

BUS FLEET RENEWAL CHECKLIST

EXECUTIVE SUMMARY

Climate change, local air pollution, noise and congestion are some of the biggest challenges faced by our cities today, with urban mobility being responsible for 40 % of all CO₂ emissions of road transport and up to 70 % of other pollutants from transport¹.

In Europe, the contribution of urban buses to local emissions is already very low (8 % calculated per passenger per km). However, in terms of total fleet, 45 % of the buses have an emission standard of Euro III or older, and this share increases if we consider other regions in the world. Taking this into account, the public bus sector is highly committed to further reduce urban emissions and contribute to higher quality of life in cities.

Furthermore, policies on decarbonisation and clean technologies are driving both the market and cities towards cleaner bus fleets. The EC Clean Vehicles Directive² (CVD), which entered into force in July 2019, has set mandatory minimum procurement targets in Member States for clean light-duty vehicles, trucks and buses by 2025 and 2030.

Fleet renewal is a vast and thorough process that requires a good overview of the several interrelated aspects. When it comes to zero-emission technologies like battery-electric or fuel cell hydrogen, fleet renewal includes a fundamental paradigm shift from purely vehicle, to complete system procurement. This is because, in contrast to conventional bus systems, new charging infrastructure and grid connection, or refilling infrastructure, plays a key role in the future system transformation.

In order to effectively address these issues, the renewal process is considered a complex system, where the vehicle, infrastructure and operations are addressed as a whole, and where the operational context, costs and technical performances will set the characteristics of the new bus ecosystem.

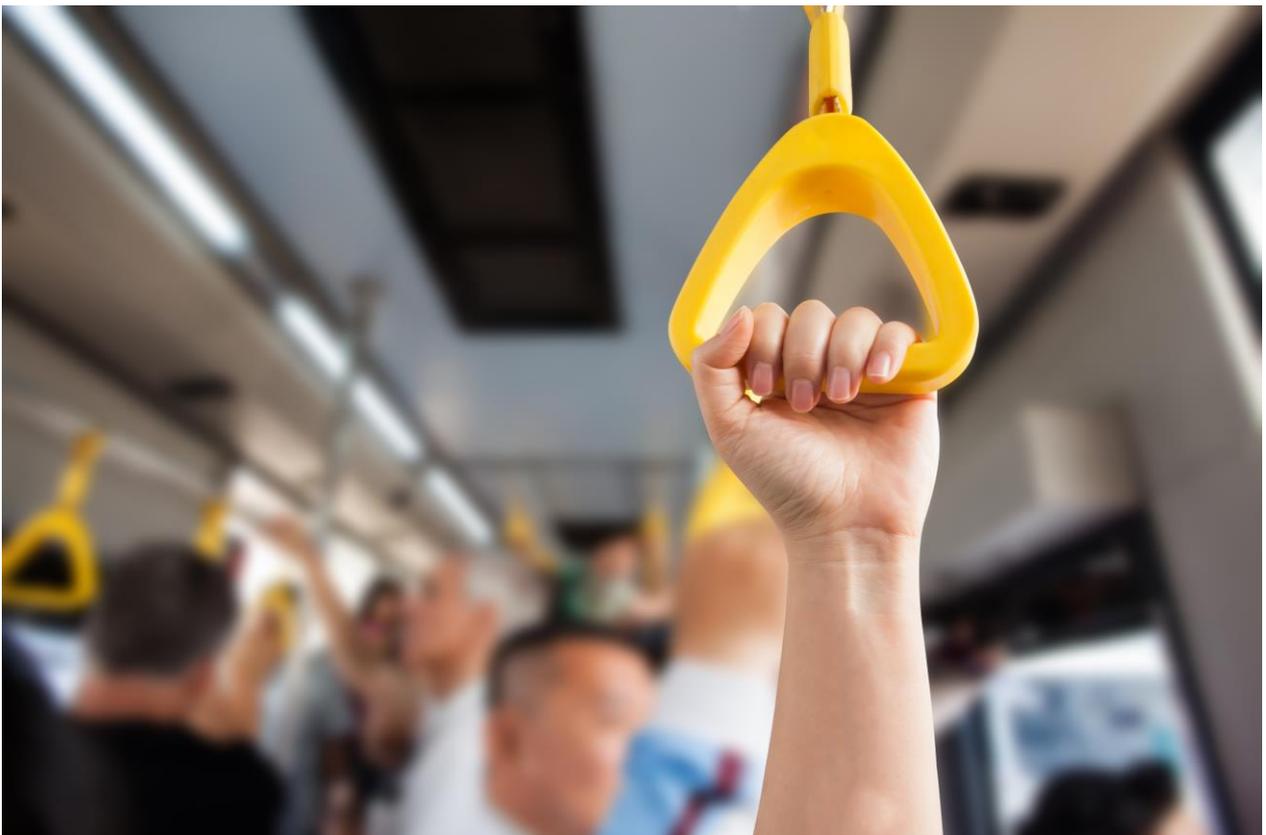
¹ EC Mobility and Transport figures on urban mobility, 2020.
https://ec.europa.eu/transport/themes/urban/urban_mobility_en#:~:text=They%20live%20their%20daily%20lives,of%20o ther%20pollutants%20from%20transport.

² Clean Vehicle Directive: Directive (EU) 2019/1161

The Checklist includes two complementary parts: a flowchart, displaying the steps for fleet renewal in a visual way, followed by the checklist, identifying the key aspects of fleet renewal looking at four pillars: policy & legislative, managerial, economic and contractual, and operational and staff.

“The UITP Bus Fleet Renewal checklist aims to provide operators with a clear overview of the process and the relevant points to consider when renewing their fleet. This list and process are applicable to different contexts, from a “business-as-usual” bus replacement to a more challenging “technological jump” towards cleaner mobility. The Checklist ensures that no relevant data or system actor is missed.

The Checklist helps also to identify and to plan the necessary steps that may or not fall under the operator’s responsibility. The step-by-step structure allows the operator to quickly go through the identified steps and, depending on the existing level of knowledge and experience, to focus directly on the relevant phases in its specific context, without losing the big picture.” (Christophe Martin, TEC & Vice-chairman of the UITP Bus Committee).



WRITING TEAM

Christophe Martin (TEC, Belgium)

Arno Kerkhof (UITP, Belgium)

Aida Abdulah (UITP, Belgium)

ACKNOWLEDGMENTS

Josep Maria Armengol (TMB, Spain)

Jan Barchánek (DPP, Prague, Czech Republic)

Stéphane Bis (Semitan, France)

André Dantas (NTU, Brazil)

Matthew Greener (Arriva, United Kingdom)

Henk J. Jansen Manenschijn (GVB, the Netherlands)

Robert Pribila (Wiener Linien, Austria)

Lidia León Talavera (EMT Madrid, Spain)

François Vauxion (RATP, France)

Tammo Voigt (Evobus, Germany)

REFERENCES

(2020) UITP Bus Tender Structure

(2019) Clean Vehicles Directive: Directive (EU) 2019/1161

(2018) ASSURED project: "ASSURED Bus Service Functions".

(2017) ZeEUS project