

System Optimization Plan: Proposal Updates

CHARLOTTESVILLE AREA TRANSIT

UPDATED JULY 2025

CAT System Optimization Support Services

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Agenda/Topics



- Service History
- Review System Optimization Plan (2022)
- Service Enhancement Scenarios
- Title VI Policy Review & Council (Board) Requirements

CAT OPTIMIZATION SUPPORT

Pre-Covid Frequencies



Weekday Service 6 to 6:30 a.m. to 10-11:00 p.m.

Route#	Route Name	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	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
2	5th Street Station/Willoughby/PVCC	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
3	Southwest & Belmont	30	30	30	60	60	60	60	60	60	30	30	30	30	60	60	60	60	60
4	Cherry Ave & Harris Rd	23	23	23	70	70	70	70	70	70	23	23	23	23	70	70	70	70	
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & Prospect Ave	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
7	Emmet St & Seminole Trl - Walmart	20	20	20	20	20	20	20	20	20	20	20	20	20	20	30	30	30	
8	Preston Ave & Emmet St	30	30	30	60	60	60	60	60	60	30	30	30	30					
9	The Health Dept & YMCA		70	70	70	70	70	70	70	70	70	70	70	70	70				
10	Pantops (bi-directional)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60			
12	Seminole Trail																		
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Saturday Service 6 to 6:30 a.m. to 10-11:00 p.m.

Route#	Route Name	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	5th Street Station	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
3	Southwest & Belmont	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	
5	Commonwealth Dr	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & Prospect Ave	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
7	Emmet St & Seminole Trl	20	20	20	20	20	20	20	20	20	20	20	20	20	20	30	30	30	
8	Preston Ave & Emmet St	60	60	60	60	60	60	60	60	60	60	60	60						
9	The Health Dept & YMCA		70	70	70	70	70	70	70	70	70	70	70	70	70				
10	Pantops	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60						
12	Seminole Trail																		
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Sunday Service 7 to 7:30 a.m. to 5:30 p.m.

	In																		
Route#	Route Name	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 AM	11:00 PM
1	PVCC and Woolen Mills																		
2	5th Street Station/Willoughby		60	60	60	60	60	60	60	60	60	60	60						
3	Southwood																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA																		
6	Ridge St & 1st																		
7	Emmet St & Seminole Trl - Walmart																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq					70	70	70	70	70	70	70	70						
10	Pantops (bi-directional)																		
11	Locust Ave & Rio Rd																		
12	Seminole Trail		60	60	60	60	60	60	60	60	60	60							
Trolley	Free Trolley			30	22.5	22.5	22.5	22.5	22.5	22.5	20	20							

CAT System Optimization Support Services

- 1

Todays Frequencies



Weekday Service 6 to 6:30 a.m. to 10-10:30 p.m.

Koute #	Route Name	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	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
2	5th Street Station	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
3	Southwest & Belmont	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60		
5	Commonwealth Dr	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
6	Ridge St & Prospect Ave	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60		
7	Emmet St & Seminole Trl	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
8	Preston Ave & Emmet St	60	60	60	60	60	60	60	60	60	60	60	60						
9	The Health Dept & YMCA		30	30	30	30	60	60	30	30	30	30	30	60	60	60	60		
10	Pantops	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Trolley	Free Trolley	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		

Saturday Service 6 to 6:30 a.m. to 10-10:30 p.m.

Route #	Route Name	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	5th Street Station	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
3	Southwest & Belmont	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
4	Cherry Ave & Harris Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
5	Commonwealth Dr	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
6	Ridge St & Prospect Ave	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60		
7	Emmet St & Seminole Trl	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
8	Preston Ave & Emmet St	60	60	60	60	60	60	60	60	60	60	60	60						
9	The Health Dept & YMCA		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
10	Pantops	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Trolley	Free Trolley	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		

Sunday Service

No service



Charlottesville Area Transit (CAT) Ridership from FY 2018 - FY 2025

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Trolley	578,981	612,579	348,292	42,302	161,164	125,163	146,804	143,668
Route 1	39,266	29,499	22,664	12,215	29,864	32,056	32,755	40,319
Route 2	56,311	59,733	50,479	62,320	58,188	67,721	89,834	97,332
Route 3	101,755	88,074	62,171	54,405	85,662	108,237	124,958	119,192
Route 4	100,468	89,252	53,236	31,195	60,579	69,024	82,388	99,039
Route 5	218,227	201,040	163,537	88,854	187,018	160,870	192,156	185,942
Route 6	78,035	67,201	56,601	34,317	58,682	62,378	78,811	119,069
Route 7	521,459	495,592	393,355	188,056	319,806	270,502	330,522	320,066
Route 8	91,652	82,349	63,146	40,885	70,640	82,833	87,853	78,765
Route 9	19,895	12,843	8,283	6,759	18,356	36,053	41,347	44,219
Route 10	59,711	56,756	46,297	29,014	55,556	60,122	71,708	71,922
Route 11	67,750	55,897	39,534	26,629	50,999	72,060	73,923	62,852
Route 12	20,498	20,301	15,340	29	0	0	0	0
Other	969	504	241	30	0	0	0	0
Totals	1,954,977	1,871,620	1,323,176	617,010	1,156,514	1,147,019	1,353,059	1,382,385

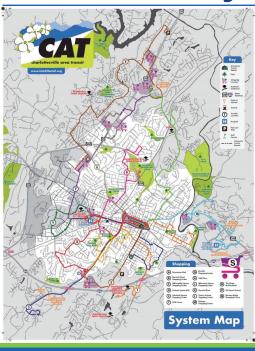
Service Enhancements FY25

- Route 11 extended to Center at Belvedere
- Routes 4 and 9 frequency improved to 30-minutes from 6AM to 7PM (Weekdays)
- Routes 6 frequency improved to 30minutes from 6AM to 6PM (Weekdays and Saturday)
- Added recovery time to every route to create a buffer of time – ensuring ontime departures for the next trip.

CAT OPTIMIZATION SUPPORT

Current (May 2025) CAT Network





Current Service Characteristics

- 12 routes (including Trolley)
- Weekday service span generally 6 am to 10:30 pm
- Weekday Service (12 routes in operation)
 - 7 routes operating at 30 minutes or better (1, 2, 4, 5, 6, 7, Trolley)
 - 1 route operating 30 peak/60 midday (9)
 - 4 routes operating at 60 minutes (2, 8, 10, 11)
- Saturday Service (11 routes in operation)
 - 5 routes operating at 30 minutes or better (2, 5, 6, 7, Trolley)
 - 6 routes operating at 60 minutes (3, 4, 8, 9, 10, 11)
- No Sunday service



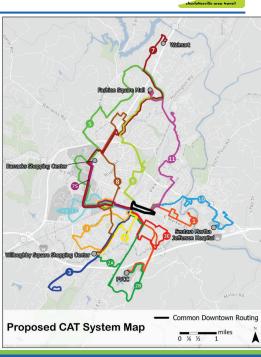
Near-Term Service Expansion Requirements

