



PURPOSE: Establishing and maintaining electric vehicle (EV) infrastructure in new assets to enable the transition of vehicle fleets to EVs. A hospital EV fleet supports net zero goals by reducing greenhouse gas emissions, enhances health and wellbeing through improved air quality, and demonstrates corporate social responsibility.

DRIVERS FOR DECISION-MAKERS:



Cost saving



Net zero goals



Transition to electric vehicles

PLAN

Master planning

- ☐ Determine high-level EV requirements from the business case, EV transition plan or stakeholder engagement
- ☐ Identify future expansion and associated requirements
- ☐ Assess potential charging locations based on their proximity to substations and proposed parking areas
- ☐ Avoid locating EV charging infrastructure in high-risk areas

Feasibility

- ☐ Conduct a needs analysis to determine the number, type and location of chargers and electrical conduits
- ☐ Understand infrastructure impacts by completing electrical demand calculations for both current and future scenarios, assessing plant space and car park design implications
- ☐ Review the need for connecting to backup power for resilience
- ☐ Address key design risks including fire safety and jurisdictional code compliance
- ☐ Develop a cost plan and engage preferred suppliers to test the market

DELIVER

Design

- ☐ Complete the charger system detailed design, coordination of systems and documentation in collaboration with preferred supplier
- ☐ Submit utility applications for additional load, and design any associated supply upgrades
- ☐ Specify and design the energy and load management system
- ☐ Determine a detailed reporting process and system requirements; collaborate with fleet and sustainability managers
- ☐ Select a preferred charger supplier or operator and obtain installation requirements
- ☐ Develop an EV charging strategy

Construction and commissioning

- ☐ Develop a program for permits, electrical upgrades and charger installation
- ☐ Create detailed EV-specific installation drawings
- ☐ Design operations and maintenance plans for EV systems
- ☐ Install, commission and load-test chargers
- ☐ Train staff on EV system operations and maintenance
- ☐ Coordinate with the fleet manager for load management and charging operations

For more information, refer to the *Electric Vehicles guide*.



TIPS FOR OVERCOMING CHALLENGES

CHALLENGES

- Fire safety
- EV charging load
- Extent and type of chargers
- Scalability
- Linkages between capital budget and operational savings

OPPORTUNITIES / ACTIONS

- Engage fire engineer
- Load management system
- Stakeholder engagement
- Operational savings
- Capture EV requirements in campus master plan

Electric vehicle fleet infrastructure



PURPOSE: Establishing and maintaining electric vehicle (EV) infrastructure in existing assets to enable the transition of vehicle fleets to EVs. A hospital EV fleet supports net zero goals by reducing greenhouse gas emissions, enhances health and wellbeing through improved air quality, and demonstrates corporate social responsibility.

DRIVERS FOR DECISION-MAKERS:



Cost saving



Net zero goals



Transition to electric vehicles

REVIEW

Governance

- ❑ Establish or review the existing EV transition plan
- ❑ Assess the extent of the EV fleet
- ❑ Confirm jurisdiction code compliance
- ❑ Review reporting requirements
- ❑ Review any existing EV charger operator agreements
- ❑ Align with sustainability goals

Existing fleet and parking

- ❑ Assess extent of fleet and potential EV charger needs
- ❑ Assess existing parking locations based on proximity to substations and high-risk areas

Existing systems

- ❑ Survey existing electrical infrastructure to understand capacity and noncompliance
- ❑ Measure existing supply maximum demand and estimate available supply capacity
- ❑ Review infrastructure conditions report to understand any existing issues

PLAN

Scope

- ❑ Define the project scope and objectives
- ❑ Identify stakeholders (fleet manager, car park, EV operators, utility) and seek approvals
- ❑ Confirm reporting requirements
- ❑ Determine the number and types of chargers including any future expansion
- ❑ Assess charger locations and access to services
- ❑ Calculate maximum demand and determine supply upgrade implications
- ❑ Consider backup power and business continuity plans
- ❑ Assess fire risks and safety in the design
- ❑ Research and select a preferred EV supplier or operator
- ❑ Develop a training program for operations, maintenance and usage
- ❑ Finalise the business case

DESIGN

- ❑ System design in collaboration with preferred EV charger supplier
- ❑ Submit additional load utility applications
- ❑ Energy and load management system design
- ❑ Finalise reporting requirements with fleet and sustainability managers
- ❑ Select preferred charger supplier and get installation requirements

Construction and commissioning

- ❑ Develop a program for electrical upgrades and charger installation
- ❑ Create detailed EV-specific installation drawings
- ❑ Design operations and maintenance plans
- ❑ Install, commission and load-test chargers
- ❑ Train staff on EV system operations and maintenance
- ❑ Coordinate with the fleet manager for load management and charging operations



TIPS FOR OVERCOMING CHALLENGES

CHALLENGES

- Fire safety
- Limited flexibility to optimize parking and electrical infrastructure
- Existing electrical infrastructure
- Space requirements
- Linkages between capital budget and operational savings

OPPORTUNITIES / ACTIONS

- Engage fire engineer
- Inspect existing assets early in the program
- Load management system
- Operational savings
- Plan parking space requirements early