

# Level 1 Electric Vehicle Charging Implementation

October 9, 2018

The EV Charging Task Force requested a study of the parking decks B4 and F29, to assess the possibilities for expanding Level 1 EV charging. This study was completed by Engineering and Construction Services at Facilities and Services. Two scenarios were explored: 1. distributed EV charging spots, and 2. clustered EV charging spots. In both cases the distributed option is less costly, although more so for B4 than F29. In the distributed scenario, there are EV charging spots on every floor. In the clustered scenario, the charging spots are clustered together at the lowest level. Experience at other venues, such as downtown Chicago, has shown that clustering at the lowest level typically results in many conventional cars filling the EV charging spots, as drivers cannot resist the availability of parking on the lowest level. Thus, if EV charging spots are to be clustered, it is prudent to do so on an upper level. Indeed, a new parking deck at Northwest Memorial Hospital in Chicago has the EV charging spots clustered on the top (ninth) floor for exactly this reason. EV drivers generally do not mind parking on the top floor, as they appreciate the availability of the charging spots.

We subsequently asked Engineering and Construction Services about the added cost of moving the clustered spots to an upper level. They estimated an additional cost of \$600 per level.

When building a new parking deck (or refurbishing an old one) it would be desirable to cluster the EV charging spots on an upper level. However, this is not the cheapest option for parking decks B4 and F29. In addition, those decks already have distributed EV charging spots. It seems reasonable at this time to simply add more distributed charging spots to those parking decks. This can be revisited in the future if the demand for EV charging increases significantly.

We therefore recommend the following actions

- Expand the number of distributed Level 1 charging spots as detailed in the F&S study. Estimated construction cost: \$2500 for B4, \$4500 for F29.
- Using the existing Level 1 outlets at the north end of lot E14 (east side), place signage to designate two spots for EV charging only. Cost unknown.
- Plan for clustered Level 1 EV charging in the refurbished decks C7 and C10.