CAT OPTIMIZATION SUPPORT

System Optimization Plan (SOP): May 2022 Network Proposals



- Seven routes operating at 30-minute or better all-day weekday service (2, 3, 5, 6, 7, 10, Trolley)
- Re-establish Sunday service on five routes (2A, 3, 7, 10, Trolley)
- Major Network Features
 - Improved service between UVA campus/Hospital and US 29 corridor (Routes 5 and 7)
 - New crosstown service from south Charlottesville to US 29 corridor (Route 8)
 - New coverage in county along Avon St. Extended and Mill Creek Drive that serves Regional Jail and Monticello High School (Route 2B)
 - New connection to Piedmont Virginia Community College (Route 2B)
 - New coverage in city with Route 5 extension to UVA Hospital and with Route 6 service on 1st Street South



SOP Network Requirements



Service	Peak Buses	Rev. Bus-Hours
Weekday	28	424
Saturday	24	378
Sunday	7	90
Annual	28	132,600*

Notes:

- 1. Current service requirements estimated at 21 peak buses, 93,200 annual revenue hours
- 2. * May 2022 rev. hour estimate for SOP was 130,899. Rev. hours have been adjusted for this exercise to better reflect current service spans)

Estimate of Required Operators from May 2022 = 82

CAT System Optimization Support Services

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Updated Estimate of Operators



Spring	2025	Ratios of	Revenue-Hours	and O	perators
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<u> </u>	725 Kullos Ol			-				
Day of	Daily	Weekly	Daily	Weekly	Rev. Hrs./	Weekly	Xtra	Total
Weekly	Rev. Hrs.	Rev. Hrs.	Op Assign.	Op Assign.	Assign.	Duties	Board	Operators
Wkdy	300	1,501	45	225	6.67			
Sat	263	263	34	34	7.74			
Sun	0	0	0	0	0.00			
Weekly		1,764		259	6.81	55	10	65

Original SOP Preferred Scenario Revised Estimate of Operators

Day of	Daily	Weekly	Daily	Weekly	Rev. Hrs./	Weekly	Xtra	Total
Weekly	Rev. Hrs.	Rev. Hrs.	Op Assign.	Op Assign.	Assign.	Duties	Board	Operators
Wkdy	424	2,118	58	290	7.30			
Sat	378	378	51	51	7.41			
Sun	90	90	12	12	7.50			
Weekly		2,586		353	7.32	75	15	90

Updated estimate of operator needs is 8 more than original estimate of 82, due to:

- Change in methodology in estimating operators
- Less operator overtime assumed
- Additional Extra board assumed

- Future operator assignment estimates reflect a 10% improvement in the current ratio of weekday revenue-hours to assignments
- Future weekly duties based on current ratio of weekly duties to weekly operator assignments
- Future extra board requirements assume a 20% ratio (Spring 2025 current ratio is 18%)

SOP Service Achievable with 82 Operators CAT

Route	Proposed SOP Change	Retain?	Service Frequency
1	Add Sat. Service	Yes	Remains at 60 min.
2A/2B	Two patterns – Food Lion & PVCC	Yes	Two 60-min. patterns
3/3E	Break into two routes	No	Alignment unchanged, but weekday frequencies improved to 30 min.
4	No changes proposed	n/a	Remains at 30 min. weekday
5	New align UVA to Fashion Sq.	Yes	Remains at 30 min.
6	Eliminate UVA deviation	No	Remains at 30 min.
7	New align extend to Walmart	Yes	Remains at 30 min.
7s	Supplemental Route 7 Service	No	n/a
8	5 th St. Food Line to Stonefield	No	Alignment unchanged - Remains at 60 min. w/ new eve. service
9	Route extended to Fashion Sq.	No	Alignment unchanged, but midday frequencies improved to 30 min.
10	Alignment modified	Yes	Wkdy. freq. improved to 30 min.
11	No changes proposed	n/a	Remains at 60 min.
Trolley	15 min. frequencies	Yes	Improved to 15 min.
Sunday service	Routes 2A, 3, 7, Trolley	No	No Sunday service included

CAT System Optimization Support Services

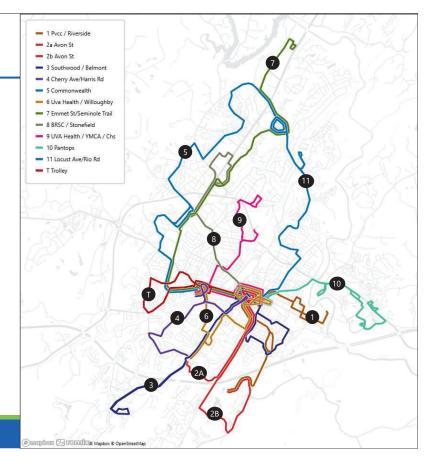
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SOP Service Achievable with 82 Operators

Estimate of Required Operators

(assuming 20% Xtra Board)

Day of	Daily	Weekly	Daily	Weekly	Rev. Hrs./	Weekly	Xtra	Total
Weekly	Rev. Hrs.	Rev. Hrs.	Op Assign.	Op Assign.	Assign.	Duties	Board	Operators
Wkdy	404	2,018	55	275	7.34			
Sat	349	349	47	47	7.43			
Sun	0	0	0	0	0.00			
Weekly		2,367		322	7.35	68	14	82



