Honolulu High-Capacity Transit Corridor Project
Alternatives Analysis

Revised Bus Fleet Management Plan

December 2007

Prepared for:
City and County of Honolulu

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1 Introduction

The City and County of Honolulu (City) is embarking on the development of a New Starts fixed-guideway project along an approximate 20-mile corridor from East Kapolei to Ala Moana Center. This 20-mile line is anticipated to be completed and open for service by the latter half of 2018 (FY 2019). As the line opens, transit service on O'ahu will change, with fixed guideway taking over some of the load currently accommodated by trunk line bus routes and with other bus routes being restructured to facilitate transfers to fixed guideway. As the fixed guideway project is constructed and implemented, it is important to ensure that bus service is not degraded. To that end, this Bus Fleet Management Plan addresses all factors relevant to the City's abilities to maintain its current bus fleet, facilities, and levels of service throughout its service area and to provide the requisite capital and operating funds for that service. Additionally, the plan defines measures for monitoring the quality of bus service. The plan describes the City's entire fixed-route bus fleet for a period from three-to-five years prior to construction of the New Starts project, over the duration of New Starts construction, and for at least one-to-three years after commencement of New Starts revenue operations. A separate fleet management for the fixed guideway vehicles will be developed after the technology is selected.

The following sections of the plan include descriptions of the existing bus system; of the current passenger demand and expected changes in passenger demand; of the current fixed-route fleet and the plan for fleet replacement and expansion; of service quality and reliability measures; and of the bus fleet maintenance plan.

2 Transit System

Public transit on the island of Oahu is the responsibility of the City and County of Honolulu's (City's) Department of Transportation Services (DTS). The service is popularly known as *TheBus* for fixed route transit and *TheHandi-Van* for demand-responsive curb-to-curb service for Americans with Disabilities Act of 1990 (ADA) paratransit eligible individuals. Within DTS, the Public Transit Division (PTD) is responsible for managing the City's contract for bus and paratransit operations. By ordinance, the City is required to contract with a private, nonprofit corporation to manage, operate, and maintain the public transportation system on behalf of the City. Oahu Transit Services, Inc. (OTS) is the management firm operating *TheBus* and *TheHandi-Van*. OTS is the employer of record for all operating and maintenance personnel.

The service area for public transit encompasses the entire island of Oahu, which is approximately 600 square miles with approximately 910,000 residents. Most bus service is provided 21 to 22 hours per day with the exception of one bus route (#40/40A), which operates 24-hours per day. Paratransit service is provided during the same hours as the fixed route service. Current transit operating data described in the following sections is based on the tables of information DTS submits to the FTA National Transit Database (NTD) for report year 2006 and previous years.

2.1 *TheBus* Routes

TheBus is currently operating 89 fixed routes and two (2) deviation routes (operated by the paratransit division) for a total of 91 routes. Of these, three (3) are limited stop routes (*CityExpress!* A, *CityExpress!* B and *CountryExpress!* C) and 31 are peak period, peak direction only express routes. Three (3) of the express routes (Routes 201, 202 and 203 – all bound for Waikīkī) operate seven (7) days of the week. The 91 routes serve about 4,200 bus stops. Passenger amenities include approximately 980 passenger shelters and 2,400 benches. Table 1 presents a listing of all bus routes operated as of 2005.

Table 1 identifies those routes serving the study area for the Honolulu High-Capacity Transit Corridor Project (denoted with a "y" for yes, "n" for no and "c" for connects). Many of the routes pass through the project study area such as Route 40 and CityExpress! A. A route was identified as serving the project corridor if at least 50 percent of its ridership is attributable to person trip origins within the study area. Routes identified with a "c" provide connections into the study area including all Community Circulators operating in Kapolei and Waipahu and Routes 4, 5, 6, 7, 10, 15 and 17 in urban Honolulu and Routes 71, 73 and 74 in Pearl City and 'Aiea. Express and local routes serving Windward and East Honolulu communities were not identified as operating in the study area even though they travel to downtown Honolulu, as project impacts are assumed to be minimal to their alignments or operating characteristics.

