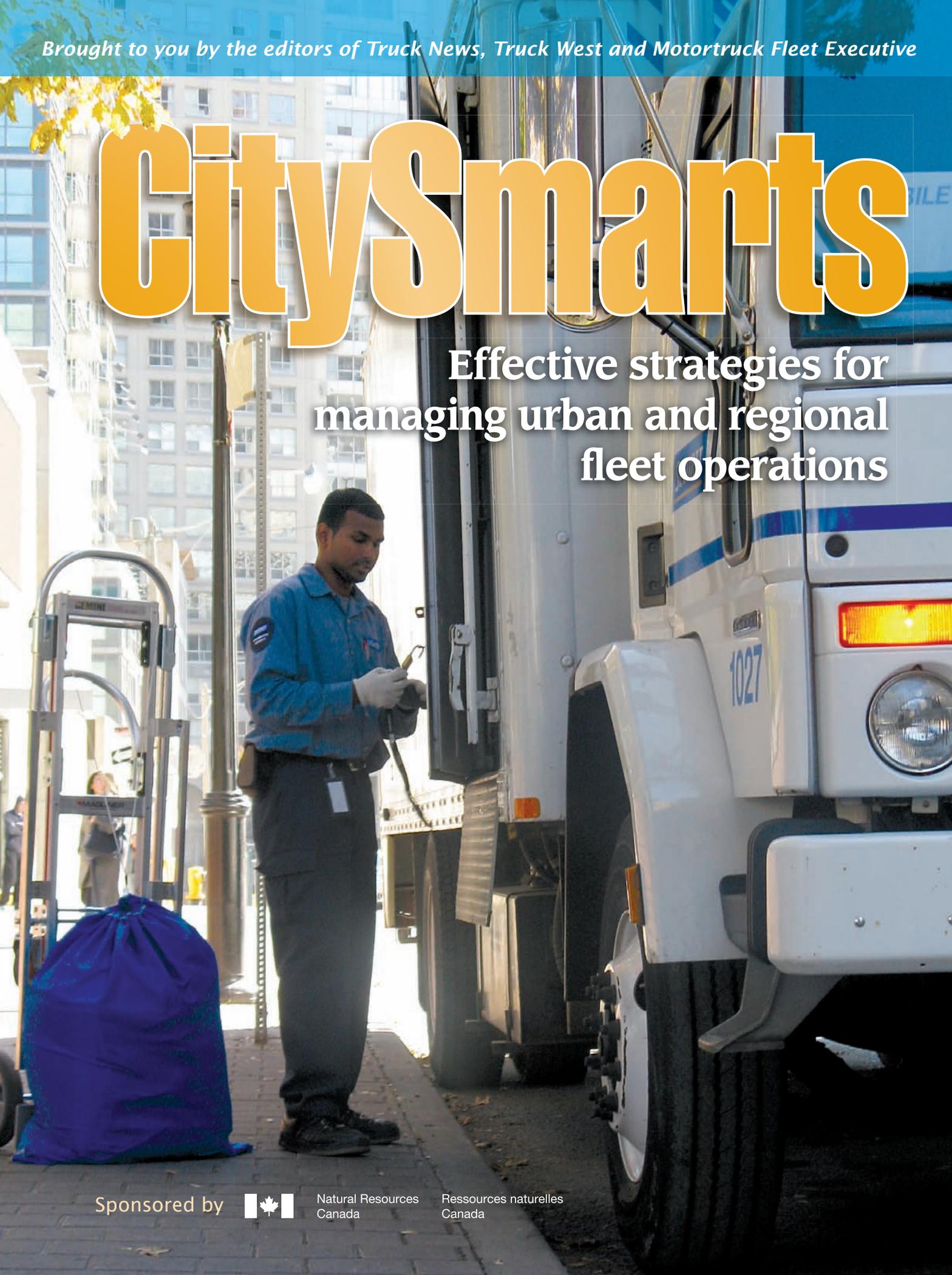


Brought to you by the editors of Truck News, Truck West and Motortruck Fleet Executive

CitySmarts

Effective strategies for
managing urban and regional
fleet operations



Sponsored by



Natural Resources
Canada

Ressources naturelles
Canada



NATURAL RESOURCES CANADA's ecoENERGY for Fleets (FleetSmart)

is pleased to support the introduction of this new publication providing service to the medium duty vehicle market in Canada. FleetSmart's family of driver training programs includes SMARTDRIVER in the City, a program that focuses on the light and medium duty driver. This compliments the efforts of Natural Resources Canada through its ecoENERGY for Fleets program that continues to introduce fleets to energy-efficient practices that can reduce fuel consumption by offering free practical advice on how energy-efficient vehicles and business practices can reduce fleet operating costs, improve productivity and increase your competitiveness.

Visit: www.fleetsmart.gc.ca for more information.

*Become a FleetSmart Member
Join now - its FREE!*

Are you getting the most out of your private fleet?

Effective transportation strategies can be the foundation of your business if customer satisfaction is based on making timely deliveries, pick-ups and service calls. Many industries, such as the wholesale and retail sectors, have invested in their own transportation services by operating fleets of trucks to get raw materials or parts to their production facilities and warehouses and/or get their products to market. Many municipal and regional governments also rely on their own fleet of vehicles to carry out important services such as snow plowing, fire control and road work. This is all referred to as "private" transportation.

The backbone of private fleet transportation strategies is the medium-duty truck. Yet many of the companies purchasing these vehicles do not have a deep understanding of transportation practices. When the focus is on your primary business, the truck is only one of several tools necessary to drive that business. Formulating the right strate-

gies to efficiently spec, operate and maintain these vehicles can be a daunting task in such an environment.

That is the reason behind our launch of CitySmarts, a guide geared to help private and municipal fleet owners formulate better practices for their city and regional transportation operations.

In this guide you will find expert advice on how to fine tune your private fleet operations, what to consider before purchasing a medium-duty truck, a thorough discussion of how new emissions standards are changing maintenance practices, and how to help drivers change their driving behaviors to reduce fuel costs and emissions.

We hope the information provided serves as a solid starting point towards more efficient transportation practices for Canadian businesses.

Lou Smyrlis

Editorial Director

Transportation Media

Business Information Group



Contents

3

CUSTOM FIT

What you need to know to spec the right medium-duty truck for your operation

6

CLEAN DECISIONS

Maintenance requirements evolve along with emissions standards

9

SMART DRIVER IN THE CITY

How training for urban fleet drivers can cut costs and reduce emissions

12

NO PRIVATE MATTER

Explore the opportunities for fine tuning private fleet operations

15

INSIDE THE NUMBERS

A look at some of the important numbers driving private fleet operations

Custom fit

What you need to know to spec the right medium-duty truck for your operation

By Lou Smyrlis

Buyers of medium-duty trucks are part of a diverse universe but they all need a business solution that not only meets their weight requirements but also delivers uptime and reliability.

“For example, how many fires is it acceptable not to respond to because your town’s pumper truck is down for servicing? Or how many missed residential propane deliveries are allowable in the dead of a cold winter?” asks Judy McTigue, medium-duty marketing manager for Kenworth Truck Company.

Custom fitting the vehicle to your operation, however, requires knowledge about vehicle and engine design that may not be readily available to truck buyers whose first order of business is not trucking. To help out, we sought the advice of experts in the field. Based on their comments we compiled tips to make your search for a medium-duty truck a more educated and fruitful one.