CAT OPTIMIZATION SUPPORT

SOP Service Achievable with 82 Operators CAT



Route	Name	Day	Span of Service	Peak Time	Round '		МРН	AM.	Service I Mid	requenc PM	y Eve	Vehicles Peak Total	Daily Bus-Mi's	Rev. Bus-Hrs	Annu Bus-Miles	al Rev. Bus-Hrs
Koole	PVCC & Woolen Mills	Wk	6:00 gm - 10:30 pm	53	53	14.2	16.0	60	60	60	60	reak folds	241.4	17.0	61,600	4,300
		Sat	6:30 am - 10:30 pm	53	53	14.2		60	60	60	60		241.4	17.0	12,600	900
		Sun	N/A	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
															74,200	5,200
2A	Downtown-Fifth St. Station	Wk	6:00 am - 10:30 pm	39	39	7.8	12.0	60	60	60	60	1	132.6	17.0	33,800	4,300
		Sat	6:30 am - 10:30 pm	39	39	7.8		60	60	60	60		132.6	17.0	6,900	900
		Sun	7:30 am - 9:00 pm	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0 40,700	5.200
2B	Downtown-PVCC	Wk	6:00 am - 8:00 pm	51	51	11.9	14.0	60	60	60	60		166.6	14.0	40,700	3,600
20	DOWNIOWN-1 VCC	Sat	6:30 am - 8:00 pm	51	51	11.9	14.0	60	60	60	60		166.6	14.0	8,700	700
		Sun	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
			,			,		-	- /	- /	-				51,200	4,300
3	Southwood & Belmont	Wk	6:00 am - 10:30 pm	50	50	12.5	15.0	30	30	30	60	2	362.5	29.0	92,400	7,400
		Sat	6:30 am - 10:30 pm	50	50	12.5		60	60	60	60		212.5	17.0	11,100	900
		Sun	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
												_			103,500	8,300
4	Cherry Avenue & Harris Road	Wk Sat	6:00 am - 10:30 pm	49 49	49 49	10.8	13.2	30 60	30 60	30 60	60 60	2	313.2 183.6	29.0 17.0	79,900	7,400 900
		Sun	6:30 am - 10:30 pm n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	9,500	900
		0011	11/4	11/ G	11/ 0	11/ G		11/ G	11/ G	11/ G	11/ G			0.0	89.400	8,300
- 5	Fashion Sa - Barracks Ctr UVA	Wk	6:00 am - 10:30 pm	90	90	17.9	12.0	30	30	30	30	4	590.7	66.0	150,600	16,800
		Sat	6:30 am - 10:30 pm	90	90	17.9		30	30	30	30		572.8	64.0	29,800	3,300
		Sun	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
															180,400	20,100
6	Ridge Street & Prospect Ave.	Wk	6:00 am - 10:30 pm	49	49	10.5	12.9	30	30	30	60	2	304.5	29.0	77,600	7,400
		Sat	6:30 am - 10:30 pm	49	49	10.5		30	30	30	60		294	28.0	15,300	1,500
		Sun	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	92,900	0 8.900
7	Emmet Street & Seminole Trail	Wk	6:00 gm - 10:30 pm	99	99	18.1	11.0	30	30	30	30	4	597.3	66.0	152,300	16,800
,	Elilliei Sireei & Sellillole II dii	Sat	6:30 am - 10:30 pm	99	99	18.1	11.0	30	30	30	30	-	579.2	64.0	30,100	3,300
		Sun	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
															182,400	20,100
8	Preston Avenue & Emmet Street	Wk	6:00 am - 10:30 pm	50	50	9.0	10.8	60	60	60	n/a	1	108	12.0	27,500	3,100
		Sat	6:30 am - 10:30 pm	50	50	9.0		60	60	60	n/a		108	12.0	5,600	600
		Sun	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
9	Health Department & YMCA	Wk	6:00 gm - 10:30 pm	54	54	12.5	13.9	30	30	30	60	2	362.5	29.0	92,400	3,700 7,400
,	nedili beparilieli a TMCA	Sat	6:30 am - 10:30 pm	54	54	12.5	13.7	60	60	60	60	2	212.5	17.0	11.100	900
		Sun	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
			,	,				-		- /	- /				103,500	8,300
10	Pantops	Wk	6:00 am - 10:30 pm	55	55	10.2	11.1	30	30	30	60	2	295.8	29.0	75,400	7,400
		Sat	6:30 am - 10:30 pm	55	55	10.2		60	60	60	60		173.4	17.0	9,000	900
		Sun	N/A	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
															84,400	8,300
11	Downtown-Locust Avenue & Rio Road	Wk Sat	6:00 am - 10:30 pm 6:30 am - 10:30 pm	50 50	50 50	11.7	14.0	60 60	60 60	60	60 60	1	198.9 198.9	17.0 17.0	50,700 10,300	4,300 900
		Sun	0:30 am - 10:30 pm N/A	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
		Juli	14/A	11/ U	11/U	/ u		/u	/ u	/ u	, u			0.0	61,000	5,200
T	Free Trolley	Wk	6:00 am - 10:30 pm	39	39	5.9	9.0	15	1.5	15	15	3	389.4	49.5	99,300	12,600
		Sat	6:30 am - 10:30 pm	39	39	5.9		15	1.5	1.5	1.5		377.6	48.0	19,600	2,500
		Sun	N/A	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
															118,900	15,100
SYSTEM TO	OTAL											26 32			1,215,600	121,000

Changes from Existing

- 6 additional peak vehicles
- 30,900 additional annual revenue-hours

CAT System Optimization Support Services

Estimated Rev. Hours w/82 Operators



		Round '	Trip Route D	istances		Route Reve	enue Hours		City Rev.	Hours	County Re	ev. Hours
Route	Route Name	Total	City	County	Weekday	Saturday	Sunday	Annual	Percentage	Hours	Percentage	Hours
1	PVCC & Woolen Mills	14.2	11.29	2.91	17.0	17.0	0.0	5,200	80%	4,134	20%	1,066
2α	Downtown-Fifth St. Station	7.8	5.13	2.67	17.0	1 <i>7</i> .0	0.0	5,200	66%	3,420	34%	1,780
2b	Downtown-PVCC	11.9	4.2	7.7	14.0	14.0	0.0	4,300	35%	1,518	65%	2,782
3	Southwood & Belmont	12.5	8.79	3.71	29.0	1 <i>7</i> .0	0.0	8,300	70%	5,837	30%	2,463
4	Cherry Avenue & Harris Road	10.8	10.8	0	29.0	17.0	0.0	8,300	100%	8,300	0%	0
5	Fashion Sq - Barracks Ctr UVA	17.9	5.63	12.27	66.0	64.0	0.0	20,100	31%	6,322	69%	13,778
6	Ridge Street & Prospect Ave.	10.5	10.5	0	29.0	28.0	0.0	8,900	100%	8,900	0%	0
7	Emmet Street & Seminole Trail	18.1	11.25	6.85	66.0	64.0	0.0	20,100	62%	12,493	38%	7,607
8	Preston Avenue & Emmet Street	9	7.75	1.25	12.0	12.0	0.0	3,700	100%	3,700	0%	0
9	Health Department & YMCA	12.5	12.5	0	29.0	1 <i>7</i> .0	0.0	8,300	100%	8,300	0%	0
10	Pantops	10.2	3.78	6.42	29.0	1 <i>7</i> .0	0.0	8,300	37%	3,076	63%	5,224
11	Downtown-Locust Avenue & Rio Road	11.7	6.1	5.6	17.0	17.0	0.0	5,200	52%	2,711	48%	2,489
T	Free Trolley	5.9	5.9	0	49.5	48.0	0.0	15,100	100%	15,100	0%	0
TOTALS					403.5	349.0	0.0	121,000	69%	83,811	31%	37,189

- 1. Annual hours assume 255 Weekdays, 52 Saturdays and 55 Sundays/Holidays
- 2. City/County portions of routes based on Remix measurements in relation to City limit boundaries

CAT System Optimization Support Services

Estimated Operating Costs w/ 82 Operators



		Total	City Hou	rs and Costs	County H	ours & Costs
Route	Route Name	Cost	Percentage	Cost	Percentage	Cost
1	PVCC & Woolen Mills	\$726,000	80%	\$577,000	20%	\$149,000
2a	Downtown-Fifth St. Station	\$726,000	66%	\$477,000	34%	\$249,000
2b	Downtown-PVCC	\$601,000	35%	\$212,000	65%	\$389,000
3	Southwood & Belmont	\$1,159,000	70%	\$815,000	30%	\$344,000
4	Cherry Avenue & Harris Road	\$1,159,000	100%	\$1,159,000	0%	\$0
5	Fashion Sq - Barracks Ctr UVA	\$2,807,000	31%	\$883,000	69%	\$1,924,000
6	Ridge Street & Prospect Ave.	\$1,243,000	100%	\$1,243,000	0%	\$0
7	Emmet Street & Seminole Trail	\$2,807,000	62%	\$1,745,000	38%	\$1,062,000
8	Preston Avenue & Emmet Street	\$517,000	100%	\$517,000	0%	\$0
9	Health Department & YMCA	\$1,159,000	100%	\$1,159,000	0%	\$0
10	Pantops	\$1,159,000	37%	\$430,000	63%	\$729,000
11	Downtown-Locust Avenue & Rio Road	\$726,000	52%	\$379,000	48%	\$347,000
T	Free Trolley	\$2,109,000	100%	\$2,109,000	0%	\$0
TOTALS		\$16,898,000	69%	\$11,705,000	31%	\$5,193,000

