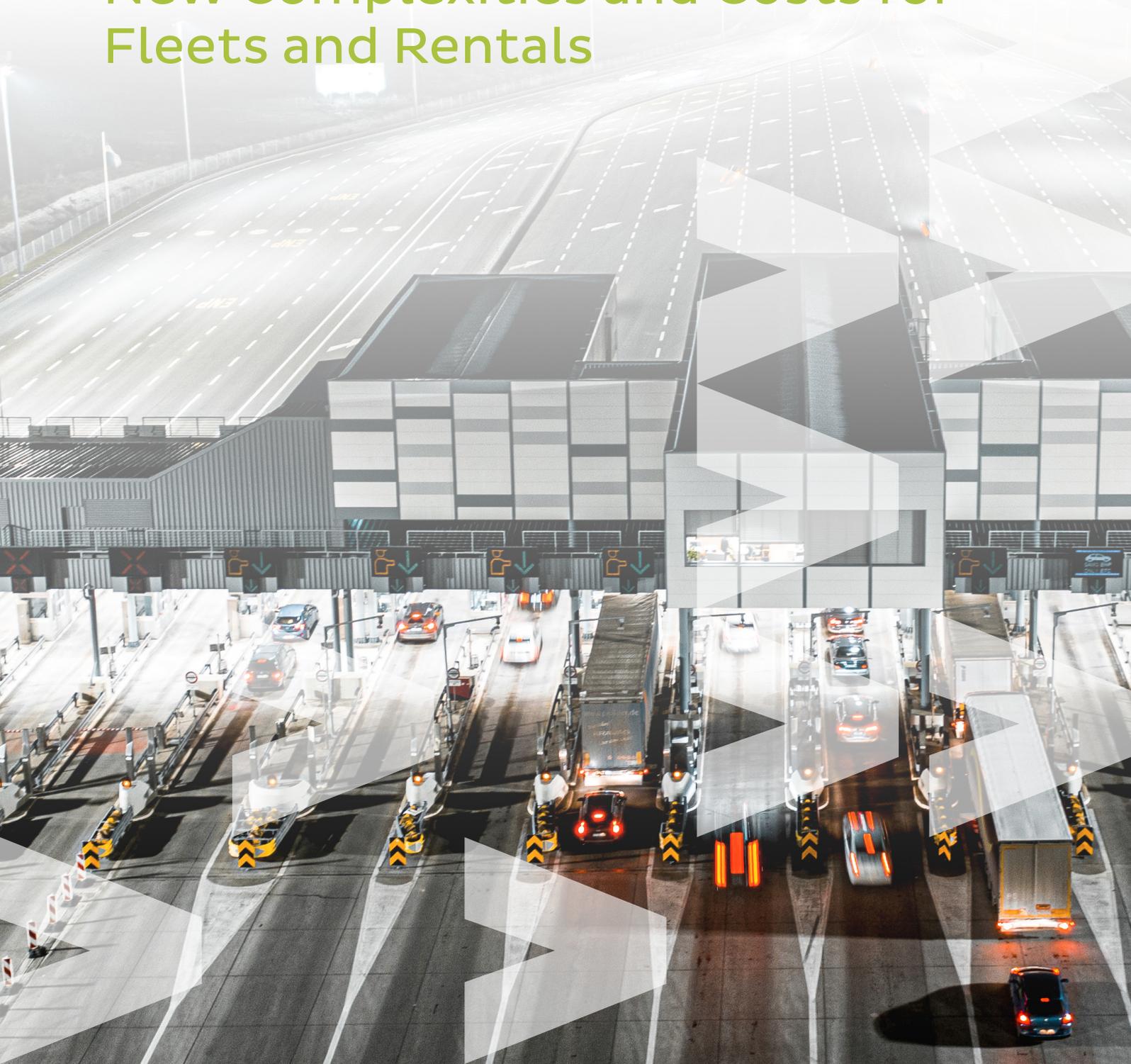


**VERRA
MOBILITY™**
Safe. Smart. Connected.

EUROPE'S EVOLVING TOLL INFRASTRUCTURE: New Complexities and Costs for Fleets and Rentals





INTRODUCTION

Toll roads are public or privately-owned roads in which payment is required for usage. The first European toll motorway was constructed near Milan, Italy, in the 1920s. The purpose of the Milan toll road was to finance the maintenance and construction of the 50 km of motorway. Following the success of the Milan motorway, many other European countries recognized this as a method to finance transportation costs. Currently, most European countries have large, modern tolling networks which vary considerably in payment collection methods, technology and regulations. Tolling systems also differ depending on vehicle type. Tolling for Heavy Goods Vehicles (HGVs) has already advanced by creating and solidifying barrier-free options for a streamlined experience. Light Vehicle (LV) solutions have emerged in recent years, opening more opportunities for network growth and changes in implementation.

