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**ADVANCED TRANSIT VEHICLE CONSORTIUM  
MARCH 22, 2023**

**SUBJECT: ZEB ALTERNATIVE DELIVERY PROJECT SCOPE DEFINITION**

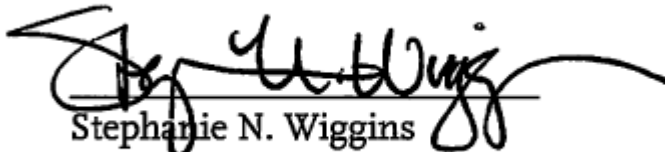
**ACTION: ORAL REPORT**

**RECOMMENDATION**

RECEIVE oral report on ZEB Alternative Delivery Project Scope Definition.

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# ZEB Program Alternative Delivery

## *Pre-Procurement Work Plan Project Scope*

### *Definition*

March 2023



## Today's Agenda

1. ZEB Ecosystem & Service Delivery Models
2. Pre-Procurement Work Plan Status
3. Project Scope Definition Workshop Objectives & Takeaways
4. Opportunities and Risks of Including Vehicles in the Bundle
5. Project Scope Recommendation
6. Proposed Next Steps

Appendix: Alternative Delivery Project Division Bundle Selection Criteria

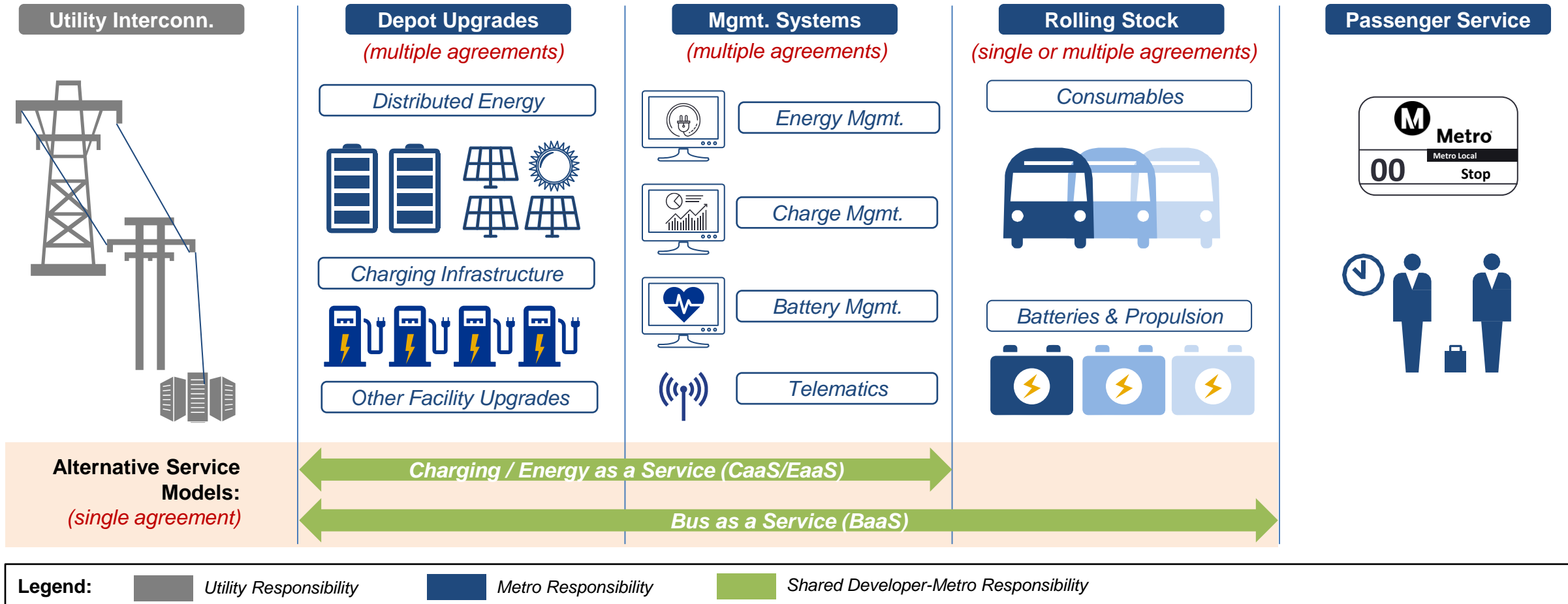


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# ZEB Ecosystem & Service Delivery Models

# An Examination of the ZEB Ecosystem & Alternative Service Models

The Alternative Delivery Working Group (ADWG) examined the current ZEB ecosystem to develop a holistic view of the program's development and identify opportunities for alternative delivery to mitigate risks through service-based models, performance-based contracting, or collaborative delivery:





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# Pre-Procurement Work Plan Status

# Pre-Procurement Work Plan Timeline





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# Project Scope Definition Workshop Objectives & Takeaways