Notes

- City/County portions of routes based on Remix measurements in relation to City limit boundaries
- Cost estimates reflect a cost of \$136 per total (platform) hour based on CAT FY 2025 costs. Unit cost used in this analysis factored up by 2.7% to reflect an estimated cost per revenue-hour
- 3. Cost per hour used in this analysis subject to change for reasons such as labor union contract, fuel costs and other potential inflationary cost changes

CAT System Optimization Support Services

SOP Service with 30minute frequencies

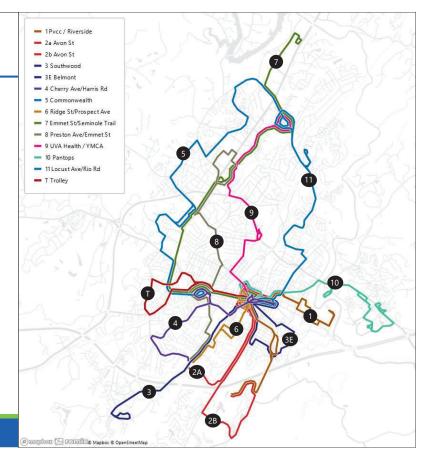
- 30 min. frequencies on all routes except Trolley, with 15 min. frequencies
- Supplemental Route 7 service from downtown to Fashion Square to achieve 15 min. frequencies in
- Sunday service on Routes 2A, 3, 7, Trolley
- 35 peak period vehicles
- 161,100 annual revenue-hours

Estimate of Required Operators

(assuming 20% Xtra Board)

Day of	Daily	Weekly	Daily	Weekly	Rev. Hrs./	Weekly	Xtra	Total
Weekly	Rev. Hrs.	Rev. Hrs.	Op Assign.	Op Assign.	Assign.	Duties	Board	Operators
Wkdy	508	2,538	69	345	7.36			
Sat	459	459	62	62	7.40			
Sun	135	135	18	18	7.50			
Weekly		3,132		425	7.37	90	18	108

Original estimate of required operators = 101



CAT OPTIMIZATION SUPPORT

SOP Service w/ 30-Min. Frequencies



			Span of		Round Trip			Service F	requent		Vehicles	Daily	Rev.	Annu	ol Rev.
Route	Name	Day	Service	Peak Time	Dist [mi.]	MPH	AM		PM	Eve	Peak Total	Bus-Mi's	Bus-Hrs	Bus-Miles	Bus-Hrs
1	PVCC & Woolen Mills	Wk	6:00 am - 10:30 pm	53	14.2	16.0	30	30	30	60	2	411.8	29.0	105,000	7,400
		Sat Sun	6:30 am - 10:30 pm N/A	53 n/a	14.2 n/a		60 n/a	30 n/a	30 n/a	60 n/a		369.2 0	26.0	19,200	1,400
		Sun	N/A	n/ a	n/ a		ny a	n/ a	n/u	n/ a			0.0	124,200	8.800
2A	Downtown-Fifth St. Station	Wk	6:00 am - 10:30 pm	39	7.8	12.0	30	30	30	60	2	226.2	29.0	57,700	7,400
		Sat	6:30 am - 10:30 pm	39	7.8		60	30	30	60		202.8	26.0	10,500	1,400
		Sun	7:30 am - 9:00 pm	39	7.8		60	30	30	60		171.6	22.0	9,800	1,300
2B	Downtown-PVCC	Wk	6:00 am - 8:00 pm	51	11.9	14.0	30	30	30	60	2	309.4	26.0	78,000 78,900	6,600
28	Downtown-PVCC	Sat	6:30 am - 8:00 pm	51	11.9	14.0	60	30	30	60	2	273.7	23.0	14,200	1,200
		Sun	n/a	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
														93,100	7,800
3	Downtown-Southwood	Wk	6:00 am - 10:30 pm	42	9.2	13.0	30	30	30	60	2	266.8	29.0	68,000	7,400
		Sat Sun	6:30 am - 10:30 pm 7:30 am - 9:00 pm	42 42	9.2 9.2		60	30	30	60		239.2 202.4	26.0 22.0	12,400	1,400
		Sun	7:30 am - 9:00 pm	42	9.2		60	30	30	60		202.4	22.0	91,900	10,100
3E	Downtown-Belmont Park	Wk	6:00 am - 10:30 pm	31	5.6	11.0	30	30	30	60	1.5	162.4	21.8	41,400	5,500
		Sat	6:30 am - 10:30 pm	31	5.6		60	30	30	60		145.6	19.5	7,600	1,000
		Sun	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
		Wk	6:00 am - 10:30 pm	- 56	10.8	11.5	30	30	30	60	2.5	313.2	36.3	49,000 79,900	9,200
4	Downtown-Cherry Ave & Harris Rd	Sat	6:30 am - 10:30 pm	56	10.8	11.5	60	30	30	60	2.5	280.8	30.3	14,600	1,700
		Sun	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
							,	, ,		,				94,500	10,900
5	Fashion Sq - Barracks Ctr UVA	Wk	6:00 am - 10:30 pm	90	17.9	12.0	30	30	30	30	4	590.7	66.0	150,600	16,800
		Sat	6:30 am - 10:30 pm	90	17.9		30	30	30	30		572.8	64.0	29,800	3,300
		Sun	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	180.400	20,100
-	Downtown-Ridge Street	Wk	6:00 am - 10:30 pm	37	6.5	10.5	30	30	30	60	1.5	188.5	21.8	48,100	5,500
	DOWNIOWN-Kidge United	Sat	6:30 am - 10:30 pm	37	6.5	10.5	60	30	30	60	1.2	169	19.5	8,800	1,000
		Sun	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
														56,900	6,500
7	Emmet Street & Seminole Trail	Wk	6:00 am - 10:30 pm	99	18.1	11.0	30	30	30	30	4	597.3	66.0	152,300	16,800
		Sat Sun	6:30 am - 10:30 pm 7:30 am - 9:00 pm	99 99	18.1		30 60	30	30	30 60		579.2 398.2	64.0 44.0	30,100 22,700	3,300 2,500
		Juli	7.50 diii = 7.00 piii	- ''	10.1		00	50	30	00		370.2	44.0	205,100	22,600
7s	Downtown-Barracks Short Turn	Wk	7:00-9:00 am, 3:00-6:00 pm	44	6.9	9.4	30	n/a	30	n/a	2	69	10.0	17,600	2,600
		Sat	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
		Sun	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	17.600	2.600
- 8	Prospect Ave-Barracks Road	Wk	6:00 am - 10:30 pm	56	12.2	13.0	30	30	30	60	2	353.8	29.0	90,200	7,400
	Trospect Are-bullocks kodu	Sat	6:30 am - 10:30 pm	56	12.2	10.0	60	30	30	60	•	317.2	26.0	16,500	1,400
		Sun	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
														106,700	8,800
9	Downtown-Fashion Square	Wk Sat	6:00 cm - 10:30 pm 6:30 cm - 10:30 pm	66	12.1	11.0	30 60	30 30	30	60	2.5	350.9 314.6	36.3 32.5	89,500	9,200
		Sun	6:30 am - 10:30 pm N/A	66 n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	16,400	1,700
		Sun	N/A	n/ a	n/ a		ny a	n/ a	n/u	n/ a			0.0	105,900	10.900
10	Pantops	Wk	6:00 am - 10:30 pm	55	10.2	11.1	30	30	30	60	2	295.8	29.0	75,400	7,400
		Sat	6:30 am - 10:30 pm	55	10.2		60	30	30	60		265.2	26.0	13,800	1,400
		Sun	7:30 am - 9:00 pm	55	10.2		60	30	30	60		224.4	22.0	12,800	1,300
- 11	Downtown-Locust Avenue & Rio Road	Wk	6:00 am - 10:30 pm	52	11.7	13.5	30	30	20	40	2	339.3	29.0	102,000	7,400
- 11	Downtown-Locust Avenue & Kio Kodd	Sat	6:30 am - 10:30 pm 6:30 am - 10:30 pm	52	11.7	13.5	60	30	30 30	60	4	339.3	26.0	86,500 15,800	1,400
		Sun	N/A	n/a	n/a		n/a	n/a	n/a	n/a		0	0.0	0	0
														102,300	8,800
Т	Free Trolley	Wk	6:00 am - 10:30 pm	39	5.9	9.0	15	15	15	15	3	389.4	49.5	99,300	12,600
		Sat	6:30 am - 10:30 pm 7:30 am - 9:00 pm	39 39	5.9 5.9		15 30	15	1.5 30	1.5 30		377.6 147.5	48.0 25.0	19,600 8,400	2,500 1,400
		Sun	7:30 am - Y:00 pm	39	5.9		30	30	30	30		147.5	25.0	8,400 127,300	1,400
		_					_							127,300	10,500
SYSTEM T	OTAL										35 4 <u>2</u>			1,534,900	161,100

