

DATE February 5, 2020

TO GCTD Board of Directors

FROM James Beck Interim Director of Operations & Maintenance

SUBJECT 2020 Updated GCTD Fleet Management Plan

SUMMARY

The 2020 GCTD Fleet Management Plan includes an inventory of fixed route, paratransit, and support vehicles as well as an analysis of anticipated vehicle needs, an explanation of fleet replacement and funding sources along with vehicle acquisition plans for each vehicle category.

BACKGROUND

GCTD has a fleet of 109 vehicles: Fixed Route 61 Paratransit 26 Non-Revenue 22

This Fleet Management Plan presents GCTD's current fleet and future vehicle needs along with identifying opportunities and funding issues that GCTD will face in the next ten years. In constructing this Fleet Management Plan, GCTD gave consideration and weight to the Near-Zero Emissions Policy adopted by the GCTD Board in June 2018 and the California Air Resources Board (CARB) mandated Innovative Clean Transit Regulation (ICT), which requires all transit agencies to move to all zero emission vehicles over the next 20 years.

RECOMMENDATION

This report is for information only.

General Manager's Concurrence

Steven P. Brown General Manager

GOLD COAST TRANSIT DISTRICT

Item #11





FLEET MANAGEMENT PLAN

January 2020



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1 INTRODUCTION

Gold Coast Transit District (GCTD) currently maintains and operates a fleet of 109 vehicles comprised of buses, paratransit vehicles and non-revenue vehicles. As a recipient of federal funds under Federal Transit Administration (FTA) Programs 5307 and 5339, GCTD is responsible for ensuring compliance with federal requirements related to fleet acquisition, operations and maintenance.

This Fleet Management Plan presents GCTD's current and future fleet needs and identifies the issues and opportunities that the District must address to effectively and efficiently manage and expand these assets over the next ten years. GCTD shall update this plan periodically to aid in preparing the annual budget, Ten-year Capital Improvement Program, and Transit Asset Management Plan.



Updates since the last update of this plan include:

- In September 2018, GCTD completed a Transit Asset Management (TAM) Plan as required by the FTA. It's purpose is to present a strategic approach to set objective standards for measuring the condition of capital assets and establish performance measures for state of good repair, under which all FTA grantees are be required to set targets.
- Last year, the California Air Resources Board (CARB) adopted the Innovative Clean Transit Regulation, which requires all transit fleets in California to plan for the transition of their fleet to zero emissions by 2040. To meet this goal, GCTD will need compete for grant funding, from local, state and federal programs. In addition, CARB requires all transit agencies to develop and adopt a zero-emissions fleet transition plan by 2023.
- In June 2018, the Board Adopted a Near Zero Emissions Policy which directs staff to prioritize zero emissions purchases when replacing vehicles.
- As of December 2019, GCTD is nearing completion of a "Power Train Replacement" project on 14, 2006, New Flyer, 40 ft. buses. This power train replacement includes a new CNG L9N "Near Zero" Engine and a rebuilt Allison transmission.
- By 2024, 43 of out 61 fixed-route buses will exceed their useful life. The estimated funding needs to replace all of these vehicles is over \$30 million. Of these, 26 New Flyer buses have CNG fuel tanks that will expire in 2026. The expiration date is a HARD date and can't be extended without replacement of the CNG cylinder tanks. Identification of funding and Procurement of these buses <u>must begin well in advance of the expiration date</u>.



1.1 FIXED ROUTE

GCTD's current fixed-route public transit service is carried out by a fleet of 61 compressed natural gas (CNG) powered heavy-duty buses. GCTD as a recipient of federal funds for the procurement of its fleet must therefore comply with FTA regulations in its maintenance and replacement. FTA Circular 5010.1D specifies that the minimum useful life of a heavyduty transit bus is 12 years or 500,000 miles. GCTD's experience shows that 14 years is a reasonable minimum estimate of how long we can expect to keep a vehicle in safe and reliable service.

