



Capital Metro

Top 100 Bus Fleets Survey: Exploring New Options, Technologies to be Part of Multimodal Solution

From testing autonomous vehicles to piloting on-demand transportation, transit agencies are looking for new ways to complement their bus services. In conjunction, many are also adding technologies such as mobile apps that can help plan a complete trip using a host of transportation options.

BY ALEX ROMAN, Managing Editor

Revamping bus routes, increasing real-time information, and introducing apps that help riders plan an entire multimodal trip are just some of the ways *METRO*'s Top 100 Bus Fleets are tackling the first-, last-mile issue, while also striving to become at least one solution in the total trip-planning process.

Many forward-thinking agencies are also in the process of testing various transportation solutions to increase multimodal trip capabilities and solve the first-, last-mile issue. Over the last year, several agencies, including Fla.'s [Jacksonville Transportation Authority](#) (No. 68) and Austin, Texas' [Capital Metro](#) (No. 39) hosted autonomous shuttle demonstrations to showcase ways the technology could be used in practical applications, including connecting them to rail or BRT stations or as short-distance circulators.

Capital Metro, one of the agencies that are set to introduce a multimodal trip-planning app, also launched a limited pilot program for an on-demand transit service, called [Pickup](#), which was a great success and is set to be expanded in October to include one of its rail stations, specifically to address the first-, last-mile issue.

In Portland, Ore., [TriMet](#) (No. 31), whose Open Trip Planner (OTP) was the first app in the U.S. transit industry to enable riders to connect with multiple transportation modes during trip-planning, is in the first year of a two-year project, funded by a Federal Mobility on Demand Sandbox grant, to expand OTP capabilities.

The grant will allow TriMet to build upon the core of OTP to incorporate shared-use mobility options. The open

data, software, and user interfaces, responsive on both web and mobile, will help riders make informed decisions about their mobility choices, including when a bus or train alone doesn't provide full access. TriMet's project includes the development and expansion of two core data frameworks, including extending the OTP code base to support integration with shared-use mobility modes (bike-share and car-share services), as well as real-time transit information, and implementing a fully functional and comprehensive open geocoder (also known as address locating).

In addition to the two main elements of the project, TriMet is looking to develop a new web-based interface that will allow users to make intermodal trip plans, including shared-use mobility and demand-responsive services, such as [Uber](#)

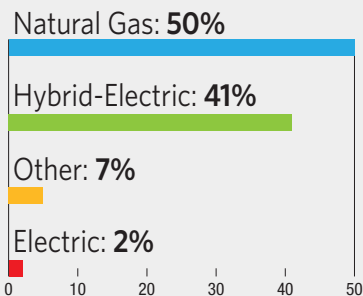
and Lyft — a capability that other agencies around the nation are also looking to add, according to METRO’s survey.

Following the lead of other cities around the U.S., several transit agencies are also reporting that they are either in the planning or implementation process of revamping bus routes, focusing on increasing frequencies and services, as well as filling the gaps in areas where employment or population growth have occurred over the years.

OVERCOMING CHALLENGES, TECH

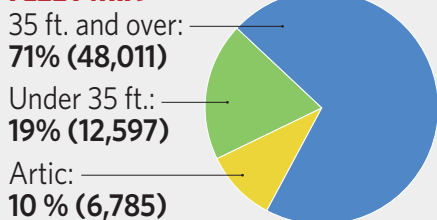
Eliminating the most common issue facing transit agencies — funding — we asked our Top 100 what their biggest issues were and how they are overcoming them, with declining ridership one of the most common concerns.

ALTERNATIVE FUELS



Overall, the total of vehicles using alternative-propulsion technology was up slightly. With 10,787 vehicles, natural gas remains the environmentally-friendly fuel of choice, followed closely by hybrid-electric vehicles with 8,835 vehicles. While cited as the most popular alternative in the future, all-electric vehicles make up only 2% of the total vehicles reported, with other fuel types, including biodiesel, propane and hydrogen, collectively making up 7% of the total.

