Explanatory memorandum to the municipal ordinance stipulating the fulfilment of special requirements for taxi vehicles as a condition for commencing or offering transport in City of Prague (notification version)

Content:

1. What will be the requirements for category M1 taxis?

Within the scope of the authorisation enshrined in § 21b(2) of Act No 111/1994 on road transport, as amended, Prague City Hall is submitting a draft municipal ordinance laying down conditions for category M1 taxis to commence and offer transport within city limits, which are compliance with stipulated requirements for the degree of compliance with emission levels and fuel type. Specifically, permission to provide taxi services, including those provided by dispatching centres and digital platforms, will be granted within the limits of the City of Prague

- from 1 May 2027 only to vehicles of category M1 that meet an emission level of at least EURO 6d, and
- from 1 January 2030 only to vehicles of category M1 that use solely electricity or hydrogen as fuel.

Vehicles of category M1 within the meaning of Decree No 153/2023 on roadworthiness certification and the technical requirements for the operation of vehicles on road, and Regulation (EU) 2018/858 of the European Parliament and of the Council, mean motor vehicles with a maximum of eight seats in addition to the driver's seat and without space for standing passengers, regardless of whether the number of seats is limited to the driver's seat. Pursuant to § 21a(1) of the Road Transport Act, taxi services may be provided by vehicles of category M1 or category L. Vehicles of category L are, within the meaning of

the aforementioned Decree and Regulation (EU) No 168/2013 of the European Parliament and of the Council, two- or three-wheel vehicles and quadricycles meeting the conditions laid down in that regulation. Within the scope of the proposed municipal ordinance, it is proposed to regulate only vehicles of category M1; for the purposes of this explanatory memorandum, vehicles of category M1 are hereinafter referred to as 'passenger vehicles'.

The municipal ordinance does not lay down requirements for category L vehicles because they provide a negligible portion of taxi services and therefore do not hitherto contribute significantly to air pollution (in the dynamic vehicle fleet mix identified for the year 2020, motorcycles accounted for less than 0.2 %).

2. Why is the City of Prague making the requirements for passenger taxis stricter?

The objective of stipulating stricter conditions for offering passenger transport by taxi from 1 May 2027 and subsequently as of 1 January 2030 is to reduce harmful emissions from the operation of taxi services by accelerating the replacement of passenger taxi vehicles that provide services in the City of Prague and to reduce the impact of taxi operations on the health of residents and visitors to the city.

In order to improve the emission characteristics of passenger taxis, there are currently the following reasons:

a) ***Transport is the main source of air pollution in the City of Prague.*** According to data from the Czech Hydrometeorological Institute (CHMI), transport accounts for 80 % of nitrogen oxides (NOx) immissions and 60 % of suspended particulate matter (PM_{10}) immissions (CHMI, 2022, 2024).

b) NOx, particulate matter and other pollutants that are produced by the incomplete combustion or evaporation of fuel or the abrasion and wear of brakes, tyres and road surfaces ***have a significant impact on human health*** (Frey, 2018). Nitrogen dioxide (NO_2) mainly affects the respiratory system. The main impact of short-term exposure to high concentrations of NO_2 is an increase in airway reactivity and a consequent increase in asthma symptoms. Exposure to NO_2 reduces pulmonary function and increases the risk of respiratory diseases in children due to reduced immunity to infection (Samet, Zeger, Dominici, et al. 2000; CHMI, 2023b). Suspended PM_{10} or $PM_{2.5}$ have a broad range of effects on the cardiovascular and respiratory systems. They have been classified as proven human carcinogens since 2013 (IARC, 2015). Their impact on human health depends on their size, shape and composition. They may also include polycyclic aromatic hydrocarbons and heavy metals (EEA, 2013). Long-term exposure to NO_2, $PM_{2.5}$ and PM_{10} increases the risk of premature death (by 6 % with an increase in NO_2 concentration of 10 µg/m3; Boogaard, Samoli, Patton, et al., 2023). The European Environment Agency estimated that around

9 500 inhabitants died prematurely in the Czech Republic from exposure to $PM_{2.5}$ in 2022; of course not all in Prague and due to exposure to pollutants from transport (EEA, 2024).

c) Although in recent years it has been possible – also thanks to better dispersion conditions – to meet the existing legal limits, ***annual average concentrations of pollutants are high at many locations in Prague***. For example, in 2023, when air quality was historically best, the following average annual NO_2 concentrations were achieved at measuring stations: P2-Legerova 37.9 µg/m³, P9-Vysočany 27.7 µg/m³ or P7-Holešovice 26.8 µg/m³, with the statutory limit being 40 µg/m³ (CHMI, 2023a). For comparison, among the 20 monitored sites with the highest concentration of NO_2 in the Czech Republic in 2023, there were seven in the City of Prague with concentrations comparable to Ostrava (Ostrava-Českobratrská (hot spot) 28.1 µg/m3). PM_{10} concentrations are also comparable to the worst locations in the Czech Republic; four of the 20 locations with the highest concentrations there are in Prague (CHMI, 2023a).

