WTA TASK ORDER: DIESEL VS HYBRID BUS PROCUREMENT

WTA Executive Staff Presentation

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WHAT TRANSPORTATION CAN BE.

INTRODUCTIONS

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PURPOSE OF STUDY

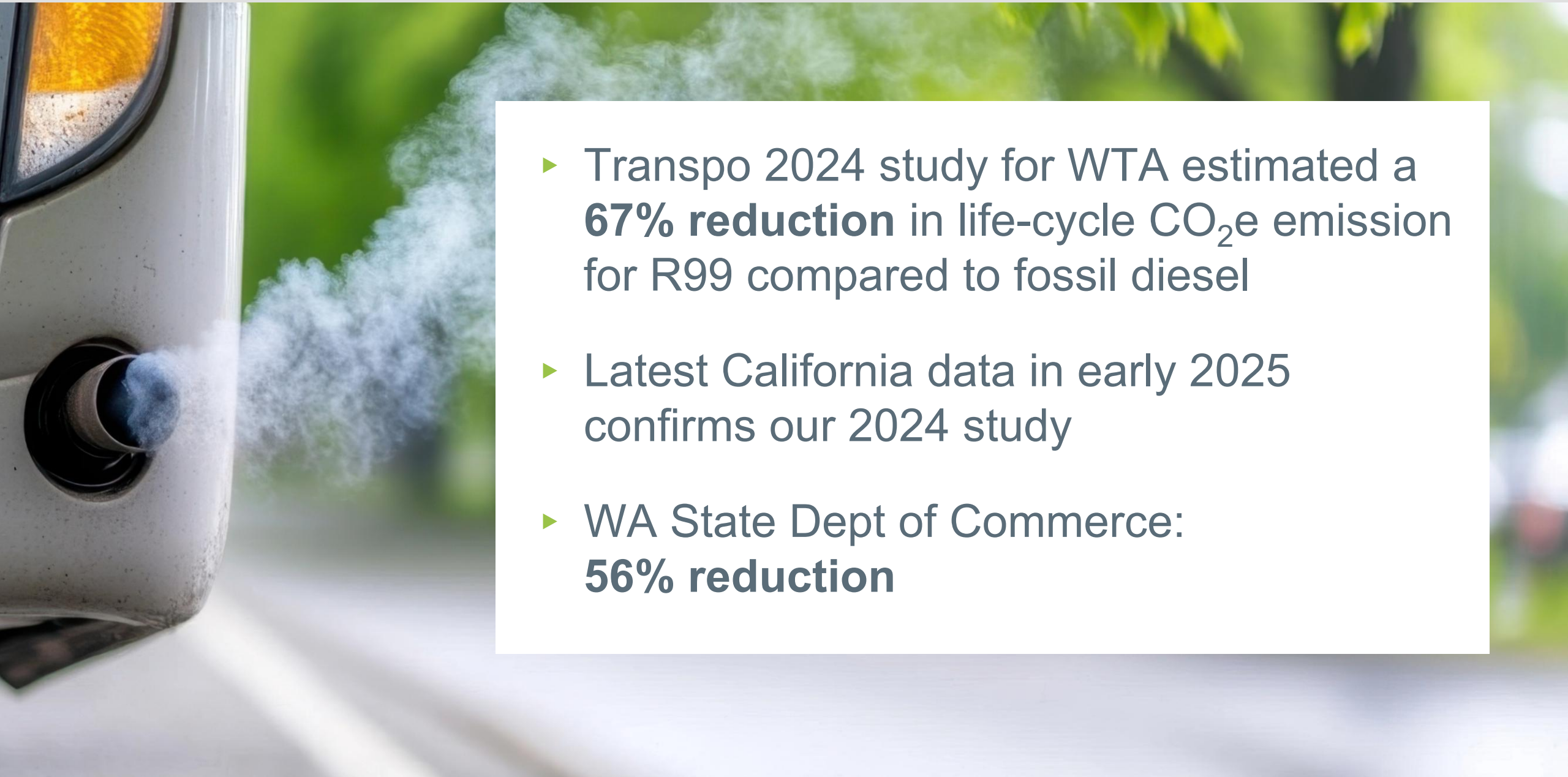
- **Should WTA purchase diesel or hybrid vehicles from 2027–2030?**
- **What are the cost and emissions impacts associated with each decision?**

STUDY PARAMETERS

- 20 fixed route vehicles to be replaced:

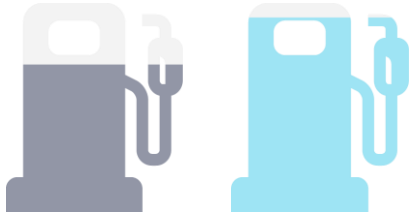
- Transpo performed 12-year lifecycle analysis (industry standard useful life of buses)
- We assume WTA will continue fueling with R99 rather than fossil diesel
- Cost estimates all in 2025 Dollars

