

Building NASA's moon base starts with lunar lander missions

BY ERIC LAGATTA
USA TODAY Network

NASA has unveiled more lunar landers that will chart a path to the moon in the years ahead before astronauts even step foot on the surface for the first time in decades.

Another three commercial aerospace companies were awarded about \$600 million to land spacecraft on the moon that will pave the way for humans to return more than 50 years after the final Apollo mission came to an end. Each lander would be loaded up with technology that will allow NASA to analyze the lunar surface and establish the foundation for the space agency's unprecedented moon base, NASA officials said at a June 30 press conference.

The lunar outpost would mark the first time that humans can live and work longterm on another world beyond Earth.

NASA's latest update on its Moon Base initiative comes weeks after it un-

veiled the crew for the next mission under its Artemis program.

Those four astronauts are due in 2027 to fly to Earth orbit in a critical mission testing docking capabilities with two commercial lunar landers. A follow-up to the historic Artemis II mission in April, Artemis III would precede the first human moon landing in more than half-a-century.

Here's everything to know about NASA's moon base, and the agency's latest update on the endeavor.

WHAT IS NASA'S MOON BASE?

NASA leaders have previously announced plans to construct a \$20 billion moon base toward the largely unexplored lunar south pole. The base would come together across three phases during uncrewed and crewed missions to deliver vehicles, equipment and infrastructure to the moon.

Once completed, the base would be where astronauts could live and

work longterm with the dual objectives of studying the moon while also helping NASA learn how best to send the first humans to Mars.

NASA ANNOUNCES 3 MORE LUNAR LANDER MISSIONS

NASA on June 30 unveiled three more lunar lander missions that will be integral as the agency looks to construct its moon base. The missions are targeted for 2028, NASA officials said in a press release.

All three commercial aerospace companies were awarded multimillion-dollar contracts under NASA's Commercial Lunar Payload Services initiative (CLPS.) Here's a look:

- Astrobotic Technology, a Pittsburgh-based aerospace company, was awarded \$297.9 million for two lunar lander missions using its Peregrine lander, which failed to reach the moon in 2024.
- Firefly Aerospace, based

in Cedar Park, Texas, was awarded \$144.2 million for one mission with its Blue Ghost lander, which already made it to the moon in 2025.

- Intuitive Machines, an aerospace company based in Houston, was awarded \$148.3 million for one landing.

Each of the three lunar landers manufactured by the companies will carry technology like cameras that will help create models to predict lunar dust erosion caused by exhaust from landers during landings; laser beam technology that can transmit orbit positions of orbiters and landers to help in navigation; and spectrometers characterizing the radiation hitting the lunar surface so that NASA can design safer crewed missions.

ASTROBOTIC, INTUITIVE MACHINES ALREADY SELECTED FOR 2026 MISSIONS

Intuitive Machines' Nova-C lunar lander -

versions of which have already landed on the moon twice to varying degrees of success - and Astrobotic's Griffin lander have already been selected for NASA missions in 2026, along with Blue Origin's Blue Moon lander.

Firefly Aerospace, meanwhile, is also under a \$75 million contract to build its Elytra spacecraft that will transport a fleet of NASA's Moonfall drones to the moon that will survey for landing sites for astronauts.

NASA additionally announced at a previous press conference at the end of May that it had awarded contracts to two companies to develop lunar rovers for astronauts to drive on the moon. Colorado-based Lunar Outpost and Astrolab of Hawthorne, California, will each receive about \$220 million to build vehicles to ensure a rover will be ready on the moon before astronauts return as early as 2028 under the Artemis IV mission.

WHAT'S NEXT UNDER THE ARTEMIS PROGRAM?

Following the trailblazing Artemis II crewed mission in April, NASA is already making preparations for the next mis-

sion under the lunar campaign, the ultimate objective of which is to land humans back to the moon.

Due for 2027, Artemis III aims to send a new crew of astronauts - NASA's Randy Bresnik, Andre Douglas and Frank Rubio, as well as the European Space Agency's Luca Parmitano - on an Orion vehicle to Earth orbit, where they will spend two weeks testing spacesuits and docking capabilities with two commercial lunar landers. Those landers are Blue Origin's Blue Moon lander, and SpaceX's Starship HLS (human landing system).

The mission is a complex one involving three separate rocket launches - NASA's SLS, Blue Origin's New Glenn and SpaceX's Starship - to get all three spacecraft to orbit.

A successful test mission would set the stage for the first human moon landing under the program during Artemis IV. Targeted for 2028, the mission would be the first time humans set foot on the moon since NASA's iconic Apollo era ended in 1972.

NASA views the moon program as a vital stepping stone to eventually send the first crewed expeditions to Mars.