In 2024, the number of times the daily PM_{10} immission limit was exceeded increased slightly at most measuring stations, e.g. by 14 cases at the Prague 2-Legerova transport station (hot spot). Higher annual average concentrations were recorded at transport stations in Prague: P2-Legrova (hot spot), 23.5 µg/m³, P7-Holešovice, 23.3 µg/m³, P10-Průmyslová, 23.3 µg/m³ (CHMI, 2024). By mid-April 2025, the daily limits for PM_{10} had already been exceeded 31 times (out of a maximum of 35 times per year) at P2-Legerova and 24 times at P10-Průmyslová.

d) ***From 2030 onwards, stricter limits will apply to pollutants in the external environment than at present***. For nitrogen dioxide (NO_2), the annual immission limit will be reduced from 40 µg/m3 to 20 µg/m3, for $PM_{2.5}$ from 20 µg/m3 to 10 µg/m3 and for PM_{10} from 40 µg/m3 to 20 µg/m3. The daily immission limit for PM_{10} will be lowered from 50 µg/m³ to 45 µg/m³, with the number of permitted exceedances per year falling from 35 to 18, and a daily limit for NO_2 immission concentrations will be stipulated at 50 µg/m³, which will be permitted to be exceeded 18 times a year. These limits are based on the revised Directive (EU) 2024/2881 of the European Parliament and of the Council of 23 October 2024 on ambient air quality and cleaner air for Europe (AQD) (EUR-Lex, 2024b). The Directive aims to align European standards with the recommendations of the World Health Organisation (WHO) and to contribute to improving air quality in cities, especially in areas with high traffic loads. Member States will have to take measures to meet these limits, including strengthening the regulation of transport emissions, promoting low-emission and zero-emission vehicles and developing sustainable mobility. Otherwise, they will be subject to sanctions.

e) ***For taxis registered in the City of Prague, fleet replacement practically stopped in 2017.*** In terms of air quality, it is desirable for the number of newer vehicles with

better emission characteristics to increase faster than older vehicles with poorer emission characteristics. This was the case until 2017, when the average age of passenger taxis registered in Prague was falling and reached 4 years of age in 2017, and passenger cars with EURO 6 (at that time less than 1.5 years old) had a 49.2 % share in registrations. Over the next 7 years, this trend reversed and the average age of passenger vehicles, as well as the share of passenger vehicles with EURO 3 to 5, which have poorer emission characteristics, increased. In 2024, the average age of registered passenger taxis was 10.3 years (although it has been slowly decreasing again over the last two years), and passenger vehicles with EURO 3 to 5 (i.e. 10 to 24 years old) accounted for more than 50 % of the total number of registrations (see Figure 1).

However, newer passenger vehicles with higher emission standard numbers have to comply with emission limits that are many times stricter than passenger vehicles with lower emission standards (EUR-Lex, 2007, 2012, 2016, 2024a). For example, diesel passenger vehicles with EURO 6 comply with 3 times stricter NO_x limits (0.08 vs 0.25 g/km) and 5 times stricter PM limits (0.0045 vs 0.025 g/km) than passenger vehicles with EURO 4; while 3 815 passenger vehicles with EURO 4 were registered in 2024, i.e. 23 % of the total. Specifically, passenger vehicles with EURO 6d, which will be able to provide taxi services even after 1 May 2027, must meet the limit of 0.08 g/km for NO_x emissions and 0.0045 g/km for PM, and will have to use a more reliable measurement methodology (including real-world measurement, RDE) introduced in the context of fraud by car manufacturers in the so-called Dieselgate affair.