SPEC TO YOUR TRUE PAYLOAD

Taking the time to figure out your exact payload requirements will prevent you from making the most common mistake when spec’ing medium-duty vehicles: either over spec’ing the vehicle and paying more than you needed to or under spec’ing the vehicle, which may save you money initially but will certainly get you in trouble with enforcement officials and your maintenance budget over the long run.

To do this right you need to get into the details of your specific operation, advises Greg Grabinsky, district sales manager, Peterbilt of Canada. Is your product hauled in boxes, crates, drums or skids? How much does each container weigh? How many of those containers do you need to get on the truck and what will be the resulting weight?

“Show your dealer what you plan to do with the truck and ask what’s the best way to get value?” advises Bob McKinley, new truck sales manager, Carrier Truck Centres in Woodstock.

For a mattress manufacturer whose weight requirements when delivering its goods to market are going to be pretty consistent this part of the spec’ing process may prove relatively easy. A general pick up and delivery operation on the other hand will have to consider the fluctuations in its weight loads and would be advised to spec on the heavier side.

Whatever you do, don’t fall into the trap of spec’ing a vehicle based on previous weight requirements when in fact your business has increased and there is a need to carry heavier loads.



Medium-duty vehicles range from Class 5 (16,001 to 19,500 lb GVWR) to Class 6 (19,501 to 26,000 lb GVWR) and Class 7 (26,001 to 33,000 lb GVWR). The higher you go up the GVW range the more you can expect to pay. Spec’ing a 33,000 lb GVW vehicle would provide about 17,000 lb of payload, which is a good investment as long as you truly need 17,000 lb of payload. It would be wasted on a nursery application, for example, which may require just 11,000 lb of payload. Going down to a 26,000 lb vehicle would still meet the nursery’s payload requirements and allow it to save money by spec’ing a lower horsepower engine.

What could go wrong if you spec too light? Maybe nothing initially but after a few months the vehicle will start to fatigue under the burden.

“It goes back to the old adage of the weakest link in the chain,” says Grabinsky. “You are going to be overtaxing your componentry which is very specific for that weight rating. By under spec’ing it you will be incurring higher maintenance costs.”

The signs of under spec’ed vehicles include fast wear on tires, brake linings, kingpins, springs as well as on the clutch and transmission.

Under spec’ing can also land you in significant legal trouble, incurring over load fines at weigh scales if your truck is spending at least some time on the highway. Working with your dealer on a weight distribution chart will help ensure the truck can carry the desired payload and weight distribution over each axle is within legal limits. During this time don’t forget to include the weight of devices such as cab heaters and refrigeration units.

The load requirements may also determine whether a conventional or a cabover design is best suited to address your specific needs. A cabover design provides more load space in the same overall length. For example, a city florist may not have to worry about being overweight in his application but may need more room, which would be provided by the cabover design.

ADDRESS YOUR OPERATING CHALLENGES

Want to give drivers fits? Spec a truck that handles as elegantly as a bull in a china shop. Consider the places the truck will be delivering to and ensure the specs you’re considering are a good fit. Here are some of the most important issues you’ll need to consider:

Will the truck run in city, highway or suburban areas? This is important in determining how it should be geared.

Trucks spec'd for city applications have higher rear axle ratios and lower speeds. Trucks spec'd for highway or suburban runs will have lower rear axle ratios for a higher speed and better fuel economy. Regularly running a city-spec'd truck on the highway is a sure path to excessive maintenance costs and short vehicle life.

Most people may have not heard of gradeability charts and gear split charts, but they can point out power performance problems before they happen. A gradeability chart will determine if the powertrain has the muscle to carry the payload over the terrain it will encounter. A gear split chart outlines how low on the rpm scale the engine can go to pick up the next gear. Miscalculating on this end could cause your drivers to run the trucks at higher rpm's to keep up with traffic, wasting fuel in the process. Air resistance alone on a van body can raise the drag coefficient on a van body by 10% to 15%.

Your specific application will also be a major determinant in the power you need. "In a fire and rescue application, you're going to need high horsepower and torque to get good acceleration. But in most pickup and delivery applications, you aren't going to need nearly the same amount," says McTigue.

Also important in determining what kind of engine is best for your operation is the truck's expected annual mileage and how long you plan to keep the truck.

These are all areas where the dealer, who has years of data across multiple applications, can prove an important resource.

Will the truck be delivering in areas where turning room will be an issue? If so, turning radius – the measurement from the centre of the rear axle to the front bumper – will be an important consideration.

The length of the vehicle's wheelbase will affect the turning radius. "If it's going to be an inner-city truck, you may want to give up a foot or two in body length for better maneuverability. But if the truck will be doing a lot of highway miles and making few deliveries, you may want to extend the body length to carry additional weight," says McTigue.

Weight distribution also has an impact on turning radius. Kenworth's T270 and T370 medium-duty conventional models, for example, are standard with a 50-degree wheelcut to provide a

tight turning circle. "But if you need to get more weight up front, say for a crane application, you may need a heavier axle and larger tires and that could affect your turning radius," McTigue notes.

What's the right body configuration for your operation? Buyers can choose from a wide range of bodies that can be mounted differently depending on the truck's wheelbase and local weight regulations. McTigue points out that the body can be mounted flush with the cab or with a space in between. It can also be on top of the frame or extend below it. Ask the dealer for the truck maker's body builder options so you have a full understanding of the options.

The truck's operating environment may also determine the best material to use in the body. For example, skid loaded products that are light but not very wear resistant would be better off in an FRP body reinforced with plastic scuff plating rather than being hauled in an aluminum body.

The length of the body is another important consideration.

"Compare a 20-foot box to a 22-, 24- and 26-foot box. If you are going into the downtown core, does it really make sense, because of the wheel base that you need, to go for the 26-foot body? Yes, you would need to do fewer trips but you may be restricted in where you are able to go with a 26-foot body," says Grabinsky.

The type of body selected and how it's mounted will have an impact on the frame length and strength that will be required.

"Typically, the big issue with a frame isn't just the kind of load, but also the body type and vehicle application. For example, there's no problem with a truck-mounted crane when it's traveling down the road mounted. But when it's parked and lifting loads, we need to have a better understanding of the weights and stresses that will be placed on the vehicle," McTigue explains. "If it looks like the frame will be subject to a lot of stress, a larger frame size for a higher RBM (resisting bending moment) will be spec'd and may include an additional frame insert or heavy duty cross members. Applications that require higher strength frames include fire trucks, tankers and dump trucks."

Height is another concern to be dealt with. If the truck is delivering primarily to docks it will require a dock height body. (Operations that need more cube than weight and attempt to compensate



by lightening the vehicle with smaller wheels or lighter axles should consider if such options would drop the height of the truck below what is needed for loading requirements.).

If you're overwhelmed by all the considerations that need to go into selecting and fitting the right body for the application, remember that there is a lot of information available from the dealer.

"Most of the sales people at the dealerships work hand in hand with the body companies to make sure that they get the right configuration for the wheelbase and the cab to axle length for the proper body," Grabinsky says.

DETERMINE DRIVER SKILLS

Driver skill can be the largest factor in determining important efficiency benchmarks such as fuel efficiency and tire wear. Yet the reality for most private fleets is that the person behind the wheel is not necessarily a professional driver like their for-hire carrier Class 8-driving counterparts. Rather they are typically employees, such as service technicians or route salespersons, who use trucks as just one of the tools necessary to do the job.

