn by following the route of another cyclist off Kamoot. This path was unrideable and exceptionally steep. We stopped at the buildings, which were restaurants, to refuel but we were exhausted at this point. We'd heard the road after the pass was much better. In actuality, it was dusty and hellishly bumpy. We were thankful of our suspension stems. Even so, any speed collected on the descent led to brutal oscillations. We could see the hiking path across the valley, this looked much smoother and would potentially have been a better route. The road wound downwards to Muktinath, a developing town in the Mustang Valley. We aimed for the Bob Marley hotel, after recommendation from the Canadian motorcyclists. On arrival we were greeted by staff, and were so pleased to see a hot power shower and burgers on the menus. A couple of well earned beers and we were quite happy again.

Days 20 & 21: Rest days in Muktinath


Muktinath is visited by huge numbers of Nepali tourists. The Muktinath temple is one of the most sacred pilgrimage sites for both Hindus and Buddhists. Huge amounts of tourists travel by bus and either walk, or are carried on chairs to see the temples. It is located above the town of Muktinath, up a huge set of stairs. The views were exceptional. We gathered some high calorie snacks on the way back and other much needed supplies.

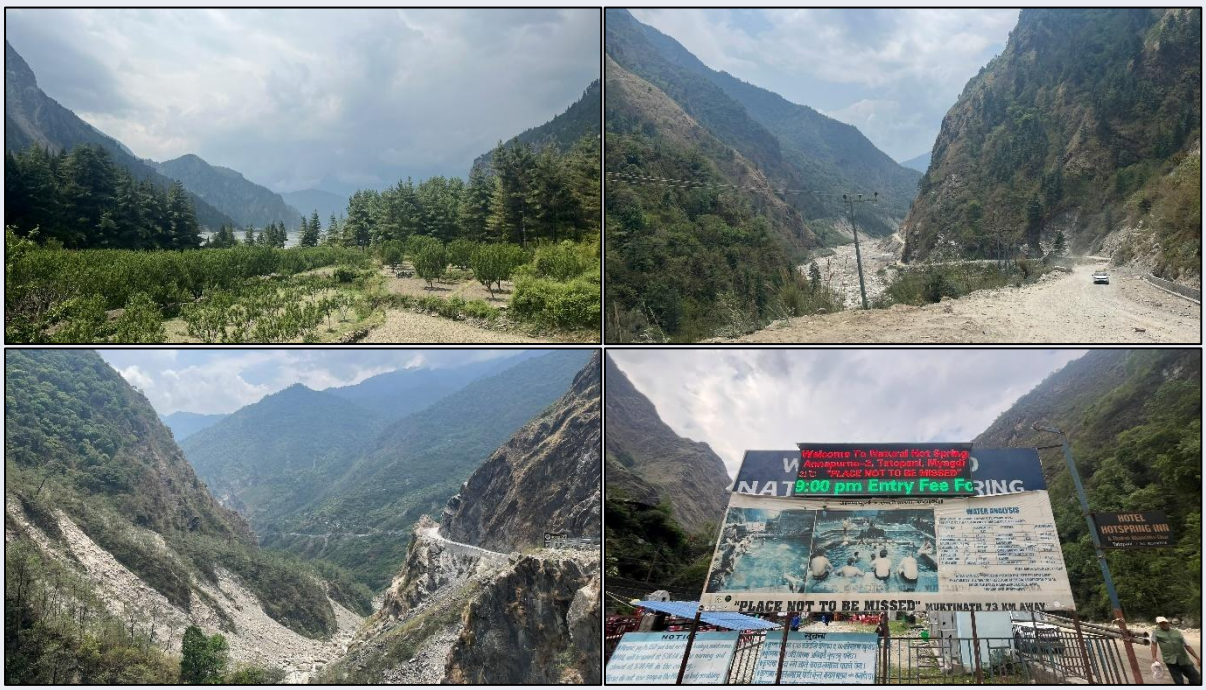
Day 22: Marpha; on recommendation




Distance: 26.86km, Elev Gain: 165m, Peak altitude: 3688m.

