





A Roadmap for Transitioning to Electric Waste Collection Fleets

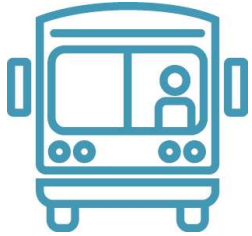
Presented by John Carlton, PE, BCEE



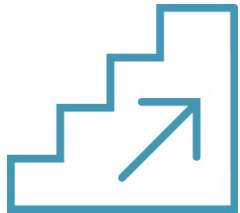
May 11, 2021



The future of waste collection fleets is electric!



Electric collection trucks are where electric buses were 7 years ago



Significant growth is expected



**Have you or are you considering a transition
to electric collection trucks?**

Why Electric Collection Trucks?



**Promotes cleaner and
healthier air in communities**



**Supports local climate
action goals**

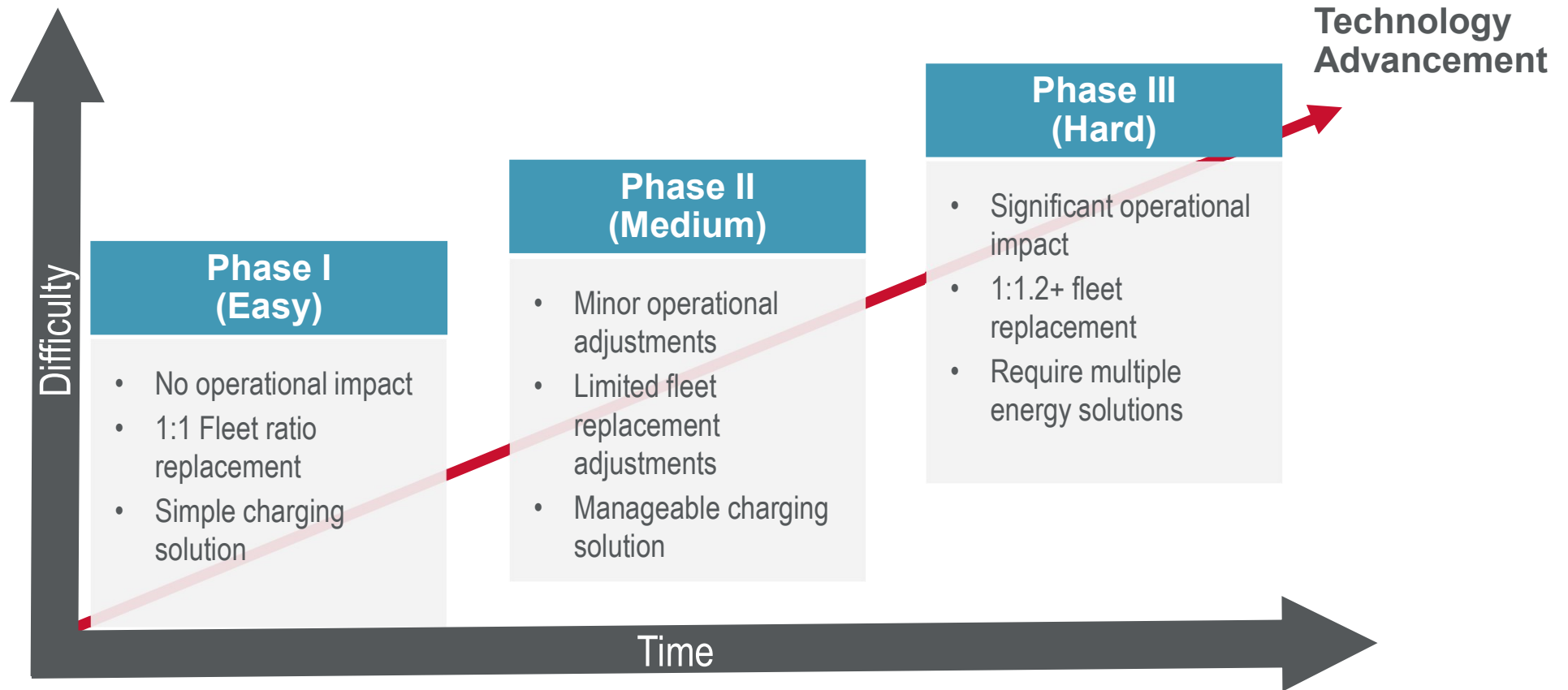


**Reduces noise
pollution**

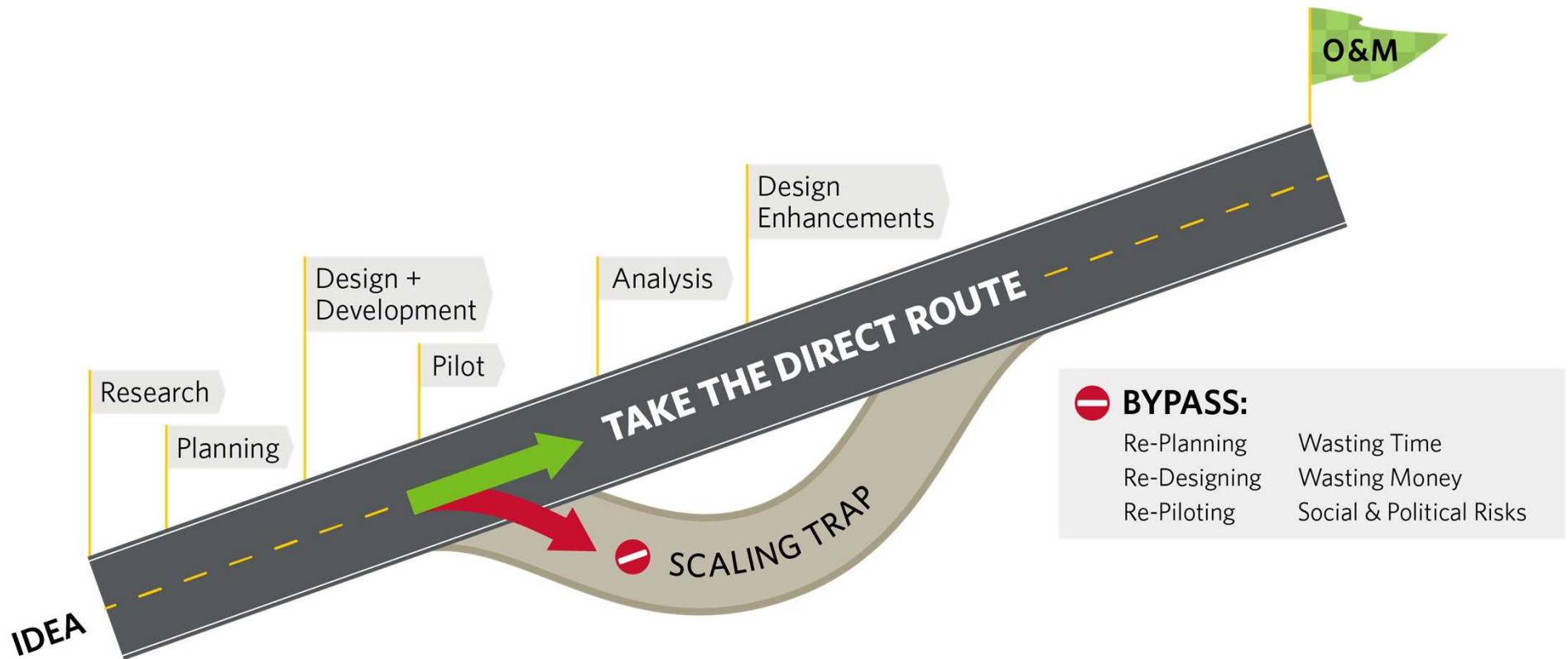


**Requires lower
maintenance**

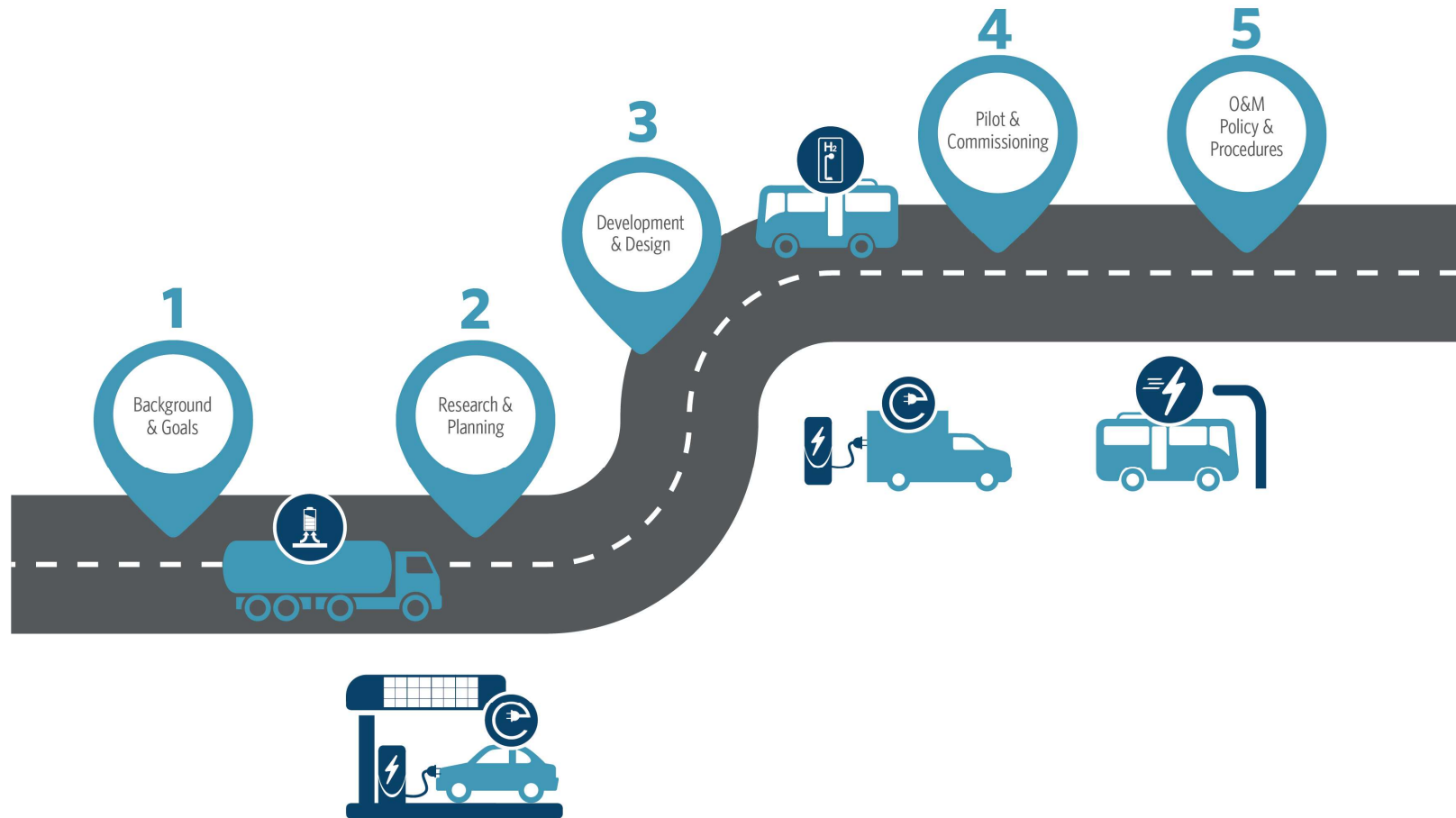
