

Critical Obstacles Chicago Must Overcome

To Achieve its Carbon & Equity Goals



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Introduction

As a part of its Climate Action Plan, Chicago is tasked with reducing greenhouse gas emissions which includes lofty goals for fleet electrification. To meet the city's goals, it's vital to prepare the grid now. Chicago's goals include:

A) Enable electric freight loading docks at commercial and industrial buildings, addressing new buildings by 2025 and existing buildings by 2030

B) Support equitable electrification of ride-hail and taxi fleets by 2030

C) Enable 100% electrification of delivery fleets by 2035

D) Electrify 100% of the City's fleet by 2035

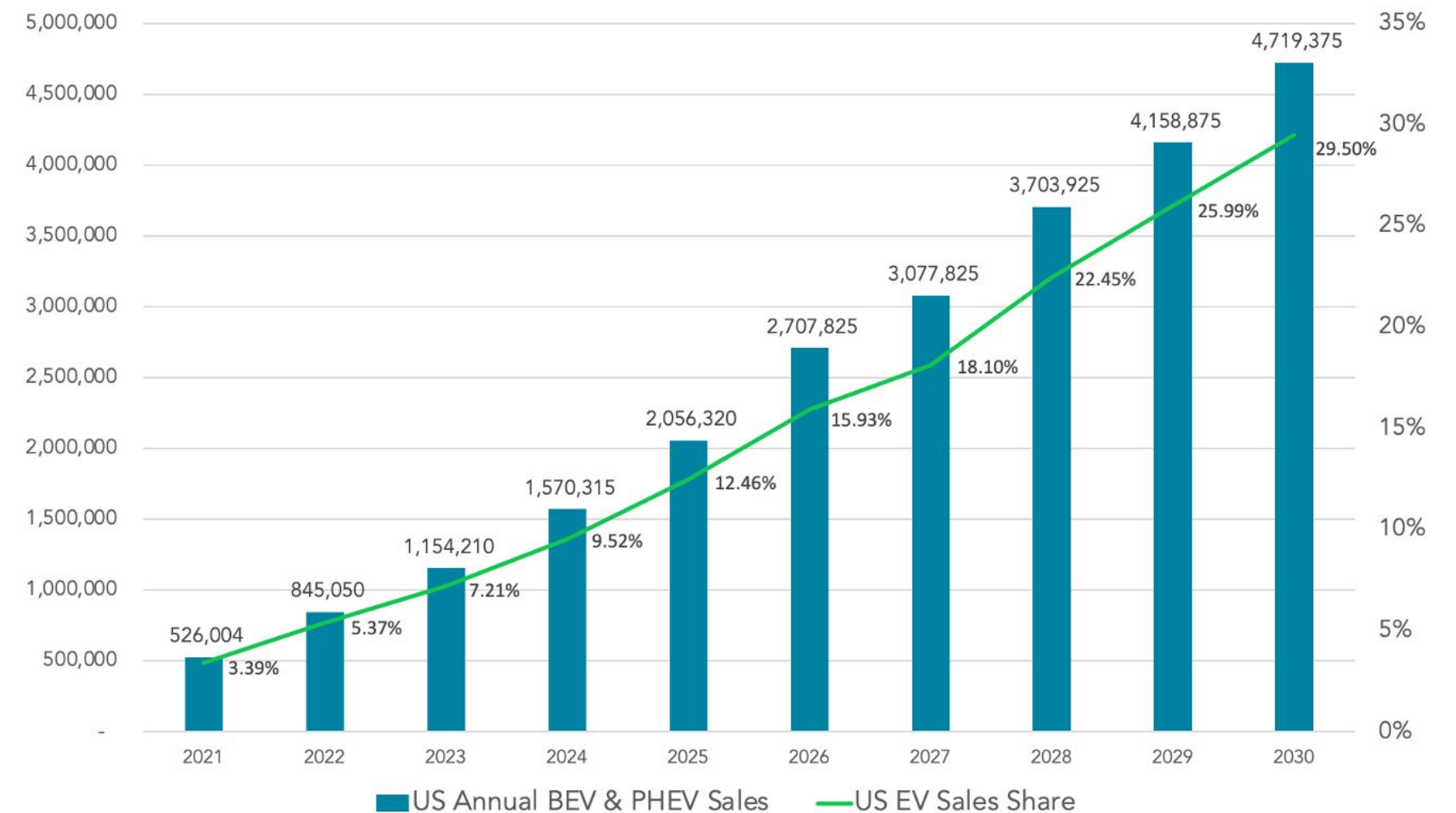
E) Achieve zero-emission transit fleets across Chicagoland by 2040

What is the, general root problem?

Our current grid and infrastructure cannot support the rapid increase of EV adoption and the energy demand needed for residential and commercial electric vehicles or charging stations.

