

Appendix F: Fleet Composition Memo

November 2020



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1 FLEET COMPOSITION

MTD's fixed-route fleet is comprised of standard and articulated buses. Articulated buses are primarily used on routes 12 Teal, 13 Silver, and 22 Illini, which have a combined peak vehicle count of 18 buses. MTD has a weekday peak pull of 73 vehicles during fall and spring semesters.

MTD plans to introduce two zero-emission hydrogen fuel cell electric buses in 2021. MTD's long-term goal is to transition its entire fleet to hydrogen fuel cell buses over the next decade.

Existing MTD Fixed-Route Fleet

Year	Make	Model	Length	Type	Fuel	Vehicles	Retire Year
2001	New Flyer	D60LF	60'	Articulated	Diesel	10	2013
2009	Gillig	BRT	29'	Standard	Diesel-Electric Hybrid	5	2021
2009	New Flyer	DE60LFR	60'	Articulated	Diesel-Electric Hybrid	4	2021
2011	New Flyer	DE40LFR	40'	Standard	Diesel-Electric Hybrid	35	2023
2013	New Flyer	XDE40	40'	Standard	Diesel-Electric Hybrid	10	2025
2016-2018	New Flyer	XDE40	40'	Standard	Diesel-Electric Hybrid	39	2028-2030
2020	New Flyer	XDE40	40'	Standard	Diesel-Electric Hybrid	3	2032
2020	New Flyer	XDE60	60'	Standard	Diesel-Electric Hybrid	2	2032
Total						108	

Note: MTD has not yet received 2020 New Flyer XDE60 articulated buses

2 FUTURE FLEET NEEDS

Phase 1 of the service plan focuses on weekday efficiency improvements and weekend service expansion with a combined peak vehicle count of 79 buses. Phases 2 and 3 focus on weeknight and weekend upgrades, which do not require additional peak vehicles.

MTD Phase 1 Peak Vehicle Needs

Route	Length	Type	Peak Vehicles
1 Neil	40'	Standard	8
2 Florida	40'	Standard	4
3 Garden Hills	40'	Standard	3
4 John	40'	Standard	2
5 Parkland/Highcross	40'	Standard	5
6 University	40'	Standard	7
7 Douglass	40'	Standard	4
9 Duncan	40'	Standard	5
10 Gregory	40'	Standard	6
11 Philo	40'	Standard	2
14 Fields	40'	Standard	4
15 Kenwood/Brookens	40'	Standard	5
16 Mattis	40'	Standard	4
105 Green	60'	Articulated	2
111 VetMed	60'	Articulated	2
112 Orchard Downs	60'	Articulated	2
113 Quad	60'	Articulated	4
122 Lincoln	60'	Articulated	3
123 Illini	60'	Articulated	5
124 Research	40'	Standard	2
Total			79

MTD Fleet Needs

Length	Type	Peak Vehicles	Spares based on 20% Ratio	Total Vehicles Required	Total Current Vehicles
40'	Standard	61	13	74	94
60'	Articulated	18	4	22	14
Total				93	

The procurement of 60' articulated buses to adequately meet capacity needs on proposed Routes 105 Green, 111 VetMed, 112 Orchard Downs, 113 Quad, 122 Lincoln, and 123 Illini is the highest priority for the MTD fleet. All of MTD's existing 60' articulated buses will have exceeded their recommended useful life by 2021. Additionally, MTD currently assigns 40' buses on routes that should be assigned 60' articulated buses.

Recommended MTD Fleet Replacement Schedule

Year	Type	Buses
2022	60' Articulated	16
2024	60' Articulated	4
2024	40' Standard	12
2026	40' Standard	10
2028	40' Standard	10

Recommended MTD Fleet Composition (2020-2029)

40' Standard Buses

Initial Year	Make	Model	Fuel	Vehicles	Retire Year	2020 Buses	2021 Buses	2022 Buses	2023 Buses	2024 Buses	2025 Buses	2026 Buses	2027 Buses	2028 Buses	2029 Buses
2009	Gillig	BRT	Diesel-Electric Hybrid	5	2021	5	5								
2011	New Flyer	DE40LFR	Diesel-Electric Hybrid	35	2023	35	35	35	35	10	10				
2013	New Flyer	XDE40	Diesel-Electric Hybrid	10	2025	10	10	10	10	10	10	12	12		
2016-2018	New Flyer	XDE40	Diesel-Electric Hybrid	39	2028-2030	39	39	39	39	39	39	39	39	39	39
2020	New Flyer	XDE40	Diesel-Electric Hybrid	3	2032	3	3	3	3	3	3	3	3	3	3
2024	TBD	TBD	TBD	12	2035					12	12	12	12	12	12
2026	TBD	TBD	TBD	10	2037							10	10	10	10
2028	TBD	TBD	TBD	10	2039									10	10
Total Buses						92	92	87	87	74	74	74	74	74	74

60' Articulated Buses

Initial Year	Make	Model	Fuel	Vehicles	Retire Year	2020 Buses	2021 Buses	2022 Buses	2023 Buses	2024 Buses	2025 Buses	2026 Buses	2027 Buses	2028 Buses	2029 Buses
2001	New Flyer	D60LF	Diesel	10	2013	10	10								
2009	New Flyer	DE60LFR	Diesel-Electric Hybrid	4	2021	4	4	4	4						
2020	New Flyer	XDE60	Diesel-Electric Hybrid	2	2032	2	2	2	2	2	2	2	2	2	2
2022	TBD	TBD	TBD	16	2033			16	16	16	16	16	16	16	16
2024	TBD	TBD	TBD	4	2035					4	4	4	4	4	4
Total Buses						16	16	22	22	22	22	22	22	22	22

Key

	Useful Life
	Beyond Useful Life