Toll processes and policies range in complexity from country to country, with variable prices based on a vehicle's weight or Euro class, which is influenced by CO2 emissions. Additionally, tolling technologies differ from motorway to motorway, and sometimes payment methods change within a single country. Without an electronic transponder installed in a vehicle, tracking and reconciling toll payments is a significant challenge. With the current state of tolling in Europe, users sometimes have to maintain multiple accounts with various tolling authorities to seamlessly pass through the tolls. The not-so-convenient alternative requires the user to stop and pay with either cash or credit card at each toll location. This adds another layer of complexity for the end user and an increasingly congested road network results in costly delays. This is especially complex for frequent travelers, fleet owners, operators and managers who need to be vigilant in monitoring the multiple tolling accounts to ensure payments are fulfilled on time to avoid late fees, penalties and administrative stress.



Spain has committed to changing its tolling infrastructure to electronic by 2024 to be more consistent with European regulations, making it more convenient for both travelers and government agencies to manage the collections and violations process (Spain, 2021). The first all-electronic toll road began operation in Spain in the first quarter of 2022. Société des Autoroutes du Nord et de l'Est de la France (SNAEF), a private motorway operator company in France, has made a similar commitment to phase out physical tolls on popular motorways between Paris and Normandy by the end of 2024 (SANEF, 2021). Other countries already have a mix of electronic and non-electronic toll infrastructure introduced for both Heavy Good Vehicles and Light Vehicles. While more convenient for drivers, barrier-free tolling will make it more difficult for fleet managers and operators to manage disparate toll accounts, track on-time payments, manage the risk of violations and avoid fees.

There are more variables to consider when fleet managers and operators plan routes and rental car customers use toll roads, especially with the current decentralization of toll road management throughout Europe. As European countries look to update the technology of their tolling systems to automate administration and lessen the costs of the governments' internal toll operations, commercial fleets and rental car companies will need to adapt their toll management processes and navigate the varying degrees of complexity of each country's systems.

Fleet operators and managers of large fleets, including rental car companies, must consider current and future toll collection systems, rules and regulations throughout each European country so drivers and renters can enjoy the conveniences of seamless travel without the burden of violations, long lines to collect toll payments or remembering to pay collection fees.

Verra Mobility's goal is to take the burden of toll management from fleet management companies by integrating with local authorities, installing On Board Units (OBUs) in fleet vehicles, preparing marketing materials about new toll management initiatives, arranging customer service for toll management programs and maintaining databases with up-to-date information.

PRIMARY TOLLING SYSTEMS FOR LIGHT VEHICLES

The **barrier toll system** and **barrier-free system** are the main two tolling methodologies.

BARRIER TOLL SYSTEM

The barrier toll system requires travelers to stop on the motorway at a collection toll booth to pay, in cash or by card, to a booth attendant or via an automatic payment machine. Alternatively, drivers can use an active transponder **On Board Unit (OBU)** to complete payments. Transponders allow drivers to pay tolls automatically by transmitting toll transaction data electronically, so there is no need to stop for the barrier to go up on the lanes dedicated to electronic payments.

BARRIER-FREE TOLL SYSTEM

The barrier-free toll system is a free-flowing system. Collection of toll payments on such motorways is possible via an active OBU installed in the vehicle, by registering a bank account against the license plate on the dedicated platforms, or by paying the tolls directly to the tolling authorities before or within a certain timeframe after incurring the toll. If none of these methods is utilized, the driver becomes subject to fines that have a progressive scale.