Our original plan was to stop in Jomsom, a well known hiker stop. One of the hotel staff informed us on Marpha, which is very popular in local travel. We liked the sound of it, and set off with Jomsom as a backup as they were both very close. The roads leading out of Muktinath were smooth tarmac, winding down the valley. Likely built to provide good transport for the internal tourism of the temple. We made short work of the descent, covering 15 km or so in a matter of minutes. As the road turned south into a huge river valley we were confronted with remarkably strong and constant headwinds. We had to actively pedal on descent to keep moving. It was manageable until the dust also joined the wind. This was worsened everytime we crossed roadworks. In a similar way to the beginning of the trip, we enountered large stretches of finished and then unfinished tarmac. We passed through Jomsom, but didn't think much of it. There were a few hiking teahouses and an airport, not much else. Marpha on the other hand was a pretty village tucked into the side of the mountain. Rows of apple trees were farmed along the front of the village, and la large metal apple logo hung above. The houses were traditional to the Mustang valley. We tried the local cyder, which was not weak, and explored the village and temple.

Day 23: Tatopani and a well needed bath



Distance: 43.70 km, Elev Gain: 508m, Peak altitude: 2693m.

At this stage we could cover much larger distances on the bike. Tatopani was a well know stopover for hikers, and allegedly had beautiful natural hot springs. The roads down were a mix of tarmac and bumpy dirt, but were much smoother than previously encountered. The teahouse had a beautiful garden. There were many mor motorist tourists staying at

Tatopani. The baths were concrete and on the side of the road, not what we had imagined, though we enjoyed the hot water and chatting to some other tourists.

Day 24: Down to Baglung


Distance: 52.54 km, Elev Gain: 1020m, Peak altitude: 1441m.

One of the alternate routes would be to cycle over Poon Hill, which allegedly had some of the nicest views in the region. We were slightly pushed for time at this stage, and had heard mixed reviews on the roads up and down. Enjoying our previous days in the lower local towns, we thought that Baglung may be more enjoyable. It also boasted the 2nd longest suspension footbridge in the world. The road traffic was now heavy again, and we arrived in the late afternoon. The suspension bridge was indeed quite impressive, although it is not for someone scared of hights.

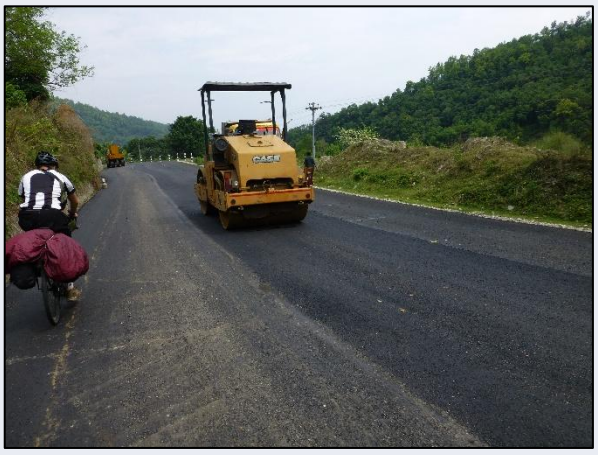
Day 25: Full circle – back in Pokhara

Distance: 23.64 km, Elev Gain: 926 m, Peak altitude: 1738 m.

The roads back to Pokhara were extremely heavy in traffic – both light and heavy. On maps, the roads became dual carriage for a section. In addition, there was nothing that we could find that we thought was worth stopping at on the route back to Pokhara. We decided it would be best to hire a jeep to take us back. It was just over an hour jeep ride, or 4-6 hours cycling. Instead of the cycling the road back, we thought that we'd at least cycle up to a Temple 1000 m above us in elevation, this time without bags. We were surprised just how much lighter we felt, although eventually in the heat we started to find our limitations. The cycle back was fully downhill, and we arrived at the hotel in a few minutes. Soon after, the jeep turned up to pick us up, we were squeezed in with another family and the bikes strapped to the route with a fishing net. In hindsight, we were glad we had taken the jeep for the roads back to Pokhara. The traffic was fast and full of overtaking buses and jeeps. It might not have been the safest cycling conditions. The driver dropped us at our hotel, and we unloaded all of our equipment. Both of us were desperate for Pizza and we celebrated with a few drinks, feeling good about completing the circuit.

