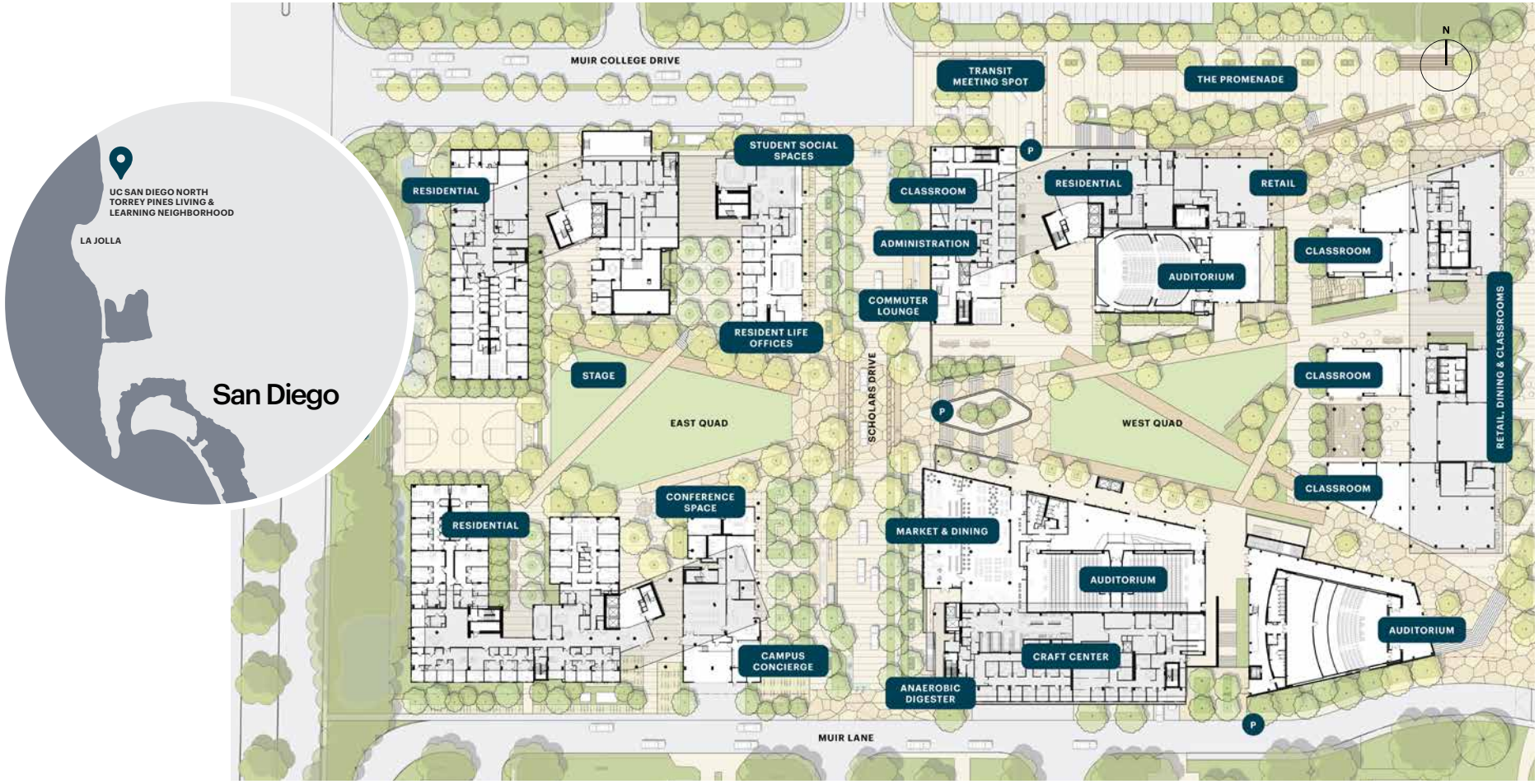
DESIGN FOR INTEGRATION

# A More Resilient Future

Facing a student housing shortage, UC San Diego chose to expand campus facilities by creating the North Torrey Pines Living and Learning Neighborhood (NTPLLN). The university asked architects to design environments that would advance their goal to become carbon neutral by 2025. Imagining a more resilient future, architects asked: could the new neighborhood also improve the health and well-being of the people who use it?