FLEET MIX



Buses 35 feet and over remain the most popular choice, with 48,011 total buses, followed by buses 35 feet and under and articulated vehicles, with 12,597 and 6,785, respectively. Overall, the total number of vehicles was down slightly.

“The greatest challenge we face is long-term down-trending ridership, not only in our region, but also nationally, as more options become available to existing and potential new customers,” explained representatives from Santa Monica, Calif.’s [Big Blue Bus](#) (No. 94). “We are overcoming this challenge by asking our customers what they want more of, and improving our service as described in the new initiatives for the first- and last-mile issue.”

Another well-cited concern for transit agencies is their workforce, including turnover rates and the ability to attract and retain highly-qualified employees.

“We are investing in outside training to prepare the operators for the challenges that they face as an ambassador of SEPTA and to enable them to understand what is to be customer-centric,” SEPTA (No.11) officials explain. “We are changing our training methodology of new hires in our testing selection process/interview protocol, as well as making changes in our training methodology to stress the importance of employee engagement, value, and empowerment.”

Solution strategies at SEPTA include engagement of operators at the supervisor level, GM site visits and job shadowing, and explaining the important role SEPTA plays in the region, as well as the integral role each employee plays in their positions.

Additional challenges often mentioned include hiring and training skilled maintenance technicians, being responsive to customer requests for increased services and frequencies, and the impact of traffic congestion on on-time frequencies.

Transits are also continuing to add new technologies, including installing Wi-Fi and adding automatic vehicle locator, automatic passenger counter, and on-board camera systems. Additional tech improvements include improved fare technolo-

gies, such as mobile fare payment apps that enable passengers to pay fares via their smartphones, and the continuing transition from diesel to alternative-fueled vehicles at many agencies.

THE NUMBERS


The [Metropolitan Transportation Authority’s \(MTA\) New York City Transit/MTA Bus Co.](#) tops this year’s list with 5,773 total vehicles. Showing some movement this year, the [Los Angeles County Metropolitan Transportation Authority](#) (2,328), [New Jersey Transit](#) (2,212), Chicago’s [Pace Suburban Bus](#) (2,164), and the [Toronto Transit Commission](#) (1,926) round out this year’s top five, which collectively totals 14,403 vehicles, or 21% of this year’s overall 67,153 vehicles. This year’s total fleet showed just a slight increase from last year.

With 408 total vehicles, [Metro St. Louis](#) lands right in the center at No. 50, while the Springfield Mass.-based [Pioneer Valley Transit Authority](#) rounds out the Top 100 with 183 total vehicles. Meanwhile, West Palm Beach, Fla.’s [Palm Tran](#) and the newly rebranded [South Central Transit Authority](#), from Lancaster, Pa. (formerly the [Red Rose Transit Authority](#)), re-join the Top 100 at No. 61 and 91, respectively.

A closer look at the numbers reveals 48,011 buses are 35 feet or longer, making up 71% of the total vehicles reported, with 12,597, or 19%, of vehicles 35 feet and under.

Nearly 87% of the vehicles reported are fixed-route, with 13% of that number contracted, while demand-response vehicles make up nearly 13% of the total.

Overall, this year’s respondents report that they intend to, or have on order 4,048 vehicles in the next year. A good number of those planned purchases include electric buses, though on a small scale. When asked who those new purchases will be with, [New Flyer](#), [Gillig](#), [BYD](#), [Proterra](#), and [Nova Bus](#) were the suppliers most mentioned.

With all the budget and staff cuts going on around the nation, METRO would especially like to thank all of the transit agencies for participating this year. If you know a fleet that belongs on this list or have suggestions on how to improve our future lists, please let us know. 