Challenges of Transitioning



Avoid the Scaling Trap



Development: Roadmap to Transition



Factors for a Clear Roadmap



Utility Collaboration



Route Feasibility



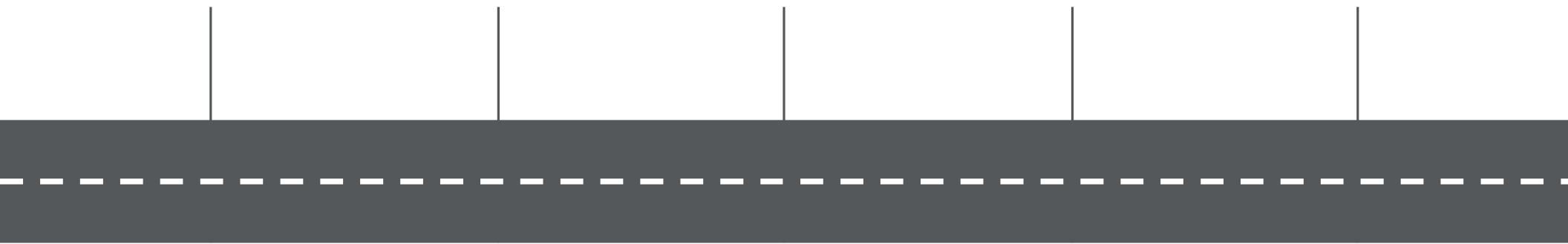
Total Cost of Ownership



Sustainability