In addition to these two tolling systems, there is another road tax that is used widely throughout Central and Eastern Europe called **vignettes**. A vignette is a sticker placed on the windscreen of a vehicle to signal the appropriate road tax has been paid. Vignette roads differ from normal road tolls in that vignette fees are based on the amount of time spent on the road rather than the distance traveled on the road. Vignettes can be paid for an entire year or for short-term use. Vignette roads and toll

roads are not exclusive, meaning a vignette road may have tolls on it, wherein the driver must have a valid vignette and make a payment for passage. In some countries, paper vignettes are replaced with e-vignettes that are purchased via the website and associated with the license plates. In this case, enforcement is arranged through license plate recognition by cameras on the roads.

European governments plan to gradually transition from barrier tolling methodologies into cashless barrier-free systems to charge road users. Barrier-free systems reduce the cost of maintaining toll infrastructure for governments, reduce the amount of congestion on the road and reduce the amount of CO2 being released into the air to positively impact the environment. Challenges for road users include processing paperwork, increased risk for violations and penalties, managing unpaid tolls, registering fleets, maintaining compliance with toll service providers and matching and allocating toll costs. Commercial and rental fleet managers must have a strategy in place to stay on top of the new laws, regulations and fees that come with barrier-free toll systems.



BARRIER TOLL SYSTEM
Collection is possible via an active OBU, or requires travelers to stop



BARRIER-FREE TOLL SYSTEM
Free-flowing motorway, collection is possible via an active OBU, pre- or post-payment



ON BOARD UNIT (OBU)
Electronic tag, placed on the windscreen that facilitates payment with an account



VIGNETTE
Sticker, placed on the windscreen that denotes toll payment



SUMMARY

European governments are gradually expanding the use of toll roads to proportionally allocate road usage fees based on actual use, fund infrastructure projects and better manage the quality and quantity of traffic on their roads.

With tolls in Europe modernizing and stepping into an electronic future, rental and other commercial fleets must take into consideration the administrative complexities that will come along with free-flow electronic tolling systems, such as license plate registration with every motorway, account management, processing fines, driver identification, driver matching, reconciliation, and administration consistency.

Spain plans to rehaul and digitize its barrier toll roads to barrier-free systems by 2024. Parts of France will upgrade existing barrier tolls to barrier-free motorways in 2022 between the Auvergne–Rhône-Alpes and Bourgogne–Franche-Compté regions. Commercial and rental fleets that operate in the EU need to consider the business implications and administrative complexities that accompany toll changes and new regulations in order to avoid future complications and fees.

Verra Mobility makes navigating electronic tolling technology easy for fleet operators and rental car companies by continuously updating Light Vehicle toll management solutions to anticipate the changes in regulations and infrastructure, driver matching and identification, payment processing and centralizing all tolling information onto one platform.

BACKGROUND

HISTORY

While tolling has been around for hundreds of years, modern tolling in Europe has only been around since the 1920s. The first motorway in Europe to use the barrier toll method to tax motorized vehicles was a 50 km stretch of roadway surrounding Milan, Italy.

Surrounding European governments and private entities adapted this methodology to their roadways as a way of paying for the construction and maintenance of roads. From the 1920s to the 1960s, toll roads became a popular way to generate revenue and maintain infrastructure. Since the first modern toll road, almost every past and present EU Member has introduced some form of a road user charging schema.

BARRIER TOLLS

Currently, some European countries use barrier tolls for Light Vehicles toll collection. Barrier tolls are operated by a mix of toll booth attendants, automatic coin and card machines, and **Electronic Toll Collection (ETC)** technologies on dedicated lanes.

A majority of barrier tolls utilize On Board Units (OBUs) which are electronic tags that stick to the windscreen and communicate data to the barrier's transponders. Transponders at the barrier transmit tolling data to sensors attached to the barrier toll collection system and allow vehicles with valid OBUs to pass through the barrier, sending a fee notice to the user or immediately charging an automatic fee.

RISING OPERATING COSTS

Barrier toll systems are familiar, convenient and standard for private companies and governments to establish and operate. However, the rising operating cost, environmental considerations and congestion caused by barrier toll systems have prompted governments to search for new ways to reduce toll road management costs. One of the major criticisms for barrier tolls are that the technology is outdated and they impede the flow of traffic, increase congestion and cause costly delays for commercial fleet operators and managers.