US provisional mortality rate falls 4.6% in 2025

BY CHRISTY SANTHOSH
Reuters

The U.S. provisional death rate fell 4.6% in 2025, with heart disease, cancer and unintentional injuries remaining the leading causes of mortality, the Centers for Disease Control and Prevention said on Thursday.

The age-adjusted death rate fell to 689.2 deaths per 100,000 people from 722.1 a year earlier, continuing a steady decline since the rate peaked during the COVID-19 pandemic in 2021.

The decrease was partly due to a sustained decline in fatal drug overdoses, which are grouped under unintentional injuries or accidents, Farida Ahmad, lead author of the study, said.

However, the number of deaths from influenza and pneumonia rose 17%

to 56,511 in 2025, making it the eighth leading cause of mortality in the country from 11th a year ago, the provisional report from the CDC's National Center for Health Statistics said.

"The flu season, especially in January and February of 2025, was severe, leading to a lot of flu deaths," Ahmad said.

Severe flu seasons in the past had been linked to rising deaths from chronic diseases, and may also have been a factor in the roughly 1.6% increase in heart disease deaths in 2025, Ahmad added.

Seasonal flu-related hospitalizations and outpatient visits reached a 15-year high during the 2024-25 season, according to the agency.

DEATH RATES ROSE AMONG AMERICAN INDIANS

The death rate among

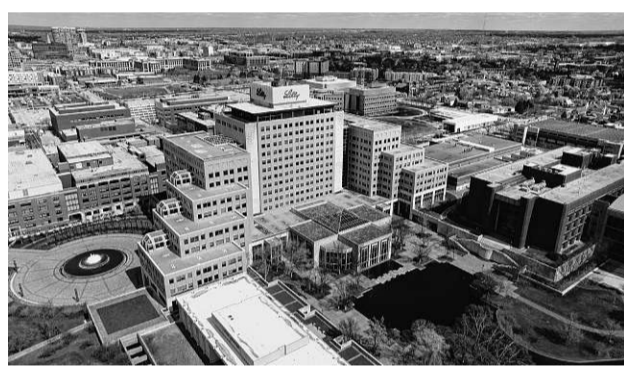
American Indian and Alaska Native people rose to 803.8 per 100,000 people, and increased to 746 for Native Hawaiian or Other Pacific Islander people.

At 869 per 100,000 people, the mortality rate for Black Americans improved slightly but it remained the highest of all groups. The rate for Asian people was about flat.

The mortality rate for white Americans, who accounted for about 74.5% of all the deaths recorded, fell to 724.2 per 100,000.

The CDC cautioned that the findings are based on provisional death certificate data and could change as additional records are processed. Some causes of death, particularly unintentional injuries, are reported with longer delays and may ultimately be revised higher.

The agency also noted that differences in reporting timeliness across states, potential misclassification of race and ethnicity on death certificates, and changes in Census population estimates could affect some comparisons.



SCOTT OLSON Getty Images/TNS

An aerial view of the campus headquarters of Eli Lilly and Company on March 17, 2024, in Indianapolis. Lilly, a pharmaceutical company, employs more than 12,000 people in Indianapolis and more than 42,000 worldwide.

Zepbound craze fuels \$1.3B windfall for religious causes

BY BIZ CARSON, BLOOMBERG NEWS
The Tribune Content Agency

The blockbuster success of weight-loss drugs is fueling a wave of giving that's boosting Christian ministries across the U.S. and Canada.

Eli Lilly & Co.'s largest shareholder, the independent Lilly Endowment, gave nearly \$1.3 billion to religious causes in 2025, much of it specifically to Christian groups, according to its annual report released last week.

The donations have funded theological seminaries, religious displays in museums and an initiative meant to "tell compelling stories that portray the vibrancy and hope of Christian faith and life to inspire and help people from a wide variety of backgrounds to come to know and love God."

Religious giving made up a third of the \$3.85 billion the Lilly Endowment sent out the door in 2025, according to the report. Its other core focuses - education and community development - also exceeded \$1 billion in gifts for the first time.

With a nearly 10% stake in the Zepbound creator, the endowment has been the biggest beneficiary of its 230% stock surge since the end of 2022.

It overtook the Gates Foundation as the country's largest private foundation at the end of 2024 and became the first private foundation in the U.S. to cross \$100 billion in assets last year. It finished 2025 with \$105 billion and will have to deploy at least another \$3.9 billion in 2026, according to its federal tax filing released in May.

FoundationMark CEO John Seitz, who tracks

private foundation performance, said the endowment's growth is "unprecedented."

"To be the first to \$100 billion is one thing," he said. "To have growth and be 10x the size you were 10 years ago - they're not rare, they're unique in that."