Changes from Existing

- 15 additional <u>peak</u> vehicles
- 71,000 additional annual revenue-hours

CAT System Optimization Support Services

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Estimated Operating Hours for SOP with 30-Min. Frequencies



		Round	Trip Route D	istances		Route Reve	nue Hours		City Rev	. Hours	County Re	v. Hours
Route	Route Name	Total	City	County	Weekday	Saturday	Sunday	Annual	Percentage	Hours	Percentage	Hours
1	PVCC & Woolen Mills	14.2	11.29	2.91	29.0	26.0	0.0	8,800	80%	6,997	20%	1,803
2a	Downtown-Fifth St. Station	7.8	5.13	2.67	29.0	26.0	22.0	10,100	66%	6,643	34%	3,457
2b	Downtown-PVCC	11.9	4.2	7.7	26.0	23.0	0.0	7,800	35%	2,753	65%	5,047
3	Downtown-Southwood	9.2	5.49	3.71	29.0	26.0	22.0	10,100	60%	6,027	40%	4,073
3E	Downtown-Belmont Park	5.6	5.6	0	21.8	19.5	0.0	6,500	100%	6,500	0%	0
4	Downtown-Cherry Ave & Harris Rd	10.8	10.8	0	36.3	32.5	0.0	10,900	100%	10,900	0%	0
5	Fashion Sq - Barracks Ctr UVA	17.9	5.63	12.27	66.0	64.0	0.0	20,100	31%	6,322	69%	13,778
6	Downtown-Ridge Street	6.5	6.5	0	21.8	19.5	0.0	6,500	100%	6,500	0%	0
7	Emmet Street & Seminole Trail	18.1	11.25	6.85	66.0	64.0	44.0	22,600	62%	14,047	38%	8,553
7 \$	Downtown-Barracks Short Turn	6.9	6.9	0	10.0	0.0	0.0	2,600	100%	2,600	0%	0
8	Prospect Ave-Barracks Road	12.2	10.95	1.25	29.0	26.0	0.0	8,800	100%	8,800	0%	0
9	Downtown-Fashion Square	12.1	9.19	2.91	36.3	32.5	0.0	10,900	100%	10,900	0%	0
10	Pantops	10.2	3.78	6.42	29.0	26.0	22.0	10,100	37%	3,743	63%	6,357
11	Downtown-Locust Avenue & Rio Road	11.7	6.1	5.6	29.0	26.0	0.0	8,800	52%	4,588	48%	4,212
T	Free Trolley	5.9	5.9	0	49.5	48.0	25.0	16,500	100%	16,500	0%	0
TOTALS					507.5	459.0	135.0	161,100	71%	113,819	29%	47,281

Notes

- 1. Annual hours assume 255 Weekdays, 52 Saturdays and 55 Sundays/Holidays
- 2. City/County portions of routes based on Remix measurements in relation to City limit boundaries

CAT System Optimization Support Services

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Estimated Operating Costs for SOP with 30-Min. Frequencies



		Total	City Hou	rs and Costs	County H	ours & Costs
Route	Route Name	Cost	Percentage	Cost	Percentage	Cost
1	PVCC & Woolen Mills	\$1,229,000	80%	\$977,000	20%	\$252,000
2α	Downtown-Fifth St. Station	\$1,411,000	66%	\$928,000	34%	\$483,000
2b	Downtown-PVCC	\$1,089,000	35%	\$384,000	65%	\$705,000
3	Downtown-Southwood	\$1,411,000	60%	\$842,000	40%	\$569,000
3E	Downtown-Belmont Park	\$908,000	100%	\$908,000	0%	\$0
4	Downtown-Cherry Ave & Harris Rd	\$1,522,000	100%	\$1,522,000	0%	\$0
5	Fashion Sq - Barracks Ctr UVA	\$2,807,000	31%	\$883,000	69%	\$1,924,000
6	Downtown-Ridge Street	\$908,000	100%	\$908,000	0%	\$0
7	Emmet Street & Seminole Trail	\$3,157,000	62%	\$1,962,000	38%	\$1,195,000
7 S	Downtown-Barracks Short Turn	\$363,000	100%	\$363,000	0%	\$0
8	Prospect Ave-Barracks Road	\$1,229,000	100%	\$1,229,000	0%	\$0
9	Downtown-Fashion Square	\$1,522,000	100%	\$1,522,000	0%	\$0
10	Pantops	\$1,411,000	37%	\$523,000	63%	\$888,000
11	Downtown-Locust Avenue & Rio Road	\$1,229,000	52%	\$641,000	48%	\$588,000
T	Free Trolley	\$2,305,000	100%	\$2,305,000	0%	\$0
TOTALS		\$22,501,000	62%	\$15,897,000	26%	\$6,604,000

Note

- 1. City/County portions of routes based on Remix measurements in relation to City limit boundaries
- 2. Cost estimates reflect a cost of \$136 per total (platform) hour based on CAT FY 2025 costs. Unit cost used in this analysis factored up by 2.7% to reflect an estimated cost per revenue-hour
- 3. Cost per hour used in this analysis subject to change for reasons such as labor union contract, fuel costs and other potential inflationary cost changes

CAT OPTIMIZATION SUPPORT

Existing Frequencies (65 Operators)



Weekday Service 6 to 6:30 a.m. to 10-10:30 p.m.

