

CHARLOTTESVILLE AREA TRANSIT - 8 YEAR RIDERSHIP TREND

FY 2024

FY 2024	Jul-23	Aug-23	Sep-23	1st Quarter	Oct-23	Nov-23	Dec-23	2nd Quarter	Jan-24	Feb-24	Mar-24	3rd Quarter	Apr-24	May-24	Jun-24	4th Quarter	
Trolley	7,117	11,121	15,356		14,544	12,744	9,861		11,836								82,579
Route 1	2,355	2,871	2,746		2,945	2,549	2,660		2,656								18,782
Route 2	6,417	7,465	7,522		7,554	7,271	7,130		6,750								50,109
Route 3	10,178	10,909	10,659		10,579	10,227	9,455		9,640								71,647
Route 4	6,037	7,225	6,798		6,938	6,578	5,601		7,116								46,293
Route 5	14,418	16,658	16,180		16,084	14,315	13,859		14,245								105,759
Route 6	6,216	6,570	6,327		6,147	6,029	5,570		6,463								43,322
Route 7	26,424	30,520	27,775		26,787	23,935	23,225		26,497								185,163
Route 8	7,664	7,705	7,587		7,765	7,218	6,685		6,841								51,465
Route 9	2,043	2,970	4,333		4,658	3,384	3,050		3,135								23,573
Route 10	5,581	6,227	6,105		5,682	5,543	5,275		5,458								39,871
Route 11	6,046	6,368	6,332		6,291	6,088	5,550		5,844								42,519
Other																	0
TOTAL	100,496	116,609	117,720		115,974	105,881	97,921		106,481	0	0		0	0	0		761,082

Subtotals: 1 Quarter 334,825 2nd Quarter 319,776 3rd Quarter 106,481 4th Quarter 0

FY 2023

FY 2023	Jul-22	Aug-22	Sep-22	1st Quarter	Oct-22	Nov-22	Dec-22	2nd Quarter	Jan-23	Feb-23	Mar-23	3rd Quarter	Apr-23	May-23	Jun-23	4th Quarter	
Trolley	10106	13,697	18,725		14,657	8,052	6,282		6,786	8,982	8,880		12,327	9,400	7,269		125,163
Route 1	2,071	2,729	3,420		2,859	2,647	2,764		2,479	2,776	2,869		2,743	2,249	2,450		32,056
Route 2	5,289	6,656	5,728		5,278	4,798	5,319		5,183	5,284	4,964		5,677	6,538	7,007		67,721
Route 3	8,693	9,848	9,681		8,514	8,211	9,003		9,264	8,338	9,487		8,915	8,772	9,511		108,237
Route 4	5,372	5,931	6,408		5,869	4,879	5,385		6,115	5,440	6,155		5,670	5,686	6,114		69,024
Route 5	15,740	18,868	17,841		15,491	10,093	9,829		10,440	11,829	12,355		12,364	11,997	14,023		160,870
Route 6	5,576	5,675	5,230		5,154	4,759	5,026		5,367	4,994	5,271		4,789	5,159	5,378		62,378
Route 7	28,236	30,206	29,127		28,863	16,693	15,346		19,614	19,901	19,574		19,940	19,531	23,471		270,502
Route 8	6,689	7,366	7,165		6,654	6,858	7,476		7,164	6,075	6,235		6,681	6,913	7,557		82,833
Route 9	1,485	2,569	2,872		4,050	2,572	3,524		3,813	4,069	3,615		2,332	3,005	2,146		36,053
Route 10	5,086	5,579	5,463		5,192	4,542	4,567		4,890	4,665	4,962		4,923	5,026	5,227		60,122
Route 11	5,342	5,451	5,962		6,055	6,060	7,108		5,965	5,277	5,766		6,362	6,276	6,436		72,060
Other																	0
TOTAL	99,685	114,575	117,622		108,636	80,164	81,629		87,079	87,630	90,133		92,724	90,552	96,589		1,147,018

Subtotals: 1 Quarter 331,882 2nd Quarter 270,429 3rd Quarter 264,842 4th Quarter 279,865