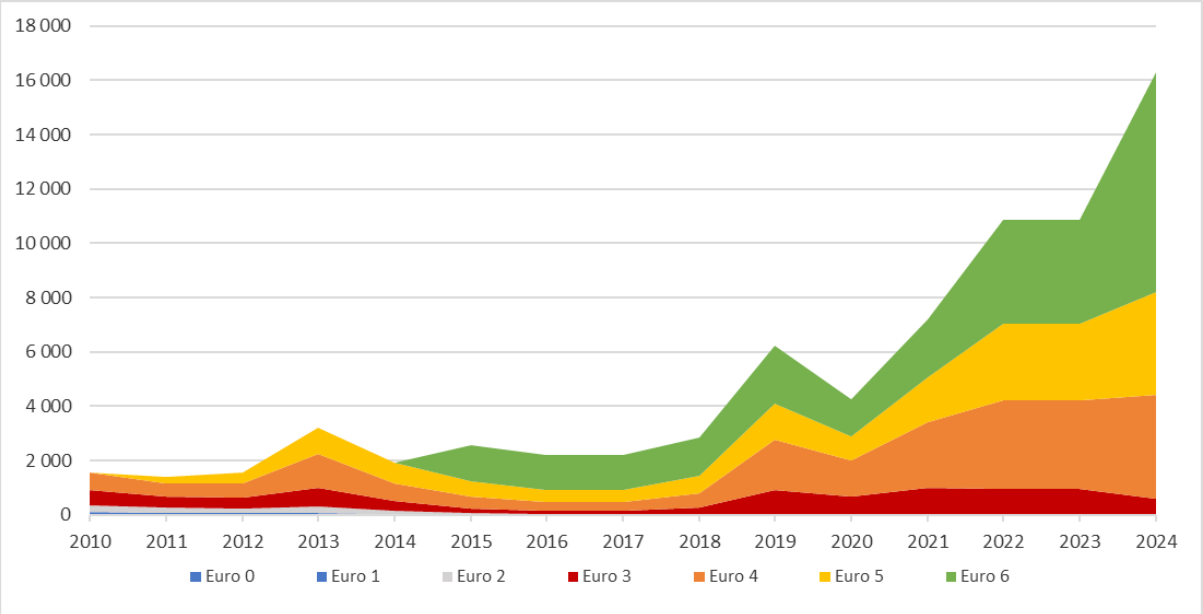
f) ***The total number of registered passenger taxis has been growing explosively since 2021, by*** more than 50 % year-on-year and reached a record number 16 290 registrations in 2024, compared to an average of 2 070 annual registrations in 2010 and 2017 (mporga.cz data for Prague City Hall). For comparison, according to the Czech Statistical Office (CSO), the population of Prague has been growing at an average rate of 0.6 % per year since 2010 and the number of visitors to the city has been growing at an average rate of 1 % per year since the end of the Covid-19 pandemic (CSO, 2024, 2025). The effect of the emission characteristics of private taxi vehicles is all the greater because they travel many times more kilometres within the city than private vehicles. According to the estimates of the Technical Road Administration (TSK), a private passenger vehicle travels an average of 33 km/day in the capital city. In Prague, using data from operators and comparison with foreign literature, the distance travelled by passenger taxis is estimated to be about 5 times higher, i.e. 150 km/day (The Future of the Mobility 5.0, 2024 reports that it is even 5 to 10 times higher; some drivers publicly report distances greater than 250 km/day; the Association of Czech Taxi Drivers in its comments also states mileage of

110 000 km/year corresponding to 300-650 km/day depending on the number of working days).

g) ***Reducing the impact of transport on human health is one of the seven strategic objectives for the development of sustainable mobility in Prague and its surroundings***, which is supported by capital city's third political representation in a row. The Sustainable Mobility Plan for Prague and its surroundings, which declares this goal, was approved by Prague City Council in 2019 and confirmed by the Plan 2024-2026 Action approved by the Prague City Committee in June 2024 (City of Prague, 2019, 2024). The present draft decree is one of a number of measures in the area of air protection and transport in the City of Prague that will need to be adopted so that air pollution immissions begin to gradually decrease again, to reach almost half the values for NO_2 and a 50 % reduction for $PM_{2.5}$, and meet the limits applicable from 2030. The measure is included in the Strategy for the Promotion of Alternative Fuels and the requirement to improve air quality also stems from the Strategic Plan of the City of Prague.

In addition, the tightening of emission requirements for passenger taxis is also one of the steps towards meeting the climate protection commitments of the City of Prague (City of Prague, 2021).

Figure 1: Passenger taxis registered in Prague in a given year according to EURO emission standards



Data: mporga.cz; processed by the City of Prague Transport Department.

Note: The coloured areas show the number of vehicles with a given emission characteristic that have newly registered to operate a taxi service in the City of Prague in a given year. The estimate of the total number of vehicles authorised to operate taxi services is the sum of registrations in individual

years; at the same time, it should be taken into account that there are no cancellations of already valid registrations and that some vehicles will be re-registered for another operator over time.

3. Legal basis for stricter requirements for passenger taxis

Stricter conditions under which it will be possible from 1 May 2027 to provide taxi services within the City of Prague shall be stipulated by the City of Prague in a municipal ordinance on the basis of the authorisation enshrined in § 21b(2) of Act No 111/1994 on road transport. This is an ordinance within the autonomous competence of the City of Prague, the adoption of which fulfils the purpose of the given statutory authorisation under which municipalities may stipulate requirements for selected technical specifications of vehicles used for the provision of taxi services within their limits. As stated in the explanatory memorandum to the amendment to Act No 304/2017, which introduced the current wording of § 21b of Act No 111/1994 on road transport, '*these are technical requirements taking into account the comfort of the customer, including local spatial conditions of roads (minimum and maximum vehicle dimensions), and* ***parameters taking into account the environmental aspects of taxi services as public transport - technical parameters of vehicles related, in particular, to exhaust emissions, or fuel consumption****. (...) This authorisation will enable local authorities to place greater emphasis on the quality and environmental friendliness of public transport within their limits, depending on local conditions. As transport services provided by designated taxis fulfil a similar function in the area of urban mobility as public mass transit (in public mass transit this issue is dealt with by Government Regulation No 63/2011 on the establishment of minimum values and indicators of quality and safety standards and on the method of demonstrating them in connection with the provision of public passenger transport services, as amended), it is justified to give municipalities the opportunity to influence the quality of public transport services and their impact on the environment in cities also in this area of transport.'*