EMISSION FROM R99 VS. FOSSIL DIESEL



- Transpo 2024 study for WTA estimated a **67% reduction** in life-cycle CO_2e emission for R99 compared to fossil diesel
- Latest California data in early 2025 confirms our 2024 study
- WA State Dept of Commerce: **56% reduction**

RECENT R99 TRANSITION FOR WTA



WTA began purchasing R99 in April 2025

- Diesel: **$2.82/gal**
- R99: **$3.72/gal**

WTA purchasing ~35,000 gallons of fuel (R99) per month

- Carbon emissions with diesel: **473 tons CO_2e**
- Carbon emissions with R99: **155 to 208 tons CO_2e**
- Annually saving **3,175 to 3,800 tons of $C0_2e$**
- Addl. annual cost **~$375,000**

Cost per ton CO_2e abated:

~$100-120

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COST ESTIMATE INPUTS

Vehicle Capital Cost

- Diesel: **$875,000**
- Hybrid: **$1.23 million**

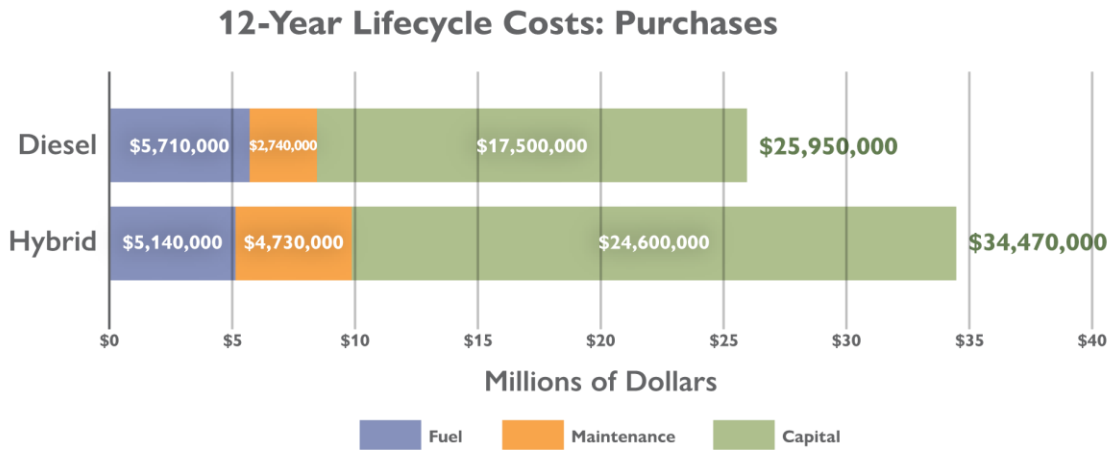
Lifecycle Maintenance Costs

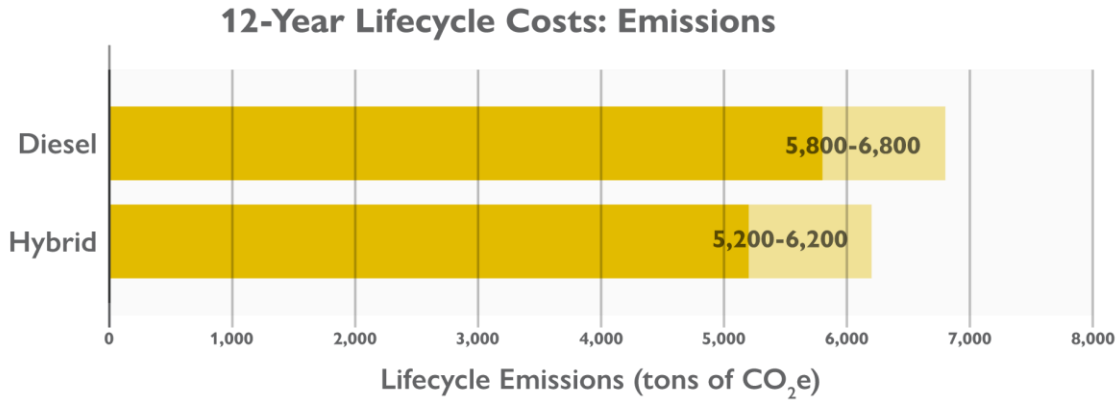
- Diesel: **~$0.33/mile**
- Hybrids: **~$0.57/mile**

Fuel Economy

- Diesel: **5.4 mpg**
- Hybrid: **6.0 mpg**

LIFECYCLE COMPARISON: DIESEL VS. HYBRID





All costs in 2025 $

Hybrids offer 10% reduction in CO_2e (600 tons)

Hybrids cost $8.5 million more

$14,200 cost per ton CO_2e abated

For perspective:
1 ton of carbon is roughly equal to the emissions of 5,000 miles in a gas powered passenger car.

SUMMARY

- Additional Maintenance and Capital Costs Associated with Hybrids would outweigh savings on fuel purchases (net of $8.5 million)
- ~10% CO_2e savings over lifecycle (600 tons)
- Cost per carbon reduced is very high ($14,200/ton)
- In comparison, WTA's CO_2e savings from existing R99 investment ~$100-$120 per ton

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Q&A

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