THE FUTURE OF TOLLING

European Commission has introduced a European Electronic Tolling Service (EETS) Directive. The purpose of the EETS Directive is to encourage local governments to develop programs to achieve cross-country interoperability. Most of the European member states have already introduced the changes to their tolling governance process and become EETS compliant. As a consequence of the EETS Directive being introduced, governments all over Europe are optimizing their current tolling systems to electronic tolling for the emerging Light Vehicles (LV) structure.

Société des Autoroutes du Nord et de l'Est de la France (SANEF), a private motorway operator company in France, has made a similar commitment to reduce the number of physical tolls on popular motorways between Paris and Normandy by the end of 2024. Specific roads include A79 in 2022, as well as A13 and A14 in 2024 (SANEF, 2021).

Another example is Spanish governmental policy. As a response to COVID-19, Spain has developed the Recovery, Transformation, And Resilience Plan (2021) for a better economic and environmental future. In this document, the government outlines its intent to transform barrier roads to barrier-free roads by 2024.

While this commitment to free-flow tolling in Europe is not a concern for individual vehicle owners, fleet operators and managers may experience increased complications managing the variable level of changes throughout Europe. This is especially true for rental car companies and pooled fleets because there are no designated drivers associated with vehicles.

It presents fleet managers with a challenge of identifying who is liable for the tolls incurred.

Additionally, there is an increased number of considerations and administrative burdens that come with managing the different payment methods, regulations and costs for fleets traveling across borders.

As European governments look to update the barrier road toll management systems, commercial and rental fleet managers are left to navigate the complexities of managing payments to both established barrier road toll systems and new electronic road toll technologies. These complexities include, but are not limited to, decentralized toll management, complex toll laws and regulations that vary from country to country, difficulty identifying drivers for fleet operators and fleet managers like those for rental car companies, and an increased potential for overpaying for tolls due to fines.

For example, a rental car operator may incur over thirty (30) toll charges amongst four (4) different renters on a single vehicle in one week. Across a large fleet of vehicles, those charges will multiply and increase the administrative burden of driver identification and reconciliation tenfold. Not only does the administrator have to determine who is responsible for the toll fees, but they also carry the bad debt risk and need to bill each driver accurately.



THE PURPOSE
of the EETS Directive is to encourage the local governments to develop programs to achieve cross-country interoperability



RENTAL AND SHARED VEHICLES

Administrative burden to accurately identify and reconcile toll payments for multiple drivers of one vehicle

RISKS AND CHALLENGES OF TOLL MODERNIZATION

Understanding the challenges that lie ahead will enable fleet managers and rental car companies to prepare and mitigate risks.

Consider that Europe is composed of multiple countries with many cultural and operational differences. In regards to toll management, fleet managers must consider infrastructure and operation, currency and language, technology platforms, toll operators, business processes and different tolling systems.

There is no guarantee that methodology will be centralized alongside gradual toll management system upgrades. Likely, there will be stalls in updating all toll operations, as not all toll collection systems are operated by the country's government (The World Bank, 2021). Therefore, complex integration considerations must be made.

The **European Association of Operators of Toll Road Infrastructures (ASECAP)**, which is an organization that represents toll concessionaires, has made promises that barrier-free toll roads under their control will utilize the same software. ASECAP wants to make toll management easier for future road toll payers to centralize their tolls into one system. ASECAP works to assist with implementing the EETS Directive. It is unlikely that this and other tolling integrations will take effect for years to come, adding an increase in complications with decentralized toll management for fleet managers and operators (Murcia Today, 2022).

Challenges that arise from decentralized toll management include, but are not limited to:

- Managing customer/driver toll fees
- Avoiding violation charges
- Customer (driver) experience

Not all European countries are part of ASECAP and may not have plans to use the same systems as those countries. This may continue to cause cross-country interoperability challenges that compound fees for commercial and rental car fleet managers and operators.

OVERPAYING FOR TOLLS

With multiple tolling systems on the road, it is important to consider the potential human error that may occur when tolling solutions are altered. Traditional barrier tolling methods require a cash or credit card transaction to allow passage. With these methods, drivers cannot pass the tolls without paying. Hence, there is little to no financial risk for commercial and rental fleet drivers to forget a payment and incur violations.