The new ordinance lays down a second condition for commencing and offering transport by taxi within its limits effective 1 January 2030 by fuel type: electricity only or hydrogen. The stipulation of this condition is in accordance with the statutory authorisation under § 21b(2) of Act No 111/1994 on road transport, according to which a municipality may stipulate a requirement for, inter alia, the type of fuel. The term 'fuel' must be interpreted in the light of other legislation, in particular Act No 56/2001 on the conditions for operation of vehicles on roads, as amended. In the provisions referring to the recording of technical specifications of vehicles in the Register of Road Vehicles (RRV), this Act uses the term 'fuel'. See, for example, § 4(3)(f): '*The register of road vehicles also sets out for a road vehicle (...) the type, power and cylinder capacity of the engine and fuel*.' Also, in § 7b(6), where it regulates electric vehicles and their registration plates, the fuel perspective is used

for categorisation. In the RRVD, the ‘fuel’ contains the designation according the code list set out in Annex 4 to Decree No 343/2014, which implements this Act. Inter alia, this includes ‘EZ’ denoting electricity and ‘HYDROGEN’. Act No 311/2006 on fuels also designates electricity and hydrogen as fuel in the definition of alternative fuel.

4. Advance announcement of requirements and readiness of charging infrastructure

The dates of application of the new requirements for the emission level and then the fuel used for passenger taxis have been designed with the utmost regard for the need of taxi operators to plan investments in the replacement of passenger vehicles, which are the main means of production in their business. The first of the requirements, for passenger vehicles to comply with at least the EURO 6d standard when providing taxi services within the City of Prague, will for all practical purposes terminate the possibility of operating taxi services using passenger vehicles that on the effective date of this requirement, i.e. 1 May 2027, will be 6 or more years old. Therefore, these will be passenger vehicles that will usually be written off from an accounting perspective, yet will have a non-zero value on the used vehicle market. By comparison, according to CEBIA, the average age of second-hand vehicles imported into the Czech Republic in 2024 was 10.5 years (CEBIA, 2024). In the case of taxis, these are vehicles with around 300 000 km driven in urban traffic, which do not have to comply with the original emission limits.[1]

What is relevant is that at this point, taxi operators will have a choice as to whether a vehicle that does not comply with emission levels from 1 May 2027 will be replaced straight away by an electric or hydrogen vehicle or whether between 1 May 2027 and 1 January 2030 they will still purchase or lease vehicles with emission levels from EURO 6d to EURO 7. The choice of vehicles for this two and three-quarter year period will be left to taxi operators, who best know the return on vehicle investment and other economic aspects of their business.

The second of the requirements for passenger taxis to use only electricity or hydrogen as fuel when operating in the City of Prague is being announced four years in advance, so that operators have sufficient time to write off even newer cars with EURO 6d to EURO 7, which they could acquire just before the adoption of this ordinance. These may be passenger vehicles that on the effective date of this requirement, 1 January 2030, will be 4 to 8 years old. From the point of view of the impact on the economics of taxi operations, it is significant that these are passenger vehicles with a non-zero value on the used vehicle market. Therefore, the impact on the economic performance of taxi operators should be minimal.

As regards the second requirement that taxi transport be provided only by passenger vehicles that use only electricity or hydrogen as a fuel, it is relevant that the capacity of the charging infrastructure for electric vehicles has evolved since 2020 to a degree that,

1 By comparison, it is only now that Regulation (EU) 2024/1257 of the European Parliament and of the Council on type-approval of motor vehicles and engines, and of systems, components and separate technical units intended for such vehicles, with respect to their emissions and battery life (Euro 7), specifically Annex IV, requires vehicles to comply with the original emission limits for either 8 years or 160 000 kilometres, whichever comes first (EUR-Lex, 2024a).

according to available estimates, will be sufficient to switch taxi passenger vehicles to alternative fuels. There are currently 1 215 public charging points in operation in the City of Prague (THMP, 2025; map of charging stations: CDV, 2024). For each charging point, there are currently about 18 vehicles with external charging (own calculation; CDV data, 2024), which is comparable to values in Sweden or Germany (CDV, 2023). In addition to the current situation, which is sufficient to charge vehicles in the metropolitan area, the City of Prague will implement, with the help of the Transport 2021-2027 subsidy programme, other projects that will significantly contribute to the development of public charging infrastructure within the City of Prague (THMP, 2025). Thanks to these projects, the number of public charging points will increase to about 4 400 (including super-fast ones) by 2030, which will cover the needs of 60 to 90 000 vehicles with external charging, which corresponds to the medium scenario of clean mobility development in Prague in *Generel rozvoje dobíjecí infrastruktury v hlavním městě Praze do roku 2030 [General Plan for the Development of Charging Infrastructure in the City of Prague up to 2030]* (OICT, 2020). In addition to the capacity of the public charging infrastructure in 2030 being sufficient to switch passenger taxis to alternative fuels, it is expected that, similarly to other countries, passenger taxis will be primarily charged at fast non-public (private or corporate) charging stations built by private investors under new business models and at domestic charging stations or in rented garages.[2]

The adoption of this municipal ordinance increases the predictability of electricity demand for the charging of taxis and thus stimulates the further development of charging infrastructure, in particular fast-charging points, by private operators.