Table 1: TheBus Bus Routes

WITHIN PROJECT CORRIDOR	ROUTE	DESCRIPTION	WITHIN PROJECT CORRIDOR	ROUTE	DESCRIPTION
y	1	Kaimuki-Kalihi	y	81	Waipahu Express
y	2	Waikiki-School-Middle	n	82	Hawaii Kai Park & Ride Express
y	3	Kaimuki-Salt Lake	n	83	Wahiawa Town Express
c	4	Nuuanu-Punahou	n	83A	Wahiawa-Mililani Exp-Schofield/PH
c	5	Ala Moana-Manoa	n	84	Mililani Express-North
c	6	Pauoa-Woodlawn	n	84A	Mililani Express-South
c	7	Kalihi Valley	n	85	Windward Express-Kailua
y	8	Waikiki-Ala Moana	n	85A	Windward Express-Haiku
y	9	Palolo Valley-Pearl Harbor	n	86	Windward-Pearl Harbor Express
c	10	Kalihi-Alewa Heights	n	86A	Kaneohe-Kahaluu Pearl Harbor Exp.
y	11	Makalapa-Halawa-Aiea Heights	n	88	Kahaluu-Ahuimanu Express
y	13	Waikiki-Liliha	n	88A	North Shore Express
y	14	St. Louis-Kahala-Maunalani	n	89	Waimanalo-Kailua Express
c	15	Makiki-Pacific Heights	y	90	Pearl City Express
n	16	Moanalua Valley	y	91	Ewa Beach Express
c	17	Makiki-Ala Moana	y	92	Makakilo City Express
y	18	University-Ala Moana	y	93	Waianae Coast Express-CBD
y	19	Waikiki-Airport-Hickam	y	93A	Waianae Coast Express-PH
y	20	Waikiki-Pearlridge	n	95	Hawaii Kai-Pearl Harbor Express
n	21	Waialae Iki-Nui	y	96	Waipio Gentry Express
n	22	Beach Bus	y	97	Village Park Express
n	31	Tripler-Mapunapuna	n	98	Wahiawa-Mililani Park & Ride
y	32	Kalihi-Pearlridge	y	101	Ewa Gentry Express
y	40	Honolulu-Makaha	y	102	Villages of Kapolei Express
y	41	Kapolei-Ewa Beach	y	103	Paiwa-Waikele Express
y	42	Ewa Beach-Waikiki	y	201	Waipahu via Farrington Express
y	43	Waipahu-Honolulu-Ala Moana	y	202	Waipahu via Paiwa Express
y	52	Wahiawa-Circle Island	y	203	Kalihi via School Street Express
y	53	Honolulu-Pacific Palisades	n	401	Waianae Valley
y	54	Honolulu-Pearl City	n	402	Lualualei Homestead
n	55	Kaneohe-Circle Island	n	403	Nanakuli-Maili-Waianae
n	56	Honolulu-Kailua-Kaneohe	c	411	Makakilo Heights
n	57	Kailua-Waimanalo-Sea Life Park	c	412	Panana-Kapolei
n	58	Hawaii Kai-Sea Life Park	c	413	Campbell Industrial Park
y	62	Honolulu-Wahiawa Heights	c	414	Palahia-Makakilo-Kapolei
n	65	Honolulu-Kahaluu	c	415	Kapolei Transit Center-Kalaeloa
n	70	Lanikai-Maunawili	c	421	Ewa Beach
c	71	Pearlridge-Newtown	c	431	Ewa Mill/Villages
n	72	Schofield-Wahiawa-Whitmore	c	432	East-West Waipahu
c	73	Leeward Community College	c	433	Waikele-Waipahu Transit Center
c	74	Aiea-Halawa Heights	c	434	Village Park-Waipahu Transit Center
n	76	Waialua-Haleiwa	n	503	Mililani-Launani Valley
n	77	Waimanalo-Kaneohe	y	A	City Express! A
n	80	Hawaii Kai Park & Ride Express	y	B	City Express! B
n	80A	Hawaii Kai Park & Ride Express-U	y	C	Country Express! C
n	80B	Upper Aina Haina Express			

Source: DTS/TheBus ; Effective 8/21/05

Legend:
c – Connects
n – No
y - Yes

2.2 Annual Revenue Vehicle Miles and Hours

The fixed route service had 17,923,724 annual revenue vehicle miles in FY 2007. Figure 1 shows that the annual revenue vehicle miles supplied have remained approximately the same over the past five years, except for FY 2004 which was affected by a 34-day strike by *TheBus* operators that ended September 29, 2003.