Grant Opportunities



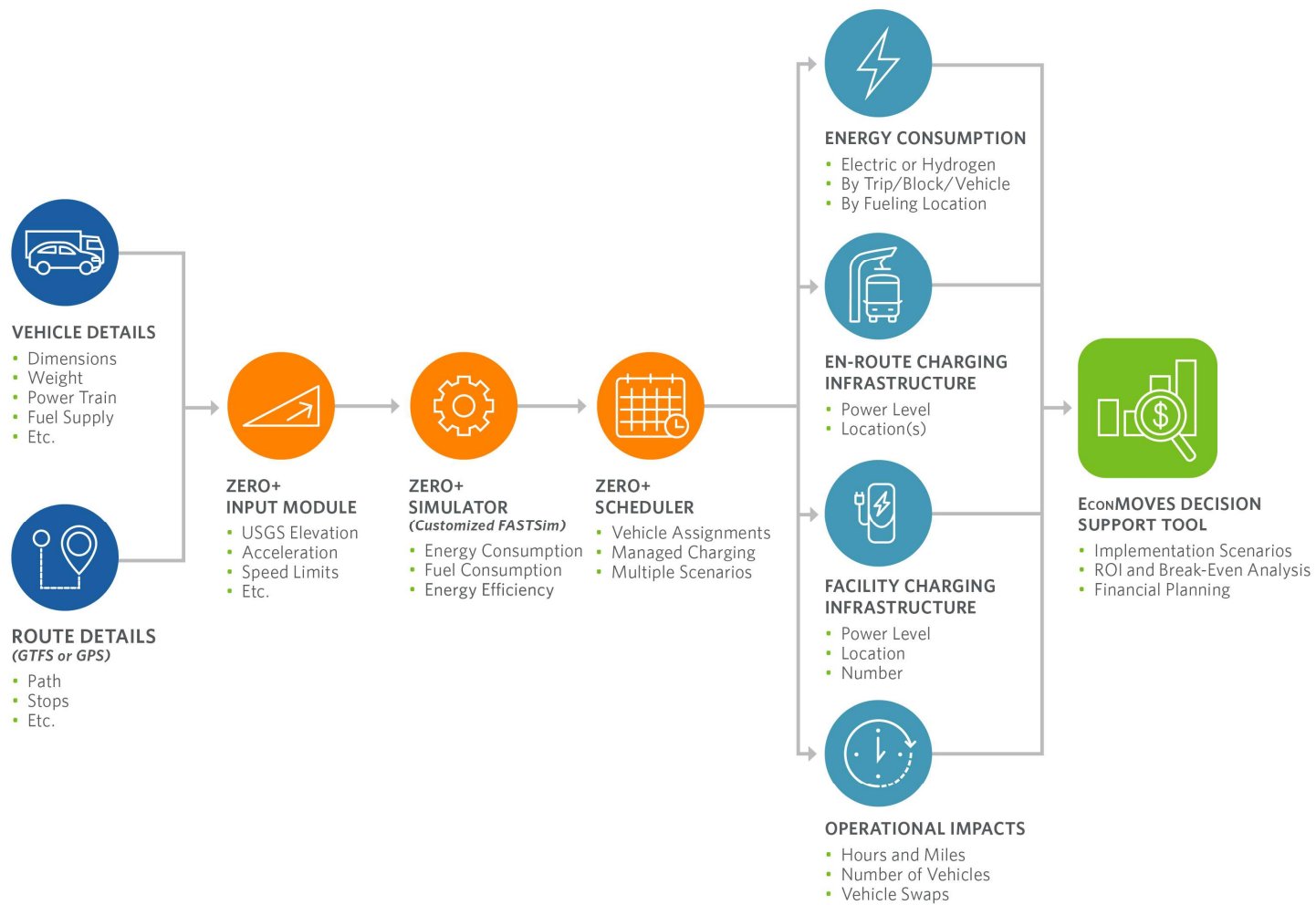
The Right Tools Make a
Difference

Zero+

Fleet Optimization Tool

Econ**MOVES**





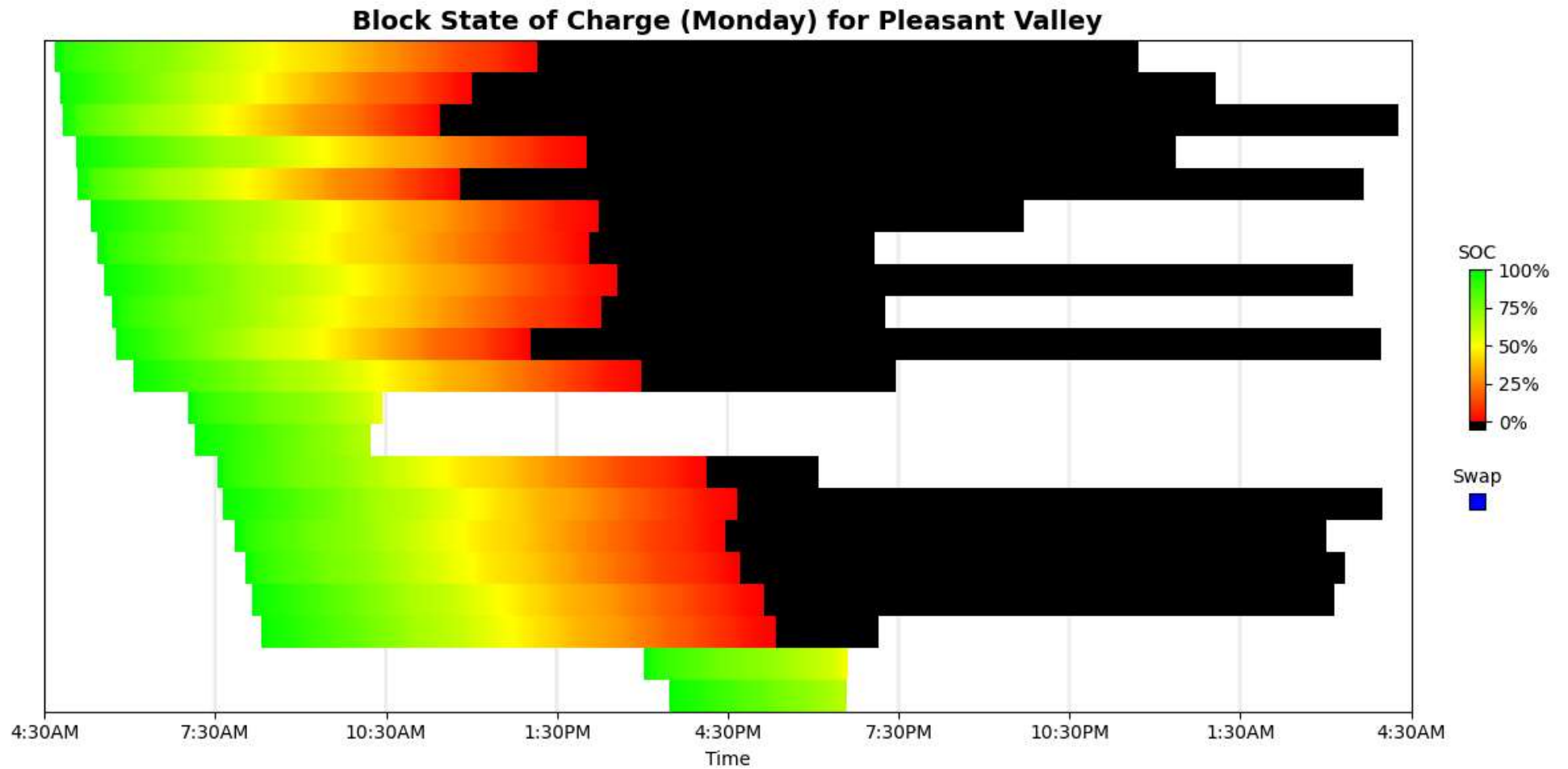
● Inputs

● Zero+ Energy Analysis

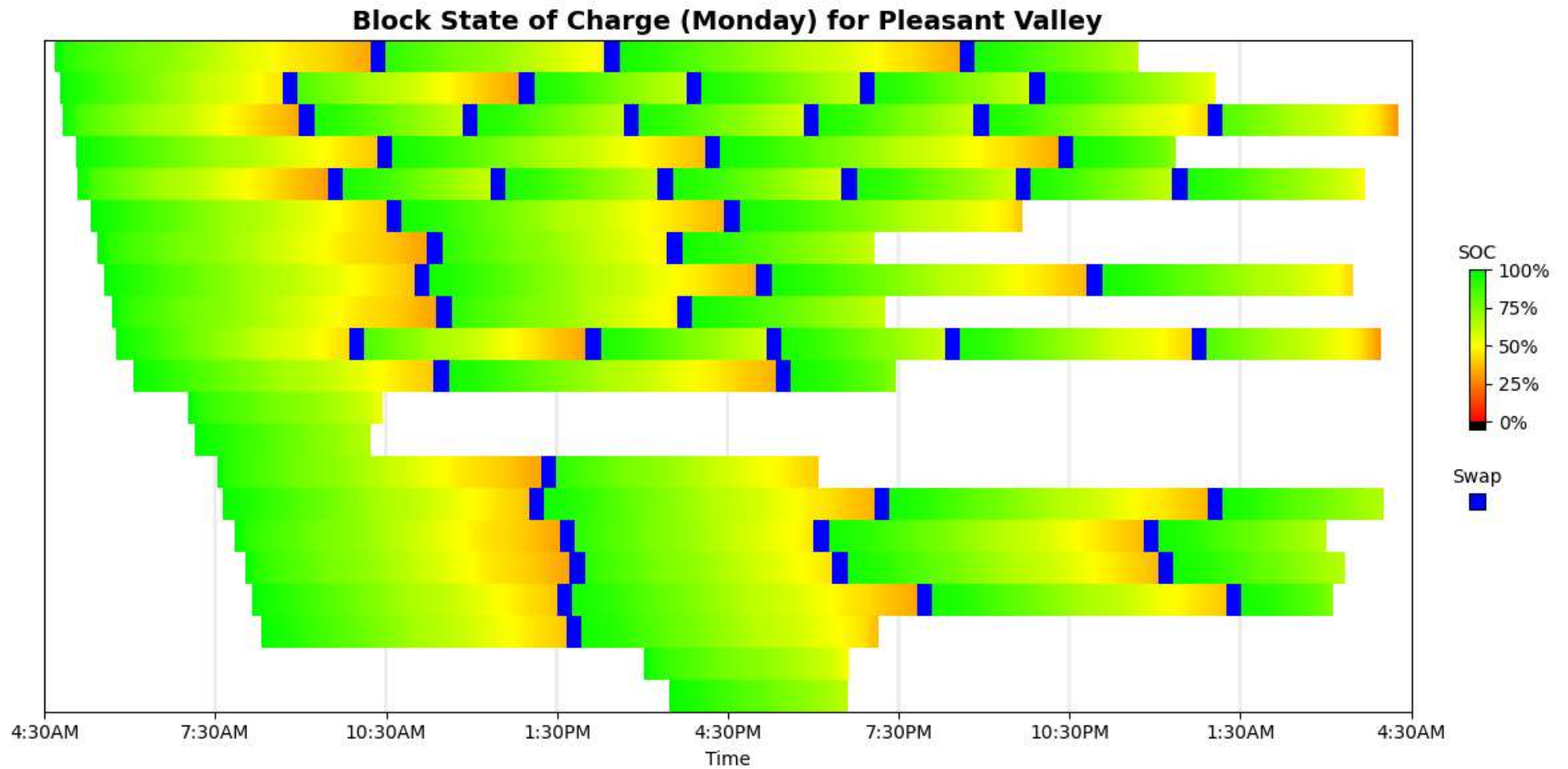
