



City of Davis
Temporary Committee - Parking Lot Shade 2x2 Minutes
Natural Resources and Tree Commissions
Wednesday May 26, 2021
5:00 P.M.

Commissioners Present: John Johnston, Richard McCann – Natural Resource Commission
John Reuter, Tracy DeWit – Tree Commission

Assigned Staff Rob Cain, Urban Forest Manager
Kerry Daane Loux, Sustainability Coordinator

Approval of Agenda:

Motion to approve the agenda was made by Reuter and seconded by McCann.

Approved 4-0

Approval of Minutes:

Motion to approve the May 12, 2021 minutes was moved by DeWit and seconded by Johnston.

Approved 4-0

Discussion Item

A. Discussion of Possible Recommendations to the Tree Ordinance

1. Natural Resource Commission Presentation

Johnston introduced the presentation by the NRC subcommittee members on the goals and interests in the solar options for parking lots and shading.

The presentation focused on the inclusion of solar in parking lots to supplement tree cover and for larger electronic production needs within Davis.

The shade requirements are important due to the shift in climate and the needs to reduce the heat island effects in parking lots.

Johnston made the suggestion to look at the question for discussion of whether the 50% shade target is adequate enough for future climates in the Davis area.

The presentation showed some climate predictions from the UMCES website and climate models for California cities.



McCann presented some solar production metrics and the comparison to a natural gas power plant. Solar panel arrays for large energy production use 88% of the CO₂ emissions for production of the panels and operations and have a 25-40-year life span of production.

McCann presented that the larger solar panels can produce 100-2000 kWh, which is much larger than the usual home installation which produces 2-5 kWh.

McCann presented that these large solar arrays merge two different carbon mitigations as they can charge electric cars which reduces car emissions and supply electrical power to the surrounding businesses.

McCann compared the large solar arrays to tree carbon sequestration of about 55 pounds of CO₂ emissions per year which means the parking lot would need 140 trees per electrical vehicle car charge.

McCann presented that the solar panels can also connect to the power grid through an electrical vehicle and the electrical vehicle charged by a solar array could then be used to power a home if plugged into the power grid source of the home.

Johnston commented that the benefits of the arrays can also be used for in-town energy production which hooks directly into the power grid at the source of the array.

Johnston commented that the property owner can have some solar panels and trees and have an efficient use of land. Solar panels can co-partnership with trees for certain uses in town. The question may be the balance of coverage and is there a minimum tree count and/or a maximum of solar coverage, but the option for solar should be looked at for the larger parking lots.

Johnston commented that improving tree successes, upgrading the planting sites for trees, and storm water integration into parking lots will be helpful for tree survival. Also, trees do provide alternate services than solar panels.

Johnston commented that long-term maintenance, standards of care, enforcement of the guidelines and a mechanism for penalties are things to be looked into for the revision. Also who is responsible for the trees and their care is something to consider and could city resources do the work as other trees in the city.

Reuter commented and asked if it is envisioned to do this in all parking lots or would there be criteria for allowing arrays in certain lots.

Johnston commented that the size of the Korematsu School parking lot would be okay, but not the AT&T store downtown as this lot would be too small for any arrays. Would envision larger lots for this type of application.

Reuter commented on the costs and how much would a developer save by installing arrays.



McCann commented that analyses are showing the majority of measures save people money and lower costs and the other consideration would be on how to divvy up the benefits from the on-site power, but this is not a big hurdle.

Johnston commented that costs to developers are not that high on the priority list for regulations as the benefits to the city are greater. Buying land and installing wires for solar farms on the outskirts of town are a bigger cost.

Reuter asked about examples of a developer walking away from a project due to the requirements of city regulations?

McCann commented that developers would not necessarily walk away from a project, but would just not apply for a project and build in another jurisdiction.

Reuter commented if the city had enough land area in town for this large projects and the ease of expansion of the city.

Johnston commented that developers do push back on some of the requirements, but sometimes drop the concerns when they find some regulations may benefit the project. For example, the Nugget headquarters initially did not want to add solar to the project, but in the end solar was installed on the west facing buildings after all.

DeWit thanked the NRC members for the suggestions and presentation and asked if the greenhouse gas reduction goals set for the city would only be met if electric cars are driven and is the reduction successes built on that assumption.

McCann commented on California's mandate of all electrical vehicle sales by 2030 per an executive order to lower greenhouse gases and this is a big portion of the reductions as vehicles make up a large portion of emissions.

DeWit asked why only parking lots for the arrays and are other places being considered for solar installations.

McCann commented on parking lot emphasis as that is where most cars are and workers use parking lots in larger numbers, so parking lots can be an advantage for charging and production uses.

Johnston commented that parking lots are also not as hospitable to trees and can be integrated easily and could supplement shade on the lot.

DeWit commented that there is a different feel under solar panels than being under trees. Also, it has been a good discussion on how to improve tree maintenance and not to just replace trees with solar panels. Tree offer more benefits than solar panels.



McCann commented that both can help with greenhouse gas reduction and a synergetic approach would be best.

Reuter asked about the ratio of electric cars in lots are employees and number are consumers and how much maintenance is needed on solar panels.

Johnston commented that solar panels require minimal maintenance maybe once a year with some cleaning required for optimal performance.

Reuter commented on the next meeting agenda and that the members will switch roles and the Tree Commission members will present on the goals for the Tree Commission. The presentation may not include a lot of facts and figures but will have an integrated list of things to consider in the guidelines and some action steps for recommendations.

Public comments

No public comments were made at the meeting.

Meeting adjourned at 6:30 pm, moved by Johnston, seconded by DeWit.

Next Meeting: June 9, 2021

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