5. Expected benefits

Taxi service is not the only transport sector that, through its operation, contributes to air pollution in the City of Prague. According to available data, the contribution of taxi service, with approximately 2.5 million vehicle-km/day to total motor transport is approximately 10 % (estimate based on TSK data, 2022, 2023; internal information from taxi operators and foreign literature; Henao and Marshall, 2019; Olayod, et al., 2023; *The Future of the Mobility 5.0*) and to NOx emissions is between 5 and 10 %. However, this is a sector that – according to the number of vehicle registrations – is growing at a rate incomparable to any other transport sector (53 %/year since 2021) and where no measures are in force to reduce the amount of pollutants emitted into the air; unlike, for example, the gradual reduction in the age of buses belonging to DPP, a.s. (ROPID, 2024), the initiated electrification of bus routes or access restrictions to the city centre for vehicles above 3.5 t and 6 t.

2 For example, in Florence, which introduced an electric vehicle taxi service in 2016, some taxi drivers rent garages with wallboxes so they can charge at low prices. See also comment II.

Given that from 1 May 2027 it will not be possible to provide taxi services in Prague using passenger vehicles that can now emit 2-4 times the amount of NOx and 20 % higher to 6 times the amount of PM than permitted for passenger vehicles with EURO 6d and which just in 2024 made up more than 50 % of those registered, we estimate that increasing the stringency of requirements can lead to a reduction of NOx and PM emissions in the taxi sector by an amount in the upper range of tens of percent compared to the situation without this ordinance. As of 1 January 2030, the relevant transport emissions will then continue to decrease due to the exclusive use of alternative fuels, i.e. without combustion engines in passenger taxis in the City of Prague.

At the same time, it is clear that further reductions in air pollutant emissions will have to be implemented in other transport sectors by 2030. The electrification of bus routes and the reduction of the share of diesel buses in the fleet of DPP, a.s. should continue (to 66 % in 2030, up from 90 % today, i.e. by more than 20 %); inspection and enforcement of fines for highly polluting vehicles, promotion of electro-mobility and incentives for faster fleet replacement for other passenger vehicles as well.

6. Impacts on the budget of the city and its districts

The present draft municipal ordinance, which lays down stricter requirements for passenger taxis, will have no impact on the budget of the city or its districts.

7. Effect on the price and availability of taxi services for residents and visitors to Prague

We do not anticipate that the proposed regulation will increase taxi prices in a manner that would jeopardise the availability of taxi service to Prague residents and visitors. As of 1 May 2027, it will still be possible to operate taxi services for the most part by internal combustion engine vehicles already owned by taxi operators (but with better emissions characteristics). As of 1 January 2030 it is possible to expect **an increase in the final price of taxi service in the amount of units of Czech crowns per kilometre of service provided**. The average distance travelled by a customer in Prague is 8-9 km (information from providers). The low impact on the price of taxi services for customers is the result of the fact that taxis drive many kilometres during their life cycle, an estimated 330 000 - 550 000 km over 3–5 years (data from taxi operators and information from other European cities, e.g. Scorrano, Danielis, Giansoldati, 2020). As a result, they represent an additional cost for the acquisition of an electric car (compared to its combustion variant, in the amount of CZK 500 000, for example) of CZK 1 to 2 per kilometre of service provided. The possible replacement of the battery after about 5 years of operation has a similar effect (see comments I and III). For the same reason, the additional cost of insuring electric

vehicles (with a higher purchase price) is only between CZK 0.05 and 0.1/km (see comment IV). However, the operating costs for fuel and maintenance can even be lower compared to the combustion variant (see comment II). Of course, when comparing a new electric vehicle with a second-hand vehicle with an internal combustion engine and an average age of 10 years, the resulting impact on the final price for the customer may also be double. However, it should be borne in mind that some electric vehicles operating after 2030 will also be procured on the second-hand market for electric vehicles with a significantly lower purchase price.