GCTD's Fleet and Facilities Department, maintain both time and mileage based preventive maintenance programs for its fixed-route fleet in accordance with the FLEET MAINTENANCE GUIDE as updated by the Fleet Manager in October 2019. It is an objective for GCTD to maintain a spare ratio within 20 percent of the peak service requirement in compliance with FTA Circular 9030.1D.

Quantity	Size	Manufacturer	First Year Of Service	Last Year Of Service	FTA Minimum Useful Life Years	GCTD TAM Useful Life Years	FTA Funded
12	40-ft	New Flyer	2006	2020	12	14	Yes
9	35-ft	NABI	2008	2020	12	14	Yes
8	35-ft	NABI	2009	2021	12	14	Yes
14	40-ft	* New Flyer	2006	2025	12	18*	Yes
8	40-ft	Gillig	2015	2027	12	14	Yes
5	40-ft	Gillig	2016	2028	12	14	Yes
5	40-ft	Gillig	2019	2031	12	14	Yes

TABLE 1.1-1 FIXED ROUTE FLEET INVENTORY

Buses to remain in service past 14-year useful life as part of re-power project

1.2 PARATRANSIT

GCTD's paratransit vehicles were primarily procured with state funds. The MV-1's, Star Craft and Ford Nor-Cal vans were purchased with California state PTMISEA funds. Paratransit scheduling service and vehicle maintenance of its 26 vehicles "GO ACCESS" fleet is carried out under contract with GCTD's paratransit provider (MV Transportation) and in conjunction with the previously mentioned *Fleet Maintenance Guide*. Vehicle dispatch and maintenance is conducted at the providers facility. GCTD has set the useful life at 8 years for vehicles in the paratransit fleet.

GCTD currently does not have a formal spare paratransit fleet; all vehicles are assigned to revenue service. Near term procurements will provide sufficient on-hand vehicles to support peak service requirements.



Quantity	Model	Manufacturer	First Year Of Service	Last Year Of Service	FTA Minimum Useful Life	GCTD TAM Useful Life	FTA Funded						
6	Van	MV-1	2015	2020	4	5	No						
7	Van	MV-1	2016	2021	4	5	No						
8	Cut-Away	Star Craft	2017	2025	4	8	No						
5	Van	Ford	2019	2024	4	5	No						

TABLE 1.2-1 PARATRANSIT FLEET INVENTORY

1.3 NON-REVENUE VEHICLES

GCTD has a fleet of 22 non-revenue vehicles for driver relief, supervision, maintenance, and administrative staff usage. Maintenance is typically performed by the GCTD Fleet and Facilities Department except in those cases requiring service from factory-trained or local dealership personnel. (Usually warranty work)

Supervisor	Van	2007	(073)	1
Relief	Sedans	2007	(072)	1
Relief	Sedans	2009 ((090's)	7
Supervisor	Sedan	2009 (1	1000's)	3
Supervisor	Van	20	10	1
Supervisor	Sedan	2012 (1	1300's)	2
Supervisor	Van	2013 ((1303)	1
Supervisor	Sedan	2015 (1	1600's)	3
Maint	Ford Pic	:k-up		2000
Maint	Maint GM Tru			2005
Maint	Toyota	Truck 2015		

TABLE 1.3-1 NON-REVENUE FLEET INVENTORY

2 ASSUMPTIONS AND OBJECTIVES

The following will serve as guidelines in the implementation of this plan:

- Fleet Size: GCTD will pursue funding to support plans for procurement of bus replacements in accordance with GCTD's Board approved SRTP and Ten-Year Capital Improvement Program.
- Service Needs: The Planning & Marketing Department will advise the Finance and Administration, Transit Operations, and Fleet & Facilities Departments of bus, paratransit, and non-revenue vehicle needs within the fiscal-year time frame as part of the annual service planning and budget development process.
- Useful Life: The minimum useful life for fixed-route and paratransit vehicles will meet requirements of FTA Circular 5010.1D. (12 years)