## **Project Scope Definition Workshop Objectives & Takeaways**

The project scope definition phase of the Work Plan began in November and OSI, Operations, and relevant subject matter experts within the ADWG completed a series of workshops across five project areas:

- 1. Division Bundle**
- 2. Facilities Assets & Management Systems**
- 3. Vehicle & Fleet Assets**
- 4. Utility Coordination**
- 5. Service Planning & Continuity of Service**

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## Opportunities and Risks of Including Vehicles



## Opportunities & Risks by Including the Buses in the Bundle

- **Align vendor incentives (mitigate schedule delivery mismatch)**
  - Mitigates schedule delivery mismatch between vehicles and chargers
    - **Risk: Creates single critical path for ZEB transition (and aggregates delay risk)**
  - Pays for vehicles only when ready to receive them
  - Mitigates bus/charger/systems integration risk and upgrades throughout period of performance
- **Single vehicle contract (instead of three contracts of ~250 vehicles each)**
  - Potential economy of scale at acquisition
    - **Risk: Limited and challenged U.S. bus market due to Buy America & manufacturing capacity**
      - Size of the purchase could incentivize participation from non-U.S. based OEMs
  - Vehicle uniformity across the fleet and potential improved O&M performance
    - **Risk: Bet on future performance of a single OEM (requires extensive qualifications-based selection)**
  - Reduced agency administrative burden
- **Turnkey solution and single point of contact for full ZEB ecosystem**
  - Expands options for vehicle procurement
    - **Risk: Similar projects in implementation are international (though strong U.S. market interest)**



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# Project Scope Recommendation

## Alternative Delivery Project Scope Recommendation

- **Division Bundles:** Proceed with Divisions 15, 13, 3 and 5 in the alternative delivery bundle as they best fit the selection criteria and minimize third-party challenges (e.g. SHPO, SCE, City of LA, etc.)
  - **Division 3** 630 W Ave 28, Los Angeles
  - **Division 5** 5425 S Van Ness Ave Los Angeles
  - **Division 13** 920 N Vignes St, Los Angeles
  - **Division 15** 11900 Branford St, Sun Valley
- Selection criteria included the current ZEB transition sequence, equity considerations, capital cost, utility territory, site quality, solar / energy storage potential, etc. *A list of the Alternative Delivery Project Division Bundle selection criteria can be found in the Appendix.*
- **Facilities Assets & Management Systems:** Include a general scope for facilities and technology assets from the meter to the vehicle (e.g. structures, DERs, management systems, charging equipment, etc.) to deliver the full CaaS ecosystem and ensure a single investment and intervention. Balance SGR upgrades and non-revenue / employee charging against cost/benefit.
- **Vehicles & Fleet Assets:** Include vehicles for further examination under the alternative delivery scope

## Alternative Delivery Project Scope Recommendation Continued

- **Utility Coordination:** A key risk and schedule driver for the whole program (not only for alternative delivery). Develop programmatic utility engagement strategy (i.e. inter-agency MOU)
- **Service Planning Impacts & Continuity of Service:** Engage Service Development at least one year prior to commencement of construction to ensure temporary service plan ready six months prior

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# Next Steps



## **ZEB Alternative Delivery Pre-Procurement Work Plan Next Steps**

- Advance to next phase of the Work
  - Frame-out general parameters of the CaaS Developer scope
  - Frame-out procurement approach for a collaborative process to engage a Developer
  - Develop alternative delivery options assessment that outlines scope and procurement strategies
  - Develop procurement options assuming vehicles included while retaining off-ramps
  - Estimate project costs and payments associated with alternative delivery options
- Advance utility strategy to streamline coordination with LADWP, prepare project-level agreement, and execute prior to any procurement
- Investigate CEQA permitting requirements and develop compliance strategy prior to any procurement





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# Appendix: Alternative Delivery Project Division Bundle Selection Criteria

## Alternative Delivery Project Division Bundle Selection Criteria

- The following evaluation criteria were identified to select the preferred Division bundle (with potential backup locations) among remaining Divisions (1 / 2 / 3 / 5 / 7 / 13 / 15):

1. *Current transition sequencing / delivery schedule*
2. *DACs & equity consideration/priority*
3. *Capital costs*
4. *Utility territory*
5. *Utility coordination anticipated lead time*
6. *Available power & Utility upgrade needs (anticipated loads at Division)*
7. *Solar potential at Division location*
8. *DER readiness / real estate needs for solar/storage*
9. *ZEB fleet size / service out of Division*
10. *Site quality*
11. *Environmental approvals / permitting needed*
12. *Dependency on other Divisions during transition*
13. *Service impacts during construction*
14. *Construction optimization/complexity opportunity*
15. *Design Progress*
16. *O&M optimization/complexity opportunity*
17. *On-route charging needs*
18. *On-site labor / Metro functions at each Division*
19. *Co-location potential for other Metro functions*