

Stars and cars in the Arizona desert

As Route 66 celebrates its 100th anniversary, **Demi Perera** takes us on a tour of dark skies, world-class telescopes and meteor craters along the Arizona section of the historic highway

As I catch the golden light of a meteor shooting across the sky, I'm momentarily transported and forget where I am – in a city. I'm standing in the dark just off the iconic Route 66. It's close to 10pm and on my first night in Flagstaff, Arizona, I'm in Buffalo Park, a unique natural oasis within the limits of a city that does everything it can to help the astronomers that have made it their home for over 130 years.

The typical symbols of a secure urban green space are missing here

in Flagstaff: there is no well-lit sign at the main entrance, no streetlights for the safety of those jogging around it. This absence is deliberate, examples of the measures Flagstaff takes to keep the illumination from the sky shining brightly and magnificently.

Standing next to me are Dr Danielle Adams, executive director of the Flagstaff Dark Skies Coalition, and Christian Luginbuhl, the board president, pointing out Venus, Jupiter and the Milky Way. The dark sky they work to protect envelops us, the stars, planets and meteors awe-inspiring.

"A pristine sky has about 4,500 stars," explains Luginbuhl. "From a typical bright urban area, you can see 200 stars or less. Here in Flagstaff, Buffalo Park has about 2,000 stars, and even downtown you can see about 1,000. The threshold for seeing the band of the Milky Way is often thought to be when about 1,000 stars are visible."

Flagstaff is a significant stop along Route 66, which is celebrating its centennial in 2026. I came here because the famous road's history in the city goes beyond retro cafes and kitsch road signs. Pivotal events in our discovery ►



From the star-spangled city where Pluto was discovered to mountain-top observatories, Arizona's Route 66 is full of cosmic connections

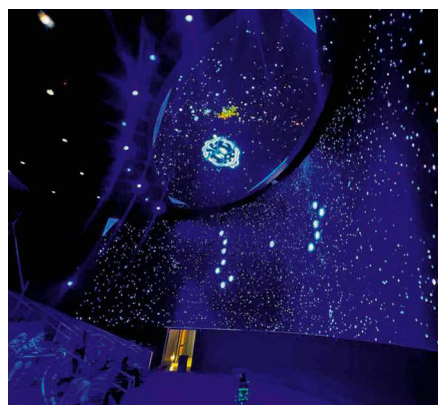
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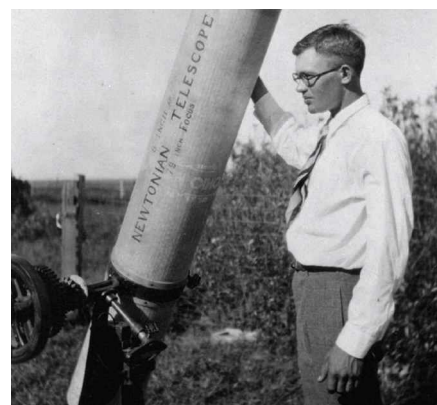
The Milky Way above Buffalo Park, a natural oasis within Flagstaff – a city beating the rise of light pollution



▲ Demi visited the Lowell Observatory beneath some of Arizona's darkest skies, but just a mile from downtown Flagstaff



▲ Created to mark Route 66's centenary, the Cosmic Highways tour traces the stories of Lowell, Slipher and Tombaugh



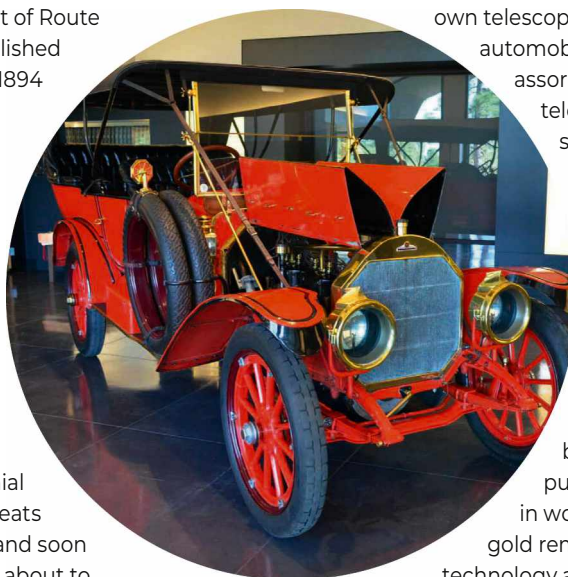
▲ Tombaugh with the telescope made from car parts that won him a job at Lowell Observatory, where he discovered Pluto

