



6 Things to Consider when Selecting a Weigh Station Bypass System



Moving truck freight from one point to another often comes with delays; including weather, road conditions, accidents, and potential enforcement activity, just to name a few. But what if you could eliminate, or even control some of these factors?

Imagine greatly reducing the number of times you have to stop at each weigh station your trucks come across. How about bypassing toll payment booths, too, and actually receiving discounts when your rigs drive by.

Trucking companies using weigh station bypass services save more than \$8.68 and five minutes each time their truck bypasses a truck weigh station, according to a Federal Motor Carrier Safety Administration calculation.



When selecting a weigh station bypass system, two types of technologies are used. One is called Radio Frequency Identification (RFID), which utilizes a transponder mounted inside the windshield to identify a specific vehicle. The other is Commercial Mobile Radio Services (CMRS). It uses cellular phone technology for identification using mobile phones, tablets and in-cab telematics devices. The end goal is the same: to receive a bypass signal alerting drivers to continue past the weigh station or inspection site they are nearing.

Each system operates differently, meaning what works well for one fleet, be it large or small or somewhere in between, doesn't automatically work for another. And owner-operator truckers have their own unique sets of needs. Therefore, consider the following factors before selecting a truck weigh station bypass system.

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Not All Bypass Technology Platforms Are Equal

One of the primary differences between RFID transponders and cellular CMRS is the issue of reception. In this case, how well signals are transmitted between weigh stations and trucks. RFID transmits and receives signals with almost 100% accuracy. Alternatively, just like your cell phone, CMRS signals can be dropped, affected by terrain, weather, the quality of service providers, the type of cellular device or tablet, and the quality of the GPS chip set.

These factors make it very possible for a truck using a CMRS bypass system to have a reduced chance of connecting and receiving a bypass signal, according to [a study by Texas A&M Transportation Institute](#). Compare this to truck bypass systems using RFID technology, which are not affected by these factors, and offer 99.99% signal reliability.

CMRS can also be affected by signal latency, or delays in the transmission time between the truck and the station. You don't have to worry about latency when using RFID. That's because RFID transponders have a response time measured in just a few hundredths of a second from the time the truck approaches a weigh station, transmits its credentials and the driver receives a green light to bypass.

In contrast, because so many different factors affect CMRS-based weigh station bypass, a driver could receive the bypass signal too late to bypass.



While there may be slightly less bypasses with CMRS, it is available in some areas where RFID is not. So while the bypass rate may be lower with CMRS, the bypass location coverage is greater. Carriers that take advantage of both technologies receive the benefits of reliable data transmission and greater location coverage.

Transponder RFID vs. Application CMRS



Transmission reliability:

RFID: Most reliable and accurate signal transmissions

CMRS: May be affected by terrain, weather, and device



Transmission speed:

RFID: Just a few hundredths of a second for bypass message

CMRS: Speed of signal varies based on cellular transmission quality



Location coverage:

RFID: Available at most weigh stations and third-party bypass providers

CMRS: Available at most sites with no RFID infrastructure required

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Compare Bypass Opportunities That Best Match Your Routes

Fixed open weigh stations are permanent facilities in regular operation. Alternatively, “mobile” sites are usually temporary positions staged along a highway by law enforcement. There is typically no active law enforcement presence at these so-called “mobile” sites except if a special targeted enforcement activity is underway. Therefore, determine where your trucks operate in relation to a truck bypass service provider’s network of fixed open sites.

Often, providers will quote the number of total bypass opportunities and savings resulting from these bypasses. Before you bank on these numbers, ask vendors if they claim bypasses of closed sites and virtual sites where no enforcement is present as true bypasses. After all, a bypass is not really a bypass if the weigh station is closed or there is no enforcement presence to operate a “virtual” site.

When considering location coverage, compare coverage offered through RFID transponders and CMRS apps. The total location count is of little significance. What is important is the location of weigh stations relative to your common routes. For example, third party sites prevalent in Washington State, Oregon, Idaho and British Columbia only accept RFID. However, if you are running in the northeastern United States, you may receive more bypass opportunities with CMRS.

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3

Ensure Safety Data is Available to Improve Your Fleet's Operation

Weigh station bypass systems can do much more for a fleet than save time and money. Some systems offer reporting tools to help improve safety and the company's transportation operations. For example, PrePass includes INFORM™ Safety, a safety intelligence tool that unpacks the numbers affecting your fleet's Inspection Selection System (ISS) score. This can have a profound effect on the number of times your trucks are inspected, including your ability to bypass weigh stations.

Think of this as a safety dashboard that provides everything you need to make data-driven decisions to quickly improve safety scores. For instance, you can determine what types of inspections your trucks are failing, and if there are patterns of infractions, even if the inspections are conducted at roadside and not in a weigh facility. This data provides you actionable intelligence to make changes in your fleet's operations so trucks spend more time running on the road, rather than waiting at weigh stations or pulled over at roadside for inspections. Such tools are useful for the smallest fleet, including owner-operators, all the way to the largest fleets, including private carriers.