● Outputs

● EconMOVES

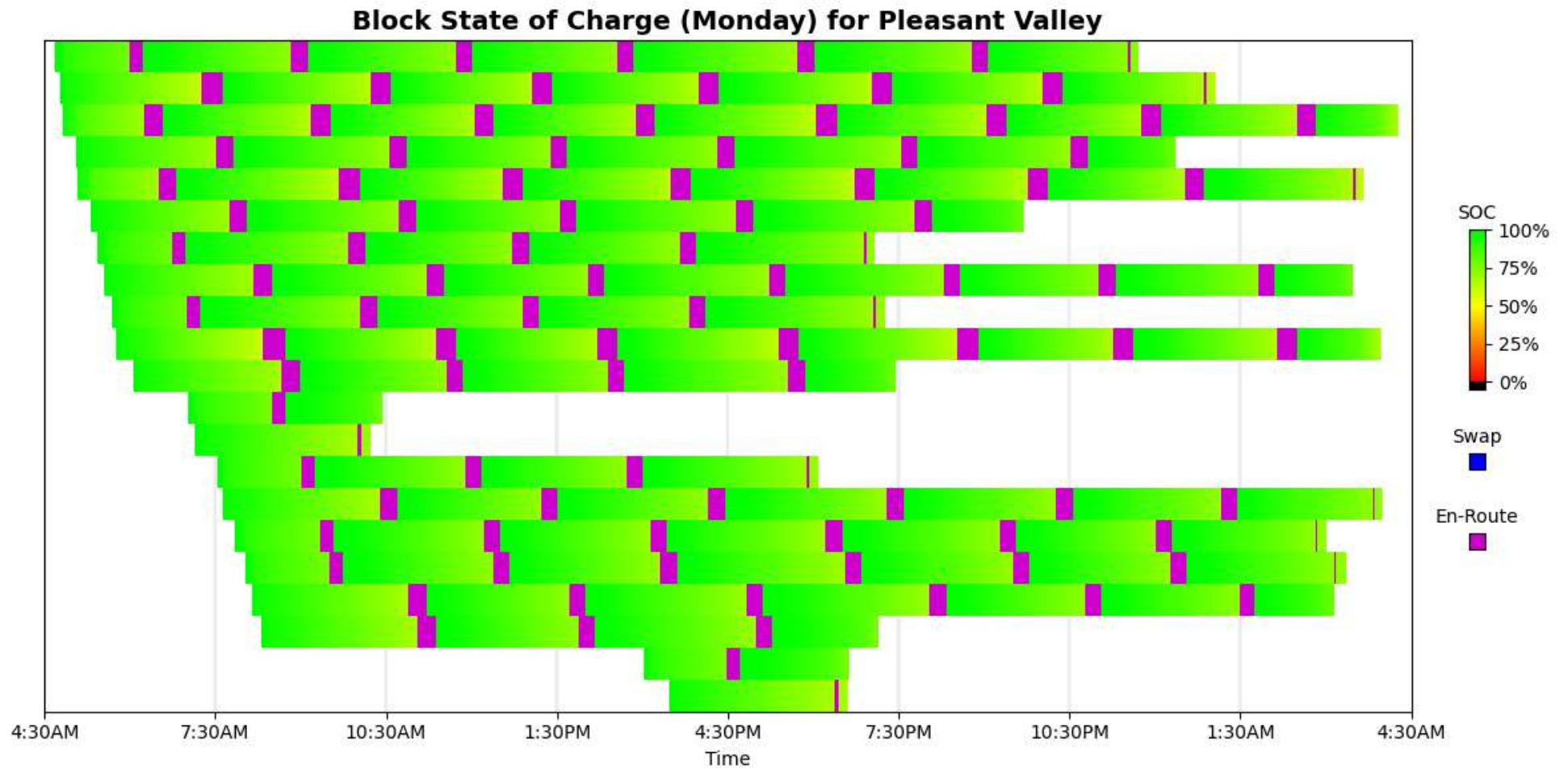
HDR Zero+ Fleet Optimization



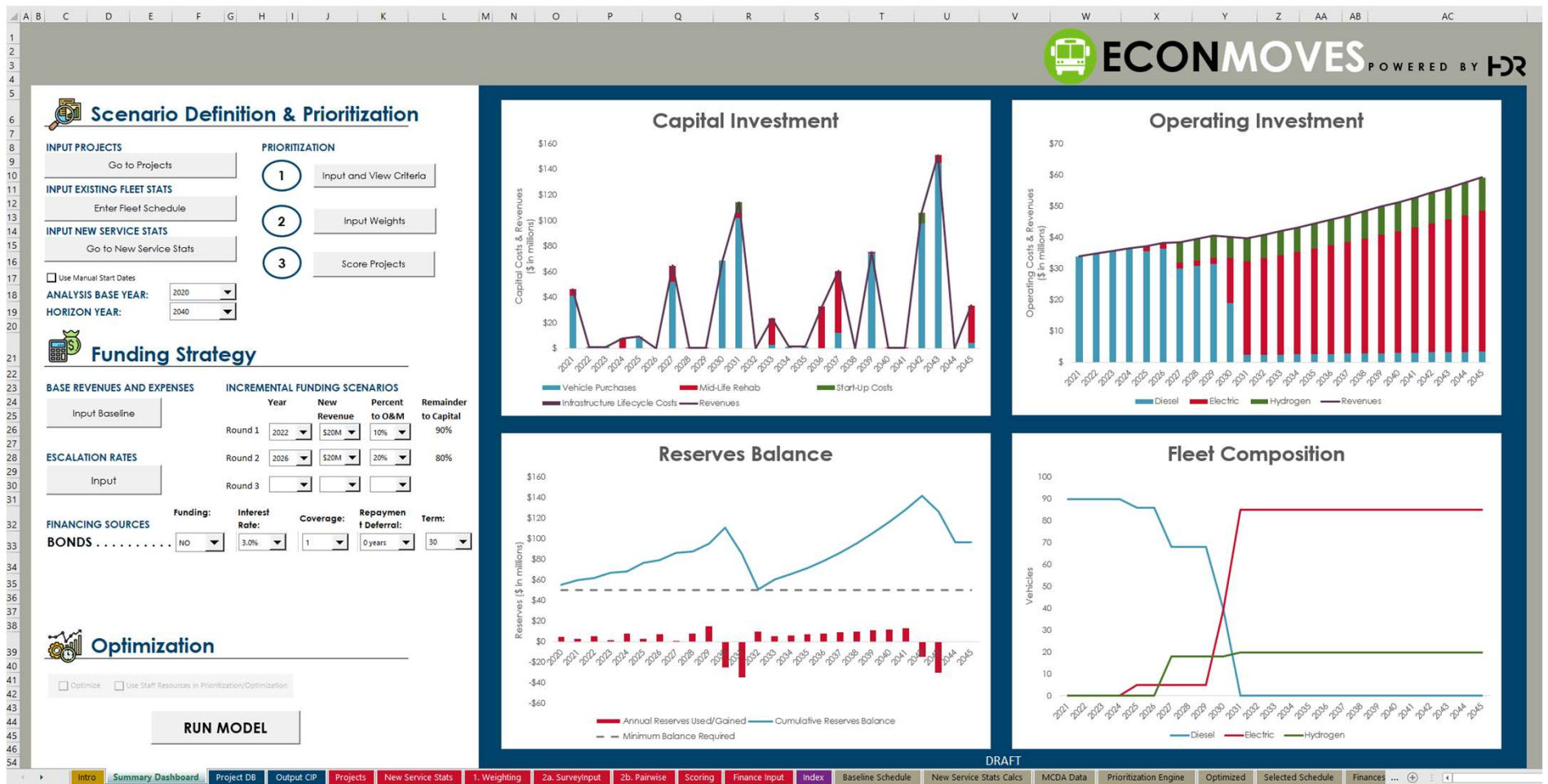
HDR Zero+ Fleet Optimization

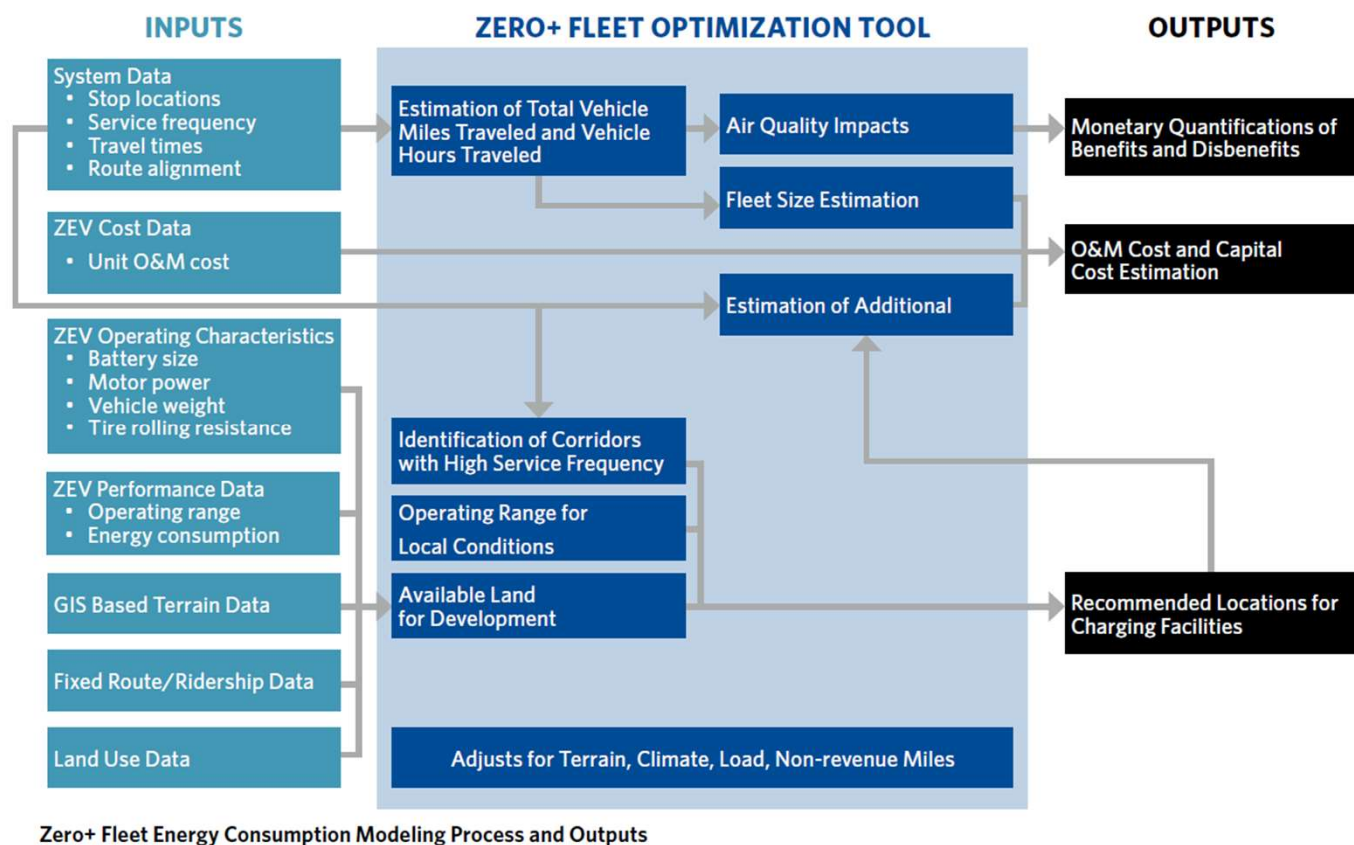
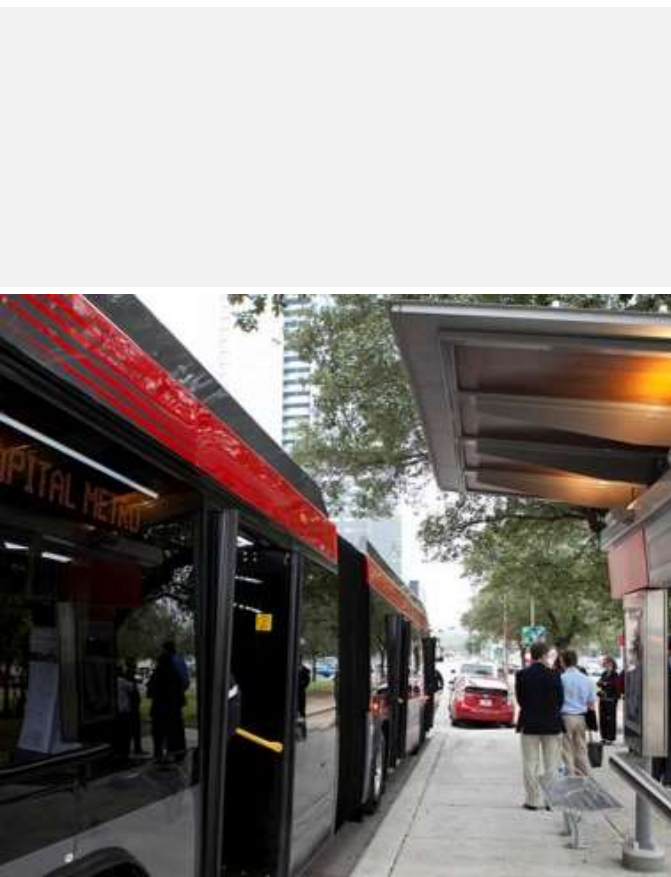


HDR Zero+ Fleet Optimization



HDR EconMOVES





Expo & Pleasant Valley Route Power Demand Analysis

Capital Metropolitan Transportation Authority | Austin, TX



Bus Facility Programming & Planning

VIA | San Antonio, TX

In Conclusion...



Plan from the very start to avoid pitfalls of the scaling trap



Functional analysis and incremental decision-making will lead to success



Well-thought-out roadmap leads to the best technical and financial outcomes

Questions?



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