Mileage Tips
Priuschat and CleanMPG

Thanks to many: JimboK, Ken1784 (aka Ken@Japan) (stages), Hobbit, DiamondLarry, 106mpg Dan, Xcel (Wayne), Efusco, Bob64, ksstathead (stages article), bwilson4web, and others I am probably overlooking. I am a three week owner with 65+ mpg for the tank (with 70+ & 107mpg runs). Wouldn't have been possible without all the knowledge shared on Priuschat and Cleanmpg.

Pulse & Glide
-Teddy Girl's approach (world record tank): 31 mph (50 km/h) high speed to 18.6 mph (30 km/h) low speed or 34mph (55 km/h) high to 21 mph (35 km/h) low with a maximum 12 mph (20 km/h) range.
-Various approaches 30mph-->40-->30; 20-->40-->20; 33-->39 in 35 mph zone; 35-->15 or smaller deltas.
-Glide all the way to stop if one is coming up.
-Avoid regenerative braking

Various Acceleration/Pulse approaches:
-Brisk acceleration (not too fast nor to slow)
-Try not to draw from battery during pulses, (i.e. slow enough for no arrows from battery pack)
-Accelerate with iMPG = 1/2 MPH (eg 30 MPH = 15 iMPG displayed on MFD) (JimboK)
-RPM: best Pulse is over 1500 (bwilson4web CAN-V data analysis showed 1600-2600, then big drop off) Some settle for about 1700 or 1850 (efusco).
-TPS: 25 keeps RPMs below 2200
-Japanese Hypermilers: 40% acceleration (GPS xgauge at 40%)
-IGN: Pulse at 18 max
-LOD: Keep at 50% or less
-0-15mph off battery, then accelerate gently enough from there to have no arrows from battery (DiamondLarry)
-Don't let pulse drop off or go on to long. Pick a narrow iFCD and stick with it.
-Pulse with dead band as goal--no arrows to or from battery pack--is controversial. It is hard to do:

E2W - Orange arrows from the Engine to the wheels.
E2G - Orange arrows from Engine to the generator.
G2W - Yellow arrows from Generator to the wheels.
G2P - Yellow arrows from Generator to the pack.
P2G - Yellow arrows from Pack to the generator.
W2G - Blue regen arrows from wheels to the generator.
R2P - Blue regen arrows from the generator to the pack.

DB - Dead Band = E2W + E2G + G2W
DBC - Dead Band charge = E2W + E2G + G2W + G2P
DBA - Dead Band assist = E2W + E2G + G2W + P2G
LBC - Low Band charge = E2W + E2G + G2P
EV - G2W + P2G

Hobbit has said forget about this theory since SOC aims for homeostasis at 60%. Also Bob64 has observed BTA (xgauge) shows that approx 0 amps in or out (= deadband) is easy enough with acceleration at any moderate rate, BUT MFD shows active arrows (false non-deadband).
-During initial burst of acceleration very hard to not draw from pack (JimboK)

Gliding:

-Must be in stage 4 to glide all arrows off at any speed <41mph
-Cannot glide all arrows off > 41mph
-Stage 3: can enter all arrows off, if 34<mph<41. EV switch useful here: cut ICE to glide <34mph
(False glide: all arrows off but SGauge shows Engine at with RPMs)

Mileage speed
Peak mileage speed range: 18-22 mph

Warp Stealth (Hobbit)
Aka: High Speed Glide: > 42 mph
Procedure: Take foot off accelerator and feather it back down tiny bit
How do you recognize it: Battery to motor to wheels on MFD (all yellow arrows); BTA xgauge will show low +amps)

Super Highway Mode (SHM)
-Keep IGN 13-15
-185 FWT (85C), 60% SOC, RPM sweet spot: 1216-1344
-Hold GPS (xgauge) at 16, while gliding down from 56mph, let TPS drop to 17 and hold. SOC needs to be 61%-65%
-IGN 14/TPS 18. SOC 58.5%, RPMs 1200-1300

Brakes
Don't use brakes
Brake pedal position at 13-14% (CAN 17; Attila's CAN analysis) is most efficient for regenerating energy (BPS xgauge).

Cruise control:
Best cruise speed: as slow as you can go (e.g. 20mph city; 40mph 'highway')

Speed and ICE:
Stay under 42 mph or you will consume fuel/ICE will start when you bump over 41 (okay if that is intention)

Downhill:
If SOC <60, use IGN 15/TPS 17
If SOC >60, Warp Stealth it.

Battery:
-Stay off battery pack
-SOC sweet spot 55-62%
-Battery SOC seeks homeostasis about 60%
-Keep SOC >53% or will fill (but...Japanese hypermilers: two groups, one keep SOC at 60%, other at 40%)
-If SOC less than 55% press pedal slowly for charge
-BTA keep amp draw from battery to minimum +10-20 amps
-Manage the SOC to manage how you use the battery:
    Battery pack uses: extend glide, parking lot, between stops, dead stop starts to 15-20mph
-Do not let battery go to 8 green bars; will consume fuel when you do so, to throw off energy; however very little fuel is used (1 cc) so do not use other more fuel consuming driving to avoid it

-Some have said when braking, do so at 60 amps charging the battery

Prius Stages:
0-1a/1b: 60 sec (may want to cycle through before driving)
2: FWT 104F (40C). SHM available but won't hold well
3: 158F (70C). You can P&G if 34<MPH<42 upon entering.
4: 5-10 sec stop ends stage 3
Short cuts from 3 to 4: 1) Push 'Power' button off for 3 seconds and restart 2) At stop, while in D, press brake with left foot, tap accelerator with R foot enough to engage ICE, it will cycle and then stop.
-At 185FWT (85C) wants to run ICE to cycle coolant)

Tire Pressure:
Many use 42/40 (Priuschat poll; not a random sample). Many hyperinflate (DiamondLarry; Wayne Gerdes). Teddy Girl: 45.5 front (3.2kg/cm2), 43.7 rear (3.0kg/cm2).

EV switch: good for moving around the driveway, through parking lots, between closely-spaced red lights, and extending low-speed glides. “Engine Veto” switch in S2 or S3 operation, forcing ICE shutdown during sub-34 mph glides. JimboK CAN-V data suggests about 3-5% mileage improvement.

DWL (driving with load): Let your speed decline up hill (maintain RPMs; IGN)

B Mode: Mainly used to help stop the car. Do not use B mode above 17 mph. You will consume fuel/ICE will start. When accelerating or maintaining speed, D and B act the same.

Grill Blocking: Pipe insulation 1/2” cut C into two C's. Place in top grill using compression method; For bottom can use intact 1/2” (also 4x6' 1” for all; or 3' of 3/4” for top and 4' 3/8” for bottom)