To put this in perspective, the total cost of ownership of electric taxis (TCO = *total cost of ownership*, i.e. the cost of acquiring and operating a vehicle including fuel and insurance over its lifetime, which is typically 4 years) is comparable to the cost of ownership of hybrid and diesel taxis in Florence, which introduced electric taxis in 2016 (Scorrano, Danielis, and Giansoldati, 2020). It is true that the resulting cost of ownership of an electric vehicle for the operation of a taxi service may vary depending on the model of the vehicle and its range, but in particular the total annual driven distance and the ability to charge at home or in a (rented) garage at low electricity prices. However, with an annual distance driven of 50 000 km/year or more, an electric taxi with a total cost of ownership of EUR 0.3/km or less (i.e. CZK 7.5 or less) is always competitive (Scorrano, et al., 2020).

Any possible increase in the price for customers in the order of a few CZK per kilometre will be fully justified by the benefits of the present ordinance for air quality in the City of Prague and the health of its inhabitants. In addition, the period up to 1 January 2030 is long enough for taxi operators to find an economically efficient model for the operation of electric or hydrogen vehicles, so that the impacts on customers are minimised. The (already) high level of competition among taxi providers is likely to contribute to the low impact on the final price of taxis. Business conditions are stipulated fairly and in advance for all taxi operators.

8. Settlement of comments

Comments regarding the draft were received up to 15 April 2025 from Sdružení českých taxikářů, z. s. [Association of Czech Taxi Drivers] and Bolt Services CZ s.r.o. Grounds have been added in response to these. Nevertheless, none of the comments require modification of the draft ordinance. Replies to the comments will be sent to the stakeholders by letter in order to allay their legitimate concerns.

I. High purchase costs of electric vehicles and limited range of models

Comment: *'Based on feedback from our partner drivers, we see high acquisition costs and the limited range of models of these vehicles as one of the remaining problems preventing*

faster adoption of electro-mobility. In addition, they are typically from non-European car manufacturers, in which of the partner drivers have less confidence.'

Settlement: *The comment is not relevant.* At present, the purchase prices of electric vehicles are indeed much higher than the purchase prices of vehicles with combustion engines. While the advertised prices for the new Škoda Octavia, for example, range between CZK 565,000 and CZK 1 018 250 depending on accessories, the advertised price of the electric Škoda Enyaq is between CZK 1 125 000 and CZK 1 746 000 (Škoda, 2025). However, according to experts' expectations, the purchase prices of electric vehicles will increasingly approach the purchase prices of vehicles with internal combustion engines in coming years (Rečka, Ščasný, Máca, 2022). The forecast for changes in the fleet of Charles University suggests that, while for the prices of vehicles with conventional engines, an average price increase of EUR 2 285 is expected by 2030 (i.e. approximately CZK 57 000[3]), for fully electric vehicles it is from EUR 4 500 (i.e. CZK 112 500 for short-range electric vehicles) to EUR 11 000 (i.e. CZK 275 000 for long-range vehicles). It can realistically be expected that the price of a mid-category electric vehicle in 2030 will be on average CZK 218 000 higher than the version with internal combustion engine (estimated in constant 2019 prices). This would represent an additional cost of between CZK 0.4 and CZK 0.66 per kilometre with the lifetime of a taxi of 3-5 years and an expected driven distance of 330 000–550 000 km. At the same time, some electric vehicles will probably, as before, be purchased by taxi operators as used with a significantly lower price.

II. Fast charging required for vehicles with a daily driven distance of 350–400 km will be expensive (CZK 12–18/kWh)

Comment: '*Electric vehicles with high daily driven distance [350–400 km] are dependent on fast charging, which has several major disadvantages:*

High price per kWh: The price for fast charging in 2024 was around CZK 12–18/kWh, which is several times higher than for domestic charging (about CZK 4–6kWh).

Station parking fees: Many operators charge not only a price for the electricity consumed, but also a per minute parking fee (about. CZK 1–3/min). This significantly increases the cost of operation, especially during slower charging.

Battery degradation: Frequent use of fast charging accelerates the wear and tear of the battery, leading to quicker decrease in capacity and the need for replacement.'

Settlement: *The comment is not relevant.* Existing fuel price data suggest that the cost of operating electric vehicles may exceed the cost of operating diesel vehicles by a maximum of 10 %, and only in a scenario of charging exclusively at fast-charging stations with the highest price per kWh. At the same time, it is expected that taxis will be charged partly at

3 For the sake of simplicity we are using an exchange rate of CZK 25/EUR.

slow-charging stations, where charging is about 4 times cheaper (see calculation below). As regards the parking fee, at a number of slow charging stations long-term parking fees are not charged (e.g. PRE, 2025a). In addition, the planned introduction of emission allowances in transport in 2027 will in turn increase costs for the operation of vehicles with internal combustion engines. Therefore, we expect electric vehicles to be more than competitive with internal combustion engine vehicles in terms of operating costs. See the following calculation:

- Diesel vehicle: operating costs per 100 km = **CZK 291/100 km** (at a price of CZK 36/L and consumption of 6 L/100 km = CZK 246/100 km; service costs CZK 45/100 km for replacement of oil, filters, etc.).
- Electric vehicle: operating costs per 100 km for fast charging (DC) **= CZK 321/100 km** (at a price of CZK 18 per kWh and consumption of 17 kWh/100 km = CZK 306; service costs CZK 15/100 km).
- Electric vehicle: operating costs per 100 km for slow charging (domestic charging) = **CZK 83/100 km** (at a price of CZK 4/kWh and consumption of 17 kWh/100 km = CZK 68; service costs CZK 15/100 km).