Free-flow toll technology does not stop traffic. As European countries transition to free-flow toll methods, drivers may forget to pay a toll, resulting in violation fees. Ultimately, the vehicle owner will be held responsible for all fees and costs. For example, drivers often utilize GPS and navigation devices. Without even knowing, these drivers may find themselves on a toll road. With the introduction of barrier-free tolling systems, there is an increased possibility of drivers accidentally passing through tolls and not recognizing the

signage along the road. These drivers may not even know they are required to pay a fee or know where to go to pay the fee, which can result in overpayment for use of these roads due to fines.

ADMINISTRATIVE BURDEN

Electronic toll collection (ETC) methods paired with barrier-free tolls allow for more variation due to human and technological errors. Human error may include forgetting payments, overlooking routes when paying fees and fines online, and mismanaging decentralized invoices. Each scenario results in time-sensitive fines or penalties that add to administrative costs.

Technological errors that occur due to OBU devices and ETC upgrades may be just as costly for fleet managers and operators, causing increased fees and payments for commercial and rental car fleet managers, operators and drivers.

DRIVER IDENTIFICATION & RECONCILIATION

Currently, driver identification presents a challenge for fleet managers. This may not be an issue for some commercial fleets, however, it is a large issue for pooled fleets, specifically rental car companies. When rental car companies receive a notice that a vehicle in their fleet has gone through a toll, the company is responsible for identifying the vehicle and the driver so payment can be made. This can be time-consuming and complicated and can result in unhappy customers, increased fees and penalties, and administrative burdens.

FRANCE - TOLL MANAGEMENT CHALLENGES

France poses a unique challenge for fleet managers and operators. These challenges stem from the high-density toll infrastructure. France currently has a network of more than 90 toll roads that are a combined 9,170 km and some of road operators have committed to making their most popular toll roads free-flow by 2024.

With the first free-flow tolling already launched in a pilot scale on the A4, plans for the A79 to be completely barrier-free in 2022, and many more Multi-Lane Free-Flow (MLFF) tolling motorways upcoming, managing toll fees in France is a challenge that pooled commercial fleets and rental car companies (and their customers) are not currently equipped to handle. Fleet management companies may experience an impact on their profitability while navigating new fees and administrative difficulties.

SPAIN - TOLL MANAGEMENT CHALLENGES

Spain's commitment to change by 2024 poses similar challenges to France. Spain has a network of more than 10 tolled motorways (Ministerio de Transporte, 2022) that are looking to switch from barrier tollways to MLFF, or barrier-free motorways, by 2024. Given that most Spanish infrastructure updates are motivated per the EETS Directive, it would not be unreasonable that Spain increases the number of electronic tolls by this time.

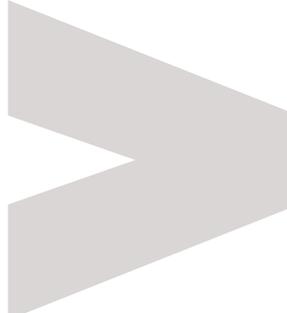
The main challenges ahead for toll management on Spanish roadways include an influx of roadway traffic post-peak COVID-19 from leisure travelers and through travelers from France and Portugal. For other countries, this may not be an issue. However, there is currently little information available about Spanish toll roads for tourists. This can cause problems when it comes to achieving interoperability. This challenge will be compounded by gradually changing toll rules and regulations. Car rental companies will have to overcome these challenges or risk poor driver experiences negatively affecting brand image.



9,170
KILOMETERS OF
TOLL LANES
90+
TOLL ROADS
in France



2,300
KILOMETERS OF
TOLL LANES
20+
TOLL ROADS
in Spain,
with new toll roads
coming by 2024



VERRA MOBILITY IS EQUIPPED TO HANDLE THESE UPCOMING CHANGES

With operational readiness and product deployment at the forefront, Verra Mobility has already made an impact for rental car fleet managers within France. Over the past two years, Verra Mobility has worked with an existing rental car company in the region to develop and deploy an integrative and customized solution for toll management and driver reconciliation. In addition, Verra Mobility developed marketing and training tools to support this new initiative, making the French toll management solution easy to implement for any rental car company.