FY 2022

FY 2022	Jul-21	21-Aug	Sep-21	1st Quarter	Oct-21	Nov-21	Dec-21	2nd Quarter	Jan-22	Feb-22	Mar-22	3rd Quarter	Apr-22	May-22	Jun-22	4th Quarter	
Trolley	10,558	14,283	17,957		17,126	14,634	11,456		11,175	13,723	13,309		14,877	11,238	10,828		161,164
Route 1	2,427	2,626	2,891		2,741	2,341	2,605		1,749	2,375	3,028		2,717	2,142	2,222		29,864
Route 2	4,878	5,013	4,991		4,865	4,670	4,369		3,919	4,912	5,245		5,332	4,655	5,339		58,188
Route 3	7,273	6,901	7,355		7,223	6,652	6,615		5,946	6,403	7,409		7,657	7,514	8,714		85,662
Route 4	4,231	4,920	5,091		5,219	4,775	4,417		5,269	5,195	5,723		5,576	4,822	5,341		60,579
Route 5	15,224	15,940	16,313		15,866	15,248	15,110		13,722	13,648	15,910		16,958	17,393	15,686		187,018
Route 6	4,782	5,238	5,315		5,004	4,608	4,709		4,537	4,736	5,406		4,777	4,340	5,230		58,682
Route 7	23,547	27,683	30,608		30,157	26,326	25,270		24,498	25,327	28,130		27,700	24,440	26,120		319,806
Route 8	5,549	5,631	5,845		5,754	5,532	5,311		5,441	5,610	6,466		6,359	6,412	6,730		70,640
Route 9	1,424	1,204	2,063		1,502	1,356	1,469		1,360	1,645	1,664		1,437	1,841	1,391		18,356
Route 10	4,639	4,879	4,845		4,769	4,362	4,315		3,885	4,166	4,904		4,852	4,638	5,302		55,556
Route 11	3,977	4,026	3,941		4,236	4,287	4,365		3,319	4,231	4,791		4,762	4,331	4,733		50,999
Route 12																	0
Other																	0
TOTAL	88,509	98,344	107,215		104,462	94,791	90,011		84,820	91,971	101,985		103,004	93,766	97,636		1,156,514
Subtotals: 1 Quarter				294,068	2nd Quarter			289,264	3rd Quarter			278,776	4th Quarter			294,406	

FY2021

FY 2021	Jul-20	Aug-20	Sep-20	1st Quarter	Oct-20	Nov-20	Dec-20	2nd Quarter	Jan-21	Feb-21	Mar-21	3rd Quarter	Apr-21	May-21	Jun-21	4th Quarter	
Trolley	3,212	4,747	3,793		6,029	3,679	3,628		3,614	2,227	2,411		3,673	2,004	3,285		42,302
Route 1	955	954	1,053		871	846	878		1,027	772	1,499		1,183	867	1,310		12,215
Route 2	5,601	4,538	4,002		4,729	5,380	5,943		6,746	5,905	7,036		3,078	5,220	4,142		62,320
Route 3	5,483	4,707	5,180		5,251	4,290	2,361		2,541	2,568	5,880		4,821	5,624	5,699		54,405
Route 4	2,376	2,601	2,847		2,382	1,462	2,635		2,295	2,710	3,136		3,270	2,275	3,206		31,195
Route 5	8,402	8,370	8,382		9,647	7,902	6,634		6,955	5,011	5,460		5,880	6,873	9,338		88,854
Route 6	2,685	3,599	2,900		2,921	2,809	2,432		3,236	804	3,631		3,334	2,969	2,997		34,317
Route 7	15,661	16,149	17,674		18,594	17,604	16,213		13,439	10,660	16,574		15,387	11,518	18,583		188,056
Route 8	3,574	3,526	3,542		3,097	3,039	3,602		2,890	3,028	4,981		3,348	2,896	3,362		40,885
Route 9	549	839	590		440	501	139		326	488	696		657	635	899		6,759
Route 10	2,358	2,789	2,641		3,097	2,384	2,411		1,908	1,549	3,211		2,426	1,600	2,640		29,014
Route 11	2,567	2,551	2,501		1,869	1,813	2,706		1,119	657	2,512		3,111	2,672	2,551		26,629
Route 12			24				5										29
Other	30																30
TOTAL	53,453	55,370	55,129		58,927	51,709	49,587		46,096	36,379	57,027		50,168	45,153	58,012		617,010
Subtotals: 1 Quarter				163,952	2nd Quarter			160,223	3rd Quarter			139,502	4th Quarter			153,333	