Accounts of development along the route

The Annapurna circuit is a legendry hiking path. Since the lifting of the restriction to allow foreign trekkers in 1977, it has become an iconic trek taking approximately 21 days to complete by foot. Before the 1970s, the route existed as a trading and pilgrimage tack. Local Gurung, Manangi, and Thakali people used it for trade between Tibet and lowland Nepal for centuries. In the 1990s the Nepali government and local development organisations constructed rough tracks for offroad vehicles to connect remote settlements. This allowed for the connection of settlements, and more centralised schools to be built. In the early 2000s continued road development reached Chame (2650 m), continuing higher to Manang by 2010. This major change allowed for trekkers to start their foot journey from Manang, shortening the route. Very recent developments, since 2023, have focused on tarmac road and hydroelectric infrastructure. Reports of high levels of traffic, dust, noise and visual pollution have become concerning for hikers and locals that may not see benefits to the increased development. With the building of roads along the train, come new opportunities for high flux tourism, and local trade. However, worries remain that some locals may now be bypassed due to the increase in distance that can be covered by transport.



Firstly, it is essential to note that at sections road upkeep is necessary due to the impact of mudslides in the monsoon season. Hence, there will always be road workings at some point along the circuit. However, major road development was encountered as soon as leaving Pokhara. The construction of multiple lane highways was common leading out of the city towards Begnas Tal. This quickly transitioned to unworn smooth tarmac, spiralling through the hills. A joy to ride on, and heavily used by tourist buses and private trucks.

At our stay in Begnas Tal we asked the owner Garesh about how the road development impacted his business. A decade ago, most of the traffic were hikers who either camped or stopped at teahouses. The number of travellers had increased massively, and now most stop at teahouses. His family run teahouse/house now thrives with additional rooms being built to host more travellers. Most of his visitors now are motorists, especially motorcyclists. His concern was more directed towards the movement of young locals to the city. The local farmlands and construction now struggle to get labour, and many of the volunteers are offered lodging and food in trade for labour services.

Past Sundar Bazar the Tarmac became more intermittent. As we approached the beginning of the Annapurna Conservation area, we encountered our first hydroelectric dam on the Marshyangdi River. Housing was already being constructed on the roadside, even if the road was unfinished. It seemed every shop we encountered was purposefully beside the road. On travelling through some towns the road took a diverted route from the original track, leaving the existing shops and hotels no longer roadside.

On the tracks up to Ghermu and Dharapani we encountered the most heavy traffic. Constant jeep, heavy work vehicles and tourist buses. The weather up to Ghermu was dry. However, the loose surface and heavy vehicles caused heavy volumes of dust pollution. Overnight rain at Ghermu meant that the dust was no longer airborne. The terrain became thick mud. Whilst no problem for the heavy jeeps, we struggled immensely getting traction and spent much of our day pushing the bikes through mud. On sections of developed road, there was no such problem with mud or dust.

We spent some time talking to a chef at the teahouse in Ghermu. He explained his teahouse often sees lots of tourism from large groups, travelling via buses. The tourism was mostly local from within Nepal, China and India. The increase in tourism flux in the last decade has allowed for the expansion of the teahouses, and created more hospitality jobs. The hydroelectric dams provide power to the teahouses and settlements, which is overall a good thing in his opinion. But he was concerned about the impact of such large dams on the wildlife. He was adamant that the local fish population has shrunk, and the fish are smaller. In addition, the dams are vastly oversized for the purpose of suppling power to local communities. Most of the power is used to supply the rest of Nepal, and enters the domestic grid. Future to supply power across boarders (to India and Bangladesh) means expansion in power infrastructure likely.

Of course, high levels of road development require road building materials. Numerous quarries were encountered on route, often extracting material from the riverside and riverbed. This has led to increased river pollution and changes the morphology of the river. The water quality was visibly worse lower at lower altitudes and improved quickly when traveling above the level of hydropower stations and quarries.