"Their experience and knowledge will likely be less than that of an AZ driver and that's where you're looking at the difference between a standard and an automatic transmission," says Grabinsky. "A lot of private fleets, particularly those with lots of pick ups and deliveries, will opt to go to an automatic transmission because the driver skill set is considerably lower."

A manual transmission may still be best if you either have an experienced driver or don't make frequent deliveries," McTigue says but agrees that an automatic or automated transmission would be a better fit if you either have a new driver or routes with frequent stops.

"Whether you select manual or automatic, you should choose the rear axle ratio carefully to get the best



◀ **THINK OF IT:** A medium-duty truck acts as a foundation for your business in the same way your house acts as a foundation for your family.

fuel economy. Pick something that will provide the startability needed based on the load that will be carried, but also keeps the engine in the most fuel-efficient operating range as long as possible,” adds McTigue.

Boosting driver productivity doesn't stop with spec'ing the right transmission. Smaller-cost items, such as air conditioning or a better seat, also play a role. Other options that may be worth the investment include: heated mirrors, tilt/telescoping wheels, self-cleaning cab steps, service features that are positioned so fluid levels are easy to check and extra insulation from engine and road noise.

Cab access is more a function of truck design, but there are still choices. “The wider the steps and the less climbing drivers have to do to get in and out, the better,” says McTigue. “Going to low-profile 19.5-inch tires can make life easier for a driver in an application with a lot of stop-and-go by helping to reduce fatigue.”

A final driveability issue is ride quality. McTigue says rear air ride suspensions are currently being spec'd on around 45% of all Kenworth medium-duty vehicles.

“We see them in a variety of applications ranging from expeditors to dumps. A lot of it is how drivers prefer them for the smoother ride,” McTigue says. “But some maintenance managers don't want them because they feel they cost more to maintain than a leaf spring type. In general, if you don't need air suspension to protect the load, you can still get a good ride with a leaf spring. Longer leaf springs on the front axle also help smooth and stabilize the ride.”

PLAN FOR MAINTENANCE

The true cost of a vehicle includes the cost of maintaining it through its lifetime. Ask for an annual maintenance calculation, including recommended service intervals. This is particularly important if you are planning to main-

tain the truck on your own. If you don't want the trouble and expense of looking after your own maintenance, there are several things to consider to help you decide if the dealership can provide the level of service best for your needs.

“You need to make sure the dealership you are buying the truck from has hours of service that are going to match up with your day. If you are driving the truck all day and they are only open till 5 p.m., when are you going to get it fixed? There are more dealers than not that have a second shift. You can be getting your oil changed at night so that it's ready for the next morning,” says McKinley.

There is also the issue of mobile service. “If your truck won't start in the morning and it's at your place will they come out and jump it or are they the type of dealer who says tow it in and we'll start it? It's an important consideration, particularly as we head into colder weather,” adds McKinley.

A good relationship with the dealer's service manager can also help guide you through the warranty process.

“The service manager works directly with the OEM and understands the warranty, knows what he can get you in the warranty. Having a good relationship with the service manager is of value. Potentially stuff can get missed if the relationship isn't there,” McKinley says.

There is also the option to go with a full-service lease.

“Typically a company building widgets and just using trucks to get them delivered doesn't have the wherewithal to hire a fleet manager. It's usually the owner who wears many hats and he doesn't really know what the maintenance intervals should be or how the maintenance should be done,” Grabinsky says. “That's where the full maintenance lease comes in. Oil change is your basic but you can structure it so it reflects how in depth you want that maintenance to be.”

TRY SOMETHING NEW

It's important to keep up with new trends in vehicle and engine design.

For Dan Kaye, Canadian sales and marketing manager with Peterbilt of Canada, that could include hybrids. Peterbilt has two offerings available in

Canada, one specifically designed for the pick-up and delivery market and the other is for utility companies, which includes a power take off.

“For the utility applications the benefit is pretty obvious. For roughly a 5-minute charge you get 40 minutes of power of bucket time. As units pull into a neighborhood at night and need to do repairs on a transformer the vehicle is not going to be making noise and disturbing the residents,” Kaye explains.

The offering for the pick-up and delivery market uses a regenerative braking process.

“In stop and go traffic as you continually apply the brakes, the battery is recharged so that your take offs are initially conducted in electrical mode rather than using the diesel engine. Your fuel savings can be up to 30%,” Kaye says.

MAKE THE RIGHT DEAL

You've got to know what's behind the price tag. If you are buying a truck and body and the dealer is creating a package deal for you, make sure you understand the whole transaction. Are freight charges included, for example?

Vehicles with a low sticker price may also include less comprehensive warranties or standard specs that may cost more to maintain in the long run. Here are two examples: Hydraulic brakes will reduce the price tag but may increase maintenance costs over the long run. On the other hand, synthetic lube for the transmission and axles will raise the price tag but save several lube jobs over the life of the vehicle.

There is a fair bit of information to consider but when you think of it a medium-duty truck acts as a foundation for your business in the same way your house acts as a foundation for your family. As McTigue points out, you wouldn't build a house for your family on a foundation that will give way before the house itself, would you? **CS**

Lou Smyrlis is the editorial director of Business Information Group and has 19 years of experience covering transportation and logistics issues. Winner of several writing awards, he has pioneered several research studies and is a frequent speaker at industry events.



Clean decisions

Maintenance requirements evolve along with emissions standards

BY JAMES MENZIES

If it's been a few years since you last purchased a medium-duty vehicle, you may notice a few peculiarities when looking at 2007 and newer trucks. By 2010, there'll likely be even more unfamiliar components hanging off the frame rails.

It's all in the name of reducing emissions and there are a few things maintenance managers and drivers should know about operating the latest generation vehicles.

In 2007 the Environmental Protection Agency (EPA) mandated that commercial vehicles significantly reduce their particulate matter (PM) and NO_x emissions. This was accomplished in a couple of ways.

First, using exhaust gas recirculation (EGR), medium-duty engines route a portion of the exhaust gas back into the cylinders, where it is mixed with incoming air and cooled to discourage the formation of NO_x, which is created at high temperatures. EGR has been used in mid-range engines since 2002, but in 2007 the amount of exhaust gas recirculated into the cylinders was increased to further reduce NO_x.

To eliminate particulates (or soot), a diesel particulate filter (DPF) has been added to the vehicle. Exhaust is channeled through the DPF, which traps particulates and then burns them off at extremely high temperatures.

In most cases, the PM is burned off "passively" while the vehicle is in use, with no driver input required. However, in cases where the engine does not generate enough heat to perform a

passive regeneration, the DPF will have to be manually-initiated by the driver. A new warning lamp on the dash notifies a driver when a manual regeneration is necessary.

To conduct a manual regen, a driver must park the vehicle in a safe location and flick a DPF Regeneration switch on the dash.

"The regeneration process usually takes around 15 minutes or so, depending upon soot loading and ambient temperature," explains Gregory Stub, manager of dealer and product development with Hino Motors Canada.

The EGR/DPF combination has been in place since 2007 model year vehicles were introduced, and there have been no widespread reports of problems.