TOP 100 Bus Fleets

2017	2016	Agency	35 ft. and under	Over 35 ft.	Artic.	2017 Total
1	1	MTA New York City Transit/MTA Bus Co. New York City	0	4,908	865	5,773
2	3	Los Angeles County Metropolitan Transportation Authority Los Angeles	0	1,940	388	2,328
3	2	New Jersey Transit Corp. Newark, N.J.	39	2,088	85	2,212
4	4	Pace Suburban Bus Chicago	1,680	484	0	2,164
5	7	Toronto Transit Commission Toronto	0	1,773	153	1,926
6	6	Coast Mountain Bus Co. Vancouver, B.C.	503	1,132	258	1,893
7	7	Chicago Transit Authority Chicago	0	1,562	304	1,866
8	9	Societe de Transport de Montreal Montreal	0	1,514	257	1,771
9	10	Washington Metropolitan Area Transit Authority Washington, D.C.	89	1,432	65	1,586
10	4	King County Metro Transit Seattle	92	523	925	1,540
11	11	Southeastern Pennsylvania Transportation Authority Philadelphia	35	1,237	185	1,457
12	13	Regional Transportation District Denver	495	835	116	1,446
13	12	Metropolitan Transit Authority of Harris County Houston	0	1,166	70	1,236
14	15	Massachusetts Bay Transportation Authority Boston	0	1,082	101	1,183
15	14	San Francisco Municipal Railway San Francisco	30	850	256	1,136
16	21	BC Transit Victoria, B.C.	492	584	0	1,076
17	18	Calgary Transit Calgary, Alberta	249	726	93	1,068
18	16	Valley Metro Phoenix	271	667	109	1,047
19	17	Edmonton Transit Service Edmonton, Alberta	147	847	33	1,027
20	19	OC Transpo Ottawa, Ontario	88	577	359	1,024
21	20	Metro Transit Minneapolis	0	727	175	902

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22	22	Miami-Dade Transit Miami	65	705	79	849
23	23	Regional Transportation Commission of Southern Nevada Las Vegas	386	307	147	840
24	37	CTtransit Hartford, Conn.	334	446	51	831
25	24	Orange County Transportation Authority Orange, Calif.	262	501	36	799
26	25	Metropolitan Transit System San Diego	242	469	86	797
27	26	Metropolitan Atlanta Rapid Transit Authority Atlanta	268	490	18	776
28	27	Maryland Transit Administration Baltimore	0	708	52	760
29	31	Dallas Area Rapid Transit Dallas	227	525	0	752
30	28	Port Authority of Allegheny County Pittsburgh	30	570	126	726
31	30	TriMet Portland, Ore.	22	678	0	700
32	34	Utah Transit Authority Salt Lake City, Utah	179	499	0	678
33	33	AC Transit Oakland, Calif.	100	448	84	632
33	36	Winnipeg Transit Winnipeg, Manitoba	19	594	19	632
35	35	Broward County Transit Pompano Beach, Fla.	307	270	48	625
36	29	Suburban Mobility Authority for Regional Transportation Detroit	384	238	2	624
37	32	VIA Metropolitan Transit San Antonio	146	452	19	617
38	38	Delaware Transit Corp. Wilmington, Del.	383	172	0	555
39	42	Capital Metro Austin, Texas	236	262	22	520
40	39	TheBus Honolulu	36	372	111	519
41	41	GO Transit Toronto	0	512	0	512
42	40	Greater Cleveland Regional Transit Authority Cleveland	76	330	64	470