The trekking route, for the most part, was separate to the road, converging for long sections after Dharapani. Most of the lower development sections are not encountered on route. However, it is easy to see how trekkers can find sections shared with HVGs and jeeps no longer remote, and visually/acoustically noisy.

Fortunately, past Chame the level of traffic massively reduced. Chame is a common drop-off point for hikers. Furthermore, the reduction in quarries and road working past this point means that there are less HVGs. It is also the location for a secondary school which opened in 2018. Without the road development, the building and attendance of a centralised school would not be possible.

At lower Pisang, we talked to the owner of the Bob Marley teahouse. He was grateful for the increased tourism. Being separate to upper Pisang and the main village, he was reliant on his online booking profile and used google to share his business presence. The road currently continues to Manang. Much less traffic meant we only encountered motorcyclists and the occasional jeep.

Past Manang the track stopped, leaving only a footpath which was the only route and continued to Muktinath. However, plans are already made to extend the road past Manag to Nar-Phu and Yak Kharka. This section of the trail was by far out most beautiful and peaceful section.

In our experience along the trail, the road development brough huge benefits to the local community, with the increase in tourism supporting the local economy and easy access to trade and schooling. The main pollutants were the quarries and the scale of the hydroelectric dams. Previous hydroelectric dams served only the local communities. They were much smaller and had a significantly smaller impact on the environment and local pollution.

Figure 4: HVGs associated with quarries or hydroelectric power stations

Figure 5: Upper Marsyangdi A Hydroelectric Station

Figure 8: Original smaller Hydroelectric power station at Manang

Figure 6: Manang Marsyangdi Hydro-Electric Project

Figure 9: Road construction leading up to Manag

Figure 7: Transporting of live chickens

Conclusions

The Annapurna Circuit provided a remarkable experience in Nepal's Himalayan culture, and remarkably unique and spectacular scenery. Travelling by bicycle revealed not only the physical challenge of navigating altitude, terrain, and weather, but also the rapid pace of development in the region. Road expansion, while improving access and trade, has altered the once-remote trekking character of the trail and introduced new environmental pressures such as dust and erosion. Hydroelectric projects—particularly those with foreign investment—have created employment and energy independence for Nepal but at a cost to local ecosystems and traditional river use. Despite these shifts, the hospitality and culture of the people along the route remain deeply intact. The expedition reaffirmed that the Annapurna Circuit continues to offer a world-class route for human-powered travel. However, the continued plans for expansion may challenge the remoteness of the highest part of the circuit.

Expenditure

Description	Unit Cost	Number	Cost (GBP)
Travel			
Flights: London to Kathmandu rtn.	£ 915.00	2	£ 1,830.00
Flights: Kathmandu to Pokhara	£ 74.00	2	£ 148.00
Bike luggage add-on	£ 160.00	2	£ 320.00
Coach Pokhara to Kathmandu	£ 8.00	2	£ 16.00
Subsistence			
Food and Drink	£ 550.00	2	£ 1,100.00
Showers & electricity	£ 15.00	2	£ 15.00
Accommodation			
Teahouses and hotels	£ 100.00	1	£ 100.00
Logistics			
Permits (TIMS + ACAP)	£ 43.00	2	£ 86.00
Visa (Tourism)	£ 40.00	2	£ 80.00
Insurance	£ 589.00	1	£ 589.00
Bike-Related Costs			
Spare parts & maintenance kit	£ 180.00	1	£ 180.00
Trail Helmet	£ 30.00	2	£ 60.00
Bike frame attachments and cages	£ 35.00	2	£ 70.00
Bike storage bags	£ 103.00	2	£ 206.00
Equipment			
Sleeping bag (bough in Nepal)	£ 15.00	1	£ 30.00
Cycling clothes	£ 80.00	2	£ 160.00
Medical Supplies	£ 60.00	1	£ 60.00
Power banks & electronics	£ 25.00	2	£ 50.00
Water purification equipment	£ 75.00	1	£ 75.00
Vaccines			
Rabies	£ 210.00	1	£ 210.00
Total			**£ 5,384.00**
Total per person			**£ 2,692.50**

Funding and support:

We are extremely grateful for the following funding, without which this exploration would not have been possible.