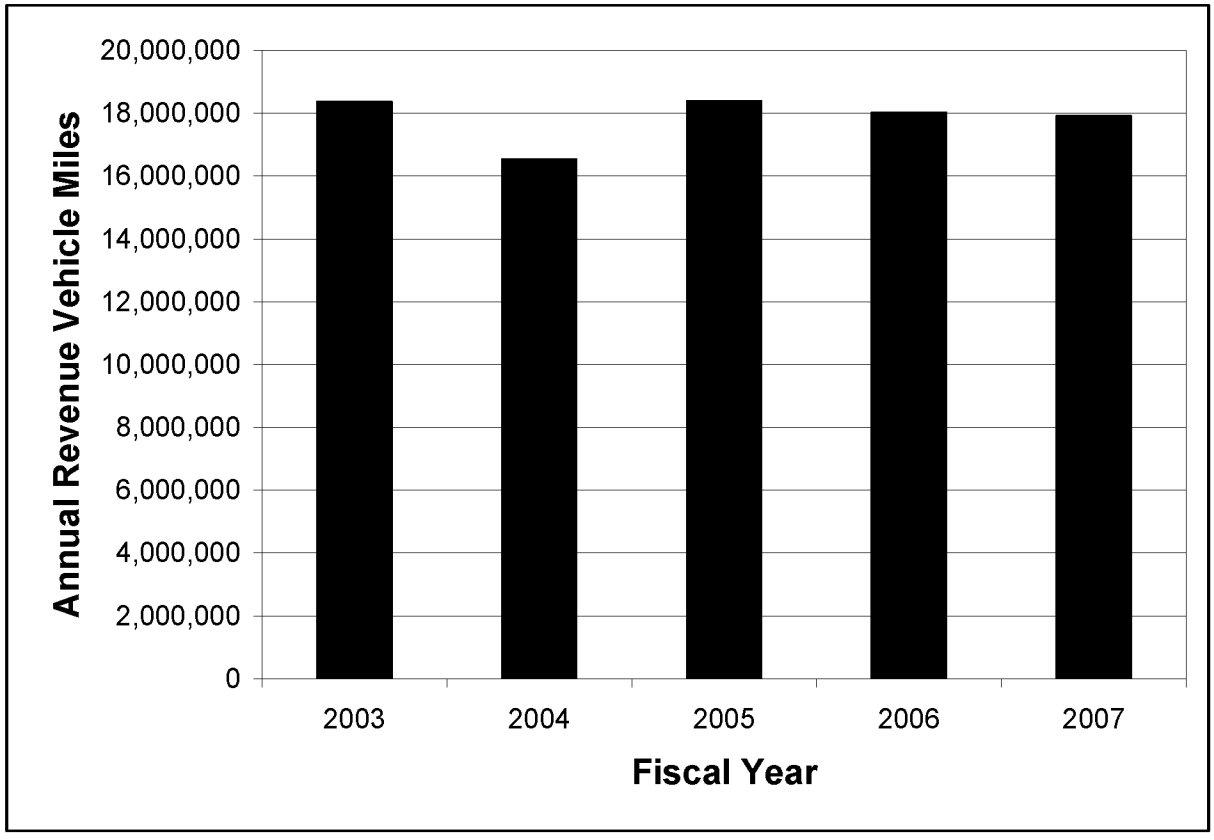

Figure 1: Annual Revenue Vehicle Miles

Figure 2 shows revenue vehicle miles supplied on an average weekday, average Saturday and average Sunday for the past five years. As can be seen, the service supplied has remained approximately constant over this time period.