It's unusual for a private foundation to give out more than \$1 billion a year, Seitz said. Ford Foundation, the third largest in the country, gifted \$840 million in 2024, according to its 2024 financial statement. Only the Gates Foundation surpasses the Lilly Endowment in money out the door, according to Seitz's analysis of private foundation filings.

RELIGIOUS GIVING

The Lilly Endowment has kept a low profile despite its growing windfall. Started in 1937 from a stock gift by Lilly's founding family, it has retained its original mission of investing in education, religion and the local community. It operates independently from the drugmaker, but its assets remain heavily concentrated in the company's stock.

This has made the endowment a direct beneficiary of the weight-loss drug craze and forced it to ramp up spending to meet government-required distributions. Its giving has surged 385% since 2020 when it gave away more than \$700 million. Last year's \$3.85 billion in disbursements was more than double the \$1.5 billion deployed in 2023.

The majority of grants - 59% or \$2.3 billion - were directed to groups based in Indiana, where the endowment is headquartered. Indiana Community

Development Projects received \$400 million to support a statewide community parks initiative and another \$400 million went to Indiana Lifelong Learning Projects for a K-12 schools effort.

"Giving has kept up with asset growth as it needs to do, and they've been able to do with it without adding much in the way of staff or expenses, which is impressive," Seitz said. "There aren't that many foundations that give away \$400 million, let alone to a single organization in a single year."

Each gift would have represented nearly the all of the foundation's giving in 2015, when the endowment donated a total of \$450 million.

While the Lilly Endowment is ramping up its religious giving, overall donations to religious organizations were flat in 2025 when adjusting for inflation, according to a GivingUSA report released this week. It still remains the top category for philanthropy when taking into account other private sources of donations like individuals and corporations.

"With respect to religion specifically, a primary aim of our grantmaking is to deepen the religious lives of Christians in the United States, principally by supporting efforts that enhance the vitality of congregations," Lilly Endowment spokesperson Judith Cebula said in an emailed statement, noting that it has supported a broad array of Christian traditions from Evangelical to Orthodox.

"However, we also work to foster public understanding about religion and seek to lift up the contributions that people of all religious faiths make to our greater civic well-being," she added.

The Lilly Endowment has previously funded journalism initiatives to bolster reporting on religion, including in 2025. It spent nearly half a billion to fund theological schools across the U.S. and Canada last year. It also gave \$235 million to groups as part of a national storytelling initiative around Christianity.

It's also helping religion grapple with the rise of artificial intelligence. In December, the University of Notre Dame in Indiana announced it received a \$50.8 million grant from the endowment to help develop a "faith-based ethical framework" around the use of AI.

California bans 'sell by' labels, hoping to cut food waste

BY YAN ZHUANG
NYT News Service

"Sell by" labels on perishable products are now banned in California, having reached their expiration date under a new food labeling law that came into effect Wednesday.

The bill, which passed in 2024, standardizes such labels in a bid to reduce consumer confusion and cut food waste in the state.

It limits manufacturers to a few terms: "best if used by" or "best if frozen by" to indicate when a food item is at its peak quality, and "use by" or "freeze by" to indicate when a food item is no longer safe to eat. The law applies to all products except for eggs and infant formula, according to California's Department of Food and Agriculture.

The bill addressed what federal and state officials have long said can be a source of confusion for consumers: when to toss out aging

food products. In the United States, there are roughly 50 variations of date labels.

The wording of these labels is usually shaped by the policies of individual states, each with their own requirements that vary across food products. Infant formula is the only product with standardized, federally regulated date labels in the United States.

More than one-third of food sold nationwide ends up going to waste, in part because consumers throw away food they think has gone bad when it hasn't, according to the U.S. Department of Agriculture. For the most part, "dates are not an indicator of the product's safety," the department said.

Experts say the term "sell by" is generally for retailers to know when to rotate inventory, compared with labels like "best if used by" and "use by," which indicate quality.

Clarifying food date labels can "greatly aid in curbing food waste that

often is discarded prematurely," California's Department of Food and Agriculture said.

Under the state's bill, "sell by" dates can still be included on products as long as they are "coded" -- information that is aimed at retailers rather than consumers.

There will be a grace period for manufacturers and retailers to finish selling products made before July 1, according to Californians Against Waste, an advocacy group that cosponsored the bill.

The organization said on its website that it hoped the bill would catalyze similar legislation in other states. New York state lawmakers recently approved a similar law, and legislation addressing food labeling has been proposed in several other states.

Opponents of the bill, including agriculture industry groups, had argued that the legislation would make it difficult for companies to do business across state lines.