- Exploration Board: £600.00 per person
- Old Centralians Trust: £600.00 per person

In addition, we are extremely appreciative of those at the exploration board, to Lorraine, Phil and Ciaran, that have helped in planning and advice, providing essential support for the actualisation of this adventure.

A special thank you to Rowan Hedgecock, who's previous experience of the route, borrowed equipment and kind advice proved invaluable throughout the trip. Dal Baht power!

Finally, to our families, that have put up with our nonsensical Garmin messages, and stress in planning towards the final stages of preparation. A always we couldn't have done this without your support.

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Animal & wildlife encounters

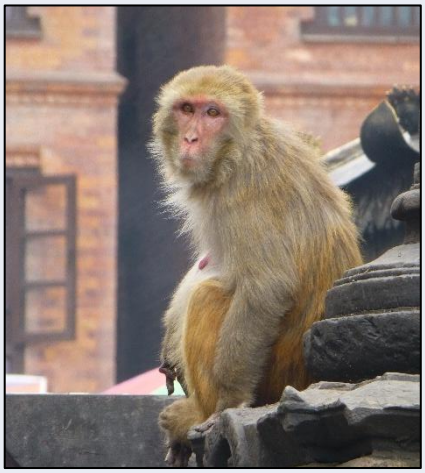
Wild horses

Yaks

Bharal or ‘Blue sheep’

Himalayan vultures

Chukar partridge



City monkey

Bulbul

Black kite?

Egret

Some sort of tit?

Cattle Egret

Red-fronted rosefinch?

Bearded Dragon

Unfortunately no snow leopards this time!

Risk Assessment

Risk	Consequences	Prevention	Response	Likelihood (1-5)	Severity (1-5)	Risk Factor (severity*likelihood)	Residual Risk Score (post prevention implementation)
Altitude							
Acute Mountain Sickness (mild)	Persistent headaches, nausea, vomiting, fatigue, loss of appetite, breathlessness, dehydration	Rest days will allow for the body to acclimatise, which are planned at regular altitude intervals. ACM Prevention medicine can be taken: Acetazolamide.	Rest and treat with ACM Prevention medicine at a constant altitude. Retreat to a lower altitude if necessary	3	2	6	3
High Altitude Pulmonary Edema (HAPE)	Nosebleeds, shortness of breath, fever temperatures, chest tightening, heart rate increase, congestion swelling, fainting	Rest days will allow for the body to acclimatise, which are planned at regular altitude intervals. ACM Prevention medicine can be taken: Diamox (acetazolamide).	Initiate descent immediately. Treat with oxygen and nifedipine.	2	5	10	4
High Altitude Cerebral Edema (HACE)	Hallucination, loss of conscience, sensitivity to bright light, fever, fatigue, high blood pressure, confusion, failure to coordinate, shortness of breath. In	Rest days will allow for the body to acclimatise, which are planned at regular altitude intervals. ACM Prevention medicine can be taken: acetazolamide	Initiate descent immediately. Treat with oxygen and dexamethasone. Contact emergency services	2	5	10	4

	serious cases coma and death						
Medical							
Malaria	Fever, chills, sweating, fatigue, headache, nausea, in severe cases, organ failure or death	Prescribed antimalarial drugs before, during, and after your trip if advised by a medical professional. However, malaria is uncommon in Nepal, especially at higher altitude.	Seek medical attention immediately. Early treatment with antimalarial drugs is essential for recovery	1	5	5	3
Rabies	Fever, itching, headache, confusion, paralysis and death.	Consider a vaccine before travel, if advised by a medical professional. Avoid bites from animals.	If bitten, clean wound with soap and water. Immediately seek medical attention. Rabies post-exposure prophylaxis (PEP) must be undertaken as soon as possible.	1	5	5	3