► of the cosmos connect this segment of Route 66 to astronomy: Percival Lowell established the Lowell Observatory in Flagstaff in 1894 to study life on Mars; Clyde Tombaugh discovered Pluto in 1930; and it was where VM Slipher made observations that demonstrated the expansion of the Universe two decades earlier. So I decided to pause my road trip on Route 66 and stay a while to explore Flagstaff's cosmic connections.

The road to Pluto

Before sunset on the first day, I made my way to the Lowell Observatory for its show, Cosmic Highways: A Centennial Tour. Others have already taken their seats in the auditorium by the time I arrive, and soon the lights dim to signal that the tour is about to begin. The resident astronomer begins by connecting the role of Route 66 with the galactic discoveries and the people who made them at Lowell Observatory, outlining the lives of Lowell, Slipher and others who played a role in the observatory's history.

We also discover that Clyde Tombaugh came from a farming family in Kansas and built his



▲ Lowell's beloved Big Red, the seven-seater Stevens-Duryea car housed at the observatory

own telescope there, using parts from a Buick automobile, a cream separator and other assorted farm machinery. Using that telescope, he made drawings that he sent to Lowell Observatory. Slipher, then its director, was impressed enough to offer Tombaugh a job. Within a year, Tombaugh would go on to discover Pluto.

As a grand finale, we walk across the observatory grounds to meet Big Red – the restored and still enormous 1911 seven-passenger Stevens-Duryea automobile that once belonged to Lowell. Big Red lives in a purpose-built facility, fully restored and in working order, a glimmering red-and-gold reminder of the intersections of science, technology and transportation of the Route 66 era. Lowell set up the observatory in Flagstaff due to its elevation – 2,210 metres (7,250ft) above sea level – and beautifully dark sky. On one side of the five-acre grounds, a wide concrete path leads to a stone-walled building topped with a white dome housing the 13-inch Lawrence Lowell Telescope, the instrument Tombaugh used to discover Pluto.



“A wide concrete path leads to a white dome housing the telescope Tombaugh used to discover Pluto”

Although the large refracting telescope has not been used for active professional research since the 1980s, more than two million people have enjoyed looking through it since then.

“You’re here at a good time to see it,” our guide tells me. “An hour later and you’d be fighting the crowds trying to get a picture of it.”

Also at the observatory is the 24-inch Clark Telescope, now a registered national historic landmark, that Slipher used to discover evidence of the expanding Universe. It was later used to map the Moon, supporting US missions to the lunar surface.

▲ The 24-inch Clark refractor that unlocked the expanding Universe and helped NASA plan the Moon landings

Arizona’s asteroid scar

The next morning, I set off from downtown Flagstaff along Interstate 40, heading east for another out-of-this-world experience. Here, 50,000 years ago, a nickel-iron asteroid crashed into the ground with such force – 150 times greater than an atomic bomb – that it left a 1.2km-wide (0.75-mile), 180-metre-deep (590ft) bowl-shaped crater in the ground. Today, Meteor ►

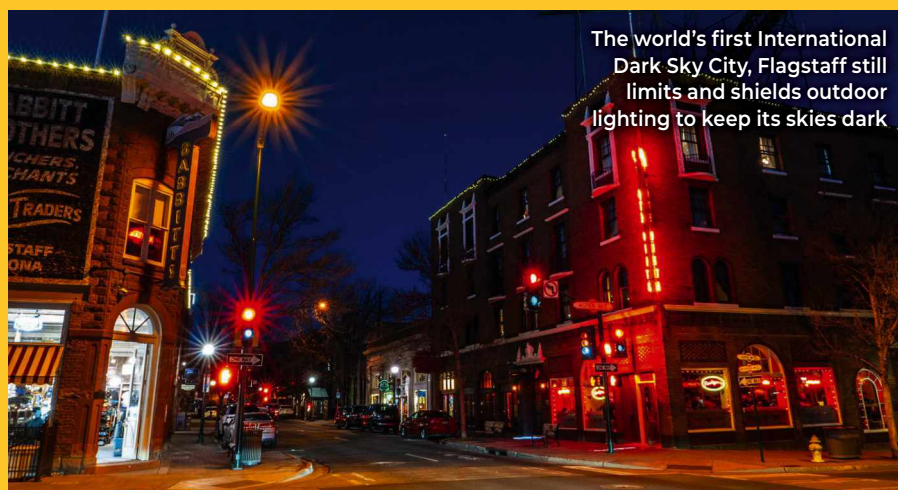
America’s first dark-sky city

Set high in Arizona’s pine-covered mountains, Flagstaff has taken big steps to preserve its night skies

