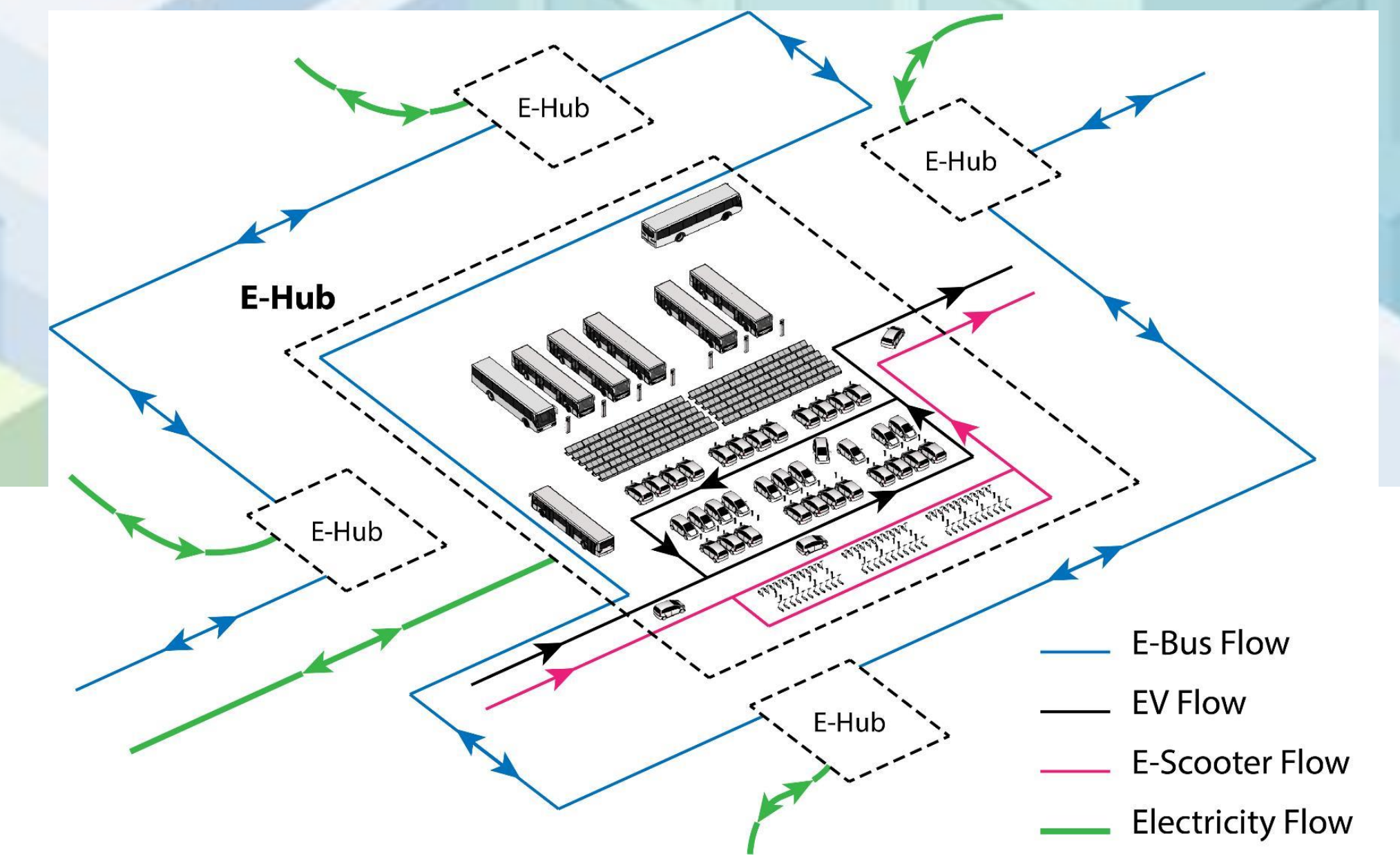


# ECET: Empowering Community-centric Electrified Transportation

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Austin is witnessing continued investment into electrified (E-) transportation from public transit agency (CapMetro, City of Austin), individuals, and e-mobility companies. This project aims to study a new E-hub concept to support urban transit and electricity infrastructure (Austin Energy), as well as investigate its socio-economic impact.

- Collected and organized public transit data
- Developed solar + storage financial modeling tools
- Designed learning-based E-hub operation algorithm
- Examined the trade-offs in transit investment plan
- Discussed with AustinEnergy on public EV planning
- Regular team meetings

Distributed energy valuation and management are useful for Austin Energy to expand its award-winning EV program and public charging station plan.

E-hub locating results are beneficial for CapMetro's plan on increasing transit accessibility from various demographics

Collaborative research on E-hubs' impact on urban transportation/ electricity infrastructure and socio-economic dimensions.

One key feature is the data-informed approach towards E-hub planning and architecture designs, by developing models and statistical analysis for metro-wide traffic data, energy resource and demand data, as well as environment and demographic data.

- Analyzing metro travel patterns for placing E-hubs
- Analyzing key factors for energy resource valuations
- Improving the efficiency of learning algorithm
- Examining transit accessibility by income, race, ethnicity
- Updating results to CapMetro, Austin Energy, and the City

Our research results using Austin metro as a "living lab" could support the electrified transportation plans at other similar metro areas which have witnessed the rapid growth of population.

Virtual workshop at the end of project period to share research results to the community partners and other stakeholders.

Preparation of an IRG proposal to fully address the impact of E-hubs and other factors such as telework transition