

Airport's Terminal 1 takes shape

With first phase of construction 40% complete, U-T gets sneak preview of progress on \$3.4 billion undertaking





Beyond all the steel framing, parts of the terminal's finished glass facade have also begun to take shape. (Alejandro Tamayo U-t photos)

BY LORI WEISBERG

Two years into construction on what is San Diego's single largest airport project, the long-awaited replacement of Terminal 1 has reached a key milestone ahead of its summer 2025 debut.

The terminal's massive steel framework — all 11,000 tons of it — is now 100 percent complete, marking a critical juncture in the first phase of what will eventually be a 30-gate, state-of-the-art building that will take the place of the airport's 1960s-era facility. The first 19 gates of the new Terminal 1 are scheduled to open by late summer of 2025, with the final 11 gates debuting by January of 2028.

Signs of progress on the \$3.4 billion development are emerging daily, from the first sections of the terminal's curved glass facade to a new 5,200-space parking structure. Some of the ongoing, incremental improvements are more hidden from public view — most notably a second taxiway for San Diego's one-runway airport.

The Union-Tribune got a behind-the-scenes preview of the ongoing work during a tour last week led by Angela Shafer-Payne, the San Diego International Airport's vice president and chief development officer. While the terminal's interior, which will include dozens of new food and beverage concessions and the airport's first underground baggage system, has yet to take shape, substantial progress has been made.

Here is a preview of the current construction at the airport.

Tons of steel

San Diego airport officials are so excited about the completion of the terminal's steel framework that they're holding a special event Wednesday to commemorate the occasion, with the mayor of San Diego and airline executives on hand for a beam-signing ceremony.

In all, workers placed more than 9,000 pieces of steel, beginning at the west end of the building and working their way east, Shafer-Payne said. To put the enormity of the project in perspective, she noted that 45,000 cubic yards of concrete have been used to date on the overall project — the equivalent of 173 miles of a standard 4-foot-wide sidewalk.

The development has employed 5,000 workers who so far have labored nearly 1.8 million hours, she said.

As she guided a reporter and photographer through the perimeter of the construction site, she pointed out a large opening on the upper level of the three-story structure that will eventually be transformed into an airline lounge. There will be two such spaces once the terminal is completed.

“No airline tenant has yet claimed that space,” Shafer-Payne said. “But it will have a beautiful deck overlooking the airport and all the way to Mission Bay.”

The existing Terminal 1, which will continue operating until the new 19-gate facility is completed, will then be torn down, sometime in late 2025. That first phase is now 38 percent complete. The second phase of the terminal, which will include the addition of 11 gates, will effectively overlay the space occupied by the old terminal, Shafer-Payne explained.

She pointed out a large black facade that marks the connecting point with the future extension.

Shafer-Payne estimates that the building now under construction represents two-thirds of what will be Terminal 1 once completed in 2028 with its full complement of 30 gates. More immediately, the airport's former administration building — recently replaced with a brand new building — will be coming down starting this week to make room for the new terminal.

No-glare facade

Beyond all the steel framing, parts of the terminal's finished facade have also begun to take shape. Most eye-catching is what designers are calling a “fritted” glass exterior. While decorative, it also serves a very specific purpose. Fritted glass patterns are essentially an amalgam of opaque geometric shapes or small dots that are embedded on the inner surface of glass panels that can reduce UV penetration into a building, while still allowing a room to be illuminated with filtered natural sunlight, Shafer-Payne said.

The specially designed glass treatment was a collaboration between the terminal designer, Gensler, and light artist James Carpenter. The curved glass panels are 30 feet tall and will span the terminal's 900-foot-long "headhouse," which refers to that part of the building that houses the areas where passengers are checking in, including the ticket counter and security checkpoint.

"We've had some challenges at the airport with the front of the terminal always facing south and the winter sun glare inside at the ticket counters, so we decided we are going to get this right and be able to have glass without having to drop shades down," Shafer-Payne said. "When people come to San Diego and step off the aircraft, they're coming here for the sunshine and palm trees and you don't want to have to have sun shades down.