Comments on battery degradation in the settlement of Comment III.

III. High cost of new batteries

Comment: '*The lifespan of a battery in an electric vehicle is around 6-8 years, but with frequent fast charging, replacement already occur after 3-5 years. Battery life is also determined by the number of kilometres driven, with a normal vehicle estimated to cover a maximum of 250 000 km over five years. Unfortunately, 'alternative taxi services' that collaborate with multinational companies travel on average 110 000 km per year, which means a battery life span of 2.5 years.*

The price of a new battery is between CZK 300 000 and CZK 500 000, which is a major cost that does not exist for combustion vehicles.'

Settlement: *The comment is of little relevance and does not require changes to the draft.* From the above data on taxi driving distances, it follows that the additional cost of CZK 300-500 000 for battery replacement that will allow performance of taxi service for another 3-5 years (with an expected driven distance of 330 000-550 000 km) represents an increase in operating costs of less than CZK 1/km of taxi service operation. We assume that this additional cost will be reflected in the price of the taxi service for customers without compromising the availability of taxi service as a public service. At the same time, any increase in operating costs will in no way jeopardise the competitiveness of taxi services as compared to other modes of transport.

Electric vehicle batteries degrade over time due to various factors, including temperature or the level of charge at which the battery is being charged. At present, it is difficult to quantify the magnitude of the effect with which the fast charging contributes to the degradation of the battery, due to the lack of data from real operation (see e.g. Recurrentauto, 2025).

IV. Electric vehicle insurance is 20-40 % more expensive than for internal combustion engines.

Comment: '*In the case of electric vehicles that are not taxis, both liability and collision insurance are more expensive than for comparable combustion vehicles:*

Liability insurance: 20-40 % more expensive [than] for internal combustion engines due to higher repair costs and, in the case of taxis, a further 50 % increase in the price of liability insurance.

Collision insurance: Higher price due to expensive repairs and the price of the battery (e.g. post-accident repair often exceeds CZK 200 000).'

Settlement: *The comment is not relevant.* If we consider the example of a vehicle with collision insurance in the amount of CZK 20 000 /year and its possible increase by 40 %, the additional costs for electric vehicle operation amount to CZK 8 000 /year. This represents an increase in operating costs of CZK 0.08 per km for a taxi driving 110 000 km/year. Any additional insurance resulting primarily from the higher purchase price of electric vehicles has the same negligible effect. We assume that this additional cost will be reflected in the price of the taxi service for customers without compromising the availability of taxi service as a public service. At the same time, any increase in operating costs will in no way jeopardise the competitiveness of taxi services as compared to other modes of transport.

V. Lack of charging stations in the city

Comment: '*We consider it essential that, in the event that councillors of the City of Prague opt for a similar type of restriction, the City also commits to developing this infrastructure and to building a specific number of charging and, in particular, fast-charging stations throughout the City of Prague. Specific numbers must be supported by robust analysis in order to cover charging demand, which will be significantly increased by a similar restriction.'*

Settlement: *The comment is not relevant.* See: Point 4 of the Explanatory Memorandum, also PRE, 2025b and settlement of Comment VI.

VI. The need for parking solely for charging taxis and the possibility of charging at housing estates

Comment: *'Let us assume that there will be 20 000 electric taxi vehicles in Prague, with 95 % of drivers living in housing estate or apartment buildings without the option of home charging.*

Number of public charging points required: In the optimistic scenario that one charging point will serve 4 vehicles per day, 5 000 public charging points are needed with many times higher accumulation in residential areas of the city where there are housing estates and apartment buildings.'

Settlement: *The comment is partly relevant but does not require changes to the draft.* It is assumed that taxi vehicles will primarily charge at fast non-public (private or corporate) charging stations and at home charging stations where local conditions allow (see also point 4 describing the implementation of the city's projects co-financed by OPD3, which will result in the construction of 3 000 new charging points, including fast ones, and the installation of EVready lamps).

Where it will be difficult (e.g. in housing estates), it is desirable that under the new conditions of operation of paid parking zones, charging points for exclusive taxi use should be created.