Dan Cushing, director of maintenance with Ryder Canada, oversees thousands of commercial vehicles across the country. He said the EPA07 emissions systems have created no maintenance issues on medium-duty vehicles. As far as the DPF regeneration cycles are concerned, Cushing said they've "pretty well been taking care of themselves," and manual regenerations are rare.

Eventually, those DPFs will require cleaning. At that point they'll need to be taken to a dealer, which will conduct a back pressure test to determine if the filter is becoming clogged.

"If it passes inspection, there is no cleaning service required," says Stub. "If it fails, the DPR (Hino's term for a DPF) is replaced."

In Hino's case, the DPR can be operated for 320,000 km before it requires

an inspection. More than a year since the launch of EPA07-compliant vehicles, not a single vehicle has yet reached that mile marker.

When conducting routine maintenance, it's important to treat the DPF with care. It contains a catalyst comprised of precious metals. If you damage the DPF, you could be in for an unpleasant surprise when you find that what looks like a run of the mill muffler actually costs thousands of dollars to replace.

"You have to handle that with some care, that's for sure," admits Ryder's Cushing, who has trained maintenance staff on how to properly handle DPFs.

It's also important that 2007 vehicles are only filled with ultra low-sulfur diesel (ULSD), which is now an industry standard. It contains only 15 parts per million sulfur, which prevents the premature clogging of the DPF. In some places, diesel containing 500 ppm sulfur is still available, so ensure drivers are warned only to use ULSD. Warning stickers on the fuel tank reinforce this message. Even a single tank full of 500 PPM diesel will make short work of a particulate filter, OEMs warn.

In 2010, the EPA is requiring manufacturers to reduce NO_x emissions even further. While OEMs took the same paths in tackling the 2007 emissions standards, customers will be able to choose between two different solutions in 2010.

Most truck makers will be using an exhaust aftertreatment system known as selective catalytic reduction (SCR). The SCR system consists of a diesel



exhaust fluid tank (DEF is also commonly known as urea), a catalyst and the associated plumbing. A small amount of urea is introduced into the exhaust stream, where it's converted to ammonia when mixed with the exhaust gases. A chemical reaction then takes place in the SCR catalyst, which breaks the ammonia and exhaust down into harmless water and nitrogen.

All but one mid-range engine manufacturer is adopting SCR. Navistar, parent company of International Truck and Engine, however, doesn't like SCR and insists it will offer EPA2010-compliant engines by simply increasing EGR levels.

Jack Allen, Navistar Engine Group president, recently referred to SCR as "the most onerous aftertreatment

solution customers will have ever seen – way more onerous than diesel particulate filters."

But at the end of the day, all the driver has to do is add DEF every second or third time they fill up the fuel tank. DEF will burn at an approximately 1% ratio versus diesel, and audible and visual warnings will alert a driver when the DEF tank is getting low.

SOMERVILLE HINO

75 ARROW ROAD
TORONTO, ON

(Hwy 400 & Finch)

FULL SERVICE
HINO
DEALERSHIP

416.860.1600

HINO

A Toyota Group Company



FRESH APPROACH: Medium-duty trucks with the latest emissions controls will cost more, require more maintenance and more driver interaction. But they will be virtually smog-free vehicles.

The EPA requires the engine to be de-rated significantly if the urea tank should run dry, so drivers will have to ensure they keep the tank topped off, and maybe even carry a spare jug with them in the truck. A urea distribution infrastructure network has yet to be established in Canada, but at the very least, the fluid will be available through truck dealers and at fuel stations in tote jugs of various sizes.

One of the greatest challenges facing medium-duty vehicle manufacturers that have opted for SCR has been finding the necessary frame rail space for the SCR system without interfering with body builder requirements.

“Here comes this SCR system, which is not only another device, but a (DEF) tank that needs to be heated (urea freezes at 12F) and sensors, wiring harnesses...where is all this going to go in addition to our body packaging?” asks Navistar’s Tim Shick.

Hino’s Stub admits “it’s a big packaging exercise.” However, he adds “Hino consulted with various body builders during the design process when they were determining the component layout of the SCR system. Therefore, it has been designed to accommodate all popular body types.”

Cummins will also use SCR on its

mid-range engines.

“One of the complications for medium-duty is the diversity, everybody wants to do different things with the same engines,” says Ryan Weary of Cummins Canada.

“SCR enables us to extend our power range while maintaining excellent fuel economy, maintenance intervals and overall low cost of ownership,” adds Dave Crompton, vice-president and general manager of Cummins’ mid-range business unit.

It’s worth noting Cummins originally announced it would not use SCR on its heavy-duty engine line, but it became so enamoured with SCR that it abruptly changed paths in August, and decided to apply SCR across both its medium- and heavy-duty engine platforms.

The main reason behind the decision was the cost of diesel – several companies that will use SCR say they will improve fuel mileage by 2-3%, because they can dial back EGR levels, produce as much NOx as they want in-cylinder and then eliminate it downstream via the SCR system.

Navistar’s Shick counters that fuel economy isn’t a priority in medium-duty applications, because they typically use less of it than their heavy-duty, on-highway peers. SCR proponents respond that with sky-high fuel prices, any improvement helps, and that keeping the DEF tank filled is even easier in medium-duty applications where the truck is normally home every night.

And back and forth they go.

The bottom line is that customers will have to choose between two vastly different solutions. Navistar’s in-cylinder system will be much like what exists today, except EGR levels will be boosted, requiring the use of larger cooling systems. The fuel pressure will

also be increased and a staged injection process will be employed by the high pressure common rail fuel system.

“We view that we offer a very viable alternative to SCR, which we recognize is a valid technology,” says Navistar’s Shick. “Our alternative is one of simplicity versus complexity and we feel there is no real operating cost disadvantage to that.”

All the other players will use SCR, requiring a driver to periodically top off a DEF tank. However, several mid-range engine manufacturers say they will be able to use less EGR and reprogram their engines’ parameters for improved performance and fuel economy.

The only additional maintenance on SCR systems will be the replacement of an inexpensive urea filter every 225,000 miles or so and possibly the eventual replacement of a burner ignition cable. It’s still too early to determine how often that will be required, according to Hino.

Purchase price is also still up in the air, but you can expect medium-duty vehicles to cost more than they do today. So medium-duty trucks with the latest emissions controls will cost more, require more maintenance and more driver interaction – what’s the upside to all this? How about a virtually smog-free vehicle that in many urban areas may well pump out air that’s cleaner than what it takes in? That’s something operators can be proud of, even if it does come at a cost.

CS

James Menzies is the executive editor of Truck News and Truck West magazines, and a frequent contributor to Motor-truck Fleet Executive. In addition to his many writing awards, Menzies holds a



commercial drivers’ licence and has co-authored a book about trucks from around the world.