FY 2020

FY 2020	Jul-19	Aug-19	Sep-19	1st Quarter	Oct-19	Nov-19	Dec-19	2nd Quarter	Jan-20	Feb-20	Mar-20	3rd Quarter	Apr-20	May-20	Jun-20	4th Quarter	
Free Trolley	41,754	43,376	62,501		59,799	42,127	31,850		33,929	18,443	8,114		2,457	2,244	1,698		348,292
Route 1	892	992	3,089		3,483	2,980	2,327		2,905	2,997	1,314		471	478	736		22,664
Route 2	4,842	5,060	4,966		5,260	4,804	4,909		5,480	3,691	2,631		1,738	3,346	3,752		50,479
Route 3	3,674	8,340	6,954		7,674	6,805	6,586		5,808	3,248	5,765		3,296	3,222	799		62,171
Route 4	7,749	5,292	6,668		9,003	4,702	4,505		3,901	3,517	3,655		1,062	1,542	1,640		53,236
Route 5	18,811	19,420	17,927		19,299	16,440	14,969		13,997	14,377	9,722		5,121	5,374	8,080		163,537
Route 6	4,648	7,163	6,801		7,515	6,563	6,329		6,222	5,312	2,429		1,559	1,001	1,059		56,601
Route 7	40,299	43,825	46,953		50,935	44,713	38,089		35,921	35,081	26,270		8,913	9,266	13,090		393,355
Route 8	7,687	7,323	6,643		7,354	6,084	5,753		5,871	5,429	3,422		1,702	2,743	3,135		63,146
Route 9	1,222	918	963		1,355	1,280	412		170	489	565		273	267	369		8,283
Route 10	4,792	4,859	3,440		5,488	4,964	4,994		3,880	4,277	3,104		1,099	2,292	3,108		46,297
Route 11	1,924	1,940	4,504		5,461	4,833	4,573		4,494	4,104	2,793		1,664	2,126	1,118		39,534
Route 12	1,857	1,557	2,206		1,625	2,028	1,978		1,694	1,454	941		0	0	0		15,340
Other							87		51	34	3			66			241
TOTAL	140,151	150,065	173,615		184,251	148,323	127,361		124,323	102,453	70,728		29,355	33,967	38,584		1,323,176
Subtotals: 1 Quarter				463,831	2nd Quarter			459,935	3rd Quarter			297,504	4th Quarter			101,906	

FY 2019

FY 2019	Jul-18	Aug-18	Sep-18	1st Quarter	Oct-18	Nov-18	Dec-18	2nd Quarter	Jan-19	Feb-19	Mar-19	3rd Quarter	Apr-19	May-19	Jun-19	4th Quarter	
Free Trolley	43,154	43,675	59,699		60,351	48,338	40,669		51,281	63,752	59,197		69,919	40,146	32,398		612,579
Route 1	2,123	2,865	2,903		2,435	3,260	2,227		2,616	2,680	2,776		3,034	1,394	1,186		29,499
Route 2	5,718	5,018	4,878		5,300	4,895	4,638		4,589	3,981	5,258		5,146	4,860	5,452		59,733
Route 3	7,184	7,436	6,698		8,566	7,527	7,624		7,061	5,597	8,213		7,750	8,322	6,096		88,074
Route 4	6,768	7,849	8,133		9,334	7,906	6,775		7,617	6,898	8,603		8,417	6,523	4,429		89,252
Route 5	17,446	18,796	16,752		18,912	15,866	14,862		15,466	15,063	15,841		17,781	17,437	16,818		201,040
Route 6	5,694	6,416	4,760		6,354	6,452	5,834		4,108	4,244	6,499		6,768	3,720	6,352		67,201
Route 7	38,477	44,606	44,796		48,846	43,077	36,275		39,457	38,446	41,955		43,829	39,194	36,634		495,592
Route 8	7,918	7,579	6,982		8,002	6,844	6,380		6,704	5,661	6,375		6,742	5,898	7,264		82,349
Route 9	1,290	1,165	1,018		951	1,230	1,098		1,156	956	972		1,265	751	991		12,843
Route 10	5,232	5,211	4,167		5,322	4,656	4,763		4,830	4,242	4,753		4,677	4,605	4,298		56,756
Route 11	5,650	5,435	4,716		5,384	4,632	4,243		4,415	4,148	5,040		5,086	4,807	2,341		55,897
Route 12	2,218	1,491	1,925		1,498	1,770	1,677		1,544	1,556	1,829		1,442	1,576	1,775		20,301
Other	1	54				104	0						207	136	2		504
TOTAL	148,873	157,596	167,427		181,255	156,557	137,065		150,844	157,556	167,311		182,063	139,369	126,036		1,871,952
Subtotals: 1 Quarter				473,896	2nd Quarter			474,877	3rd Quarter			475,711	4th Quarter			447,468	