Hepatitis A	Fatigue, nausea, abdominal pain, jaundice, and fever	Vaccine is available before travel, if advised by medical professional. Avoid eating uncooked/unsanitary foods. Boil/treat water before consumption	Seek medical attention immediately. Rest and hydration.	1	3	3	2
Hepatitis B	Jaundice, abdominal pain, dark urine, and fatigue. IN Chronic cases it can lead to cirrhosis or liver cancer	Vaccine is available before travel, if advised by medical professional. Avoid eating uncooked/unsanitary foods. Boil/treat water before consumption	Seek medical attention immediately. Rest and hydration. Antiviral medication may be needed if chronic.	1	4	4	3
Cholera	Severe diarrhoea, vomiting, dehydration, and in severe cases, death.	Drink boiled, purified or bottled water. Eat cleaned and cooked food.	Seek medical attention. Rehydration needed, with oral rehydration salts if necessary.	1	3	3	2
Typhoid	Fever, weakness, abdominal pain, loss of appetite, and diarrhoea or constipation.	Drink boiled, purified or bottled water. Eat cleaned and cooked food. Vaccination is available before travel, if advised by health professional.	Seek medical attention immediately. Antibiotics may be needed.	1	3	3	2

Dehydration	Dizziness, weakness, dark urine, and confusion	Drink plenty of water, especially when exercising at high altitude. Oral rehydration salts and electrolyte drinks when necessary. Avoid caffeine and alcohol.	Immediately drink water with electrolyte solution. If persistent, seek medical attention. Intravenous fluids may be necessary in severe cases.	3	3	9	3
Gastro Intestinal Disease	Stomach cramps, diarrhoea, vomiting, and fever. Dehydration in severe cases.	Drink boiled, purified or bottled water. Eat cleaned and cooked food. Diarrhoea medication can help to prevent dehydration.	Drink fluids with electrolyte solution to avoid dehydration. Seek medical attention if symptoms are prolonged.	3	3	9	6
Covid 19	Fever, cough, fatigue, shortness of breath, and loss of taste or smell. Severe cases can lead to organ failure and death.	Vaccination is available, if recommended by healthcare professional. Follow local guidelines.	Follow local guidelines. Seek medical attention if symptoms proceed.	2	2	4	2

Cycling							
Traffic accident	Minor injury, major injury, death	Risk of encountering traffic on the circuit is low. When traffic is apparent: remain visible when cycling, through lights and high visibly clothing. Refrain from cycling at night unless necessary. Avoid busy roads where possible. Abide by local traffic guidelines.	Minor injury: seek medical attention where appropriate. Major injury: call emergency services where possible. Else seek help from nearest persons.	1	5	5	5
Loss of direction	Travelling on dangerous routes. Loss of time.	Detailed planning of routes. Maps and GPS systems will be taken. Contingency days are taken into account.	Backtrack on route if unfamiliar. Ask for advice if available.	2	1	2	2
Fatigue	Exhaustion, poor performance, difficulty concentrating, and increased likelihood of injuries	Travel at a sustainable pace. Take regular rest breaks. Eat energy dense foods, drink plenty of water and ensure enough time for sleep and recovery.	Rest in a shaded, comfortable area. Ensure hydration and eat something high in carbohydrates and protein. Cycle as a reduced intensity.	3	2	6	2
Heat exhaustion	Weakness, dizziness, headache, nausea, and excessive sweating. In severe cases, can lead to heat stroke.	Stay hydrated, carry electrolyte solution. Wear breathable, and light clothing to avoid overheating when exercising. Take rest brakes.	Find a cool place to rest. Rehydrate with water and electrolyse solution if necessary. Cool down. If symptoms persist, seek medical attention.	2	2	4	2

