

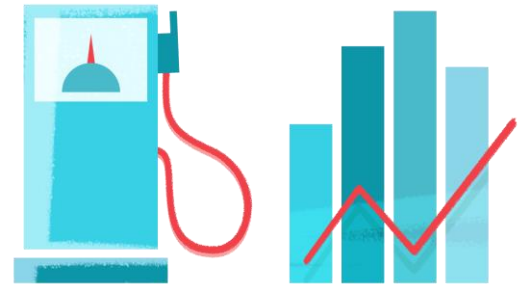
TIPS FOR FUEL MANAGEMENT

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Currently a public and urban mass transport professional M. K. Soni has more than 21 years of global experience. His experience includes setting up of fleet operations (depot planning, recruitment, SOP's, security procedures etc.) from scratch, fleet maintenance and electric busses.

In transportation business, each kilometre run of vehicle is a direct cost to company and hence important in determining profitability. We cannot control the price of fuel which is fluctuating (generally increasing) month over month & year over year. It would not be wrong to mention that fuel is like blood in transportation hence needs special attention for conservation.



We can control fuel by two ways technical control & managerial control.

1. Technical Control

A) Prevention of fuel leakage

a) Check and stop fuel leakages from the fuel tank, fuel pipe lines, fuel filter assembly, fuel feed pump, F.I. pump and fuel return pipe etc, if the vehicle is diesel/petrol and if vehicle runs on CNG than cylinder valve, Filler nozzle, pressure pipes, Air Fuel mixture etc. should be checked regularly.

b) Check and stop fuel leakage at the fuel dispensing pump. Usage of automatic shut off nozzle could easily arrest leakages of fuel at the dispensing pump.

c) Check the fuel tank cap for its tight fitment and presence of rubber sealing in it as it would avoid fuel spillage.

B) Preventive Maintenance of buses

a) Check the air cleaner assembly and change the air filter at regular intervals as recommended by the vehicle manufacturer.

b) Change the engine oil and engine oil filter at regular intervals as recommended by the vehicle manufacturer.

- c) Change the fuel filters at regular intervals as recommended by the vehicle manufacturer.
- d) Regularly check batteries, alternator and starter working and fan belt tension. Always keep the bus in ready to start condition.
- e) Check the opening pressure and spray pattern of the injectors. White smoke of the engine indicates injector drabbing. Change the injectors in such cases.
- f) Check the free rotation of wheels by jacking up the bus. Also check the brake pedal play.
- g) Always attend the buses for wheel alignment at the time of docking.
- h) Attend the buses reporting for clutch slippage. Always change the clutch plate, pressure plate and Flywheel as one set.
- i) Adjust the idling speed of the vehicle. Also adjust the maximum rpm of the engine by introducing accelerator stopper.
- j) Check tappet clearance of valves with the filter gauge.
- k) Calibrate the F.I. pump at regular interval and replace it at recommended kilometres.
- l) Check the silencer at each docking and replace if clogged as it may lead to back pressure on the engine running.
- m) Check and maintain correct tyre pressure.
- n) Check engine compression pressure and if engine emits black smoke or consume abnormal quantity of engine oil, attend the engine for overhauling.

2. Managerial Control

A) Inducting Systematic Procedure

- a) Fuel monitoring should be done from its incoming state i.e. at the time of delivery of fuel load at the depot.
- b) Park the fuel tanker at isolated place after its arrival in depot. This would lead to settling



down of the load and would lead to correct deposition of the load in the underground tank.

c) Check the fuel quantity in all the compartment of the fuel tanker before draining it into the underground tank with the help of dip stick.

d) Always assign AS reliable person and assign the same person for unloading the fuel tank.

e) TIP: After unloading the entire fuel from the tank, close the taps and drive the tanker a little, around the depot premises. Again, park the tanker and unload the fuel again, usually 4-8 litres of extra fuel could be extracted from tanker by this exercise.

f) Daily fuel dispensing pump should be monitored carefully. Daily 'fuel Issue Register' should be maintained at the depot.

B) Outside fuelling

a) A reliable person should be posted if fuel is purchased from external fuelling stations to monitor the fuelling of vehicles.

b) Surprise checks on outside fuelling stations to arrest the pilferage is a good idea.

C) Monitoring / Counselling / Training

a) Maintain a vehicle master register. It would have day to day monitoring on the KMPL of vehicles. Many digital options are available today to do this.

b) Maintain a register for driver wise KMPL (Kilometre per litre) to monitor the performance of individual driver.

c) Identify the few drivers giving lowest and highest KMPL and display their names for encouragement to all drivers for improving KMPL.

d) Managers should regularly interact with the drivers having low KMPL once in a month explaining them about the better driving habits and importance of fuel conservation.



e) If possible, set KMPL target for drivers and motivate them to achieve the same.

f) Arrange for regular training programs for the drivers to inculcate the habit of fuel saving and good driving habits.