Route #	route Name	D:UU AIVI	7:00 AIVI	0:UU AIVI	9:00 AIVI	TO:OO MIVI	11:00 AIVI	12:00 PIVI	1:00 PIVI	2:00 PIVI	3:00 PIVI	4:00 PIVI	3:00 PIVI	0:UU PIVI	7:00 PIVI	0:UU PIVI	9:00 PIVI	TO:OO PIVI	11:00 PIVI
1	PVCC and Woolen Mills	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
2	5th Street Station	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
3	Southwest & Belmont	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60		
5	Commonwealth Dr	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
6	Ridge St & Prospect Ave	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60		
7	Emmet St & Seminole Trl	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
8	Preston Ave & Emmet St	60	60	60	60	60	60	60	60	60	60	60	60						
9	The Health Dept & YMCA		30	30	30	30	60	60	30	30	30	30	30	60	60	60	60		
10	Pantops	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Trolley	Free Trolley		25	25	25	25	25	25		25	25	25	25	25	25	25	25		

Saturday Service 6 to 6:30 a.m. to 10-10:30 p.m.

Route#	Route Name	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	5th Street Station	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
3	Southwest & Belmont	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
4	Cherry Ave & Harris Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
5	Commonwealth Dr	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
6	Ridge St & Prospect Ave	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60		
7	Emmet St & Seminole Trl	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
8	Preston Ave & Emmet St	60	60	60	60	60	60	60	60	60	60	60	60						
9	The Health Dept & YMCA		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
10	Pantops	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Trolley	Free Trolley	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		

Sunday Service No.

No service

Partial SOP Implementation Frequencies with 82 Operators



Weekday Service 6:00 a.m. to 11:00 p.m.

Route #	Route Name	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	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
3	Southwest & Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & Prospect Ave	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
8	Preston Ave & Emmet St	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
9	The Health Dept & YMCA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Saturday Service 6:30 a.m. to 11:00 p.m.

Route #	Route Name	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	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
3	Southwest & Belmont	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
4	Cherry Ave & Harris Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & Prospect Ave	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
8	Preston Ave & Emmet St	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
9	YMCA & Fashion Sq	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
10	Pantops (bi-directional)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Sunday Service

No service

CAT System Optimization Support Services

Full SOP Implementation with 30-Min. Freq. (108 Operators)



Weekday Service 6:00 a.m. to 11:00 p.m.

Route #	Route Name	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	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
3	Southwood	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
3E	Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & 1st	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
7s	BRSC Short Turn		30	30							30	30	30						
8	Preston Ave & Emmet St - UVA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
9	YMCA & Fashion Sq	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
11	Locust Ave & Rio Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Saturday Service

6:30 a.m. to 11:00 p.m.

Route#	Route Name	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	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
3	Southwood	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
3E	Belmont	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
4	Cherry Ave & Harris Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & 1st	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
9	YMCA & Fashion Sq	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
10	Pantops (bi-directional)	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Sunday Service 7:30 a.m. to 9:00 p.m.

Route#	Route Name	6:00 AM	7;00	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 AM	11:00 PM
1	PVCC and Woolen Mills																		
2A	5th Street Station/Willoughby		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
3	Southwood		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
3E	Belmont																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA																		
6	Ridge St & 1st																		
7	Emmet St & Seminole Trl - Walmart		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq																		
10	Pantops (bi-directional)		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
11	Locust Ave & Rio Rd																		
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			



Service Expansion Beyond the SOP Scenarios

CAT OPTIMIZATION SUPPORT

Beyond SOP Analysis: Scenario 1



Scenario	Characteristic	Weekdays	Saturday	Sunday
Scenario 1A	Frequency	All routes at 30 min. except Trolley (15 min.)	All routes at 30 min. from 9 am to 6 pm except Trolley (15 min.)	30 min. frequency from 9 am to 6 pm - Routes 2A, 3, 5, 6, 7, 10, Trolley
	Span	6 am to 12 am	6:30 am to 12 am	7:30 am to 9 pm
Scenario 1B	Frequency	15 min. freq. on 5, 6, 7, Trolley. Route 7S not included. All other routes at 30 min.	15 min. freq. on 5, 6, 7, Trolley. All others at 30 min.	30 min. frequency from 9 am to 6 pm - Routes 2A, 3, 5, 6, 7, 10, Trolley
	Span	6 am to 12 am	6:30 am to 12 am	7:30 am to 9 pm

Only differences between Scenarios 1A and 1B are 15-minute frequencies on Routes 5, 6, 7, Trolley and elimination of 7S on weekdays (additional frequency not needed with 15 minute service on the full Route 7 alignment)

Beyond SOP Analysis: Scenario 2



Scenario	Characteristic	Weekdays	Saturday	Sunday
Scenario 2A	Frequency	All routes at 30 min. except Trolley (15 min.)	All routes at 30 min. from 9 am to 6 pm except Trolley (15 min.)	60 min. frequency on Routes 2A, 3, 5, 6, 7, 10. Trolley at 30 min.
	Span	6 am to 12 am	6:30 am to 12 am	7:30 am to 9 pm
Scenario 2B	Frequency	15 min. freq. on 5, 6, 7, Trolley. Route 7S not included. All other routes at 30 min.	15 min. freq. on 5, 6, 7, Trolley. All others at 30 min.	60 min. frequency on Routes 2A, 3, 5, 6, 7, 10. Trolley at 30 min.
	Span	6 am to 12 am	6:30 am to 12 am	7:30 am to 9 pm

Only difference between Scenarios 2A and 2B is 60-minute Sunday frequencies on Routes 2A, 3, 5, 6, 7, 10

CAT OPTIMIZATION SUPPORT

Beyond SOP Analysis: Scenario 3



Scenario	Characteristic	Weekdays	Saturday	Sunday
Scenario 3A	Frequency	All routes at 30 min. except Trolley (15 min.)	All routes at 30 min. from 9 am to 6 pm except Trolley (15 min.)	60 min. frequency on Routes 2A, 3, 5, 6, 7, 10. Trolley at 30 min.
	Span	6 am to 11 pm	6:30 am to 11 pm	7:30 am to 9 pm
Scenario 3B	Frequency	15 min. freq. on 5, 6, 7, Trolley. Route 7S not included. All other routes at 30 min.	15 min. freq. on 5, 6, 7, Trolley. All others at 30 min.	60 min. frequency on Routes 2A, 3, 5, 6, 7, 10. Trolley at 30 min.
	Span	6 am to 11 pm	6:30 am to 11 pm	7:30 am to 9 pm

Only difference between Scenarios 3A and 3B is service ending at 11 pm on weekdays and Saturdays

Beyond SOP Scenario Requirements



Scenario	Service Scenario	Peak Vehicles Required	Annual Rev. Hrs.	Required Operators	Annual O&M Cost
Scenario 1A	30 min. model,30 min. Sunday serv.12 am service	35	174,200	117	\$24.3 million
Scenario 1B	15 min. select routes30 min. Sunday serv.12 am service	41	201,900	137	\$28.2 million
Scenario 2A	30 min. model,60 min. Sunday serv.12 am service	35	170,200	114	\$23.8 million
Scenario 2B	15 min. select routes60 min. Sunday serv.12 am service	41	197,900	135	\$27.6 million
Scenario 3A	30 min. model,60 min. Sunday serv.11 pm service	35	163,700	111	\$22.9 million
Scenario 3B	15 min. select routes60 min. Sunday serv.11 pm service	41	191,100	130	\$26.7 million