Safety intelligence data can also be shared between different departments at trucking companies, for instance, to help negotiate lower insurance rates, improve maintenance, build stronger relationships with law enforcement, or track how much money your fleet has saved bypassing truck weigh stations.

When evaluating weigh station bypass providers, compare the safety and bypass data tools they provide to determine what types of information and delivery methods work best for your operation.

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Pay Tolls Electronically Through an RFID-Based System

For the foreseeable future, toll payments will only work with the use of an RFID transponder. So, another difference between truck bypass systems using RFID rather than CMRS exclusively is the integration of electronic toll payment capabilities with an RFID transponder. Also, some truck bypass system providers, such as PrePass, not only integrate tolling into their service, but do it with a single transponder, as opposed to having different transponders from each tolling agency.

Even if your trucking operation rarely (if ever) has to pay tolls, having a truck bypass system that also handles toll payments is a major cost-saving benefit. Many experts believe that increases in federal highway funding are expected to be underwritten with private investment, and will likely result in more toll roads, bridges and tunnels. According to one study, tolls as a portion of state and local highway revenues have already jumped 50% since 1992. With traditional sources of highway funding increasing little if any, along with highly efficient electronic tolling, the number of tolled facilities in the U.S. is expected to increase rapidly in the near future.

Whether you have to deal with tolls now or later, having a weigh station bypass system that can accommodate your growth will prevent headaches, hassles and cash outlays for your business.

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Determine Just How Much You Can Save

Time is money and money is time. Based on that, when selecting a weigh station bypass system you need to determine just how much you can save. A federal study estimates just one bypass alone is worth five minutes and more than \$8.68. But let's dig into that further with one case study of a fleet with just over 325 trucks.

Let's say in one year alone, a company's trucks received green lights from PrePass to bypass weigh stations 94.3% of the time, for more than 30,800 bypasses. That equates to a savings of more than 12,000 gallons of fuel, but also provides nearly 2,600 hours of productivity that allowed their trucks to just keep on driving. The bottom line? \$154,000 in operating cost savings.

Weigh station bypass savings by the numbers

Data reflects a real PrePass customer's savings.



Fleet Size: **325 trucks**
Time period: **1 year**



12,000 gallons
of fuel saved



Received green lights
94.3% of the time*



Nearly **2,600**
hours saved



30,800 bypasses
per year



Total of **\$154,000** in
operating costs saved

*Affected by both technology reliability and ISS scores

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Reasons to Consider CMRS

While RFID transponder systems are more reliable than CMRS, RFID infrastructure is expensive to install at weigh stations. PrePass constructs locations within heavily trafficked sites, currently at no cost to states. This investment is more than \$600 million since inception in 1993. PrePass also integrates with other RFID-based systems including Oregon Green Light, NORPASS and Weigh2GoBC.

Alternatively, CMRS can be deployed at both high- and low-traffic sites by creating a GPS “geo-fence. PrePass, for example, equips all their sites with GPS geo-fences. This allows providers to set up new sites quickly and also extends bypass coverage to temporary enforcement areas.

Also, CMRS technology can be integrated for use with onboard mobile platforms, including telematics devices and electronic logging devices, commonly known as ELDs. These CMRS bypass apps are easy to install on any of these devices, plus they offer driver safety alerts. For instance, PrePass ALERTS provides proactive alerts for work zones, gusty wind areas, steep grades and no commercial vehicle roads, for no additional charge.

Even if you still can't figure out whether RFID or CMRS technology is right for you, PrePass makes it easy for to decide. That's because PrePass is the only weigh station bypass and toll payment services provider to offer both RFID and CMRS systems, providing total coverage. When fleets take advantage of both RFID and CMRS, they can then make the most of each bypass opportunity.

If you have questions regarding your routes and the benefits of transponders and mobile applications, contact PrePass at (800) 773-7277.



Strategic Consultants at Work for You

PrePass Safety Alliance is dedicated to “making highways safer and more efficient through innovative data-driven solutions.” We achieve success through strategic partnerships with our customers. A truly comprehensive strategic approach requires industry-savvy individuals who take the time to understand before prescribing the solution.

PrePass consultants provide industry and technical expertise to find areas of improvement within your organization. But first, we start with an understanding of your business operation, goals, objectives, and business challenges. Our solutions include a suite of powerful interoperable systems— weigh station bypass, toll payment management and data insight tools. These systems, in addition to our consultative approach, help you improve safety, reduce compliance risk, and control operating costs within a single, comprehensive program.

Contact us today at prepass.com/contact or (800) 773-7277 option #2