"So working with an artist, we designed this glass with the frits in there so that when the sun is hitting it at different times of the day, it won't cause a glare inside the ticket lobby. And it's transparent, you can see out. We even did a mockup to prove it to ourselves."

Elsewhere on the side of the building is a combination of flat glass panels and cladding that is a 3/8-inch solid aluminum plate.

Underground baggage

The new Terminal 1 will be the only building within the 661-acre airport property that will have a basement, which will house the baggage handling operation. The new system is designed to have passengers' luggage travel underground to the basement where it will be scanned by TSA equipment, Shafer-Payne said. After that, it will return to ground level where airline employees will retrieve the luggage and load it onto carts to bring it to the respective aircraft.

To create the new basement, the underground area had to be dewatered. Each day, workers were extracting 250,000 gallons of water that was cleaned and then pumped into San Diego Bay.

"Baggage handling now is all above ground," Shafer-Payne said. "So for Terminal 2, for example, that whole apron area is taken up so much by the baggage handling system and X-ray machines, it leaves us less room for other airport purposes, so we built this Terminal 1 building more efficiently by putting in that basement."

Relieving congestion

San Diego's international airport has always had only one runway — and also a single taxiway. But that will change with the Terminal 1 project. Workers are currently laying asphalt and pouring concrete for a second pathway for planes taxiing to and from the runway, a move that should speed up the time for arriving planes heading to a terminal gate and jets waiting to take off.

"Today, when an aircraft comes away from the terminal road and is taxiing down to the end of the runway, we only have a one-way road, so if we have an aircraft that is also landing and wants to go to the terminal right here, that aircraft has to wait," Shafer-Payne explained. "But with a second taxiway, this aircraft can continue down the runway and not

interfere with an aircraft landing so you can get to your gate sooner from the runway — or get to the end of the runway more quickly.”

To accommodate future sea level rise, the terminal building will be 3 feet higher. Similarly, the airport is also raising the elevation on the airfield, Shafer-Payne said, pointing to a section of recently poured concrete for the new taxiway that is more than 2 feet thick and double the weight of any aircraft landing at the airport.

To make room for the new taxiway, the former long-term parking lot — 1,451 spaces — had to be removed. That lot, which was supposed to be temporary, had been operational since 2005.

To date, all the airside work envisioned as part of the Terminal 1 project is 35 percent complete.

Fueling up on the airfield

Given the constrained site of the San Diego airport, much thought went into every space-saving option possible, airport officials say. One of those was to find a way to eliminate the dozens of trucks needed daily to deliver fuel to the planes. Part of the Terminal 1 budget has been reserved for converting that system to hydrant fueling. There are also additional funds budgeted to cover the cost of moving to hydrant fueling for Terminal 2 as well, Shafer-Payne said.

The net effect of the change in fueling is the daily removal of 50 trucks from the airfield.

“Today to fuel up all the aircraft, we have all these fuel trucks running around,” she said. “The British Airways 777, for example, requires 45,000 gallons of fuel — that is three fuel trucks and each one takes 30 minutes to empty into the aircraft so it is a time-consuming process.

“Hydrant fueling is a much faster process. At each one of the gates, you’ll just attach a hose to one of the aircraft, and fuel is coming in through a pipeline under the ground.”

What about more parking?

The first phase of the new 5,200-space parking garage, which many people heading to the airport are likely eager to see up and running, will open next summer, well ahead of the Terminal 1 opening. The second half of the parking plaza will be done by the summer of 2025. The completed garage will have 750 more parking spaces than the old Terminal 1 surface parking lot.

When finished, it will be five stories tall. Workers recently completed pouring the third deck, Shafer-Payne said.

Just completed last month was another key component of the Terminal 1 project — the first section of a new on-airport roadway.

The new road takes motorists to the front of the existing Terminal 1 where they exit at ground level. At a future date, the western end of that roadway will be realigned to go to

the newly constructed terminal. Once completed, it will split into an elevated departures roadway and a ground-level arrivals roadway.

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