Hypothermia	Shivering, confusion, loss of coordination, and in severe cases, unconsciousness. Risk increased due to exposure to cold, wet conditions and exertion.	Wear appropriate clothing: thermals, waterproof layers, thick gloves and down coats. Monitor weather before cycling. Plan rest breaks: sheltered where possible.	Remove wet clothes and bring into a warm location. Cover with dry, insulative clothing or blankets. Drink warm fluids. If symptoms worsen, seek medical attention and evacuate, or retreat to sheltered area.	2	3	6	3
Bad cycling conditions	i.e. rainy weather, poor visibility. It can slow progress, increase fatigue, and increase risk of accidents.	Take appropriate clothes and cycling gear. Use bikes with suitable tyres and designed for rugged terrain. Plan routes which are well maintained.	Cycle with increased caution, at a slower pace. Coordinate with other group members. Wait until conditions improve or seek shelter if conditions are severe.	3	2	6	4
Minor injuries	Typically include blisters, abrasions, cuts and strains. They can impede progress. If left untreated, the can worsen and/or become infected.	Take appropriate clothes and cycling gear i.e. padded shorts and appropriate shoes. Take plasters, tape and friction cream to prevent and treat the minor injures.	Clean and dress open wounds. Apply blister plasters or tape. Rest muscle strains. Monitor cuts and abrasions for signs of infection.	4	1	4	2

Major injuries	Broken bones, severe lacerations, head injuries and internal injuries. Injuries could lead to disability or death if not treated. Increased risk of injury consequences due to the remote location relative to hospitals.	Appropriate safety gear must be worn: suitable helmet, sunglasses etc. Avoidance of dangerous routes, and heavy traffic where appropriate. Ensure group members have appropriate training: emergency first aid, bikepacking experience and have good fitness. Plan to avoid over-exertion. Knowledge of emergency contacts and evacuation protocol in each are of the planned route. Satellite phones can be carried to contact emergency services.	Apply first aid where appropriate. Contact emergency services, and seek medical care immediately.	1	5	5	4
Team separation	Distress, disorientation and increased risk of injuries. Contact of emergency services and response can be more difficult.	Both members to have knowledge of the itinerary and route. Neither member to be alone for extended periods while travelling: regular check-ins. Contact technology i.e. phones or gps signals where available.	Attempt to contact via phone, radio or GPS. Search based on route and planned landmarks, starting from last known location. If cannot be found, coordinate search and rescue with local authorities.	2	3	6	4

Minor bicycle malfunction	Flat tyres, loose components and reduced functioning of the bikes can lead to reduced progress.	Endure bikes are well maintained before, and during trip. Bring spares of components likely to fail. Basic repair kit to be brought. Training experience of bike repair and maintenance before trip. Plan in contingency days.	Repair malfunctions if possible. Take local shelter if repair is likely to take significant time. Local assistance can be requested for common malfunctions.	4	1	4	4
Major bicycle malfunction	Major frame fracture, mechanical failure and irreparable wheel damage. Remote location may mean replacement parts cannot be found.	Ensure bikes are well maintained before and during the trip. Ensure bikes are suitable for rugged terrain, and are tested before the trip. Carry crucial spare parts i.e. chain, hydraulic brake spares and a spare tyre. Plan for terrain suitable for a bike.	Make temporary repairs when possible. If immediate repair is not possible, transport bike to a local town where replacement bike/part is available. Team can redistribute equipment. As route is a well known for trekking, assess feasibility of carrying on on foot. If unfeasible, arrange evacuation through other transport or local services.	2	3	6	4

Sunburn & snow blindness	Overexposure to UV can cause temporary blindness, damage to the cornea, blistering and skin damage. Long term increased risk of skin cancer.	Wear appropriate clothing and UV protective sunglasses. Apply sunscreen with high SPS. Avoid the sun where appropriate, especially at peak radiation hours.	Take immediate shelter from the UV radiation. Rest eyes if UV damaged, and cover - typical 12-24 hours. Apply cool compression to skin to reduce the heat. Soothing medication and pain relief can be applied. Monitor for infection if severe. Seek medical attention of symptoms worsen.	2	2	4	2
Starvation	Fatigue, weakness, and impaired cognitive function and increased risk of injury. If prologues, can lead to immune system and muscle breakdown, and death.	Plan route so that food is available frequently. Carry nutritiously dense food reserves. Understand the calorific requirements of cycling at high altitude. Drink bottled, purified or treated water.	Ration the remaining food supplies. Prioritise perishable, and highly nutritious foods. Immediately resupply where possible. Evacuate to local populated area, where food may be available.	2	2	4	2