**81% reduction** in measured EUI

**Largest LEED v3 Platinum** higher education project in CA




SITE PLAN

# From Parking Lot to Walkable Campus

Previously a surface parking lot, the campus is designed to encourage physical activity and social interaction. Comprising 463,677 square feet, the site includes three residence halls and two mixed-use academic buildings amounting to 1,633,188 square feet of total building area.

**Walk Score: 66%**

**Bike Score: 85%**

NORTH TORREY PINES LIVING AND LEARNING NEIGHBORHOOD

DESIGN FOR INTEGRATION

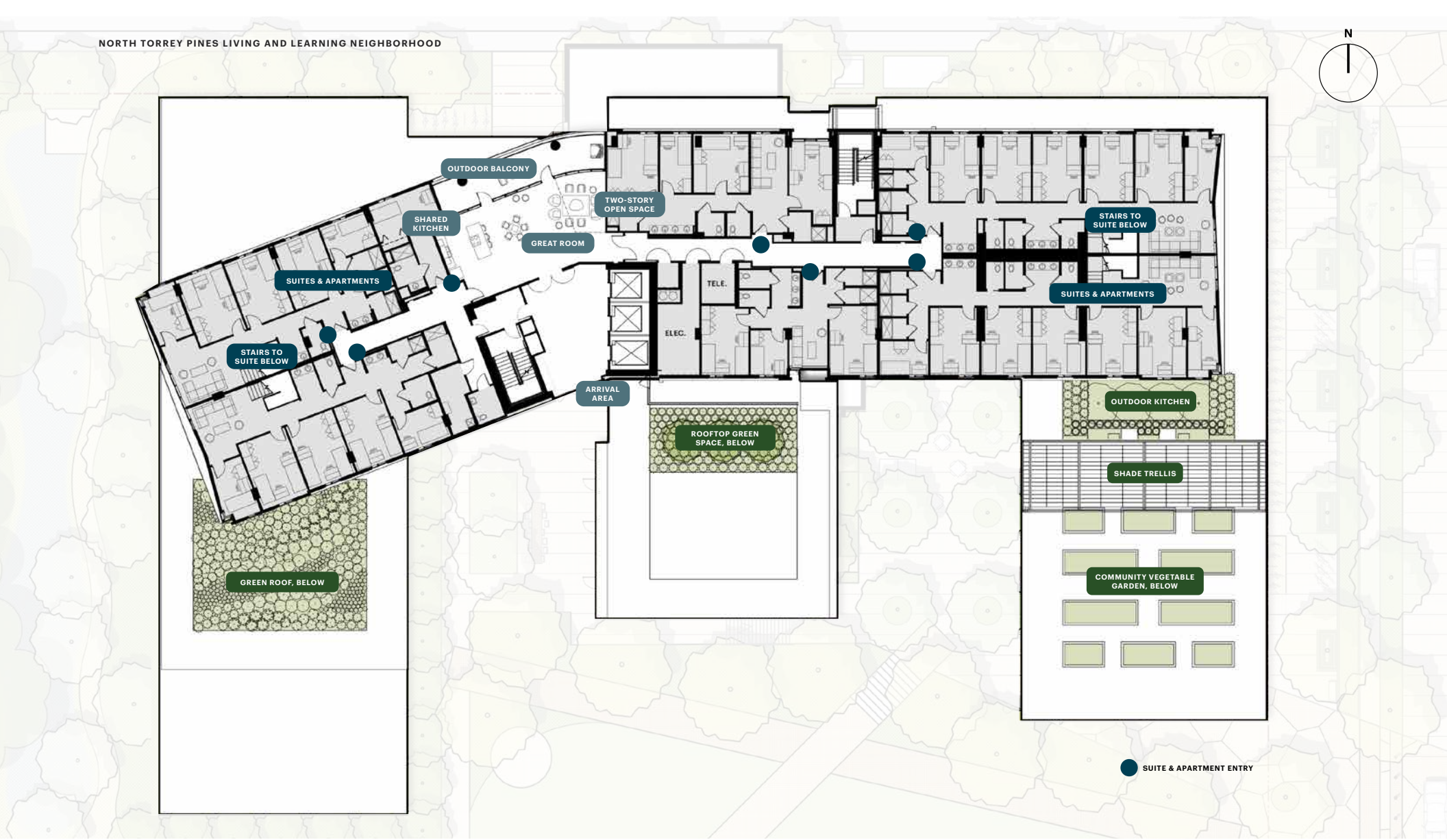
# Can Design Improve Health for People and Planet?

