The Los Angeles Memorial Coliseum, a city landmark and historic venue for both sports and music, will become the United Airlines Memorial Coliseum in a $69 million deal struck between the airline and the coliseum’s operator, the University of Southern California, according to people familiar with the agreement.

The deal, expected to be announced later Monday, is a crucial part of the university’s $270 million upgrade of the 95-year-old Coliseum ahead of the 2028 Summer Olympics, which the L.A. stadium will host.

“Upgrading and renovating the L.A. Memorial Coliseum has been long overdue. It’s needed, it’s needed badly, and we are doing it now,” USC President C. L. Max Nikias said in an interview. “And it will be something, after the renovations are completed…that all Angelinos should be very proud of.”

The Coliseum will become the only venue in the world to have hosted three Olympics; L.A. hosted the Summer Olympics there in 1932 and 1984.

The venue is home to the USC Trojans football team and, through next year, the L.A. Rams NFL team. It will assume its new name starting August 2019, officials from USC and United said, when a new, co-branded logo will replace signs, including a historic marquee across the freeway.
The deal, worth $69 million over 16 years, is the largest naming rights deal in American college sports, the people familiar with the agreement said.

USC operates the Coliseum under a 98-year lease with the city, county, and state.

Mr. Nikias said the university has a contractual commitment, under that agreement, to invest at least $70 million in upgrading the Coliseum.

It is pursuing a much more comprehensive—and expensive—overhaul because the stadium has deteriorated since its last renovation in 1994, he said.

The renovations began earlier this month and are expected to take around a year and a half to complete.

USC, one of the nation’s wealthiest universities, has raised the $270 million needed for renovations from donors including alumni, as well as corporate sponsorships and now, the deal with United, Mr. Nikias said.

Home Team Sports, a sales unit of Fox Sports—the programming arm of Fox Broadcasting Co.—brokered the deal with United for USC, executives from USC and Fox Sports said.

They declined to detail the terms between USC and Fox Sports entities, parts of which date back several years to broader agreements on multimedia and naming rights.

Fox Broadcasting’s owner, 21st Century Fox, and News Corp., the parent company of The Wall Street Journal, share common ownership.

The storied Coliseum, an elliptical bowl sprawled around 18-acres in south Los Angeles, just south of the USC campus, is structurally aged and far from a modern event venue. Yet it is cherished in the sports world and beyond as host of many memorable events, including presidential visits.

In 1987, Pope John Paul II celebrated Mass there with more than 100,000 worshipers. Nelson Mandela in 1990 spoke to a crowd of over 70,000 people who chanted his name, a favorite Coliseum memory of Mark Ridley-Thomas, an L.A. County Supervisor and member of the Coliseum Commission, a group of city and county officials that act as community landlords.

Mr. Ridley-Thomas was at the time a civil rights leader with the Southern Christian Leadership Conference, the organization first led by Martin Luther King, Jr.

“It comes from some rich history, nothing can erase that,” Mr. Ridley-Thomas said in an interview, of the Coliseum’s renaming.

“There’s very little that could change the history or the historic import of the Los Angeles Memorial Coliseum.”

Stadium naming-deals, a common way for universities to fund field renovations and expand athletic programs, don’t come without controversy.

Locals and fans can resist even negligible changes to longtime institutions. People still criticize the corporatization of sports, no longer a new reality of the industry.

Mr. Ridley-Thomas, and USC President Mr. Nikias, noted the renovation under way will preserve the Coliseum’s structural history.

And both said the upgraded stadium will benefit sports, entertainment, and community life in L.A. at large. The Coliseum has kept the arched peristyle it was built with in 1923. It was designated a state and National Historic Landmark in 1984.

“It almost feels like a no-brainer to continue to make sure that it remains a symbol. It feels like a win-win for everybody,” said Janet Lamkin, United Airlines’ regional president in California.

The deal boosts United’s brand exposure in a market company executives said are important to the airline. United has two hubs here, in Los Angeles and San Francisco, and has recently invested in improving its terminals at the Los Angeles airport.

Mr. Nikias, USC President, said the university considered a number of corporations before settling on United Airlines, whose CEO, Oscar Munoz, is a USC alumnus.

Mr. Nikias said he felt very strongly that the naming rights should go to an American corporation, to preserve the heritage of the Coliseum, which was initially built as a memorial to American veterans of World War I.