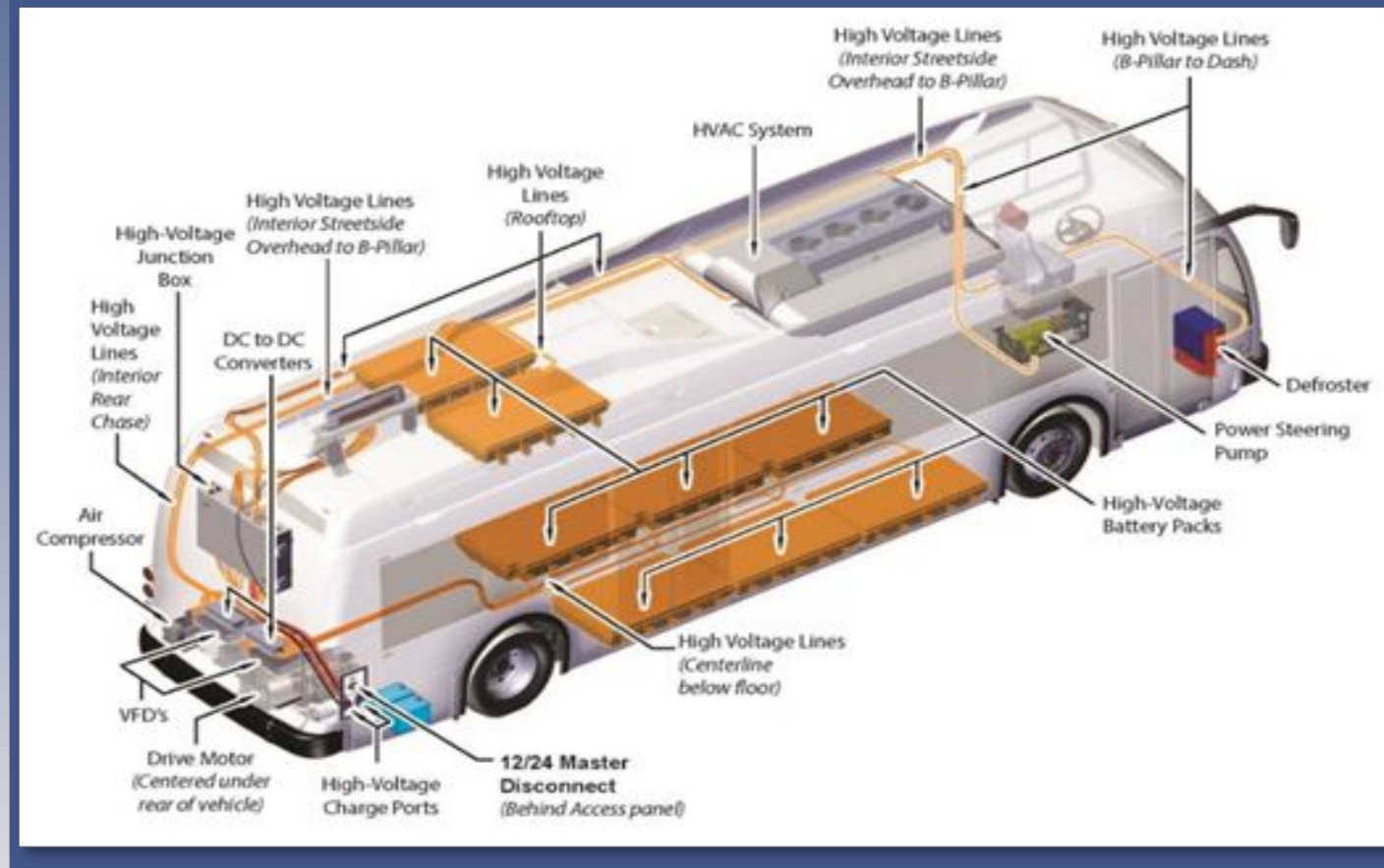


Fleet Electrification

Lessons Learned by the City of Fairfield

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Planning

- Get Executive Management involved early for buy-in
- Include planning and engineering divisions
- Don't forget to find out details of what local requirements are for setbacks, landscaping, permits, noise and light pollution, etc.



More planning

- Replacement planning through 2035. Focus on 2024-2026.
- Vehicles determine infrastructure at other facilities.
- Types of chargers (brand, V) and standards
- Vehicle usage for type and upfits.
- ADA compliance 20% of construction.



**BYD 150KW
DC FAST CHARGER GAINS
UL CERTIFICATION**

Utilities

- Find the right person to partner with early on
- Cyber switching gear
- Cable management
- Charger/dispenser combo vs. remote location
- Smart charger communication
- Underground vs. above ground?
- Backup power
- Uptime guarantee?