- Fuel Type: Fixed route buses and Paratransit vehicles are currently fueled by CNG except for the 5 2019 Ford Vans which are powered by gasoline. However, advancement in design and technology in hybrid electric and pure electric vehicles will be evaluated annually by the Fleet Manager under the supervision of the Assistant General Manager. The mandated CARB rule will be considered in all future procurements. Buses to meet the CARB rule as well as infrastructure to support the bus technology chosen by GCTD will be considered.
- Total Operating Fleet: Consists of vehicles equal to the sum of peak-hour requirements and operating spares
- **Operation Spares:** Past experience and requirements for meeting FTA regulations will determine the maximum number of spare vehicles planned to support total peakhour requirements. Spare ratio is defined as the <u>number of spare vehicles</u> divided by the <u>vehicles required for annual maximum service</u>. Spare ratio is usually expressed as a percentage, e.g., 100 vehicles required, and 20 spare vehicles is a 20 percent spare ratio. GCTD will plan to operate within a fixed-route spare ratio that does not exceed the FTA guideline of 20 percent maximum.
- **Inventory:** When possible, staff will maximize the commonality of vehicle families i.e., Gillig, New Flyer, MV-1, etc., to make operations, training, and maintenance easier for GCTD personnel.
- **On-Board Technology:** Buses will be available to support installation of new technologies such as an Automated Stop Annunciation system as these and other systems become available.
- On Vehicle Advertising: Buses will be available to support the GCTD advertising program for sign installations and removals.
- Zero & Near-Zero Emissions Vehicle Purchase Policy: In June 2018, the GCTD Board of Directors adopted a Zero & Near-Zero Emissions Vehicle Purchase Policy (Appendix 1). This policy prioritizes purchasing vehicles with the lowest emissions possible. Given the significantly higher cost of zero emissions buses, GCTD will need to be strategic with seeking grant funding to fund these replacements.
- Vehicle Configuration: Bus configuration will be determined by assessing how and where the buses will be used, e.g. passenger loads, comfort, areas to be served, street designs, frequency and other related factors that can affect GCTD's on-time performance and passenger and driver safety. The size of buses in each vehicle procurement cycle will include recommendations from analyses conducted by the Transit Operations and Planning & Marketing Departments. Transit Operations and Planning & Marketing Departments will also be requested to recommend driver and passenger seat types, passenger seats and flooring colors, and other recommendations based on driver input and passenger surveys.
- **Branding**: Vehicle colors, paint, wraps, etc. shall adhere to GCTD's style guide.



3 ANALYSIS OF ANTICIPATED VEHICLE NEEDS

GCTD's primary focus over the next five years will be replacement of its aging fleet. To fund replacement buses, GCTD will need to compete for grants at the local, state and federal level. Actual vehicle replacements will be limited by the award of grant funding we are able to secure. *Planned replacement of fixed-route, paratransit, and non-revenue vehicles is presented in Tables 3.1-1 through 3.3-1*.

3.1 FIXED ROUTE

In 2017-2018, GCTD applied for CMAQ funding to repower twenty-six (26) 40' 2006 New Flyer buses. This project alleviated the need for us to replace all 26 buses at once which would have all reached the end of their useful life (14-yrs) in 2020. To date GCTD is nearly complete with repowering (14) of the New Flyer buses. Since starting the repower project we have reevaluated our long-term plans for bus replacements and have determined that it would be most prudent to replace the remaining (12) New Flyers at this time, given the age of our remaining fleet.

- In 2020, twelve (12) 2006 New Flyers will reach the end of their useful life.
- In 2022, nine (9) 2008 NABI's will reach the end of their useful life.
- In 2023, eight (8) 2009 NABI's will reach the end of their useful life.
- In 2024, fourteen (14) 2006 New Flyers, which are being repowered this year will reach the end of their useful life at 18-yrs. With this group. GCTD plans to apply for grant funding to support the integration of zero emission technology into the fleet. Additional lead time to plan for infrastructure is required.

The estimated total cost to replace these 43 buses is over \$30 million. It should be noted that the cost estimate above is based on replacement CNG buses. However, given the statewide goal of transitioning to 100% zero-emission transit fleet by 2040, replacing with zero emissions vehicles will most likely result in significant increases in these estimates.

