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**A RESOLUTION**

Pausing the procurement of battery-electric buses at 15 and allowing for the Department of Transportation and Milwaukee County Transit System (MCTS) to acquire hybrid-electric buses as replacements for its diesel fleet

WHEREAS, Milwaukee County has committed itself to the Paris Agreement under the United Nations Framework Convention on Climate Change (File No. 17-506); and collaborated with the City of Milwaukee to create the City-County Taskforce on Climate and Economic Equity “to convene area leaders for the purpose of making practical recommendations consistent with the 2018 United Nations Intergovernmental Panel on Climate Change and United States Global Change Research Program Fourth National Climate Assessment”; which the Taskforce presented its initial findings and recommendations in September 2020 (File Nos. 19-582 & 20-496); and

WHEREAS, Milwaukee County began acquiring hybrid vehicles for its fleet in 2009, purchased three electric “zoomobiles” in 2010; and Amendment 1A005 to the 2021 Milwaukee County Budget tasked the Department of Transportation with determining the cost of procuring a consultant to advise how the County may electrify its vehicle fleet; and

WHEREAS, the 2019 Adopted Budget established a County policy of acquiring an initial 15 battery-electric buses commencing “the transition of its vehicle fleet to battery electric buses (BEBs) and away from fossil fuels to lessen exposure to volatile diesel fuel prices, achieve savings over the total lifecycle of the new vehicles, and provide clean air benefits to the citizens and neighborhoods and wider community in which the County operates our transit fleet”; and

WHEREAS, the Department of Transportation (MCDOT) applied for and received a federal Low or No Emission Grant for the purchase of four BEBs in 2019 and MCDOT intends to deploy 11 along the East-West Bus Rapid Transit (BRT) route and four elsewhere in the system (File Nos. 19-439 & 19-911); and

WHEREAS, MCDOT hired a consultant to inform policymakers on the advantages, disadvantages, and costs of BEBs and hybrid-electric buses versus clean diesel buses and presented the following:

<b>Basic Breakdown of 40ft. Bus Types</b>			
	<b>Clean Diesel</b>	<b>Hybrid-Electric</b>	<b>Battery-Electric</b>
Cost per Bus	~\$500,000	~\$680,000-\$750,000	~\$750,000-\$900,000+
Fuel Use Change	-	-20%	-100%* <sup>o</sup>
Emissions Change	-	-20% Nitrous Oxide	-100%*
Life-Cycle Cost Compared to Diesels in 2020	-	+4.5% to 6.3%	+10% to 23%

\*Actual gross carbon reduction depends on the energy source of the electrical grid: renewables versus carbon-based versus nuclear  
<sup>o</sup>Electricity is cheaper than diesel fuel and there are no tailpipe emissions

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(File Nos. 19-441, 19-908, & 20-535); and

WHEREAS, investing in local priorities is difficult as Milwaukee County is still waiting for a fair deal from the State of Wisconsin to modify the current local government funding structure so Milwaukee County may determine its financial destiny and help reverse the annual structural deficit caused largely by unfunded mandates (File Nos. 18-944 & 19-161); and

WHEREAS, a January 17, 2019 Bloomberg CityLab article titled, “The Verdict’s Still Out on Battery-Electric Buses,” reported, “As cities experiment with battery-powered electric buses, some are finding they struggle in inclement weather or on hills, or that they don’t have enough range.”; particularly when running the heat or air conditioning in colder and hotter weather, limiting the range and requiring more charging; and

- WHEREAS, BEBs require and hybrid-electric buses do not require the following:
- Purchase and installation of charging infrastructure
  - Additional layover time in schedules for charging
  - Change routes to ensure in-route charging or charging at depot
  - Have staff develop charger-maintenance expertise
  - A charging backup plan if the power is out at the charging stations

; and

WHEREAS, hybrid-electric buses, depending upon their specifications, like BEBs, may cease emissions at bus stops, idle with engines off, and emit zero emissions in “no emission zones”; and

71           WHEREAS, as hybrid-electric technology is more firmly established than BEBs,  
72 has proven reliability, is less-costly to procure, and requires fewer infrastructure  
73 upgrades and may serve as a steppingstone to full fleet electrification; and  
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75           WHEREAS, the Committee on Finance, at its meeting of December 10, 2020,  
76 recommended adoption of File No. 20-850 (vote 6-0); now, therefore,  
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78           BE IT RESOLVED, Milwaukee County remains committed to the eventual  
79 electrification of its bus fleet to mitigate fossil fuel emissions for the purposes of  
80 combatting global climate change and improving air quality for Milwaukee County  
81 residents; and  
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83           BE IT FURTHER RESOLVED, after procuring the initial 15 battery-electric buses  
84 (BEBs), Milwaukee County will pause acquiring additional BEBs to allow the  
85 Department of Transportation, Milwaukee County Transit System, and policymakers to  
86 study the efficacy and performance of present BEB technology by learning how to  
87 properly deploy this newer technology to best serve the people of Milwaukee County  
88 and for the technology to improve in reliability and price; and  
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90           BE IT FURTHER RESOLVED, Milwaukee County will begin replacing its diesel  
91 buses with hybrid-electric buses in future capital budgets and will begin the request-for-  
92 proposal process as soon as practicable.  
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