Smart Driver

in the City

Training program for urban fleets
cuts costs, reduces emissions

By HARRY RUDOLFS

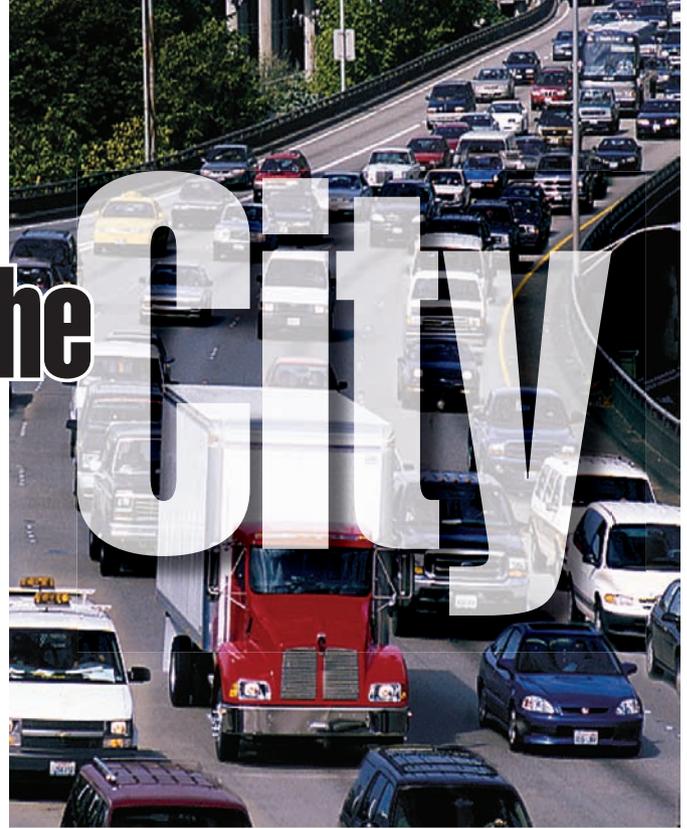
City fleets looking to save money on fuel bills need to get the drivers on side. Studies prepared for Natural Resources Canada have shown that commercial drivers using best practices can achieve immediate fuel savings of at least 10% – and some can improve their performance by over 35%!

Over the last few years, the FleetSmart division of NRC has been developing training sessions for everyone from school bus drivers to long haul truckers. But the recently introduced *SmartDriver* in the City program should be of particular interest to urban fleets operating light and medium equipment within a 100 km radius of their home base.

Available free from NRC (www.fleetsmart.nrcan.gc.ca) the *SmartDriver* kit comes with a teacher's manual and a CD ROM containing a Power Point presentation and a short video. The program, itself, consists of 13 training modules that can be delivered separately in 10-minute sessions, or be combined with a company's existing safety program.

The package also comes with posters supporting the material and certificates that can be awarded to participants upon completion of the course. A section of the manual dealing with adult learners could be very useful to instructors who are unsure of how to deliver effective presentations. Space is left at the end of each session for "tailgate talks," as well as suggestions and strategies to get drivers involved in the discussions.

Besides saving money on the fleet's fuel bill, and less emissions escaping into the atmosphere, the techniques outlined in *SmartDriver* will enhance road safety. The training



modules are fully compatible with defensive driving courses. In most cases, the program can be seamlessly blended with DD courses already being offered.

SmartDriver will also save you money on repairs and wear on equipment. Brakes and tires are among the components that will need less service and replacement. According to Bryan Payne, fleet safety supervisor for the City of Edmonton, his Goodyear representative has noticed less tire wear since the implementation of their fuel efficiency seminars. "We can see up to 15% savings on tires and tire wear," the rep told him.

And *SmartDriver* strategies mean less stress for the drivers. Lifestyle and safety issues are addressed in one section, and the driving techniques proselytized in the course material are designed to make city driving easier for operators. Maintaining a four second following distance allows drivers to stay with the flow of traffic while avoiding unnecessary acceleration and braking.

Participants also develop a sense of mission and camaraderie. Overall, fleet and safety managers report that drivers

HUMBERVIEW TRUCKS ISUZU

- Fuel Efficient Diesel Engines
- Payloads to 10,000 lbs.
- IN STOCK with or without Bodies

Sergio DeRose (416) 734-4114
Bill Bayne (416) 734-4113
Adam Vandermen (416) 734-4115
Drew Peddie (416) 734-4112
Malcolm Mitchell (416) 734-4116

humberviewtrucks.com

416-734-4100

58 Fieldway Road, Etobicoke Ontario M8Z 3L2

1-800-567-3752

G License



Why SmartDriver in the City will help your business

SmartDriver in the City training material can help you reduce costs, protect equipment, and retain drivers. Each of the recommended techniques has already been tried and tested by a fleet like yours. Consider the following benefits:

1. Lower fuel bills

Research has shown that skilled drivers can be 35% more fuel-efficient than their counterparts – and that can translate to your bottom line.

2. Control wasteful idling costs

If an idling vehicle wastes four litres of fuel per day, related engine damage and shortened oil drain intervals will add to those costs.

3. Reduce collisions

A smart driver is a safer driver.

4. Lower maintenance costs

Drivers learn the value of inspecting and maintaining fluids, tires, brakes, and filters.

5. Avoid fines

SmartDriver in the City discourages the speeding, aggressive driving habits, and excessive idling that can lead to traffic tickets.

6. Enhance your corporate image

By encouraging fuel-efficient driving techniques, you will play a key role in reducing the smog that coats our cities, greenhouse gases that could lead to climate change, and particulate matter that has been linked to respiratory disease.

7. Keep your employees healthy

Smart drivers learn the importance of a proper diet, seat adjustments, and sleeping habits that will keep them vigilant behind the wheel.

8. Retain employees

Smart drivers will appreciate training that enhances their skills.

9. Enhance existing training efforts – for free!

SmartDriver in the City training sheets, known as SmartTalks, can be easily incorporated into existing training manuals.

10. Promote trip planning

SmartDriver in the City promotes the need to stick with established route plans, and teaches drivers how missing a single turn could add 3 km to a delivery.

SmartDriver in the City is available free of charge from Natural Resources Canada. Go to www.fleetsmart.nrcan.gc.ca for more information

enjoy being challenged to save fuel, and they like the idea that they are doing their part for a cleaner environment.

Fuel efficient driving is nothing new, but SmartDriver in the City puts the best practices together in one package. Key among the driving tips is avoiding jackrabbit starts which can use 50% more fuel than gradual acceleration. Drivers are also asked to plan their route and make accommodations for factors like bad weather.

Some of the modules are specifically designed for light- or medium-duty vehicles, while others are applicable to any size truck. Discussions cover automatic and manual transmissions, progressive shifting, and the importance of keeping the vehicle in the highest possible gear without lugging.

Idling engines gets special consideration. Most fleet managers will tell you that idling is the major waste of fuel. SmartDriver exposes the myth of long engine warm up times and recommends idling for no more than 30 seconds, even in cold temperatures (except in traffic, of course).

“We tell our drivers to start driving slowly as soon as the air pressure builds up,” says Payne. “The smaller gas vehicles are ready to go as soon as there’s oil pressure. There’s no reason to warm up an engine 8 to 10 minutes.”

Payne looks after 5,500 city drivers in Edmonton who drive all classes of vehicles, from dump trucks to cars and pickup trucks. He’s recently challenged all his drivers to save a liter of fuel a day. As well, all municipal drivers are required to take a four hour in-house “Fuel Sense” seminar, aimed at increasing driver efficiency.

“I tell my drivers, ‘Global warming aside, guys, do you think idling is good for anything? It’s not good for the environment, your kids or your family. And the wasted fuel costs. Remember, you’re taxpayers, too.’” Payne also thinks that the newly acquired driving skills will carry over into the employees’ private lives and communities.

Some larger fleets have been paying attention to idling and speeding for quite some time. Ray Krizman is regional fleet manager for HBC Logistics and looks after 110 trucks in Toronto and remote locations. HBC uses Shaw Tracking’s satellite tracking to keep an eye on its 200 tractors, and Citrix software to monitor idling time and speeding violations.