In 2020, GCTD anticipates procuring (3) three 40's fixed route buses, and (9) nine allelectric Nissan Leaf's to replace aging vehicles the fleet. In addition, GCTD is planning to purchase two paratransit vans for use in demand response service. These vehicles will be purchased using existing Prop 1B (PTMISEA) and CMAQ grant funds.

In 2019, GCTD received five 40-ft expansion buses to serve implementation of new Ventura Road service via Oxnard College, Port Hueneme and River-Park (Route 23) starting in 2020. These will enable, improved service to/from NBVC Port Hueneme, and restructuring of Routes 3, 7, 8 and 9 in South Oxnard using existing fleet. Following the route changes planned to be implemented in 2020, no other service expansions are planned in the next five years. Unless a new source of funding is identified, such as the passage of a local revenue measure GCTD does not forecast any additional fix-route fleet expansions before 2025.



TABLE 3.1-1 FIXED ROUTE VEHICLE ACQUISITION

Table 3.1-1 reflects the planned bus delivery year. The procurement date and lead time to identify funding will be determined by the Director of Finance and Administration.

Make	Age at Repl ace Yr	Usef ul Life	Size	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	5029
Fuel Type				CNG	CNG	CNG	CNG	CNG	ZERO		CNG	CNG	CNG	
# of Replacement	# of Replacement Vehicles				3	9	9	8	14	0	0	4	4	0
Expansion Vehicle	es by Y	ear	_	0	0	0	0	0	0	0	8	0	0	0
New Flyer 2006 (3)	14-yrs	14-yrs	40'	3	3									
New Flyer 2006 (9)	15-yrs	14-yrs	40'	9	9	9								
NABI 2008 (9)	14-yrs	14-yrs	35'	9	9	9	9							
NABI 2009 (8)	14-yrs	14-yrs	35'	8	8	8	8	8						
NF RP '06 (14)	18-yrs	18-yrs	40'	14	14	14	14	14	14					
Gillig 2015 (4)	12-yrs	14-yrs	40'	4	4	4	4	4	4	4	4	4		
Gillig 2015 (4)	13-yrs	14-yrs	40'	4	4	4	4	4	4	4	4	4	4	
Gillig 2016 (5)	12-yrs	14-yrs	40'	5	5	5	5	5	5	5	5	5	5	5
Gillig 2019 (5)	14-yrs	14-yrs	40'	5	5	5	5	5	5	5	5	5	5	5
Replace (3)	tbd	14-yrs	40'		3	3	3	3	3	3	3	3	3	3
Replace (9)	tbd	14-yrs	40'			9	9	9	9	9	9	9	9	9
Replace (9)	tbd	14-yrs	40'				9	9	9	9	9	9	9	9
Replace (8)	tbd	14-yrs	40'					8	8	8	8	8	8	8
Replace (14)	tbd	14-yrs	40'			Apply fo	or Grants	-	14	14	14	14	14	14
EXPANSION (8)	tbd	14-yrs	40'								8	8	8	8
Replace (4)	tbd	14-yrs	TBD									4	4	4
Replace (4)	tbd	14-yrs	TBD										4	4
Replace (5)	tbd	14-yrs	TBD											
Fixed Route Flee	et Size			61	61	61	61	61	61	61	69	69	69	69

KEY

IDENTIFY FUNDING / PROCUREMENT ACTION (2-3 YRS NEEDED)
PLANNED REPLACE YEAR
REPRESENTS NEW REPLACEMENT ZERO EMISSION BUSES** If Grant Awarded
REPRESENTS NEW REPLACEMENT CNG BUSES
USEFUL LIFE REACHED
Tank Exp – Hard Deadline for Tank Expiration

3.2 PARATRANSIT

GCTD utilizes three types of vehicles for its paratransit service: cutaways, MV-1's, and gasoline powered Ford transit vans.

Cutaways feature a bus body mounted on top of a heavy-duty truck chassis whereas the MV-1's and the Ford vans are smaller passenger style vans. All configurations meet all ADA accessibility requirements. The 23-ft cutaways allow passengers flexibility in seating options. The useful range of the current Star Craft cutaways is approximately 225 miles based on a 37-gasoline gallon equivalent (GGE) fuel tank size and 6.1 miles per GGE.