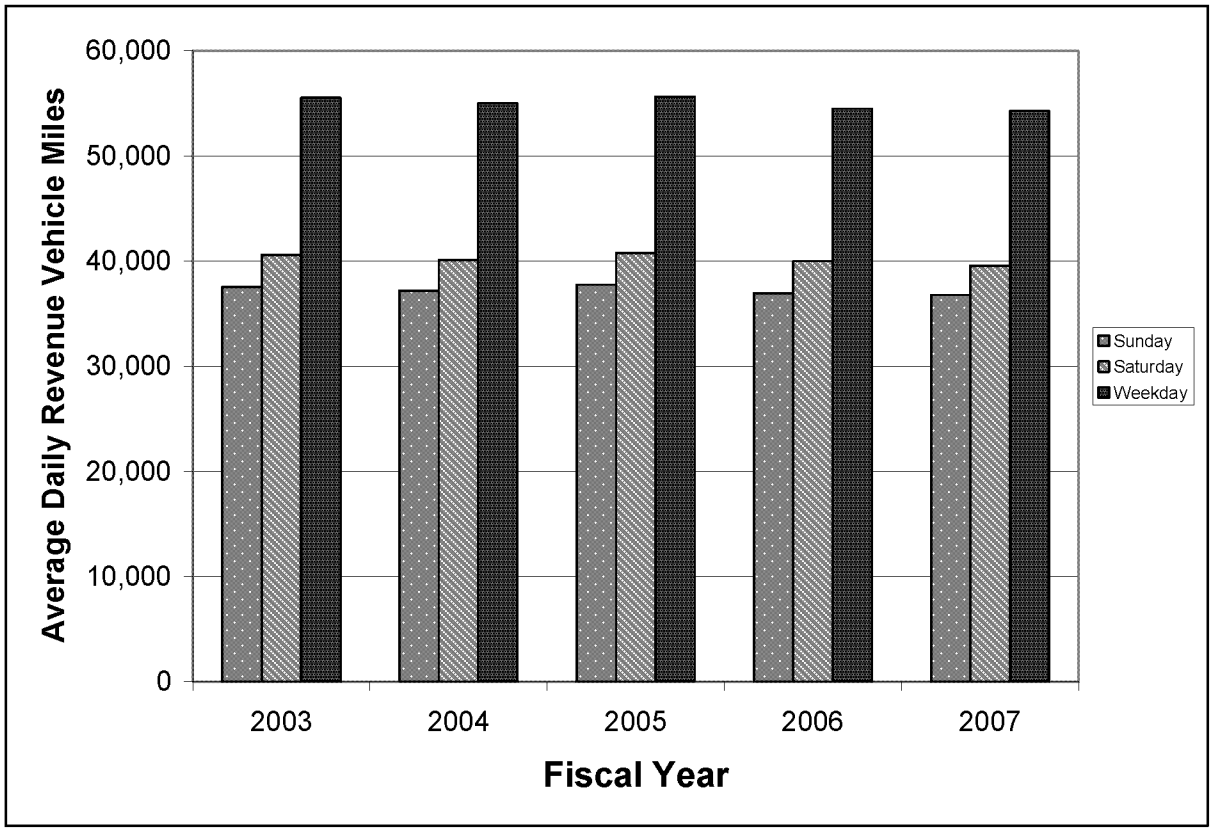

Figure 2: Average Daily Revenue Vehicle Miles

The fixed route service had 1,354,565 annual revenue vehicle hours in FY 2007. Figure 3 shows that the annual revenue vehicle hours supplied have remained approximately the same over the past five years, except for FY 2004 which was affected by a 34-day strike by *TheBus* operators that ended September 29, 2003.