“Idling is big,” says Krizman, “and we extract that information once a week.” He explains that his driver trainer has been working on shifting, idling and speeding for the past five years. HBC drivers are expected to meet operating and efficiency benchmarks. The scores are then ranked and posted in the drivers room. At the spring driver meeting, the top six performers with the best consistent scores were presented with cash vouchers.



LESS STRESS: Maintaining a four second following distance allows drivers to stay with the flow of traffic while avoiding unnecessary acceleration and braking.

“It has been my experience that drivers really take to this sort of thing, even if it’s just a star beside their name” says Krizman. “They feel like they’re part of a team.”

Mechanical issues like correct tire pressure, clogged filters and low fluid levels are dealt with in another of the learning modules. Under-inflated tires can increase fuel consumption by 4%, and Chris Hill, central fleet manager for the City of Hamilton, Ont., has now included tire pressure checks as part of the pre-trip inspections. “Especially the inside duals, they never get checked.”

Efficiency programs at least mitigate some of the sting from the price of gas and diesel fuel which has remained stubbornly high in the past few months, handcuffing many municipalities and fleets. “If we all could reduce our fuel consumption by 10%, it would help a lot,” adds Hill, whose fleet of 1,500 vehicles includes 200 buses.

Besides the cost benefits, the *SmartDriver* program dovetails with the City of Hamilton’s “Green Fleet” initiative which, like those of other municipalities, is intended to

reduce green house gases from city vehicles, and sets some real targets.

Hill has managed to incorporate the *SmartDriver* modules into a 90-minute seminar. “This winter we’ve made it a priority to reach every driver over a six week period,” he says. “FleetSmart comprises the majority of the program, but we also look at things important to us like load security. This is something everybody understands. We don’t need to go to the subatomic level.”

SmartDriver in the City is a compelling way to upgrade drivers’ skills, especially for small to medium fleets that don’t have a lot of resources to spend on training. So much depends on the driver in this industry and this course has a lot of good ideas and tools. In the long term, programs like *SmartDriver* may change the world for the better. In the short term, it will save you some money. **CS**



Harry Rudolfs is an on-road editor with the Transportation Media family of magazines with almost two decades of experience writing about the transportation and logistics industry. He is also a professional driver.

Your Medium Duty and Hybrid Experts Serving All of Ontario!



Peterbilt 320
Class 8



Peterbilt 325
Class 5



Peterbilt 330
Class 6



Peterbilt 335
Class 7



Peterbilt 340
Class 7/8

London - Woodstock - Haldmand - North Bay - Wroxeter - Waterloo - Norfolk
800-561-7383 800-287-9878 800-544-9874 800-734-9876 866-421-7383 866-539-7383 877-426-9001

It's no private matter

Opportunities abound for fine tuning fleet operations

By CARROLL McCORMICK

Improvements to private fleet operations range from adopting inexpensive and tried-and-true methods to reduce out-of-route miles, to daring transitions to move freight for other companies as a way to reduce empty route miles.

An elegant way to save gas, time, wear and tear and hours of service is to do like crows and fly the straightest line possible from plant to customer. Mileage and routing software designed for the trucking industry – in other words, software that highlights showstoppers like commercial vehicle restrictions and low weight bridges, and records conveniences like mileage summaries by state – can be had for under \$20 a month, the cost of a couple of wrong turns. Enter a start point and destination and the software selects the shortest route. Some programs simply offer a written best route for printing, others use on-board moving digital maps to show drivers in real time where they are and where to go. Some versions include en-route fuel prices, with updates beamed to the trucks several times a day and integrated sister software to handle driver logs, maintenance and dispatch.

“I don’t know how private fleets are doing without routing and mileage software. Hundreds of private fleets in the United States are using our products every day,” says Bill Ashburn, vice president of Prophecy Transportation Solutions in Bloomfield, Conn.



The choir also swears by on-board scales, which tell drivers to within as little as 200 pounds how much they are hauling. This puts an end to burning fuel chasing around looking for scales and pulling overweight fines, yet allows rigs to carry every pound they are entitled to by law. J. Wolzen Trucking in Ladner, BC, has been using Vulcan On-Board Scales, manufactured by Stress-Tek, Inc., in Kent, Wash., on all his trucks since one of the company trucks was fined \$23,000 in Portland, Ore. in 1977 for being overweight (a judge knocked it down to \$800). The company hauls cattle feed, which ranges from soggy to bone dry, making its weight extremely difficult to gauge by volume. Even when a load is below the truck’s GVW, uneven wetness can cause an axle cluster to be overloaded.

The trucks also have on-board printers so drivers can give customers weigh slips showing how many pounds of feed they receive. “This provides good customer service,” says company president and owner Mike Wolzen, who emphasised that the Vulcan scales are very driver-friendly and very low-maintenance.

They are indispensable for cross-border trips, Wolzen says: “The GVW in British Columbia is 140,000 pounds, but only 105,500 pounds in Washington. A driver can load with confidence for either side of the border. Working without them is unthinkable.”

Any fleet could switch from air to nitrogen-inflated tires, which is widely, if not universally understood to keep tires at their proper inflation

level far longer than air-filled tires. The benefits of correctly-inflated tires include fewer blowouts and better fuel mileage - two curses of under-inflation.

Fleets with over-the-road operations might consider switching from doubles to wide-base tires, also called super singles. Departments of Transportation are slowly warming to their advantages, although weight restrictions can apply. Tests have shown fuel savings approach 10% and drivers love the smoother ride. One large Canadian fleet maintenance manager calls their use a "no-brainer."

The once-daring step of bolting air foils onto cabs has become a thundering gallop to test and install drag-reducing hardware in the past year. Fleets are investing heavily in aerodynamic solutions and expect big paybacks. Bison Transport in Winnipeg, for example, is installing drag-reducing Freight Wing trailer skirts (long panels bolted to the underside of the trailers) for 850 trailers; tests show that they can reduce fuel consumption by 7.2%.

A superb Canadian source for information on reducing aerodynamic drag is the FPIInnovations-Feric Division Web site www.feric.ca. Go to their main page and spend \$25 (soft copy) or \$40 (hard copy) for a document titled "Track test evaluation of measures to reduce aerodynamic drag." This report was born of a brilliant 2007 collaboration between fleets, government and FPIInnovations to obtain conclusive test track data on the fuel savings a dozen different technologies might obtain. The trials, called EnergoTest 2007 (followed this September by EnergoTest 2008), were so successful that FPIInnovations formed Project Innovation Transport (PIT), which any Canadian fleet or supplier can join.

Some of the EnergoTest results are made public but the fine details, including consultation on the most appropriate matches of technology and fleet operations, are available only to PIT members. Membership might seem too dear for some fleets, but the information that is available, free or for a few dollars, will get any operations manager thinking.

If fuel-saving technologies look appealing but your fleet's budget or accountant is tight, Transport Canada's ecoFREIGHT program is co-funding

technologies in the freight transportation sector that reduce greenhouse gases and other emissions.

Another resource is the Private Motor Truck Council (PMTC), a national association dedicated to private fleets. Membership fees range from \$375 to \$1260. Its 400 or-so members include fleet operators, equipment and drivers lessors, and suppliers to the industry.