FY 2018

FY 2018	Jul-17	Aug-17	Sep-17	1st Quarter	Oct-17	Nov-17	Dec-17	2nd Quarter	Jan-18	Feb-18	Mar-18	3rd Quarter	Apr-18	May-18	Jun-18	4th Quarter	
Free Trolley	42,860	53,297	66,566		62,137	59,890	38,055		48,764	62,312	40,395		51,077	29,076	24,552		578,981
Route 1	2,890	3,542	4,147		4,119	3,793	2,798		3,254	3,198	3,301		3,460	2,595	2,169		39,266
Route 2	4,670	4,442	4,794		5,071	4,592	4,591		4,353	4,289	4,654		4,742	5,176	4,937		56,311
Route 3	8,458	10,167	9,564		9,700	8,001	8,435		9,096	8,370	8,423		6,619	7,136	7,786		101,755
Route 4	10,394	10,210	9,198		9,541	8,401	7,371		8,101	8,025	8,093		8,011	6,898	6,225		100,468
Route 5	18,700	19,592	19,409		19,488	17,981	16,237		16,625	16,857	18,358		18,628	18,513	17,839		218,227
Route 6	5,737	6,945	6,456		6,984	6,591	6,212		6,749	6,498	6,718		6,919	6,547	5,679		78,035
Route 7	41,774	47,205	49,392		48,171	46,004	39,247		41,205	42,605	44,507		44,299	40,748	36,302		521,459
Route 8	7,404	8,031	7,870		8,703	7,979	7,303		7,469	7,188	7,360		6,930	7,349	8,066		91,652
Route 9	2,811	1,854	1,663		1,941	1,779	1,522		1,637	1,300	1,665		1,484	1,082	1,157		19,895
Route 10	4,640	5,850	5,219		5,031	5,028	5,091		4,595	4,501	4,794		4,823	5,038	5,101		59,711
Route 11	4,964	5,864	5,773		6,546	5,740	6,017		5,555	4,979	5,772		5,740	5,150	5,650		67,750
Route 12	2,157	1,476	1,804		1,979	1,844	1,881		1,599	1,330	1,398		1,710	1,897	1,423		20,498
Other	431					85	51			98	126			155	23		969
TOTAL	157,890	178,475	191,855		189,411	177,708	144,811		159,002	171,550	155,564		164,442	137,360	126,909		1,954,977
Subtotals: 1 Quarter				528,220	2nd Quarter			511,930	3rd Quarter			486,116	4th Quarter			428,711	