Building upon findings of a research coalition, architects designed the project to make healthier choices easier choices throughout the neighborhood.

For example, stairs, outdoor gathering places and healthy food choices are central and prominent throughout the design. Connected indoor and outdoor spaces make the most of San Diego's climate and NTPLLN's site on the Pacific coast.

Design intentions to reduce energy use and enhance occupant well-being led to measured outcomes. Although the campus opened while mental health was in crisis due to the COVID-19 pandemic, students at NTPLLN reported an 8.2% reduction in depression.

**8.2% reduction** in self-reported student depression




RESIDENTIAL FLOOR PLAN

# Better Life on Campus

In a region where rental costs are typically double the U.S. median, NTPLLN offers its students 2,048 beds at below-market rates. Every bedroom has operable windows and views to the verdant landscape beyond. Student suites and apartments are located near shared great rooms with kitchens and outdoor balconies.

**2,048 beds** for UC San Diego students

1 Community Basketball Court

2 Surfboard Shaping in the Craft Center

3 Outdoor Dining

4 Multi-Modal Transportation

DESIGN FOR EQUITABLE COMMUNITIES

# Designing Connections

The project's urban plan and architecture reflect the university's belief that student and community interactions are important to holistic development.

Amenities are designed to mitigate loneliness and stress. By inviting the community in with dining and shared spaces like a craft center, NTPLLN fosters connection among students, staff and local residents.

DESIGN FOR ECOSYSTEMS

# Restoring Natural Habitats

The design includes native and regionally appropriate plants that provide new habitats for birds and pollinators. Expansive green spaces and accessible roof terraces throughout the campus offer biophilic benefits. Inside and out, buildings feature sensory connections to nature.

DESIGN FOR WATER

# Weathering Historic Drought

California's current drought is the driest period in recorded history. Drought tolerant vegetation and drip irrigation at NTPLLN reduce potable water and bioswales naturally filter rainwater, leading to high quality runoff on the sensitive coastal site. Water efficiency and conservation strategies also reduce burden on local supplies and systems.

**50% lower water use intensity** than benchmarked trends for residence halls

1 Diverse regional plants including succulents limit irrigation needs on the ground and on roof gardens

2 Bioswales and increased vegetation reduce harmful contaminants in site run-off

DESIGN FOR ECONOMY

# Investment in Growth

NTPLLN is a mixed-use neighborhood with amenities and services that generate economic and social value for students, staff, faculty and area residents. A Triple Bottom Line-Cost Benefit Analysis illuminated the project's potential to generate economic growth over time, quantifying the value it will offer the university and its community, today and tomorrow.

**$17,027,200** to the client, UC San Diego
**$17,099,800** to the community of La Jolla
**$577,236,600** to NTPLLN students, staff & faculty

**$611,363,600** Triple Bottom Line Value

DESIGN FOR ENERGY

# Climate-Sensitive Design

NTPLLN is designed for energy performance and year-round passive survivability. More than one third of the total building area is unconditioned and every student bedroom has operable windows, integrated trickle vents, and negatively pressurized continuous exhaust systems that increase indoor air quality while reducing energy use. The university's first micro-anaerobic digester also generates on-site renewable energy and organic fertilizer from food waste.

## **81% reduction** in measured EUI

1 Indoor/Outdoor Spaces

2 Daylight and Natural Ventilation

3 Anaerobic Digester

DESIGN FOR WELL-BEING

# Point-of-Decision Design

Informed by Point-of-Decision Design, a research-based framework, NTPLLN's design encourages healthy choices by making them accessible and appealing. A central dining commons and market offer affordable, healthy food options and plenty of indoor and outdoor spots to eat, socialize, and study.