Wildlife							
Venomous snakes/insects bites	Swelling/ colour change at the site of bite. Potential allergies to the sting/bite. Could cause anaphylaxis. Fever like symptoms. Blurred visions. Risk of death if not treated.	While risk of encounter is low at high altitude, caution near dense grass and vegetation must be taken. Wear protective clothing if traveling though vegetation, such as boots and trousers.	Avoid use of infected limb. Seek medical attention immediately. Contact emergency services.	1	4	4	4
Animal attack	Minor injury, major injury, death	Most predators avoid humans on the Annapurna circuit i.e. bears & leopards. Avoid interaction with stray dogs, and provoking wildlife. Travel in groups.	Avoid further provocation. If attack continues then use defensive measures. Seek medical assistance immediately.	1	3	3	3
Equipment							
Theft	Loss of vital equipment, money or bikes can severely impede progress on the trip or make travel temporarily impossible.	Do not leave valuable unattended in pubic. Lock bikes to secure locations or store in rooms when appropriate. Store cash and cards in separate locations. Only bring necessary valuables. Stay in groups. Insure valuables against theft.	Report to local authorities immediately. Monitor financial accounts. Claim insurance with police report if possible.	2	3	6	2

Bags breaking	Difficult or impossible to carry essential gear, food, or water. Hinders progress.	Invest in durable, high quality bags and equipment. Inspect bags regularly. Carry tools for repairing i.e. zip ties, duct take and straps. Do not overload bags. Test equipment prior to trip.	Attempt temporary repair, if possible. Locate replacement if possible. Reorganise gear into other bags. Evacuate to large town i.e. Pokhara if possible.	2	2	4	4
Loss of passports	Inability to continue journey. Potential legal complications.	Carry photographic and digital copies. Keep passport on person, or in a secure location. Know location of nearest embassy (Katmandu)	Immediately report loss to local authorities, and contact the embassy. Reapply for visas if necessary, and arrange for temporary travel documents.	2	3	6	3
Weather & natural disasters							
Earthquakes	Cutting off access to key routes, resupply points, or evacuation routes. Falling object and structural instability can lead to minor injury, major injury and death. Infrastructure for contact services could be damaged.	Monitor earthquake activity during and before trip. Know safe zones during the trip: open area away from infrastructure and away from steep slopes on trails. Travel in groups.	Find cover immediately, away from tall buildings or slopes if possible. Avoid aftershocks, after the main earthquake. Stay in open safe zones. Seeks shelter after the event, and evacuate if necessary.	1	5	5	3

Landslides & rockfall	Cutting off access to key routes, resupply points, or evacuation routes. Falling rocks, earth and vegetation can lead to minor injury, major injury and death. Infrastructure & equipment could be damaged.	Plan to avoid landslide areas. Avoid travelling in seasons of heavy rains. Where appropriate travel early in the day: where the ground is less saturated and colder. Wear helmets when cycling.	Seek shelter immediately. Report to authorities. When clear, evacuate safely. Wait for authorities to clear the rockfall where possible.	1	5	5	4
Avalanches	Suffocation and severe injury. Death if not recovered quickly. Cutting off access to key routes, resupply points, or evacuation routes	Areas on the circuit are above 3500 m, which are more prone to avalanches. Monitor weather for heavy snowfall. Avoid travelling when avalanches are likely. Avoid cycling along steep slopes when avalanches are prone. Travel in groups. Carry avalanche gear when appropriate.	Immediately move to a safe area if possible. Activate avalanche gear/beacons if possible. Immediately look for other members when clear. Contact the emergency services, and mountain rescue.	1	5	5	3
Heavy rain & flooding (monsoon season)	Can lead to high risk of mudslides. Flooding in low areas can damage infrastructure. Heavy rain can lead to equipment damage, and increased risk of hypothermia. In severe cases flooding can lead to drowning.	Avoid monsoon season. Wear appropriate waterproof clothing. Monitor weather conditions.	Seek shelter away from flood prone areas. Wait for conditions to improve.	2	3	6	3