Remember **“Loss of one drop per second costs us over 500 litres of fuel per year”**

Fuel/Gas prices are high and seem to be constantly going up. While we can't control the price of gas, these steps can help you keep your fuel/gas budget under control.

If you are looking to improve mileage, then you need to put few check habits:

- Tyre inflation check
- Tread inspection check
- Air filter inspection check
- Alignment check
- And other related checks

Why is this important? Because keeping your tires properly inflated — as well as driving a properly maintained vehicle — can help you save on fuel.

Following these simple fuel saving tips, will help ensure you get the max out of your fuel tank.

1. Fuel savings starts with properly inflated tires.

Tyres that aren't inflated properly. Driving with the parking brake on. Both of these (and most of us have done one or the other — or both!) can waste a mile or two of fuel efficiency. Maintaining the correct tire pressure, can lead to a 10 percent improvement in fuel economy. Check your owner's manual for the proper air pressure for your vehicle's tires.

2. Use the right gas/fuel.

Please do not consume adulterated fuel, always check the quality of fuel before you fill your tank.

3. Drive slower, save more.

Gradually accelerating and gently applying the brakes saves more gas/fuel than "gunning it" or slamming on the brakes. Also, slowing down on the highway and using cruise control can help you get more out of each gallon of gas. Driving at 55 MPH rather than 65 MPH can improve mileage by about 15 percent.

Don't forget to check the fuel/gas cap. Damaged, loose or missing gas caps cause 2-5% more gas/fuel to burn every year.

4. Use the correct motor oil grade.

Following the manufacturer's recommended grade of motor oil can improve your gas mileage by 10% – 15%. For example, using 10W-30 motor oil in an engine designed to use 5W-30 can lower your gas mileage by 1% – 2% percent. Using 5W-30 in an engine designed for 5W-20 can lower your gas mileage by 1% – 1.5%. (Source: www.FuelEconomy.org)

FUEL SAVING TIPS



DRIVE AT AN APPROPRIATE SPEED

One of the easiest and most efficient way to save fuel is to reduce your speed.



PLAN AHEAD

Plan your journey ahead of time.



REMOVE EXCESS WEIGHT/CARLOAD

Weight exceeding 50 kilograms increases oil consumption by 2%.



ENSURE RIGHT TYRE PRESSURE

Check and set the tyre pressure according to the specifications of the vehicle at least once a month.



BEST TIME TO REFUEL

Morning or night is best for refuelling, as petrol is less condensable during these times due to cooler air temperatures.

5. When you're not moving, don't "idle."

If you're going to be stopped in your vehicle for a while, turn your engine off. Skip the drive-thru and go inside — it might even be a shorter wait. And if possible, limit the warm-up time for your vehicle in colder temperatures.

6. Take the junk out of your trunk.

As extra weight is added, fuel mileage decreases. Do you really need all that stuff in your trunk? Take out the non-essentials to improve fuel efficiency and gas savings.

You can even make your vehicle more aerodynamic by removing ski or bike racks and rooftop cargo carriers when you're not using them. Items placed on the roof racks create drag. Consider putting the items inside the car or trunk instead. Also keep your vehicle washed and waxed — and roll up the windows on the highway. These steps can make your vehicle more aerodynamic, and therefore improve fuel efficiency.

7. Only use A/C when necessary.

Roll down the windows or open the air vents to keep your car comfortable. If it's a super-hot day or you live in a warmer climate, don't sweat it. Turn the A/C on but try to keep it at a reasonable level. The less often you turn on the A/C, the more you'll save.

Vent your windows and park in the shade when it's warm out; this will help to keep your car cool when you get back in. Enjoy the breeze when driving at lower speeds. (Bring a hat if your hair could get messy!) Then roll those windows back up and use your A/C at a reasonable level once you hit the highway, drive safe....

8. Shift into overdrive.

5-speed manual transmissions and 4-speed automatic transmissions are equipped with overdrive gearing — so be sure to use the overdrive gear as soon as you're at the appropriate speed. Lower your shift speed on a manual transmission for better fuel economy. Consult your owner's manual for more information

9. Remember tune-ups and maintenance check-ups.

Regular tune-ups are one of the best ways to gain fuel economy. Tune-ups will help maximize fuel mileage and help you get the best possible performance from your vehicle. Following your vehicle's maintenance schedule will help, as well as avoiding fuel economy problems caused by worn spark plugs, dragging brakes, low transmission fluid, or the transmission going into high gear. Your maintenance schedule can be found in your owner's manual, or you can look up your vehicle's scheduled maintenance right now....