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43	47	Santa Clara Valley Transportation Authority San Jose, Calif.	60	346	58	464
44	43	MiWay Mississauga, Ontario	36	358	69	463
45	44	Detroit Department of Transportation Detroit	0	445	0	445
46	48	COTA Columbus, Ohio	191	253	0	444
47	45	Reseau de transport de Longueuil Longueuil, Quebec	0	413	29	442
48	46	Regional Transit Service Rochester, N.Y.	198	192	30	420
49	49	Nassau Inter-County Express Garden City, N.Y.	100	310	5	415
50	53	MetroBus St. Louis	103	290	15	408
51	50	Milwaukee County Transit System Milwaukee	0	405	0	405
52	51	Charlotte Area Transit System Charlotte, N.C.	144	257	0	401
53	52	Niagara Frontier Transportation Authority Buffalo, N.Y.	96	297	0	393
54	54	Brampton Transit Brampton, Ontario	0	295	91	386
55	55	Sun Tran Tucson, Ariz.	139	231	0	370
55	58	Ride On of Montgomery County Rockville, Md.	150	220	0	370
57	61	Foothill Transit West Covina, Calif.	30	309	30	369
58	56	Southwest Ohio Regional Transit Authority Cincinnati	4	348	5	357
58	57	Los Angeles Department of Transportation Los Angeles	247	110	0	357
58	65	San Mateo County Transit District San Mateo, Calif.	60	242	55	357
61	—	Palm Tran West Palm Beach, Fla.	201	148	6	355
62	59	Community Transit Everett, Wash.	67	112	165	344
63	60	Societe de Transport de l'Outaouais City Gatineau, Quebec	31	308	0	339

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64	68	LYNX Orlando, Fla.	77	236	18	331
65	62	Bee-Line of Westchester County Mt. Vernon, N.Y.	21	231	78	330
66	63	Transit Authority of River City Louisville, Ky.	132	193	0	325
67	64	Halifax Transit Halifax, Nova Scotia	21	254	47	322
68	68	Jacksonville Transportation Authority Jacksonville, Fla.	145	162	0	307
69	65	Suffolk County Transit Yaphank, N.Y.	286	19	0	305
69	72	Sound Transit Seattle	0	149	156	305
71	67	Fairfax Connector Fairfax, Va.	93	209	0	302
72	70	Omnitrans San Bernardino, Calif.	107	174	14	295
73	74	Hampton Roads Transit Hampton, Va.	151	140	0	291
74	75	Nashville Metropolitan Transit Authority Nashville	107	116	42	265
75	73	Greater Dayton Regional Transit Authority Dayton, Ohio	79	178	0	257
76	81	Central New York Regional Transportation Authority Syracuse, N.Y.	90	165	0	255
77	97	Mass Transportation Authority Flint, Mich.	109	144	0	253
78	78	Kansas City Area Transportation Authority Kansas City, Mo.	100	146	0	246
79	78	Durham Region Transit Whitby, Ontario	36	209	0	245
80	77	Capital District Transportation Authority Albany, N.Y.	82	158	0	240
80	81	Indianapolis Public Transportation Corp. (IndyGo) Indianapolis	75	149	16	240
80	83	GRTC Transit System Richmond, Va.	106	132	0	238
83	85	Rhode Island Public Transit Authority Providence, R.I.	37	198	0	235
84	84	Metro Transit Madison, Wis.	17	215	0	232

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85	85	Akron Metro Akron, Ohio	91	140	0	231
86	76	Sun Metro El Paso, Texas	62	156	10	228
86	87	Hillsborough Area Regional Transit Authority Tampa, Fla.	63	165	0	228
88	88	ABQ RIDE Albuquerque	70	132	24	226
89	78	Long Beach Transit Long Beach, Calif.	0	210	13	223
90	89	Hamilton Street Railway Hamilton, Ontario	0	196	25	221
91	—	South Central Transit Authority Lancaster, Pa.	125	95	0	220
92	90	Sacramento Regional Transit District Sacramento, Calif.	22	192	0	214

2017	2016	Agency	35 ft. and under	Over 35 ft.	Artic.	2017 Total
93	91	Pinellas Suncoast Transit Authority Clearwater, Fla	78	132	0	210
94	92	Big Blue Bus Santa Monica, Calif.	26	153	28	207
95	94	North County Transit District Oceanside, Calif.	76	129	0	205
96	93	Regional Transit Authority New Orleans	99	86	16	201
97	95	London Transit London, Ontario	4	184	10	198
98	96	Toledo Area Regional Transit Authority Toledo, Ohio	96	95	0	191
99	100	Kitsap Transit Bremerton, Wash.	72	116	0	188
100	98	Pioneer Valley Transit Authority Springfield, Mass.	73	106	4	183