Note

CAT OPTIMIZATION SUPPORT

Potential Additional Staffing Needs for Scenarios



Service 7 Days a week – 5:30AM until 12:00AM (Maintenance Shop until 5AM – 12AM)

Position	Potential Increase	Cost per position w/benefits	TOTAL
Inventory Specialist	1	\$85,862.12	\$85,862.12
Transit Bus Technician	5	\$97,685.51	\$488,427.55
Operations Supervisor	5	\$111,838.26	\$559,191.30
		Grand Total	\$1,133,480.97

Service 7 Days a week – 5:30AM until 12:00AM (Maintenance Shop 24 Hours)

Position	Potential Increase	Cost per position w/benefits	TOTAL
Inventory Specialist	2	\$85,862.12	\$171,724.24
Transit Bus Technician	8	\$97,685.51	\$781,484.08
Transit Technician Super.	1	\$130,297.60	\$130,297.60
Operations Supervisor	5	\$111,838.26	\$559,191.30
		Grand Total	\$1,642,697.22

Cost estimates reflect a cost of \$136 per total (platform) hour based on CAT FY 2025 costs. Unit cost used in this analysis factored up by 2.7% to reflect an estimated cost per revenue-hour

^{2.} Cost per hour used in this analysis subject to change for reasons such as labor union contract, fuel costs and other potential inflationary cost changes

Beyond SOP Scenario 1A Frequencies



Weekday Service 6:00 a.m. to 12:00 a.m.

Route #	Route Name	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	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	15	15	15	15	15	15		15	15	15	15	15	30	30	30	30	30	30
3	Southwood	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
6	Ridge St & 1st	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
7s	BRSC Short Turn	30	30	30							30	30	30						
8	Preston Ave & Emmet St - UVA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15		15

Saturday Service 6:30 a.m. to 12:00 a.m.

Route #	Route Name	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	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
3	Southwood	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
6	Ridge St & 1st	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Sunday Service 7:30 a.m. to 9:00 pm.

Route #	Route Name	6:00 AM	7;00	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																		
2A	5th Street Station/Willoughby		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
3	Southwood		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
3E	Belmont																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
6	Ridge St & 1st		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
7	Emmet St & Seminole Trl - Walmart		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq																		
10	Pantops (bi-directional)		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
11	Locust Ave & Rio Rd																		
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			

CAT System Optimization Support Services

2

Beyond SOP Scenario 1B Frequencies



Weekday Service 6:00 a.m. to 12:00 a.m.

Route #	Route Name	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	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
3	Southwood	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
6	Ridge St & 1st	15	15	15	15	15	15	15		15	15	15	15	30	30	30	30	30	30
7	Emmet St & Seminole Trl - Walmart	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15		15	15	15	15	15		15	15	15	15

Saturday Service 6:30 a.m. to 12:00 a.m.

Route #	Route Name	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	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
3	Southwood	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
6	Ridge St & 1st	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
7	Emmet St & Seminole Trl - Walmart	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Sunday Service 7:30 a.m. to 9:00 pm.

Route #	Route Name	6:00 AM	7;00	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 P
1	PVCC and Woolen Mills																		
2A	5th Street Station/Willoughby		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
3	Southwood		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
3E	Belmont																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
6	Ridge St & 1st		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
7	Emmet St & Seminole Trl - Walmart		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq																		
10	Pantops (bi-directional)		60	60	30	30	30	30	30	30	30	30	30	60	60	60			
11	Locust Ave & Rio Rd																		
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			

CAT System Optimization Support Services

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Beyond SOP Scenario 2A Frequencies



Weekday Service 6:00 a.m. to 12:00 a.m.

Route #	Route Name	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	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	15	15	15	15	15	15	15	15		15		15	30	30	30	30	30	30
3	Southwood	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
6	Ridge St & 1st	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
7s	BRSC Short Turn	30	30	30							30	30	30						
8	Preston Ave & Emmet St - UVA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15	15		15		15	15	15	15			15

Saturday Service 6:30 a.m. to 12:00 a.m.

Route #	Route Name	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	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
3	Southwood	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
6	Ridge St & 1st	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Sunday Service 7:30 a.m. to 9:00 pm.

Route #	Route Name	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																		
2A	5th Street Station/Willoughby		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3	Southwood		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3E	Belmont																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
6	Ridge St & 1st		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7	Emmet St & Seminole Trl - Walmart		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq																		
10	Pantops (bi-directional)		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
11	Locust Ave & Rio Rd																		
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			

CAT System Optimization Support Services

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Beyond SOP Scenario 2B Frequencies



Weekday Service 6:00 a.m. to 12:00 a.m. Service

Route #	Route Name	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	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
3	Southwood	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
6	Ridge St & 1st	15	15	15	15	15	15	15		15		15	15	30	30	30	30	30	30
7	Emmet St & Seminole Trl - Walmart	15	15	15	15	15	15	15	15	15		15	15	30	30	30	30	30	30
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Saturday Service 6:30 a.m. to 12:00 a.m. Service

Route #	Route Name	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	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
3	Southwood	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
3E	Belmont	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
4	Cherry Ave & Harris Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
6	Ridge St & 1st	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
7	Emmet St & Seminole Trl - Walmart	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	30
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
9	YMCA & Fashion Sq	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
10	Pantops (bi-directional)	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
11	Locust Ave & Rio Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	60
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Sunday Service 7:30 a.m. to 9:00 pm. Service

Route #	Route Name	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
	PVCC and Woolen Mills																		
2A	5th Street Station/Willoughby		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3	Southwood		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3E	Belmont																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
6	Ridge St & 1st		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7	Emmet St & Seminole Trl - Walmart		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq																		
10	Pantops (bi-directional)		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
11	Locust Ave & Rio Rd																		
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			

Beyond SOP Scenario 3A Frequencies



Weekday Service 6:00 a.m. to 11:00 p.m. Service

Route #	Route Name	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 PN
1	PVCC and Woolen Mills	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
3	Southwood	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
3E	Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
6	Ridge St & 1st	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
9	YMCA & Fashion Sq	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
11	Locust Ave & Rio Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Saturday Service 6:30 a.m. to 11:00 p.m. Service

Route #	Route Name	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	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
3	Southwood	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
3E	Belmont	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
4	Cherry Ave & Harris Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
6	Ridge St & 1st	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
7	Emmet St & Seminole Trl - Walmart	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
9	YMCA & Fashion Sq	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
10	Pantops (bi-directional)	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Sunday Service 7:30 a.m. to 9:00 pm. Service

Route #	Route Name	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																		
2A	5th Street Station/Willoughby		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3	Southwood		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3E	Belmont																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
6	Ridge St & 1st		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7	Emmet St & Seminole Trl - Walmart		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq																		
10	Pantops (bi-directional)		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
11	Locust Ave & Rio Rd																		
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			

CAT System Optimization Support Services

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Beyod SOP Scenario 3B Frequencies