This year, Flagstaff celebrates 25 years as the world’s first International Dark Sky City, following on from being named DarkSky International’s Dark Sky Place of the Year 2025. Considering the challenges involved in getting 80,000 residents to turn their lights off, the accolades are extraordinary.

They’re the result of a community effort that began back in 1958, when Flagstaff adopted an ordinance banning search lights, which were highly popular for business advertising at the time. It came into force because the Lowell Observatory had acquired the 69-inch Perkins telescope, which was sensitive to the tiniest amount of light pollution.

Between 1973 and 1989, updates to the outdoor lighting ordinance required service stations to reduce illumination and set standards for the amount of light that could be used. Lumens, a measure of light emitted by a bulb, were limited per



The world’s first International Dark Sky City, Flagstaff still limits and shields outdoor lighting to keep its skies dark

business – an innovation introduced by Christian Luginbuhl. The legislation also required the use of low-pressure sodium bulbs which produce fewer lumens, and made amber-coloured lighting the standard instead of bright white. Outdoor

light fittings for commercial and home settings also had to be fully shielded.

In Flagstaff, a star-filled sky is viewed as a community value – an ethos supported by individuals, businesses and the Flagstaff Dark Skies Coalition.



► Crater, or Barringer Crater, is the best-preserved evidence of an asteroid impact in the world.

It's not yet midday when I arrive, but the Sun is blazing down mercilessly over the northern Arizona desert, which stretches for miles around. The Meteor Crater Natural Landmark building offers the only shade from the harsh conditions outside and is a hive of visitors.

I walk through to the back of the building to see the crater. Despite the heat, some people are taking guided tours around the stony jagged cliff edge of the rim. I walk over to one of several marked look-out points, each fixed with a vintage, coin-operated style telescope aimed at the base. Through it, I can see parched patches of green on gravelly ground. Sections of the base are fenced off and the lonely figure of an astronaut, in a white spacesuit, stands

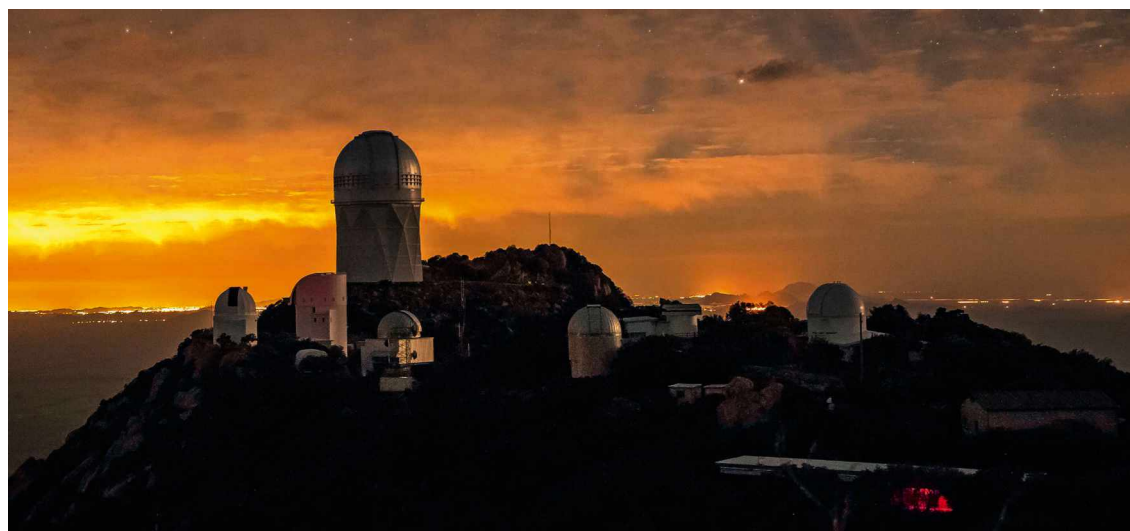
by a fence – a reminder that astronauts such as Neil Armstrong and Buzz Aldrin trained here in preparation for their mission to the Moon.