With each country presenting similar, but unique tolling challenges, in 2021 Verra Mobility was selected to deploy a similar toll management solution in Ireland for a leading global rental car corporation. The program's goal is to enable electronic toll payments for renters on both barrier and barrier-free toll roads with assurances that tolls will accurately be paid. This fully custom solution protects the rental car company from the liability of unpaid tolls in their vehicles and ensures that their customers are accurately billed for corresponding toll charges.

HOW DO WE DO IT?

We leverage our 15 years of experience with rental car and car-sharing companies, and aim to launch renter-friendly solutions that look toward the future of free-flow tolling motorways. These solutions include integration with key concessionaires to enable electronic payments, OBU device management for entire rental fleets with training to assist in the counter staff and development of customer communication materials.



THE VERRA MOBILITY SOLUTION

With tolls all throughout Europe transitioning to the use of updated tolling technologies, commercial and rental fleet managers and operators are challenged to stay on top of the toll management responsibilities of their fleet. Verra Mobility has already launched toll management solutions for various needs of fleet operators and managers in France, Spain and Ireland. Among other partners, rental car companies trust Verra Mobility to reduce the administrative burden and generate additional benefits by setting up tolling programs.

Verra Mobility currently provides industry-leading toll management solutions to Europe. A certified EETS provider, Verra Mobility has proven knowledge and ability to create solutions that look toward the future of tolling in Europe. Before arriving in Europe, Verra Mobility established itself in North America first by strategically partnering with the top rental car companies and fleet management companies with over six (6) million vehicles utilizing toll management solutions. With the natural expansion to Europe, Verra Mobility is looking to positively enhance the future of tolling for clients around the world.

HOW WE HELP

Fleet management operators, especially rental car companies, already experience challenges that vary country by country within the existing tolling structures. These challenges are not going to go away with the movement to ETC barrier-free technologies in European countries, as new challenges arise with the increased use of technology. Fleet managers and operators from the convenience and cost saving measures provided by Verra Mobility's centralized end-to-end mobility management technology solutions.

Verra Mobility has established office locations throughout Europe. By establishing key office locations in countries that aim to update their toll roads, Verra Mobility is positioned to set up local operations and stay on top of local tolling system developments in upcoming years. By being hyper-local to the European tolling market, Verra Mobility offers responsive, flexible toll management solutions to mitigate the risks associated with toll transitions from barrier to barrier-free tolling systems. This benefits renters and fleet operators, and alleviates administrative issues through the use of Verra Mobility's proactive proprietary technology.

Drivers and customers of fleet managers, operators and rental car companies benefit from advanced solution-based toll management technology. Verra Mobility provides OBUs and maintains proprietary

technology that reduces the potential for violations and fees on free-flow motorways. The software identifies the toll transaction, along with the driver of the vehicle and the responsible payer party. This triggers the payment collection process and reconciliation process with the responsible payer party in real-time with little room for error, allowing for better customer service and an increase in retention for all customers.

Verra Mobility takes on the burden of toll management so fleet management companies do not have to. Our proprietary technology benefits renters with a simplified approach to tolling while creating new revenue opportunities for rental car companies. Verra Mobility gives renters the flexibility to be billed at the start time of the rental or post-rental. This gives rental car companies the ability to generate additional revenue from ancillary program offerings.

For all fleet managers and operators, Verra Mobility has introduced advanced analytics to refine and improve performance reporting. This is made possible with a sophisticated data platform that has the capability to further optimize solutions to reflect changes in driver behavior.

CONVENIENCES

Verra Mobility increases efficiency by using proprietary software programs and an experienced mobility solutions team to manage local tolls and achieve cross-border interoperability. This effect is felt by drivers of fleet management companies and rental car companies. Our proprietary software has the capability to integrate with local tolling authorities, which enhances the driver's experience. This makes it easier for drivers to use fast lanes, make payments, have less frequent stops to pay tolling fees and enjoy faster, easier travel with no post-payments.

INNOVATION

Focused on simplifying and enhancing the complexity of the toll management industry in Europe, Verra Mobility strives to bring innovation into toll management for fleet managers and operators, rental car drivers and toll road operators.