Weekday Service 6:00 a.m. to 11:00 p.m. Service

Koute #	Route Name	6:00 AIVI	7:00 AM	8:00 AIVI	9:00 AM	10:00 AM	11:00 AM	12:00 PIVI	1:00 PIVI	2:00 PIVI	3:00 PIVI	4:00 PM	5:00 PIVI	6:00 PIVI	7:00 PIVI	8:00 PIVI	9:00 PIM	10:00 PIM	11:00 PM
1	PVCC and Woolen Mills	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
3	Southwood	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
3E	Belmont	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
4	Cherry Ave & Harris Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
6	Ridge St & 1st	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
7	Emmet St & Seminole Trl - Walmart	15	15	15	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
9	YMCA & Fashion Sq	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
10	Pantops (bi-directional)	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
11	Locust Ave & Rio Rd	30	30	30	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Saturday Service 6:30 a.m. to 11:00 p.m. Service

Route #	Route Name	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	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
2A/2B	5th Street Station/Willoughby/PVCC	30	30	30	15	15	15	15		15	15	15	15	30	30	30	30	30	
3	Southwood	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
3E	Belmont	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
4	Cherry Ave & Harris Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
5	Fashion Sq - Commonwealth Dr - UVA	30	30	30	15	15	15	15	15	15	15	15	15	30	30	30	30	30	
6	Ridge St & 1st	30	30	30	15	15	15	15		15	15	15	15	30	30	30	30	30	
7	Emmet St & Seminole Trl - Walmart	30	30	30	15	15	15	15		15	15	15	15	30	30	30	30	30	
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
9	YMCA & Fashion Sq	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
10	Pantops (bi-directional)	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
11	Locust Ave & Rio Rd	60	60	60	30	30	30	30	30	30	30	30	30	60	60	60	60	60	
Trolley	Free Trolley	15	15	15	15	15	15	15		15	15	15	15	15	15	15	15	15	

Sunday Service 7:30 a.m. to 9:00 pm. Service

Route #	Route Name	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																		
2A	5th Street Station/Willoughby		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3	Southwood		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
3E	Belmont																		
4	Cherry Ave & Harris Rd																		
5	Fashion Sq - Commonwealth Dr - UVA		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
6	Ridge St & 1st		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7	Emmet St & Seminole Trl - Walmart		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
7s	BRSC Short Turn																		
8	Preston Ave & Emmet St - UVA																		
9	YMCA & Fashion Sq																		
10	Pantops (bi-directional)		60	60	60	60	60	60	60	60	60	60	60	60	60	60			
11	Locust Ave & Rio Rd																		
Trolley	Free Trolley		30	30	30	30	30	30	30	30	30	30	30	30	30	30			

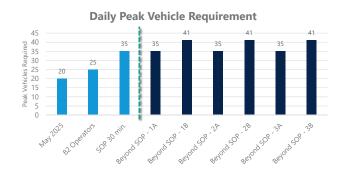


Summary of Service Requirements

CAT OPTIMIZATION SUPPORT

Service Requirements Summary





- Scenarios 1A,2A, 3A all require 35 peak vehicles
- Scenarios 1B,2B,3B all require 41 peak vehicles and more than doubles CAT's peak bus requirement



 Scenario 1B has the highest bus-hours and is 124% more than CAT's current annual revenue bus-hours

Service Requirements Summary





 Scenario1B adds 108% to CAT's current operator requirement



 Scenario1B adds 124% to CAT's current annual O&M costs

CAT OPTIMIZATION SUPPORT



July 2025

Charlottesville Area Transit Title VI Overview

Greg Nordin

Hello!



- 1 What is Title VI?
- 2 What's in the Circular?
- 3 How does CAT comply with Title VI?
- **4** Title VI Considerations

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What is Title VI?

1

Title VI of the Civil Rights Act of 1964





Section 601 of Title VI of the Civil Rights Act of 1964 states:

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.



In implementing this legislation, the Federal Transit Administration (FTA) publishes Circular *FTA C 4702.1B*, which details process and procedures for transit providers to comply with Title VI



EO 12898 sets guidance for environmental justice, which identifies protections for low-income individuals. FTA expanded the protections in Circular FTA C 4702.1B to include protections for low-income populations

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Title VI is the foundation for US transit agencies to demonstrate their services do not discriminate against minority and low-income populations.



What's in the Circular?

2

CIRCULAR C 4702.1B

Circular C 4702.1B



Referred to as "The Circular"

Sets requirements for public transportation providers to meet the spirit of the Civil Rights Act of 1964.

The Circular is comprised of several chapters:

- Chapter 1 Introduction and Background
- Chapter 2 Program Overview
- Chapter 3 General Requirements and Guidelines
- Chapter 4 Requirements for Fixed Route Transit Providers
- Chapter 5 Requirements for States
- Chapter 6 Requirements for Metropolitan Planning Organizations
- Chapter 7 Effecting Compliance with DOT Title VI Regulations
- Chapter 8 Compliance Reviews
- Chapter 9 Complaints

Circular C 4702.1B – Chapter 3 Requirements



Development and submittal of a Title VI Program

Notification of beneficiaries of the protections under Title VI

Development of Title VI Complaint Procedures and Form

Log of Title VI investigations, complaints, and lawsuits

Public Participation Plan

Language Assistance Plan

Racial composition of planning and advisory bodies

Subrecipient process and monitoring

Facilities siting assessment

4.5

CIRCULAR C 4702.1B

Circular C 4702.1B – Chapter 4 Requirements



System-wide Service Standards and Policies

Collect and Report Demographic Data

Monitor Transit Service Evaluate Service and Fare Changes

Only required for transit providers that operate 50+ vehicles in peak service and are in a UZA of 200,000+ people

Circular C 4702.1B – Chapter 4 Requirements



System-wide Service Standards and Policies

Collect and Report Demographic Data Monitor Transit Service Evaluate Service and Fare Changes

Only required for transit providers that operate 50+ vehicles in peak service and are in a UZA of 200,000+ people

CAT/Charlottesville is trending towards larger designation.

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Complying with Title VI

3

Compliance with Title VI



Title VI doesn't generally result in direct action from FTA

Transit agencies submit their Title VI program through TRaMS

Title VI program is reviewed for compliance as part of the Triennial Review

- Happens once every three years
- Auditors review agency practices since prior Triennial Review
 - Three year lookback

If compliance with Title VI is not shown, worst case scenario is a freezing of Federal funds or recoupment of Federal funding

• Findings result in remediation strategies, unique depending on the nature of the finding

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Title VI Considerations



Important Title VI Considerations



Facilities assessments refer to operational facilities (admin buildings, maintenance yards, vehicle storage, etc...). Large passenger-facing capital projects will include their own analysis and are not covered under your Title VI program.

Title VI is not perfect. There is a high degree of latitude at the local level in how policies are developed. It is incumbent upon the local entity to ensure this program matches your community's values.

Title VI is intended to be a floor, not a ceiling – The Circular specifically encourages transit providers to consider extending their definitions to other priority populations.

• However, FTA will hold you accountable to whatever you report. If CAT extends definitions to include other populations, FTA will expect to see documentation supporting this.

Title VI only covers fixed route services, including bus, BRT, and light rail.

· Paratransit and microtransit are not covered.

Title VI analyses are largely completed at the end of a planning process, often putting transit providers in a position to defend inequitable decisions.



Thank you!

Questions?