The way people travel is changing. So, too, is the way they interact with their infrastructure. The opportunity for toll road operators is enormous.

Based on the research in our latest toll benchmarking study, it seems clear that the future will be ruled by those toll operators that deliver the most efficient, the most seamless and the most integrated experiences to their customers.

**Study highlights:**

1. The landscape is fundamentally changing. Toll road operators are increasingly competing against other modes of transport that are disrupting the mobility status quo.
2. Technology plays a significant role in toll operational efficiency. Time and time again, our data shows that the most efficient operators are those who continuously invest into new technologies.
3. Toll agencies must make better use of available technologies. That includes technologies to improve back office, payments, resource management and predictive analytics.
4. Toll operators have access to valuable sources of data. They should be using that data to plan traffic flow, demand and investment and to support mobility ecosystem partners.
5. Significant opportunities for improvement still exist. You can find many of them by analyzing your TCC, your workforce composition and your enforcement programs.

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Get the information you need to drive unprecedented efficiency in toll operations:

- Find out how you measure up against your peers
- Uncover innovative opportunities to improve cost efficiency
- Discover new ideas and best practices to enhance operations
- Measure how your leakage levels compare to industry averages
- Support your business case for technology investment
- Make more informed decisions and long-term plans.
Executive Summary:

What you need to know

Cost efficiency

- **85.4%**  
  Average Operating Margin

- **US$0.32**  
  Average TCC per transaction (adjusted)

- **US$0.50**  
  Average TCC per transaction for manual roadside cash collection (adjusted)

- **90%**  
  Best 5 average Operating Margin

- **US$0.24**  
  Best 5 average TCC per transaction

- **US$0.18**  
  Best 5 average TCC per transaction through a transponder/OBU

Labor

- **55%**  
  Average labor costs as a total of TCC

- **50%**  
  Average roadside toll collection labor costs as a total of TCC

- **48%**  
  Best 5 average labor costs as a total of TCC

- **44%**  
  Best 5 average roadside toll collection labor costs as a total of TCC

- **16%**  
  Best 5 average proportion of employees engaged in call center or CSC role as a total of TCC

- **16%**  
  Best 5 average proportion of employees engaged in call center or CSC role as a total of TCC
Leakage

What’s driving leakage?

- Insufficient or inaccurate vehicle data: 32%
- Lax regulations covering the evasion of tolls: 31%
- High cost of collection: 29%

Average revenue loss due to leakage: US$8 million

Technology

Most disruptive technologies for the tolling industry?

- Fully autonomous toll collection: 01
- Autonomous vehicles: 02
- Predictive analytics: 03

- 52% of operator toll collection systems are more than 5 years old
- 19% of operators plan to conduct a major system upgrade within the year

About the report

This report is based on the results of a global survey of 65 public and private toll operators conducted by KPMG International in late 2018.

The report builds upon our 2015 survey which was the first to provide a common comparison of the cost structure of toll collection around the world.

Our key measure — the Total Cost to Collect (or TCC) — is based on extensive industry experience and significant data analysis. By collecting data at this very granular level, our research team was able to calculate the TCC uniformly across public and private operators and across various geographies.

The resulting report provides not only an in-depth analysis of toll operator costs, it also offers data and insights into other key topics such as labor force composition, leakage and violation enforcement and technology investment.

This report serves as a valuable benchmarking tool for toll operators as they look to drive continued efficiency improvements, to support contract negotiations and investment requests or to underpin feasibility analyses.
If you have not yet benchmarked your efficiency against global competitors, it is not too late. Indeed, we encourage you to contact your local KPMG member firm, or one of the below contacts to participate in our toll road benchmarking survey or to learn more about the topics raised in this report.

For more information on our Infrastructure practice and additional thought leadership, please visit us online at [home.kpmg/infrastructure](http://home.kpmg/infrastructure).

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