DESIGN FOR WELL-BEING

# A Healthier Campus Experience

Architects employed evidence-based design strategies to create a campus that cultivates social, mental, and physical well-being for students. NTPLLN is walkable and includes bike and skateboard paths as well as ample green space for activities. Academic and residential buildings feature restorative connections to nature such as roof gardens with native plants and views to the Pacific Ocean.

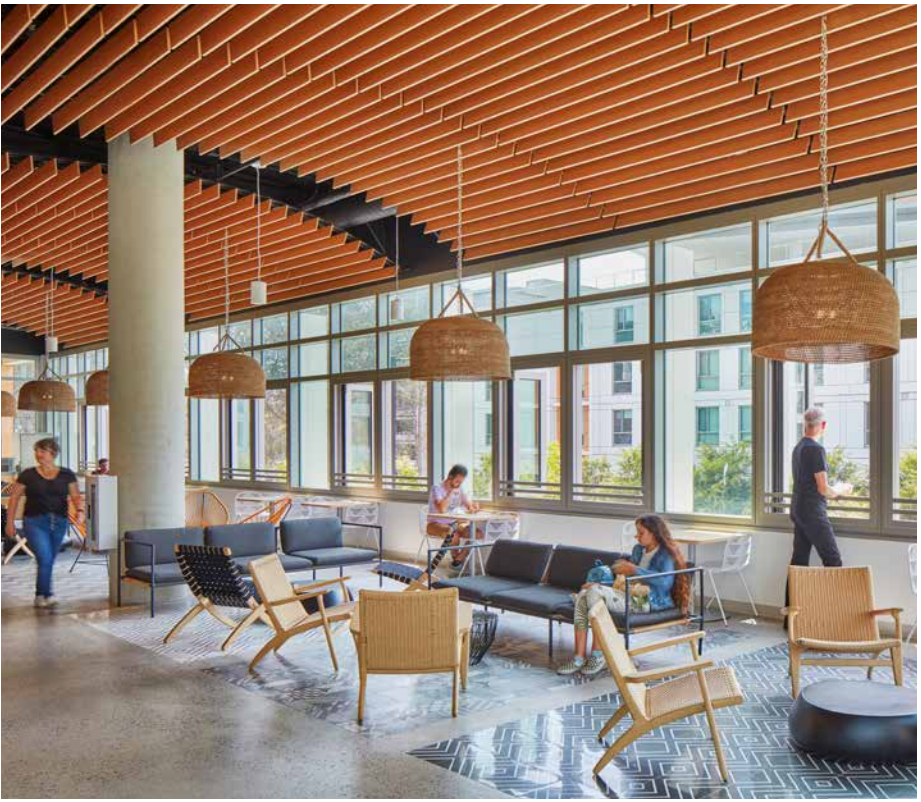
DESIGN FOR WELL-BEING

# Encouraging Healthy Habits

College years are formative for building healthy habits. NTPLLN features rooftop gardens where students can grow, cook and eat fresh food. Each residential floor includes shared kitchens. When students graduate, they carry healthy lifestyles with them.

