# Vehicle Total Cost of Ownership Comparisons

## Total Cost of Ownership- F-150 (Gasoline) v. Prius Prime (PHEV) v. Nissan Leaf (EV)

### Results

- **F-150**: $104,605
- **Prius Prime**: $88,426
- **Nissan Leaf**: $87,887

### Total Cost of Ownership Breakdown

<table>
<thead>
<tr>
<th>Component</th>
<th>Gasoline</th>
<th>Gasoline PHEV</th>
<th>EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>License and Registration</td>
<td>$1,721</td>
<td>$1,721</td>
<td>$1,721</td>
</tr>
<tr>
<td>Insurance</td>
<td>$15,894</td>
<td>$15,894</td>
<td>$15,894</td>
</tr>
<tr>
<td>Maintenance and Repair</td>
<td>$33,217</td>
<td>$32,056</td>
<td>$30,494</td>
</tr>
<tr>
<td>Diesel Exhaust Fluid</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Fuel</td>
<td>$26,909</td>
<td>$17,183</td>
<td>$17,746</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$26,864</td>
<td>$21,572</td>
<td>$22,032</td>
</tr>
<tr>
<td>Financing</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

Vehicle Total Cost of Ownership Comparisons

Assumptions

State: Hawaii
County: Honolulu
Vehicle Type: Passenger Car

Three Vehicles for Comparison:

**Light Duty Fuel Type:** Gasoline (2020 Ford F-150)
Number of Vehicles: 1
Annual Vehicle Mileage: 10,000
Fuel Economy (MPGGE): 21
Purchase Price: $28,745

**Light Duty Fuel Type:** Gasoline Plug-in Hybrid Electric Vehicle (PHEV) (2020 Prius Prime PHEV)
Number of Vehicles: 1
Annual Vehicle Mileage: 10,000
Fuel Economy (MPGGE): 133 MPGGE, 25 all-electric miles, 1.9 GGE/100 miles, 25 kwh/100 miles
Purchase Price: $27,900
Federal Incentive: $4,502

**Light Duty Fuel Type:** All-Electric Vehicle (PHEV) (2020 Nissan Leaf)
Number of Vehicles: 1
Annual Vehicle Mileage: 10,000
Fuel Economy (MPGGE): 99.0
Purchase Price: $31,600
Federal Incentive: $7,500

<table>
<thead>
<tr>
<th>Fuel Prices</th>
<th>Public Station ($/fuel unit)</th>
<th>Private Station ($/fuel unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline (gallon)</td>
<td>$3.22</td>
<td>$3.22</td>
</tr>
<tr>
<td>Diesel (gallon)</td>
<td>$4.27</td>
<td>$3.50</td>
</tr>
<tr>
<td>Electricity (kWh)</td>
<td>$0.32</td>
<td>$0.32</td>
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</tbody>
</table>

Years of Planned Ownership: 15 years
Financial Assumptions: No Loan

Assumptions (cont’d)

Level of Analysis: Well-to-Wheels and Vehicle Production, Petroleum Use, GHGs, Air Pollutants
EV Chargers: Not built into analysis because they are shared infrastructure

Maintenance and repair of current vehicles: $0.163/mile ($0.076/mile first year)
Maintenance and repair of PHEV: $0.156/mile ($0.073/mile first year)
Maintenance and repair of BEV: $0.146/mile ($0.070/mile first year)