However, their disadvantage is difficulty in serving areas with narrow streets and shorter parking spaces.

The advantages of the MV-1's and Ford vans is their relatively small size that allows maneuvering in tight spaces, capacity to carry three ambulatory and one wheelchair passengers, and greater range up to 300 miles without refueling based on a 21 GGE fuel tank size and 14.3 miles per GGE. These vehicle's ranges are critical because the FTA requires GCTD to provide equivalent paratransit service in support of its 91 square mile fixed-route service area. In as much as the average vehicle mileage for cutaways is less than 150 miles, they may require more than one fueling per day. By comparison the MV-1's and Ford vans with their longer range can stay in revenue service for one to two full days without refueling.

Paratransit service demand is increasing in areas that are difficult if not impossible to safely access with a 23-ft cutaway. Those areas include but are not limited to the beach front streets in Ventura, the Channel Islands Harbor neighborhoods and small mobile home parks located throughout the community. As new housing is introduced, it is significantly denser and their streets are narrower; both sides of the street are typically lined with parked cars, making it extremely difficult to deploy a lift when necessary. The smaller MV-1 vehicle bridges the unintended, yet severe mobility gaps created by these environmental factors that elderly and mobility challenged individuals encounter when trying to leave their homes.

The current mix of cutaways, smaller MV-1 and Ford vans should be adjusted to reflect recorded ridership trends based on destination requests for the type of service being requested. Fleet requirements must meet projected service demands by having sufficient vehicles and vehicle types available to meet all service requests and thus avoid missing scheduled trips. System efficiency will be gained with an optimal mix of vehicle types that can match each scheduled trip purpose and demand with the appropriate vehicle.





The framework for future paratransit procurements shall be based upon a costbenefit analysis conducted by the Fleet Manager & Paratransit and Special Projects Manager under the supervision of the Assistant General Manager to determine an optimal paratransit fleet mix. The analysis should analyze vehicle cost, maintenance requirements, fuel type, vehicle life, spare ratios, passenger capacity, ridership trends, and other relevant factors.



Make	Passengers	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Replaceme Y	0	0	0	7	6	8	0	5	0	0	0	6	
Expansion V	ehicles by Year	0	0	0	2	0	0	4	0	2	0	9	0
MV-0	3 + 1WC	7	7	7	7								
MV-1	3 + 1WC	6	6	6	6	6							
Star Craft	14/4+3WC	8	8	8	8	8	8						
Ford Vans	4+1WC	5	5	5	5	5	5	5	5				
Expand 1	TBD	\rightarrow	2	2	2	2	2	2	2	2			
Replace 1	TBD	\rightarrow	\rightarrow	\rightarrow	7	7	7	7	7	7	7	7	
Expand 2	TBD	\rightarrow	\rightarrow	\rightarrow	2	2	2	2	2	2	2	2	
Replace 2	TBD	\rightarrow	\rightarrow	\rightarrow	\rightarrow	6	6	6	6	6	6	6	6
Replace 4	TBD	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	8	8	8	8	8	8	8
Expand 3	TBD	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	4	4	4	4	4	4
Replace 5	TBD	\rightarrow	5	5	5	5	5						
Replace 6	TBD	\rightarrow	9	9									
Replace 7	TBD	\rightarrow	6										

 TABLE 3.2-1
 PARATRANSIT
 VEHICLE
 ACQUISITION

3.3 NON – REVENUE FLEET

Replacement of GCTD's vans and sedans will be based on an on-going analysis of gasoline, hybrid, and electric vehicles available in the marketplace. The Fleet Manger, under the oversight of the Assistant General Manager, shall conduct the analysis to determine and select the most cost-effective vehicles to support ongoing administration, supervisory, and driver relief needs. The analysis will study fuel types, vehicle cost, maintenance (training and infrastructure requirements), battery life, mileage (before refueling), ease of refueling, road speeds, vehicle emissions, and projected useful life. The Operations Manager and Director of Planning & Marketing shall annually provide the number of driver relief vehicles required for fixed route service needs.