FY 2017

FY 2017	Jul-16	Aug-16	Sep-16	1st Quarter	Oct-16	Nov-16	Dec-16	2nd Quarter	Jan-17	Feb-17	Mar-17	3rd Quarter	Apr-17	May-17	Jun-17	4th Quarter	
Free Trolley	58,631	59,850	82,550		79,107	70,210	43,839		51,966	67,536	63,829		72,327	49,607	38,262		737,714
Route 1	3,237	4,362	5,133		4,714	4,225	3,063		3,799	3,901	3,744		3,605	2,941	3,238		45,962
Route 2	0				1,267	2,547	2,958		3,072	3,108	3,605		3,744	3,962	4,240		28,503
Route 3	9,444	11,634	10,707		9,489	8,416	7,582		7,708	8,081	9,177		8,742	9,354	9,814		110,148
Route 4	9,172	11,338	10,900		10,584	9,999	7,518		9,392	9,129	10,426		9,173	9,759	10,297		117,687
Route 5	16,624	20,594	19,759		19,438	17,834	18,094		16,987	17,125	18,391		18,163	18,664	18,913		220,586
Route 6	6,159	7,394	6,379		6,474	6,097	6,098		6,195	6,299	6,527		5,909	6,295	6,386		76,212
Route 7	48,553	57,879	57,713		53,990	47,613	43,561		43,285	46,255	48,469		46,372	44,923	43,694		582,307
Route 8	8,184	9,340	8,527		8,620	7,889	8,405		7,775	7,576	8,093		7,343	8,307	8,859		98,918
Route 9	1,986	2,453	2,772		2,728	2,437	1,965		2,369	2,613	2,768		2,366	2,478	2,285		29,220
Route 10	5,356	6,429	5,934		5,673	5,478	5,008		5,296	5,309	5,273		4,801	5,039	5,170		64,766
Route 11	3,896	5,438	5,241		5,369	5,080	4,500		5,359	5,123	5,565		5,243	5,212	5,141		61,167
Route 12	0	0	0		1,670	2,021	1,259		1,841	1,810	1,669		1,943	2,049	1,529		15,791
Other	3				7				263	83	6			1	268		631
TOTAL	171,245	196,711	215,615		209,130	189,846	153,850		165,307	183,948	187,542		189,731	168,591	158,096		2,189,612
Subtotals: 1 Quarter				583,571	2nd Quarter			552,826	3rd Quarter			536,797	4th Quarter			516,418	

Pre-COVID Service Frequencies and Span of Service (Weekday)

Route #	Route Name	% System Riders	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
1	PVCC and Woolen Mills	2%	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
2	5th Street Station	3%	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
3	Soithwest & Belmont	4%	30	30	30	60	60	60	60	60	60	30	30	30	30	60	60	60	60	60
4	Cherry Ave & Harris Rd	5%	23	23	23	23	45	70	70	70	70	23	23	23	45	70	70	70	70	70
5	Commonwealth Dr	10%	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & Prospect Ave	4%	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
7	Emmet St & Seminole Trl	28%	20	20	20	20	20	20	20	20	20	20	20	20	20	20	30	30	30	30
8	Preston Ave & Emmet St	4%	30	30	30	60	60	60	60	60	60	30	30	30	30					
9	The Health Dept & YMCA	1%		70	70	70	70	70	70	70	70	70	70	70	70	70	70			
10	Pantops	3%	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
11	Locust Ave & Rio Rd	3%	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
Trolley	Free Trolley	32%	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

- Routes 7 and Trolley (better than 30-min. freq.) carry 60% of ridership (Fall 2019)



	Oil	Natural Gas	Coal	Nuclear	Biomass	Others (Wind, Solar, Hydro, etc)
Base	0.2%	58.7%	2.2%	29.9%	0.4%	8.6%
2022	0.2%	58.7%	2.2%	29.9%	0.4%	8.6%
2023	0.0%	57.7%	1.2%	29.9%	0.0%	11.3%
2024	0.0%	56.2%	0.0%	29.9%	0.0%	14.0%
2025	0.0%	53.5%	0.0%	29.9%	0.0%	16.6%
2026	0.0%	50.8%	0.0%	29.9%	0.0%	19.3%
2027	0.0%	48.1%	0.0%	29.9%	0.0%	22.0%
2028	0.0%	45.5%	0.0%	29.9%	0.0%	24.7%
2029	0.0%	42.8%	0.0%	29.9%	0.0%	27.3%
2030	0.0%	40.1%	0.0%	29.9%	0.0%	30.0%
2031	0.0%	38.1%	0.0%	29.9%	0.0%	32.0%
2032	0.0%	36.1%	0.0%	29.9%	0.0%	34.0%
2033	0.0%	34.1%	0.0%	29.9%	0.0%	36.0%
2034	0.0%	32.1%	0.0%	29.9%	0.0%	38.0%
2035	0.0%	30.1%	0.0%	29.9%	0.0%	40.0%
2036	0.0%	28.1%	0.0%	29.9%	0.0%	42.0%
2037	0.0%	26.1%	0.0%	29.9%	0.0%	44.0%
2038	0.0%	24.1%	0.0%	29.9%	0.0%	46.0%
2039	0.0%	22.1%	0.0%	29.9%	0.0%	48.0%
2040	0.0%	20.1%	0.0%	29.9%	0.0%	50.1%
2041	0.0%	18.0%	0.0%	29.9%	0.0%	52.1%
2042	0.0%	16.0%	0.0%	29.9%	0.0%	54.1%
2043	0.0%	14.0%	0.0%	29.9%	0.0%	56.1%
2044	0.0%	12.0%	0.0%	29.9%	0.0%	58.1%
2045	0.0%	10.0%	0.0%	29.9%	0.0%	60.1%
2046	0.0%	8.0%	0.0%	29.9%	0.0%	62.1%
2047	0.0%	6.0%	0.0%	29.9%	0.0%	64.1%
2048	0.0%	4.0%	0.0%	29.9%	0.0%	66.1%
2049	0.0%	2.0%	0.0%	29.9%	0.0%	68.1%
2050	0.0%	0.0%	0.0%	29.9%	0.0%	70.1%