"Principally what we do is represent the private fleet industry to govern-

ment," says PMTC member services coordinator Vanessa Cox. "We [also] consider ourselves to be a resource centre for the industry. The top priority of private fleets is not really transportation, but rather their product. They need help and a place to go for information that is a bit different from that offered by trucking associations."

The PMTC also offers seminars, a membership directory, monthly e-newsletter and a quarterly magazine.



KENWORTH TRUCK CENTRES OF ONTARIO

The T170, T270 and T370 aluminum cab truck, *built here in Canada*, can be configured for an aluminum van body, a tow truck body, or a dump body. This is a versatile chassis that can have a fixed cost for your operation through our PacLease, full service and maintenance division or a lease to own option. Special financing is available at very competitive pricing to meet your needs with all the additional equipment included for a turnkey delivery to the end user.

The Kenworth goal is to enhance fuel economy by up to 30% for pickup and delivery trucks and up to 50% on utility truck operations with The Hybrid chassis.

Our dedicated sales professionals would be more than pleased to explain all the options available. You will be very pleased how competitive the Kenworth Medium duty trucks are in this price sensitive market.

LONDON
519-690-1551

BOWMANVILLE
905-697-9022

KITCHENER
519-742-4488

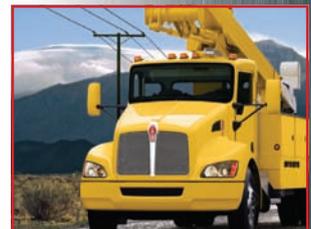
CONCORD
905-695-0740

BARRIE
705-431-4949

MISSISSAUGA
905-625-5000

SUDBURY
705-688-1700

HAMILTON
905-662-7200



www.kwtoronto.com

Its connection to the National Private Truck Council in the United States helps members with transborder fleets stay abreast of US regulations and developments.

Stories abound of trucks being parked for lack of drivers. For example, three days of advertising in the Winnipeg Free Press netted RTR Cartage one call. "It is extremely hard to find drivers," says operations manager Gord Valen.

Valen contacted driver leasing company Canada One Logistics & Personnel Inc., in St. Catharines, Ont. for help, and got drivers. Canada One handles all of the administration, worker compensation, holidays, insurance and other hassles, in return for a "mark up" of roughly 8-12%. Private fleets both large and small can profit from driver outsourcing, according to Canada One owner and president Dave Harris. Problems that can be avoided include a lack of expertise and/or manpower within the company to manage drivers, which can be a problem regardless of the private fleet's size, recruiting problems for geographically-dispersed operations, driver retention headaches and reference checks.

"A lot of management time is taken up with trivial matters that should be handled by a personnel department," Harris says. "Many companies ask why they should use my services. If you want to keep your trucks running, you will want services. If you have peaks and valleys use a service like ours."

RTR, which picks up and then recycles used tires into other products, hired Valen this July to transform its fleet into one that not only fetches its raw materials, but ships out its finished product. The company wants to wean itself off of other carriers and use its own trucks to run its goods transborder. Valen explains: "We can ship when we need to ship, and not have to wait for someone to load for us. We can put money back in our own pockets. We acquired five new trailers in July for provincial and cross-border travel. With more units, we will be picking up more tires too. This is a way to grow our business."

RTR is also beginning to solicit business from other companies to help pay for return trips, a tactic Vitafoam Products Canada recently decided to adopt as part of "running the company like a trucking company," says David Gurley, who is responsible for making Vitafoam's transition from purely a carrier for its own goods. "We were coming back empty a lot. This will get our ratios down tremendously."

Truck ownership carries responsibilities for which the requisite in-house expertise may not be available. Consultants can help. Fleet Challenge Consulting Group Inc., in Ontario, helps fleets make fiscal improvements by reducing fuel use through best practices,

improving utilisation, finding the right life cycle of vehicles and finding the most suitable vehicle for the job, all with an emphasis on environmental improvement.

"A gross generalisation is that companies that are run profitably overlook their fleets. Fleets are nasty things to manage and people on the private fleet side seem to think this is just a line on the balance sheet [with the attitude] 'lets not get into this,'" says Fleet Challenge partner Roger Smith.

Errors Smith has seen include selling trucks before the best service has been wrung out of them and poor tracking of variables that tell which trucks are performing well or are being fully used; e.g., drivers will shun the truck with the busted radio and springs poking out of the seat.

"We have software that looks at historical information: fuel consumption, maintenance, costs. We determine baseline performance for the fleet then we go in and find trucks that perform higher or lower than the average," Smith says. "Fleets chronically do not collect data: The top four are kilometres travelled, age, repairs and fuel consumption. There is a wealth of data in these four variables. Put them on a spreadsheet and the answers will jump off the page. We have worked with fleets as small as seven vehicles and found financial and emission improvements.

"We find [problems] a lot where companies have started very small, but through growth, mergers and acquisitions suddenly find themselves with larger fleets. Not having a specialist staff is OK if you are very small, but as the fleet grows there are tremendous savings to be had."

If ownership is a drag, leasing can be a viable option if approached with the right expertise or a leasing expert in your holster, Smith counsels. "Look at residual values, penalties, service charges. These things are so profitable to the leasing company. Typically, lease contracts are inflexible, and unless you are an expert in negotiating large fleet leases, you can end up paying a lot of money. Lease contracts can get very expensive in a few little lines in the contract; e.g., excess mileage, selling and restoration costs."

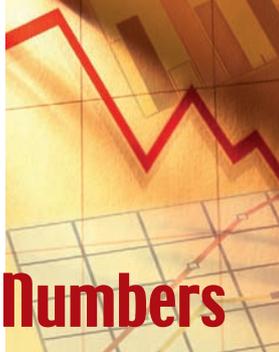
"We saw a lease contract for a great company recently and found that they shouldn't be leasing vehicles. The lease terms were good but we found that they were paying 1.5% higher interest than other clients with similar credit circumstances. We also found that the end-of-lease contract provided stiff penalties that other leasing companies would have waived. This company would have been better off buying their trucks or at least competitively leasing."

Not everyone, Smith concludes, "analyses these things to that great a degree when determining whether to buy or to lease."

CS

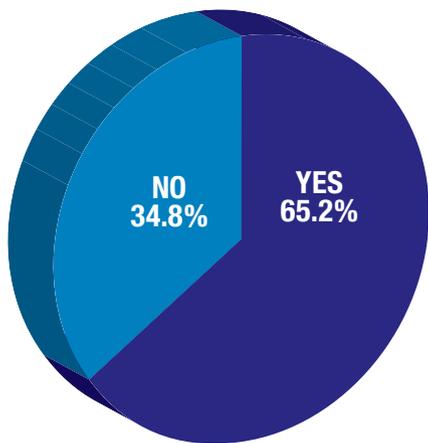


Carroll McCormick is an award-winning writer for the Transportation Media family of magazines and has covered the Quebec transportation and logistics industry for more than a decade.