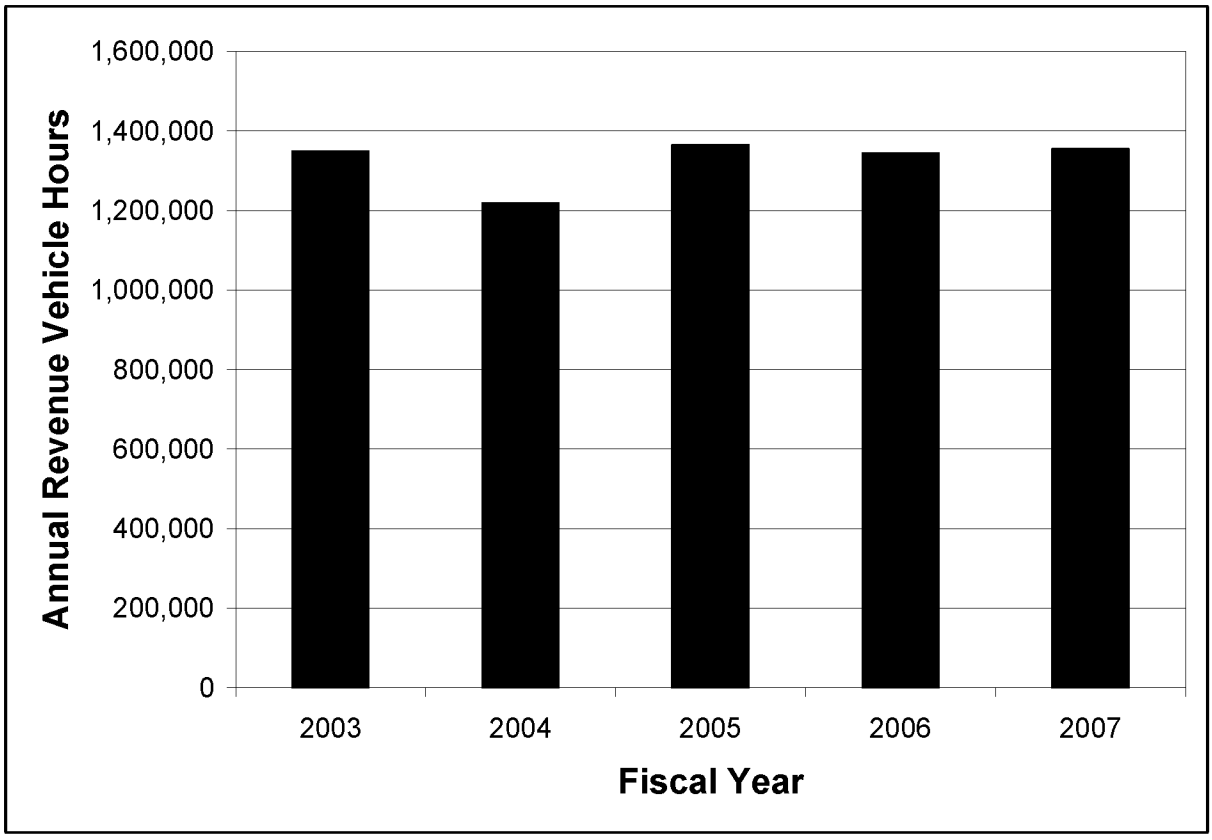

Figure 3: Annual Revenue Vehicle Hours

Figure 4 shows revenue vehicle hours supplied on an average weekday, average Saturday and average Sunday for the past five years. As can be seen, the service supplied has remained approximately constant over this time period.

In FY 2007 average weekday revenue vehicle hours totaled 4,135. These hours were divided among route types as follows:

- Rapid Bus 10.6%
- Urban Trunk 35.7%
- Urban Feeder 6.0%
- Suburban Trunk 33.2%
- Suburban Feeder 1.9%
- Community Circulator 5.6%
- Peak Express 7.0%