**11% increase** in satisfaction with diet

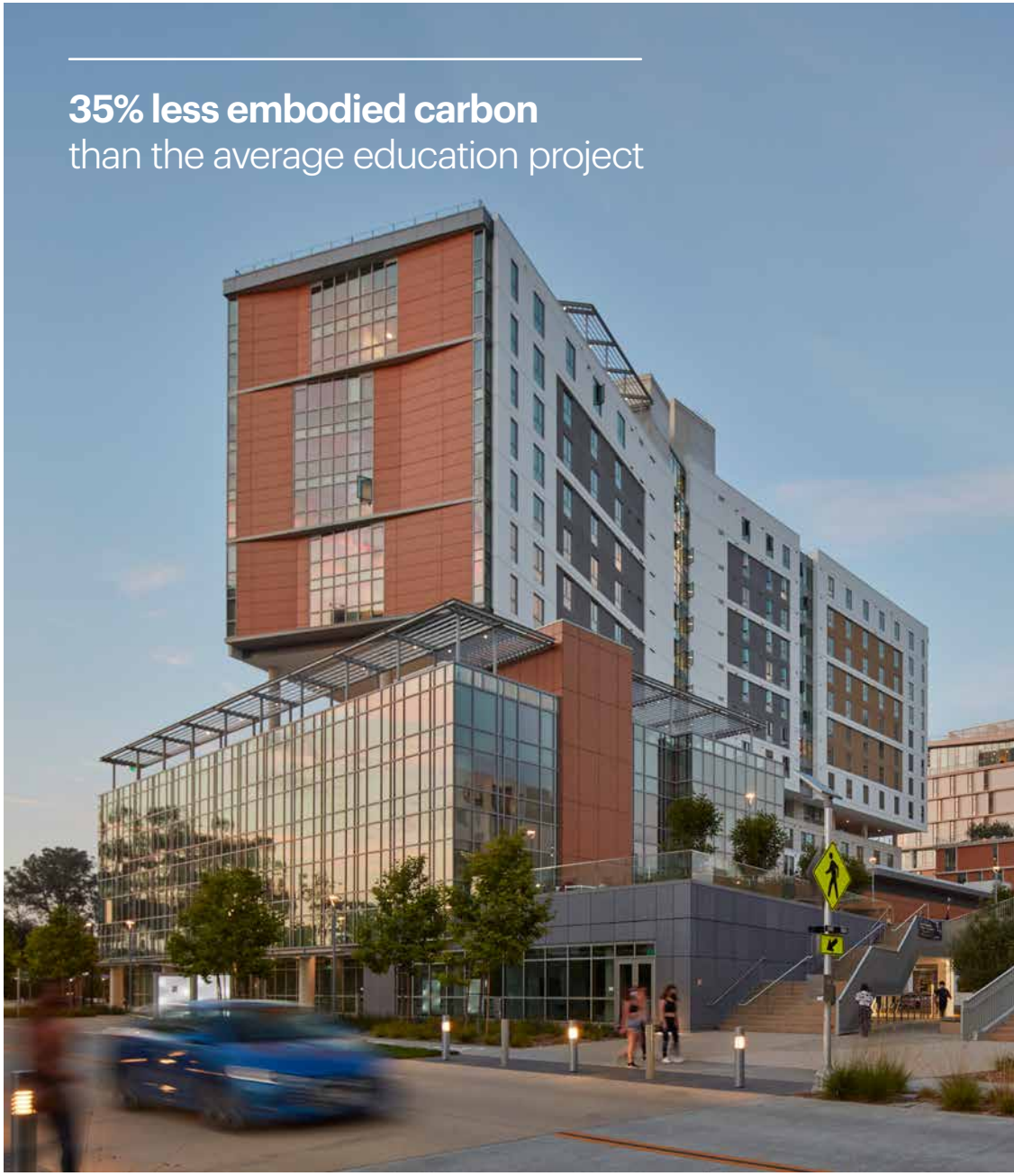
**8.2% reduction** in student self-reported depression



