



## Agenda Abstract

### BOARD OF COMMISSIONERS

|                         |                                 |
|-------------------------|---------------------------------|
| Meeting Date:           | Oct. 10, 2022                   |
| Department:             | Public Space and Sustainability |
| Agenda Section:         | Regular                         |
| Public hearing:         | No                              |
| Date of public hearing: | N/A                             |

#### PRESENTER/INFORMATION CONTACT

Stephanie Trueblood, Public Space and Sustainability Manager

#### ITEM TO BE CONSIDERED

**Subject:** Electric Vehicle (EV) Charging Infrastructure Suitability Analysis GIS Model

**Attachments:**

None

**Summary:**

With carbon emissions from the power sector trending downward, transportation activities now generate the most emissions in North Carolina. Electric vehicles (EV) are becoming more affordable and available but “range anxiety” continues to slow growth of the EV markets.

In response, Orange County, UNC, and the towns of Carrboro, Hillsborough, and Chapel Hill are coordinating on a staff level to identify areas within the county that are well suited for new public EV charging stations.

Using a GIS suitability model and local data inputs, staff developed a screening tool (map) to highlight the key areas within each community where new publicly accessible, level 2, EV charging stations are recommended. The map is intended to inform future discussions with private property owners about where to install EV charging infrastructure. The map will also help coordinate countywide deployment efforts and may aid in grant applications. However, each jurisdiction will develop their own local EV deployment plans.

Model inputs included information such as points of interest, zoning, future land use, daily vehicle miles travelled, population density, and others.

Equity was also a key consideration in the model design. The model includes six datasets to represent equity, and together these inputs were weighted at 35%. This included data for Historically Underutilized Businesses (5%), Black Owned Businesses (3%), Subsidized Housing (8%) and Naturally Occurring Affordable Housing (9%), Air Quality (5%), Multifamily Units (5%).

The suitability surface is the result of a weighted overlay suitability analysis. Suitability is expressed as proximity to favorable feature types and/or values in the representative datasets. The values in the processed criterion datasets were reclassified to a 1 (Least Suitable)- 10 (Most Suitable) suitability scale using continuous functions and unique value classification.

The reclassified datasets were each assigned a total weight expressed as a percentage. The map displays results as a “heat map” or gradient of suitability. Examples of highly suitable areas for EV equipment include destinations like downtowns, public parks, and shopping centers.

This initiative may help to inform how new federal and state funding can be utilized to build more public EV infrastructure in Orange County. The datasets and model can be updated over time.

Link to Public Level 2 Electric Vehicle Suitability Analysis:

<https://gis-portal.townofchapelhill.org/portal/apps/instant/minimalist/index.html?appid=42abf059c43f4f6692f42d8657b46090>

Link to GIS Story Map of Public Level 2 Electric Vehicle Suitability Analysis:

<https://gis-portal.townofchapelhill.org/portal/apps/storymaps/stories/d78ca56832124921b3e713176082b90e>

Staff will display the online analysis and story map at the meeting.

**Staff recommendation and comments:**

None

**Action requested:**

Endorse the use of the Public Level 2 Electric Vehicle Suitability Analysis to aid in the development of local EV charging infrastructure deployment plans and as reference in the Comprehensive Sustainability Plan.