

# Thetford EV Charging Station Feasibility Study

Selectboard Discussion May 2, 2022

# Goals

- Encourage town residents to transition to EV or PHEVs
  - See Thetford Town Plan, Energy Chapter
    - Policy #11: *Encourage the transition to electric vehicles and the placement of EV charging stations.*
    - Recommendation #27: *The Energy Committee should identify locations for EV charging stations within walking distance to businesses.*
- Identify locations where EV charging stations could be installed to serve both residents and visitors (economic development)
- Enhance town's ability to compete for EV charging station grant funding

# Different Charging Levels Available

Type of Charger	Highlights
Level 1 (120 volts)	<ul style="list-style-type: none"><li>• Takes all day or overnight to charge</li><li>• 2-5 miles per hour of charge</li><li>• Only requires dedicated 120V outlet</li><li>• Level 1 chargers available at Thetford Park and Ride</li></ul>
Level 2 (240 volts)	<ul style="list-style-type: none"><li>• 10-20 miles per hour of charge</li><li>• Best if located at workplaces or where there is access to amenities such as food, wi-fi, restrooms, etc.</li><li>• Requires special equipment - Installation and O&amp;M costs vary by location and how power is paid for</li></ul>
Level 3 (DC fast charging)	<ul style="list-style-type: none"><li>• Can provide 80% charge in 20-30 minutes (100+ miles driving range)</li><li>• Best for EV owners on long road trips</li><li>• Requires special equipment - very expensive</li></ul>

# Site Criteria

- Proximity to 3-phase power
- Town-owned property
- Landowner/organization support
- Amenities:
  - Proximity to businesses
  - Public wi-fi availability
  - 24-hour access to services
- User potential
  - Proximity to workers
  - Carpool potential

# Priority Sites

Site	Charging Level	Key Features	Ownership
Thetford Town Office (Thetford Center)	Level 2	<ul style="list-style-type: none"><li>• Could be site for chargers dedicated to different users – 1+ dedicated to town vehicles, plus 1+ for public use</li><li>• Could be used by residents accessing town services, community center, green, Village Store (TBD)</li></ul>	Town
Thetford Elementary (Thetford Hill)	Level 2	<ul style="list-style-type: none"><li>• Workplace with numerous employees</li><li>• Co-located with emergency shelter</li><li>• Parking lot used in non-school hours for recreation access</li></ul>	Town/School
Huggett's (East Thetford)	Level 2 or 3	<ul style="list-style-type: none"><li>• Best location for economic development</li><li>• Best access for travelers needing access to food, restrooms</li></ul>	Private

# Next Steps

1. Talk to property owners/governing bodies to determine which priority site(s) are agreeable to installation and operation
  - All sites considered in the study prioritization agreed in concept
  - Privately owned site would require consultation with town attorney if town applies for a grant to install – MOU or other agreement would need to be in place to ensure public access over time and if business/property is sold
  - If charger is on private property, who pays the annual costs not covered by users?
2. For interested sites, engage a qualified EV Supply Equipment installer to assess locations for charging stations and develop a plan of work and estimate that can be used to seek funding
3. Identify and vet potential funding sources
4. Apply for funds if we have one or more willing sites and appropriate funding source(s) for each site

# Key Takeaways

- For Thetford, Level 2 charging facilities appropriately balance charging capacity with installation and operational costs (p. 5)
- Given Thetford's location, it is unlikely annual use of an EV charger would cover annual expenses (pp. 15-17)
  - Town would need to subsidize a charger, estimated costs ~\$1500/year
- Given that revenue would not cover operating costs, it also would not cover installation costs (p. 17)
  - Pursuing grant funding to cover installation costs is recommended
- O&M charges can vary significantly, based on equipment chosen and how charging is paid for
- Geoff Martin, IREC, and/or TRORC assistance will be needed to pursue next steps