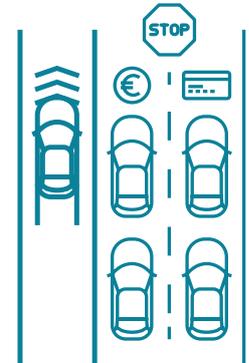
Due to the high volatility of regulations and technology solutions, it is a challenge to stay up-to-date with all tolling rules and regulations. For fleet managers and operators, maintaining mobility technology is labor-intensive, time-consuming and increases cost. Verra Mobility provides a singular integration for these companies so they can have convenience and peace of mind with an accurate database that is regularly maintained by Verra Mobility. Toll management delegation frees up staff time to work on customer accounts and improves customer experience, especially as related to toll fees and violation processing.

As Europe looks to upgrade its tolling system to barrier-free in the coming years, Verra Mobility is a key player in the field by offering technology solutions that help companies better manage their mobility on all fronts. This innovation is not limited to tolling. Verra Mobility provides violation data and processing services for 450+ issuing agencies in Europe and has strategic relationships to facilitate collections and payments.

COST REDUCTION

Delegating toll management responsibilities to the Verra Mobility team saves companies money, increases their efficiency and removes the administrative burden of managing complex system integrations and requirements, especially for car rental fleets.

For car rental fleets, the benefit of modernizing mobility payment services will be felt by end-users. Whether traveling for work or pleasure, the convenience of easy toll entries are a benefit to both fleets and rental car drivers. Giving drivers choice is a competitive offering and makes the rental experience easier, while protecting fleets from expensive fines and penalties.



FREE-FLOW MOTORWAYS

Faster, easier travel with automatic toll payment

CONCLUSION

Governments in Europe have plans to modernize their barrier tolling technologies to reduce congestion in traffic, reduce cost and increase program revenues. As European countries gradually commit to change from barrier toll systems to open free-flow systems, France and Spain have already launched some initiatives of transitioning their roads to barrier-free for Light Vehicles by 2024. This commitment is an attempt to increase convenience for business and leisure drivers and eventually simplify and centralize toll payments.

The change from barrier tolls to ETC barrier-free will be gradual and not instantaneous or unified throughout European countries. This lack of unification within laws, regulations and technology adds to the complexities of toll management for fleet managers, operators and rental car drivers.

With presence in key locations around Europe, Verra Mobility has the knowledge, ability and experience to provide end-to-end complete local solutions. By establishing offices in key locations and integrating with local tolling authorities around Europe, Verra Mobility develops, implements, and maintains innovative solutions for fleet operators and managers. Mobility management solutions provided by Verra Mobility include, but are not limited to, connecting with local tolling authorities in offices around Europe, maintaining a mobility database, monitoring international tolling laws and regulations, providing customer service regarding tolling fees and fines, and reducing costs of fines and penalties for rental car consumers. Verra Mobility's experienced mobility team provides fleet managers, operators and rental car companies with convenient, innovative and cost-reductive solutions - now and in the future.

Web: www.verramobility.com

Email: fleetinfo@verramobility.com



WORKS CITED

ACN | Barcelona (2021) Spain plans to turn highways into toll roads in 2024. Catalan News.

<https://www.catalannews.com/society-science/item/spain-plans-to-turn-highways-into-toll-roads-in-2024>

Ministerio de Transporte (2022) Autopistas de peaje actuales. Ministerio de Transporte Movilidad Y Agenda Urbana. mitma.gob.es

<https://www.mitma.gob.es/carreteras/peajes-actuales>

Murcia Today (2022) Europe Wide Toll Systems To Be Implemented In Spain, Murcia Today

https://murciatoday.com/europe_wide_electronic_toll_system_to_be_implemented_in_spain_1719074-a.html

SANEF (2021) Free-flow motorway Paris Normandy (A13). SANEF / SAPN

<https://www.sanef.com/fr/flux-libre/voyage-paris-normandie-a13>

Spain (2021) Recovery, Transformation, And Resilience Plan 2021-2024. Planderecuperacion.gob.es

https://www.lamoncloa.gob.es/temas/fondos-recuperacion/Documents/30042021-Plan_Recuperacion_%20Transformacion_%20Resiliencia.pdf

The World Bank (2021) Public-Private Partnerships in Roads. ppp.worldbank.org

<https://ppp.worldbank.org/public-private-partnership/sector/transportation/roads-tolls-bridges/road-concessions>