VII. Inability to operate a taxi service for journeys outside Prague ('even up to a distance of 2 000 km')

Comment: *'Taxi vehicles do not travel principally only in within the City of Prague, but also take customer outside the City of Prague, even up to 2 000 km away.'*

Settlement: *The comment is not relevant.* It should be noted that according to taxi operators, the average length of a taxi journey is 8 to 9 km (with a customer) and that the case described is rather exceptional. Nevertheless, we assume that when travelling long distances, electric taxis will be recharged in the same way as any other electric vehicle, i.e. especially at fast-charging stations during rest breaks. In January 2025, 5 923 recharging points were in operation in the Czech Republic, of which more than 500 are high-power points, i.e. with a power of 150+ kW (CDV, 2025). Moreover, in the last 5 years, the number of charging points in the Czech Republic has been increasing at an average rate of 1 000/year and is expected to reach around 10 000 in 2030. More than 845 000 public charging points are operated in European Union countries (CDV, 2025).

VIII. Batteries production requires the extraction of mineral resources, which causes environmental damage and the use of child labour

Comment: *'We would also see a reason not to use electric vehicles on such a massive scale as taxis in the fact that the production of batteries for electric vehicles requires several key raw materials, including lithium, cobalt, nickel, graphite and manganese, where the extraction of these raw materials devastates the environment, because for the production of*

one battery for an electric vehicle it is necessary to extract 220 tonnes of rock...Let's take a look at the main mining areas and the issue of child labour.'

Settlement: *The comment is not relevant to the issues addressed by the present draft.*

IX. Lack of legal predictability in the case of the requirement for taxi vehicles to meet the EURO 6d emission standard from 1 May 2027.

Comment: *'Lack of legal predictability and the subsequent significant increase in taxi prices within the City of Prague.*

The four-year time horizon, which is dealt with directly in the presentation, is respected in the draft for the restriction for electric vehicles only. However, this part of the draft relating to the EURO 6d standard is far from being complied with. From the eventual approval of the Regulation to 1 January 2027, about one and a half years would remain. Given the current fleet in Prague, the impact of this part of the regulation would be significant and would result in a substantial increase in the cost of services.

According to the information in the presentation, less than 50 % of registered vehicles currently comply with the EURO 6 standard, and less than 20 % with the EURO 6d standard.

Although this ratio would naturally increase to more than 20 % over the next year and a half, this would clearly be far from sufficient to meet demand. Although we are glad that as a taxi service provider in Prague we have the ability to transparently reflect such market fluctuations in the final price from the beginning of 2025 without being limited by maximum prices, in this case the proposed restriction would lead to a very dramatic increase in prices for hundreds of thousands of Prague residents who use these services, which we perceive as very undesirable.

The non-conceptual nature of this draft is particularly striking when compared to similar regulations in neighbouring countries. Polish cities, for example, also regulate taxi vehicles according to EURO emission standards, but in a much more systematic and predictable way. Rules have been announced that already now go beyond the horizon of 2030, which is in sharp contrast to this draft in Prague. For example, Warsaw will allow vehicles meeting EURO 5 and above from next year, and EURO 6 and above for diesel vehicles from 2028 (EURO 4 for petrol vehicles). EURO 6d is only envisaged for diesel vehicles from 2032 (petrol vehicles will still be subject to EURO 6 after that year).'

Settlement: *The comment is not relevant.* From the beginning of the validity of the municipal ordinance (now, after the postponement of validity due to the notification, assumed to be in November 2025; but de facto from the moment of the request to operators to send comments on 15 March 2025) taxi operators have a choice as to whether they will vehicles with emission levels below EURO 6d as of 1 May 2027 with electric and hydrogen vehicles

right away or whether between 1 May 2027 and 1 January 2030 they will continue to acquire vehicles with emission levels from EURO 6d to EURO 7. The choice of vehicles for this period of two and three quarters of a year will be left to taxi operators, who know best the return on their vehicle investments and other economic aspects of their business. See also point 2e for the reasons why diesel vehicles that do not meet the EURO 6d and higher emission standards should be replaced as soon as possible.

As for the comparison with the requirements for taxi vehicles in other cities, it only makes sense to do so taking into account the local level of air pollution, the quantity and year-over-year increase in the number of taxi vehicles, the age and composition of the fleet and its long-term evolution. The current level of air pollution and the development of the taxi sector with regard to the new immission limits from 2030 show how urgent the need for renewal of the taxi fleet and other measures to reduce vehicle emissions is in Prague. We would like to note that the proposed amendment primarily responds to the long-term unfavourable trend in the immission load of Prague residents, the steep increase in the number of registered taxi vehicles, most of which contribute significantly to air pollution (due to their poor emission characteristics) and the associated health risks. However, for information purposes, we note that taxi services are currently fully electrified in Oslo, for example, and that Hamburg will require electric taxis in 2025, and as of 1 January 2025, only electric vehicles can be registered as taxis in Vienna. In London, taxi vehicles registered from 2018 onwards must be so-called zero-emission capable, i.e. they must have, among other things, a minimum emission-free range of 30 miles (10 or 20 miles for so-called alternative taxi service vehicles). Electric taxi pilot projects are in operation in Amsterdam and Madrid. For the sake of completeness, Warsaw introduced a low-emission zone in July 2024 as an alternative solution to limit the operation of vehicles with poorer emission characteristics within the city.

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