Use	Туре	Status	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Relief	Sedans	2007 (072)	1	1									
Relief	Sedans	2009 (090's)	7	7									
Supervisor	Van	2007	1	1	1								
Supervisor	Sedan	2009 (1000's)	3	3	3								
Supervisor	Van	2010	1	1	1	1							
Superv isor	Sedan	2012 (1300's)	2	2	2	2							
Supervisor	Van	2013 (1303)	1	1	1	1	1	1					
Supervisor	Sedan	2015	1	1	1	1	1	1					
Admin	Sedan	2015	2	2	2	2	2	2					
Expand	Sedan	Electric Leaf	\rightarrow	1	1	1	1	1	1	1	1		
Replace	Sedan	Electric Leaf	\rightarrow	8	8	8	8	8	8	8	8		
Replace	Van	Supervisor	\rightarrow	1	1	1	1	1	1	1	1		
Replace	Sedan	Relief	\rightarrow		3	3	3	3	3	3	3	3	3
Replace	Sedan	Relief	\rightarrow	\rightarrow	\rightarrow	2	2	2	2	2	2	2	2
Replace	Van	Admin	\rightarrow	\rightarrow	\rightarrow	1	1	1	1	1	1	1	1
Replace	Sedan	Supervisor	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	2	2	2	2	2	2
Replace	Van	Supervisor	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	1	1	1	1	1	1
Replace	Sedan	Supervisor	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	1	1	1	1	1	1
Replace	Sedan	Relief	\rightarrow	9	9	9							
	TOTALS		19	19	20	20	20	20	20	20	20	20	20
		Rep	resents Rep	lacement Ye	ear								

TABLE 3.3-1	NON-REVENUE	VEHICLE	ACQUISITION
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Table 3.3-1 NON-REVENUE / MAINTENANCE VEHICLE ACQUISITION

Use	Туре	Status	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Maint	Pick-up	2000	1	1	1	1	1	1	1				
Maint	Truck	2005	1	1	1	1	1	1	1	1	1	1	1
Maint	Truck	2015	1	1	1	1	1	1	1	1	1	1	1
Maint	Truck	Replace							1	1	1	1	1
Total 3 3				3	3	3	2	3	3	3	3	3	
Represents replacement Year													

4 COORDINATION OF FLEET REPLACEMENTS

The greatest challenge for implementing vehicle replacements is funding. By 2024, 43 of out 61 fixed-route buses will exceed their useful life. Of these, 26 New Flyer buses have CNG fuel tanks that will expire in 2026. In addition, most of the paratransit fleet will reach the end of its useful life in that same time period.

For the fixed route fleet, an added time constraint is the expiration of the CNG fuel tanks. These expiration dates are a HARD date and can't be extended without



replacement of the CNG cylinder tanks. Identification of funding and procurement of these buses <u>must begin well in advance of the expiration date.</u>

The Finance & Administration, Fleet & Facilities, and Planning & Marketing Departments will coordinate identification of funding and procurement of new buses in on-going support of approved capital program budgets, service plans and bus manufacturer's delivery lead time. In addition, staff will begin to prepare to meet the CARB goal of transition to Zero-Emissions by 2040, which will include preparation of a zero emissions transition plan as required by CARB in 2023 and identification of grant opportunities.

Potential projects that may be competitive for grant programs include:

- Federal: CMAQ Purchase of CNG replacement buses
- Federal: 5339/LowNo- Purchase of Zero Emissions buses
- State: TIRCP– Purchase of Hydrogen Fuel Cell or Battery Electric Buses

The Ventura County Transportation Commission (VCTC), as the administrator for formula funding, will need to be engaged in order to implement this plan. Additional funding partners may include, CARB, CEC, CalSTA and FTA. Potential upcoming grant opportunities include: TIRCP (Transit and Intercity Rail Capital Program), CMAQ (Congestion Mitigation and Air Quality), and LowNo. These programs are highly competitive programs and have restrictions on the type of vehicle that can be purchases (such as Zero emissions.)

5 CONCLUSION

This plan provides a brief understanding of GCTD's proposed Fleet Management program. The plan will be updated periodically to support of GCTD's annual budget process and 10-year capital plan.