The Real Effects of Engine Idle Time

Why Businesses are Investing in GPS Software to Combat Idle Time | A Teletrac White Paper
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Idle Time and Your Business

What is idling? Technically speaking, idling refers to running a vehicle's engine without actually moving the vehicle. It can, and does, happen anywhere and can have serious implications. Idling used to be a necessary evil of driving – older engines often needed a few minutes of idling before they could properly run\(^1\). Today’s engines are a different story. The United States Department of Energy recommends no more than thirty seconds of idling before driving, particularly in cold climates\(^2\). Many times, extended idling increases emissions and inefficiencies throughout an engine, leading to costly maintenance repairs that can seriously affect business.

For an operation with a fleet of vehicles, keeping each unit in top shape can be a challenge. On average, a vehicle will naturally depreciate in value up to 37% within the first five years of ownership\(^3\). Adding extended idling wear and tear can increase the depreciation number significantly.

But what if you could track each vehicle’s idle time in order to prolong the value of the unit?

Progressions in technology have opened the door to this opportunity, allowing businesses to track the most microscopic vehicle activity, including stops and mileage, fuel waste and customized idle reports. With the right GPS tracking software provider, idle time can be properly tracked, and vehicles and drivers can stay healthy.

A little idling goes a long way.
Your Wallet on Idle

Fleet administrators usually view idling in terms of gallons of fuel consumed – there is a very real monetary cost behind this statistic. Idling, across the trucking industry, uses more than 6 billion gallons of fuel a year. Even a conservative estimate would put this at $20 billion dollars spent nationwide – an expense that can easily be reduced or eliminated with data-backed anti-idling policies in place.

One hour of idling uses one gallon of diesel. If every truck in the 50-vehicle fleet below idled one hour per day, the yearly fuel cost would be $48.125 - enough to pay a senior driver’s salary.

Idling can and does happen anywhere - at a stop light, in traffic, while waiting at a job site.
The Effect of Idling on Vehicles

Modern engines do not take well to idling. Idling runs the engine while only partially combusting diesel – this leads to residue buildup on engine components, inefficient fuel consumption, and costly mechanical degradation. In fact, idling causes twice as much wear on the vehicle’s internal parts as does regular driving. The components affected can be critical to the vehicle’s operation, including the engine gas recirculation (EGR) valve and diesel exhaust fluid (DEF) filter. The damage caused by idling can result in costly repairs and grounded drivers. This leads to lost revenue and frustrated workers in an industry already faced with high turnover rates.

Idling has effects throughout the engine, accelerating replacement schedules and quickening vehicle depreciation. These are only a few of the ways idling can damage an engine.

- Lack of airflow prevents optimal engine temperature
- Dirty engine oil
- Contaminated DEF filter increases emissions
- Residue plugs EGR valve

Idling is much more than simply “running the engine.” It is a source of accumulating damage that affects multiple parts of the vehicle and is costly to repair. Luckily, idling can be easily avoided. With the right data, administrators can greatly reduce idling across their fleet.

A Look Inside An Idling Truck
The Global Impact of Idling: How Idling Can Impact Our Health and Planet

Engine idling has effects that go far beyond individual businesses. Studies have shown that pollutants from diesel exhausts damage both human health and the environment as a whole.

**Health**

In San Francisco, studies revealed that air toxins from diesel emissions were responsible for 2,600 cases of cancer for every one million people\(^\text{12}\). The fine particles in an idling vehicle’s exhaust are also associated with an increased frequency of childhood illnesses and can reduce lung function in children\(^\text{13}\).

**Environmental**

An idling engine has effects that reach far beyond the individual fleet or business. In New York City each year, idling cars and trucks produce 130,000 tons of carbon dioxide, a gas that is the primary contributor to global warming.

If anti-idling policies are not put in place, dangerous pollutants will continue to be added to the atmosphere, putting the general public at risk of respiratory illnesses and cancer\(^\text{14}\).

The EPA estimates heavy duty emissions will surpass car emissions by 2030. These statistics are only the beginning.
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Case Study: How a Teletrac Customer in The Transportation Industry Uses a GPS Tracking System to Track Idling

Idling engines can cause problems down the road for vehicles and, eventually, entire fleets. For Illinois-based A.N. Webber, a logistics, warehousing, and transportation firm, the impact of idling has become clear on their vehicles. “The newer engines do not like idling. It wreaks havoc on the emissions system, causing premature plugging and other issues,” said Warren Schultz, Vice President of A.N. Webber.

With approximately 225 units, A.N. Webber has to consider not only vehicle maintenance but driver productivity. “The vast majority of problems we have with our trucks are emissions system related, and the engine MFRs claim idle is a key element in those problems,” adds Schultz. When a truck is down in their fleet, their driver is not producing, and often they can be left stranded for a day or more. With driver turnover a major issue, this doesn’t help.

