

# Appendix D: Case Studies



Built in 1993 in the Marina District of downtown San Diego, **CityFront Terrace** is the largest brick building on the West Coast. The 13-story facility was designed to incorporate the historic 1920s-era Citrus Soap Factory into its structure. Amenities include two swimming pools, a 3,500-square-foot fitness center, a conference room and the expansive “Citrus Room” available for private events. Secure underground assigned parking for residents, optional valet parking and a 24-hour lobby attendant are provided in this privately managed community.

## CHARGING SNAPSHOT

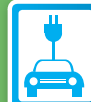
No. of residential units: **320**

No. of parking spaces: **417**

No. of residents driving PEVs: **2**

Number of charging stations and types:  
**Level 2 - 1 installed and 19 pre-wired individual electric meters available for Level 2.**

## CHARGING STORY



### Charging setting

CityFront Terrace offers plug-in electric vehicle (PEV) charging infrastructure to its residents on a cost-recovery basis.



### Decision-making process

Residents began to inquire in 2011 about charging station options for PEVs they were planning to purchase. After attending a San Diego Gas & Electric (SDG&E) Multi-unit Dwelling Vehicle Charging Workshop, the community manager and facility manager presented information to the board of the homeowners association (HOA).

Property management and residents sought a billing solution that would allow residents to pay directly for their own energy usage, without the property managers having to track usage or collect payments. They also wanted residents to be able to individually select and own their charging unit. Management knew that having PEV charging would allow the community to market its new green amenity.



### Charging implementation and management

Under a compromise plan, CityFront Terrace agreed it would install 20 individual meters, wired directly to the utility side of the building electrical supply via one

of the main buses. Wiring hubs on each floor of the parking garage would ensure that wiring could be extended to individual parking places. Each resident requesting PEV charging would pay an equal portion of the upfront capital expenditure for the project and purchase their own charging unit for installation in their parking space. By owning their unit, residents could take it with them when they move. Each resident would secure the required liability insurance referenced under California SB 880 since these units would be located within a “common area.”



### Charging costs

Under the chosen arrangement, each resident receives their monthly bill directly from SDG&E and sees firsthand their individual charging behavior and resulting cost savings from the utility's discount electric vehicle time-of-use (EV TOU) rates.

Although the project was capital-intensive up front – it cost approximately \$80,000, or \$4,000 per meter – the residents concurred that the investment would return value to the HOA over time.



### Multi-unit dwelling charging challenges

During early evaluation, CityFront Terrace uncovered many technical challenges. Assigned underground parking spaces were located far from the residents' individual living unit electric meters on upper floors. Common-area meters that were on commercial electric rates would be subject to demand charges and time-of-use impacts. The project needed wiring solutions that would accommodate different brands of Level 2 (208-volt) charging stations and individual user billing for the parking spaces. The chosen charging arrangement addressed all challenges.

## Contact information

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“I have to admit to being, probably, the most reluctant to start this project and in the end I’m very proud of it.”

**David Huckaby**, CityFront Terrace Facilities Manager