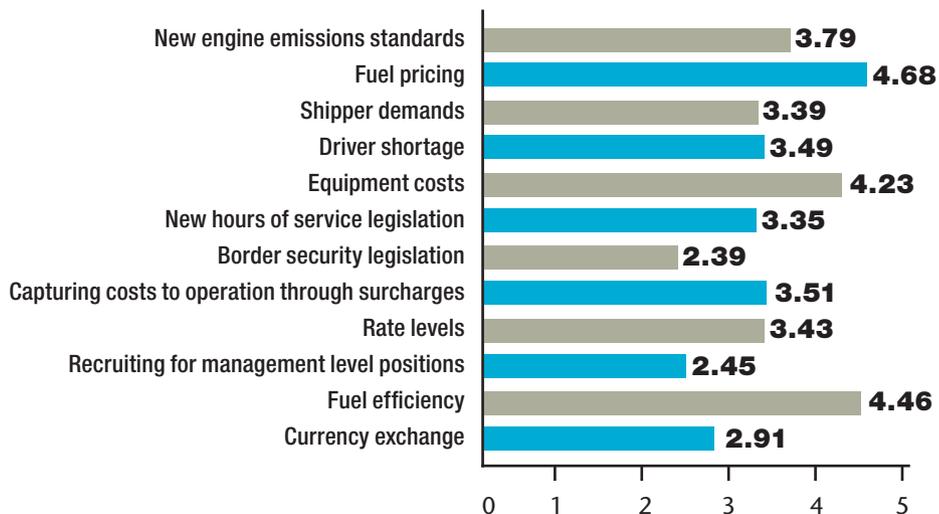


InsidetheNumbers

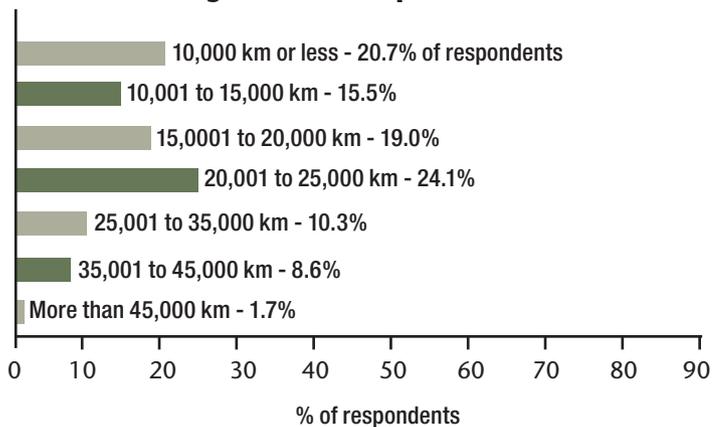
Private fleet support for mandatory speed limiter legislation



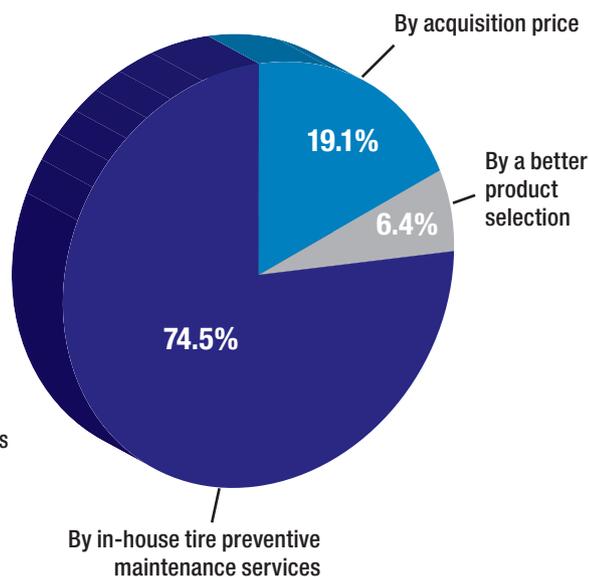
Industry issues most important to private fleets (Scale of 1 to 5)



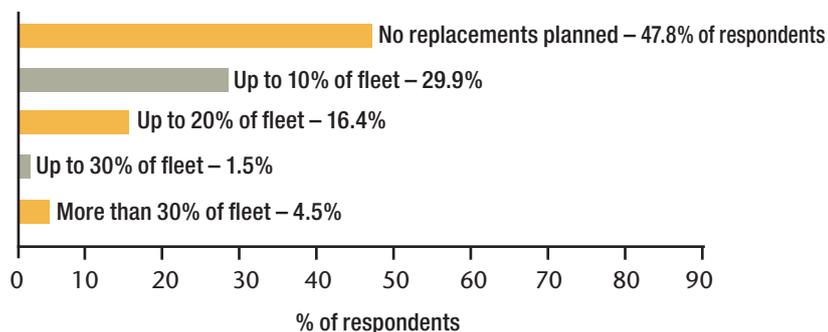
Oil change intervals for private fleets



How private fleets will optimize tire costs in the future



Private fleet medium-duty truck replacement plans for next 12 months (to July 09)





SMARTTALK FOR URBAN FLEETS WITH FLEETSMART'S SMARTDRIVER IN THE CITY

For long-haul highway trucks, forestry trucks, transit buses, motor coaches or school buses, SmartDriver workshops have been available to deliver sound advice to drivers about saving fuel, while reducing their environmental footprint. As FleetSmart expands the scope of its activities, urban fleet drivers of both light-duty (eg. cars, pick-up trucks, small vans) and medium-duty (eg. cube vans, day cabs) vehicles have been identified as another group that can benefit from SmartDriver training. The result is SmartDriver in the City, which has adapted the existing workshop formats to meet the particular needs of this audience.

With the dedicated assistance of a diverse volunteer committee from the urban transportation community, SmartDriver in the City shares the key points of information from other SmartDriver workshops with additions that are solely applicable to the urban fleet vehicle mix. The significant change is the adaptability of the workshop to meet the specific needs of the drivers, as the information has been packaged into 10-minute segments (tail-gate talks) on a given topic. These "SmartTalks" allow the workshop to be delivered over many shorter segments within regular driver meetings, incorporated into existing training programs or assembled together for longer stand-alone sessions. In fact, certain SmartTalks are specifically designated for light-duty drivers and others for medium-duty drivers.

As with all of the SmartDriver workshops, the intent of SmartDriver in the City is to help companies lower their fuel bills, reduce wear and tear on vehicle components, augment the skills of the drivers which can lower the accident risk, and finally, improve their company image by helping to ensure a cleaner, healthier environment. In order to do this the various SmartTalk modules cover a wide range of topics including:

- detrimental effects of smog, particulate matter and excessive greenhouse gases
- maintaining mental and physical health
- impacts of driver behaviour (ie. speeding, idling, starts and stops, traffic cushions)
- progressive shifting
- components of fuel economy
- gasoline vs. diesel vs. alternative fuels
- preventative maintenance

All SmartDriver in the City training material is easy to reproduce using the the CD-ROM included in the instructor's manual. In addition, posters are also made available which can be used to reinforce ideas delivered in each SmartTalk. Finally, certificates of participation are available for individual modules, with full-page certificates and wallet cards for those complete all SmartTalks relevant to their fleet.

Although fleet managers can spec their equipment for fuel efficiency, without proper driver training, their time, effort and money are not optimized. SmartDriver in the City provides this necessary training, so that we can all win by saving money and helping the environment.

For more information on energy-saving opportunities for urban fleets, contact:

ecoENERGY for Fleets (FleetSmart)
Office of Energy Efficiency
Natural Resources Canada
580 Booth Street, 18th Floor
Ottawa, ON K1A 0E4
Fax: 613-952-8169
E-mail: fleetsmart@nrcan.gc.ca

Natural Resources Canada's Office of Energy Efficiency
Leading Canadians to Energy Efficiency at Home, at Work and on the Road

Be
FleetSmart!