A mountain of telescopes

Although it's a day trip from Flagstaff and Route 66, I wanted to extend my stargazing itinerary with a visit to Tucson in the south of Arizona, to find out more about its nearby Kitt Peak Observatory. Tucson adopted Arizona's strict lighting ordinance in 1972 especially to protect the skies above the world-class astronomy facilities at the top of this 2,100-metre (6,900ft) mountain, among them the National Optical Astronomical Observatory.

Kitt Peak, or Ioligam, sits with permission on sacred tribal lands of the Tohono O'odham Nation. The road leading up to it swirls like a perfectly whipped ice

▲ Demi dropped in on Meteor Crater, blasted out by an asteroid 50,000 years ago. Inset: the coin-operated telescopes and the astronaut figure commemorating Apollo-era training at the crater



◀ More than two dozen telescopes crown Kitt Peak, one of the world's most important observing sites



Guide Jim leads Kitt Peak's Nightly Observing Program, introducing the wonders of Arizona's night sky



Demi Perera is a travel writer and author of two guidebooks who loves the brilliance of the night sky

cream around the mountain. The air here is thinner and I watch the temperature shown on my phone drop by 10 degrees as I climb. There are no signs of the giant saguaro cacti that dominate the Sonoran Desert below. Instead, a valley of lush greenery and yucca growing among stony outcrops reaches to the horizon. With each turn, the observatory's telescopes come into view, guiding us to the top like lighthouses.

Stargazing at Kitt Peak is a different experience to Flagstaff. The Nightly Observing Program that I join takes place under one of the observatory domes and our guide Jim shares his experience generously with the group. Each of us has the chance to roll

the observatory shutter around by cranking a handle. It moves with a thunderous noise, each time revealing something new in the inky blue night sky above: shimmering, flashing stars, planets and star clusters towards which Jim points the telescope. Bright Jupiter reveals itself, as if not to be outdone by brilliant Venus. Everyone chats excitedly about what we're seeing. In no time, a community has been created from us strangers by the stars.

As my road trip comes to an end, I've seen more stars than ever before in my life. Yet I will always remember the words shared with me by Danielle Adams as I stared at the Milky Way on that first night in Flagstaff's Buffalo Park. They perfectly capture the cosmic connection that links Route 66 to the night sky: "There are several different names for the Milky Way in Arabic. The most common historical name is al-majarra, which means a track on the ground where something had been drawn along.

Thinking of the Milky Way as a path along which a cart was dragged, it was also called the Mother Road, umm at-ṭariq – literally 'the Mother of the Road' – because of its grandeur. And that was more than a millennium before Route 66 existed!" 🌌

A journey back in time

Among America's 4 million miles of roads, what makes Route 66 so special?

Established in 1926, the legendary Route 66 celebrates its 100th anniversary in 2026. Stretching 3,800km (2,400 miles) or so, the 'Mother Road' (as John Steinbeck dubbed it) connects Chicago, Illinois to Santa Monica, California, winding through landscapes that range from the fertile Midwestern plains and the Ozark highlands to the stark, arid beauty of the Painted and Mojave Deserts.

Unlike modern purpose-built US highways, Route 66 amalgamated existing local roads to provide a vital, all-weather link for commerce and migration. That role is historical today, but the route still offers a unique experience of America. The lack of light pollution in the remote, rural stretches across the Southwest makes for exceptionally dark night skies, allowing travellers to witness the Milky Way with breathtaking clarity.

The road's transport role declined after the 1956 Federal Aid Highway Act

The 'Mother Road' still attracts travellers eager to experience a slice of classic Americana



introduced the faster, direct interstate system, which bypassed smaller towns. While this shift brought economic hardship for many communities on the route, it preserved its mid-century character. Today, Route 66 thrives as

a cultural icon, inviting modern travellers to slow down, explore its nostalgic landmarks and reconnect with the vast, quiet wilderness under the same awe-inspiring, star-filled skies that greeted motorists a century ago.