Grants

- LoNo partners
- Find good grant writer!



Corpyard

- How many divisions and is there coordination?
- Challenges for real estate? Parking spots will be larger. Larger class vehicles?
- 6" painted line replaced by 3' raised concrete with bollards in between parking spaces.
- How much power is available on the grid in your area?
- Industrial or residential 208V?
- Turning radius is a real thing! 12' vs. 15' challenge.



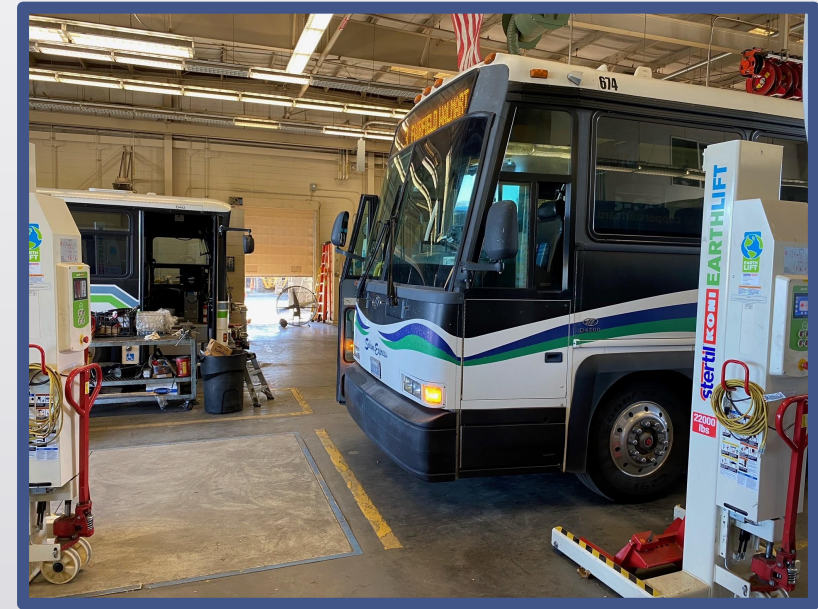
Fleet Building

- Bay Space – 12' vs. 25' – 10' radius?
- Floors, piping, exhaust reels, fluid reels, lights, steel, etc.
- Battery lab/ electronics shop space, modifications, and tools. Modules or cell level diagnostic/repair?



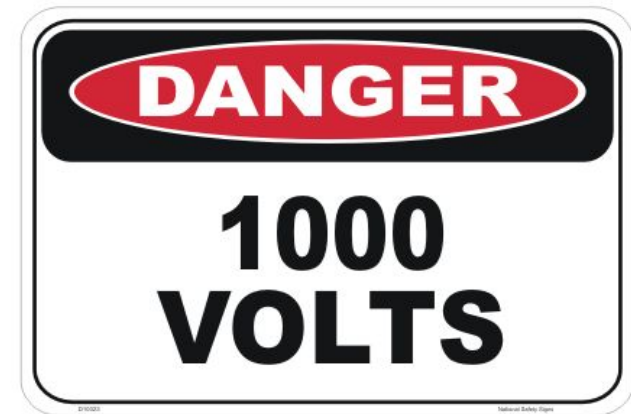
Fleet Building

- In-ground lifts? Steel benches, scaffolding, fall protection, flooring?
- Code required egress routes, circulation isles, safety risks?
- No water intrusion. 800V AC is no joke!
- Building electrical load estimate? Will need commensurate DC Fast Chargers.
- What is your fleet expansion rate?



Staff Development

- HV training
- Harnesses
- Advance electrical/electronics
- New types of PPE such as 1000V rated gloves, electrical safety footwear with Omega symbol, Category 3 Arc flash suit, Hot stick, AED's, etc.
- First Responders



Vehicle Specs:

- Some early adopters in Transit are finding a 2/1 needed
- Consider payload – do you go up a class?
- HP and battery degradation
-450/67



Vehicle Specs:

- Guarantee response time for warranty?
- How easy are cells/modules replacement and costs?
- Lightweighting? \$6-\$11 per pound upfront costs – Aluminum frame rails not widely available as they were, steel/Alum wheels 5 lbs, film vs. paint, composite cabs, PT, axles, susp, wheel ends, DS, frame materials, etc. can give 2-4K



Vehicle Specs:

- BEV's can be 2,500 – 5,000 add
- Warranty recovery at pre-determined rate
- 136 HVIP approved vehicles:
<https://californiahvip.org/vehicles/>



Modern Vehicle Electronics



Yeah, I'm sure "your mechanic" can
fix it cheaper.