FCEB GHG Emissions Results

- The projected GHG emissions for both the gray and green FCEB transition scenarios include the increase in VMT and the upstream GHG emission with the production and transportation of the fuel.
- The projected GHG emissions show a decrease for both FCEB scenarios as the lack of GHG emissions from vehicle operations outweighs the upstream GHG emissions from the production and transport of the hydrogen fuel.
- The GHG emissions for the green FCEB scenario assumed an on-site electrolysis facility. For modeling/presentation purposes, it is undetermined whether trucking electrolysis-produced hydrogen fuel from a centralized plant would increase or decrease the carbon emissions compared to an on-site facility. While a centralized plant would require additional/longer trucking of the fuel, a centralized plant would have a greater efficiency in producing the hydrogen fuel than a smaller on-site facility thus reducing the GHG emissions per kg of fuel.



Hydrogen Emissions Assumptions

Kimley-Horn utilized the AFLEET tool to estimate GHG emissions for each fuel type scenario. For hydrogen fuel cell electric buses (FCEB), two scenarios were modeled using AFLEET.

- A transition to hydrogen fuel cell electric buses (FCEBs) using hydrogen fuel manufactured through steam methane reformation (SMR) without additional carbon capture, a.k.a "gray hydrogen". The hydrogen was assumed to come from a central plant.
 - Note: SMR does not produce methane. Methane is used as the feedstock for the SMR process which results in carbon dioxide emissions. This is due to the methane (CH₄) molecule being stripped of its hydrogen atoms in the SMR process. CO₂ is a significantly less harmful GHG than methane.
- A transition to hydrogen fuel cell electric buses (FCEBs) using hydrogen fuel manufactured through electrolysis, a.k.a "green hydrogen". The electricity to power the electrolysis process was assumed to come from the Charlottesville electric grid. The only option for the electrolysis production of hydrogen fuel in the AFLEET tool was an on-site refueling station, thus the hydrogen fuel was assumed to be produced on-site.

The main inputs into the AFLEET tool for calculating the FCEB emissions included the number of vehicles in the fleet, the average VMT per vehicle, the composition of the Charlottesville electric grid, location of CAT's facility, and the source of the hydrogen fuel (i.e. gray or green, on-site or off-site). The GHG emission calculations followed CAT's planned expansion of service and increase in vehicles from 36 to 58 buses.

The GHG emissions for the battery electric bus (BEB) and green FCEB transition scenarios were based on a projected decarbonization of Charlottesville's electric grid. The grid followed a steady year-over-year reduction of fossilized fuel sources centering around two key targets set by the Commonwealth and Dominion energy:

- Virginia set a goal of 30% of electricity will be produced from renewable sources by 2030.
- Dominion Energy, Charlottesville's provider, will become carbon neutral by 2050

The projected year-by-year electric grid composition are shown in the table below:

AFLEET

- Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Tool
- Developed by Argonne National Laboratory
- Calculates a vehicle(s) lifecycle/well-to-wheels which includes the GHG emissions from the fuel feedstock recovery, fuel production, the transport of the fuel to the pump, and then the usage of the fuel in operations
- 2020 version used