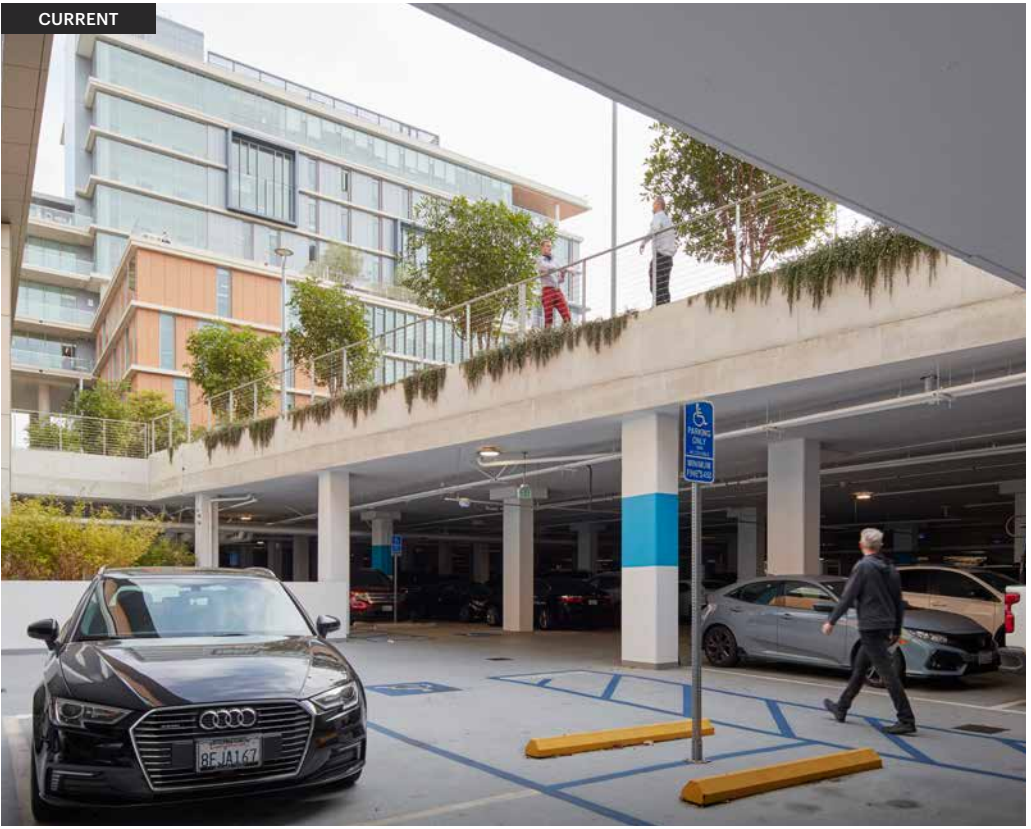
DESIGN FOR RESOURCES

# Resource-Responsible Construction

NTPLLN's building materials are in keeping with UC San Diego's distinct architectural vernacular. Concrete structures and wood panels have limited additional finishes and substrates. Exterior fiber cement panels used throughout the campus feature irregular joint patterns designed to minimize waste and can be downcycled after use.



CURRENT



FUTURE

DESIGN FOR CHANGE

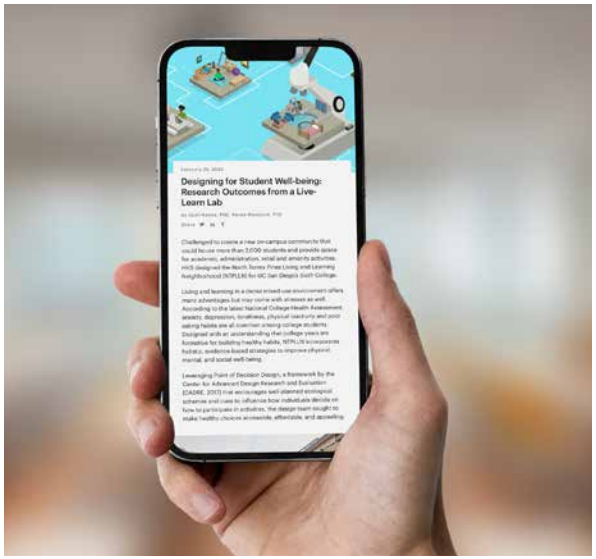
# Looking Ahead to Future Uses

NTPLLN's underground ParkSmart Gold-certified parking structure is designed to adapt to the university's needs. If transportation options grow and demand for classroom space increases, then UC San Diego can convert parking space into classroom space.

Parksmart

GOLD CERTIFICATION

NORTH TORREY PINES LIVING AND LEARNING NEIGHBORHOOD




DESIGN FOR DISCOVERY

# Paying it Forward

NTPLLN is a “live-learn lab” designed to foster iterative improvement and innovation. As a capital building project with a major research component and positive well-being and environmental outcomes, it demonstrates the power of evidence-based design. The campus is also fostering a rising generation of sustainability advocates with on-site educational materials and a course co-developed by the project team and the university. The project’s award-winning design research is publicly available online so architects and educators can build upon it.