Service providers will have to adjust electric demand forecasts to minimize impact to the grid, as well as plan, update and upgrade the transmission and distribution infrastructure.

US EVs (BEV & PHEV) Sales & Sales Share Forecast: 2021-2030



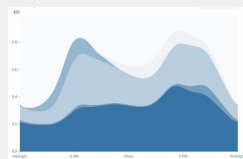
Historical Sales Data: GoodCarBadCar.net, InsideEVs, IHS Markit / Auto Manufacturers Alliance, Advanced Technology Sales Dashboard | Research & Chart: Loren McDonald/EVAdoption

What is the key obstacle to overcome in solving this problem?

Planning is required to ensure that a roadmap is in place for utilities, ISOs and businesses interested in preparing the grid for electric vehicles. To adequately prepare, engineers can support the transition to transportation electrification through planning studies to support the implementation and execution of a supporting framework.



Adoption Forecast



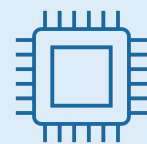
Load Profile Forecast



Energy and Demand
Load Forecast



Impact Studies and
Scenario Planning



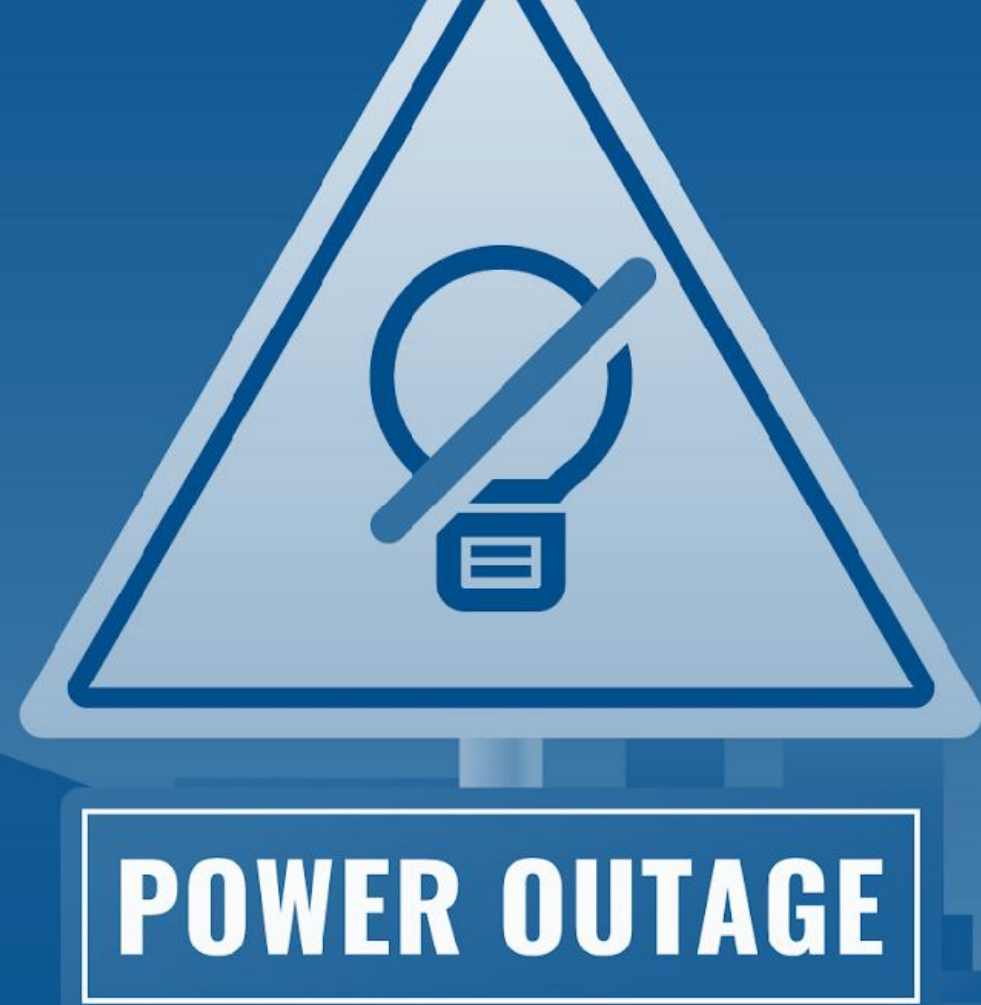
Controlled Charging
Algorithms



Fleet Electrification
Business Modeling



Regulatory Framework



What are the consequences?



Missing Targets



Higher Costs



Impact on economically-disadvantaged communities



Power outages and instability

Regarding Grid Modernization, to achieve Chicago's Climate, Health and Equity goals, a critical obstacle to collectively overcome is to adequately plan for electrification while focusing on fleet electrification in the next 12 months.



Thank You