Schultz estimates that on average A.N. Webber drivers will idle between a minimum of 10% to 15% to a maximum of almost 70%. Depending on the season, “our entire fleet average varies from high 20% to high 30%.”

Schultz adds that the effect of these idle periods can take a toll on vehicles. “Besides the actual fuel used, the newer engines, with their complicated emissions controls, can demonstrate significant reliability problems at higher levels of idle. The engine manufacturers tell us that their engines are not designed for high idle.” In addition to reliability problems, emissions filters need cleaning more frequently as idle numbers rise, thus increasing maintenance repairs.

In an effort to reduce average idling across their fleet, A.N. Webber partnered with Teletrac’s GPS tracking solution, Fleet Director. Among Fleet Director’s many features, vehicle reports have proved to be the most beneficial. Schultz says, “We get weekly and monthly reports generated by Teletrac that show us, by driver, the idle performance for the fleet. We then isolate the drivers who are not meeting standards and work with them to improve.”

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The Fix is Simple

The most common reason drivers idle their vehicles is to keep their cabs comfortable overnight. Driver quality of life is one of the most important factors companies need to keep in mind. A lower quality of life will lead to greater driver turnover – the Center for Disease Control and Prevention has determined that 69% of long-haul drivers are likely to develop health conditions that can eventually make them unfit to drive. Many of these conditions can be tied to irregular sleep patterns and high blood pressure. To combat this, drivers often let their vehicles idle during breaks and overnight so that they can comfortably rest. That said, idling can be a severe detriment to a fleet’s operations – idling can lead to premature wear-and-tear and can have a significant impact on a company’s finances.

Alternatives to Idling

While it’s impossible to completely eliminate idling, companies can implement programs that greatly reduce it. These are especially helpful for long-haul drivers, who currently spend a great deal of off-duty time in their cabs. Long-haul drivers let their engines idle to run the vehicle’s auxiliary systems, keeping the interior comfortable while the driver rests. It is essential that driver safety is not compromised as idling is reduced – companies with overly strict policies risk endangering drivers traveling in extreme weather conditions. The programs listed below help promote both driver and vehicle health, ensuring that neither is overlooked.

Generators
Diesel-powered generators maintain a truck’s auxiliary systems overnight while using a fraction of the fuel used by idling and incurring no damage to the vehicle’s mechanical systems.

Hotel Policy
Many businesses have strict policies surrounding overnight idling. Drivers for these companies are required to spend nights in hotels or other accommodations, negating the need for overnight idling and greatly reducing fuel expenditure.

How To Track Idling

Numerous GPS tracking companies are trying to combat idling. There are multiple ways companies can achieve this. Teletrac is an award-winning GPS tracking software provider that is committed to helping businesses reduce idling and other unnecessary fuel expenses. Teletrac’s fleet management software, Fleet Director, gives businesses the tools they need to track and reduce idling. Fleet Director’s reports suite allows managers to pinpoint specific instances of idling and examine the causes that led to each instance. This information can inspire changes in driver education and company vehicle policies, dramatically reducing annual maintenance expenses.

Below are Fleet Director reports and features that identify specific idling behaviors and conditions. Fleet managers can use this information to help reduce idle time across their business.

Geofences
Geofences are mapping boundaries drawn around places of interest. Vehicles within geofences can be closely monitored, helping fleet managers identify irregular behavior, including idling.

Fleet Analytics
Fleet Analytics allows users to see information broken down visually into graphs. These graphs can display idling as a percentage across a fleet, subfleet, or specified, individual vehicles.
HOW TO TRACK IDLING - REPORTING FEATURES

**Idling Report**
The Idling Report displays idle time for the vehicles specified, listed in minutes. The report shows start and end times, total length, and location.

**Fuel Usage Report**
The Fuel Usage Report provides a breakdown of fuel used per vehicle during idle and travel time. Fleet administrators can use this report to help monitor shifts, territories, regions, and vehicle types.

**Detailed Stops and Mileage Report**
The Detailed Stops and Mileage report provides a summary of stops, distances traveled, idle time and travel time. This report puts idling into context, helping determine whether intervention is necessary.

**Stationary Time Report**
The Stationary Time Report details total duration for stationary times per vehicle and location for better asset management.

**Adopting GPS Software**
Excessive engine idling poses a profound impact on a fleet’s operations and bottom line. Businesses in the transportation industry are proactively combating idle time by investing in GPS tracking software that provides measurable data about vehicle activity, driver behavior and environmental impact. With precise tracking and reporting features in real-time, fleet owners can save money, reduce their carbon footprint, and keep their vehicles going for the long-haul.
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SOURCES