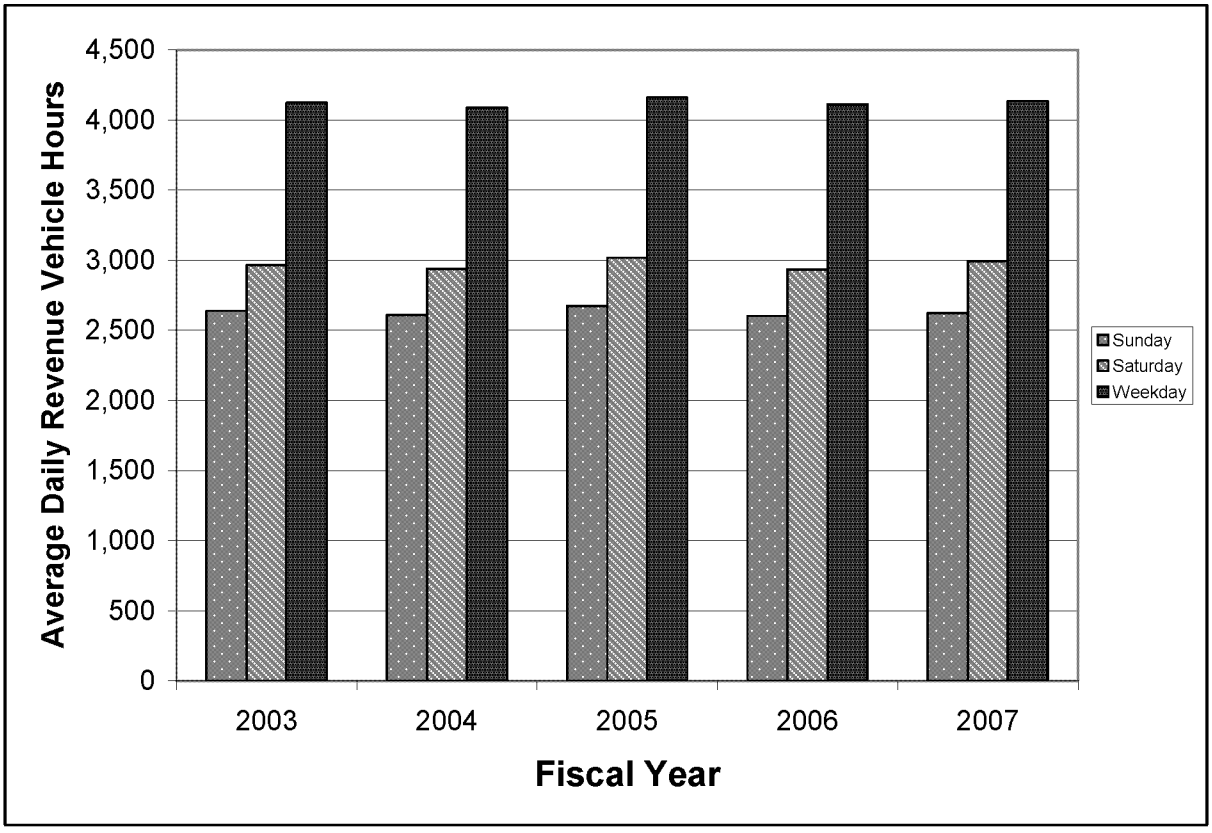

Figure 4: Average Daily Revenue Vehicle Hours

2.3 *TheBus* Fare Structure

Bus fares are set by the Honolulu City Council by ordinance. Current bus fares pursuant to Section 13-2.1 of the Revised Ordinances of Honolulu are shown in Table 2 below, along with prior fare structures. The current fare structure went into effect on October 1, 2003.

Table 2: TheBus Fare Structure

FARE CATEGORY	EFFECTIVE DATE OF FARE STRUCTURE			
	October 2003	July 2003	July 2001	July 1995
Adult	$2.00	$1.75	$1.50	$1.00
Youth	$1.00	$0.75	$0.75	$0.50
Senior/Disabled	$1.00	$0.75	$0.75	$0.50
Monthly Adult Pass	$40.00	$30.00	$27.00	$25.00
Monthly Youth Pass	$20.00	$13.50	$13.50	$12.50
Monthly Senior/Disabled	$5.00	NA	NA	N/A
Annual Adult Pass	$440.00	NA	NA	N/A
Annual Youth Pass	$220.00	NA	NA	N/A
Annual Senior/Disabled	$30.00	$25.00*	$25.00*	$20.00*

* Prior to October 2003, seniors and disabled passengers were offered a two-year transit pass.

By City Council policy (Resolution No. 00-29, CD-1), the farebox recovery ratio should be between 27 percent to 33 percent of *TheBus* operations.

Current transfer policy allows each customer to receive one free transfer on boarding when paying a cash fare. The transfer is valid for a two hour period and may only be used once. Passengers paying cash and requiring a third bus to reach their destination would need to pay another cash fare. A visitor pass offering unlimited use for four (4) consecutive days is available for $20.00.

A new University Student Discount Bus Pass (UPASS) program was inaugurated in August 2005 offering college students a semester pass at a discount. The semester pass costs the student $100.00. To date thirteen (13) higher education institutions have joined the UPASS program.

2.4 Service Changes

With implementation of the fixed guideway line various fixed route bus lines will be restructured. The route restructuring will follow several guiding principles. They are defined as:

1. A route will be realigned and truncated at a fixed guideway station if the estimated out of direction passenger travel time for local and community circulator routes is impacted by no more than five (5) minutes. The route is not realigned if the impact is eight (8) or more minutes.
2. Local routes will be either discontinued or reclassified as a feeder service where major local routes serve the same alignment as the fixed guideway. The exception will be for those routes deemed essential to provide local bus stop service along the fixed guideway alignment.
3. Peak period, peak direction express bus routes in competition with the fixed guideway system will be discontinued in favor of the fixed guideway alignment if the estimated passenger travel time is impacted by no more than an additional 15 minutes.
4. Community circulator routes will be reoriented and extended to serve a fixed guideway station if the mileage impact is no more than an additional two (2) miles. The exception will be for those route changes deemed necessary, especially during the peak periods, to avoid a double transfer to reach a fixed guideway station. This principle was increased to five (5) miles for the initial segment.
5. Community circulator routes will retain the same span of service and headways as assumed for the future Baseline service unless a route has the same alignment as the fixed guideway and is eliminated or unless forecast ridership is such that additional service is warranted due to severe overcrowding.
6. The highly urban area routes will not be modified to directly link to a fixed guideway station if they pass within three (3) blocks of a station and deviating the route has been deemed disruptive to the majority of the passengers.

Figure 5 shows how bus supply needs will change from current conditions to those when the entire fixed guideway line is in operation (FY 2009), assuming that the fixed-guideway line is first opened for service upon completion of the entire 20-mile line. If the fixed-guideway line is opened in phases, then the changes in bus requirements associated with the new system will occur in several increments as each new phase is opened.

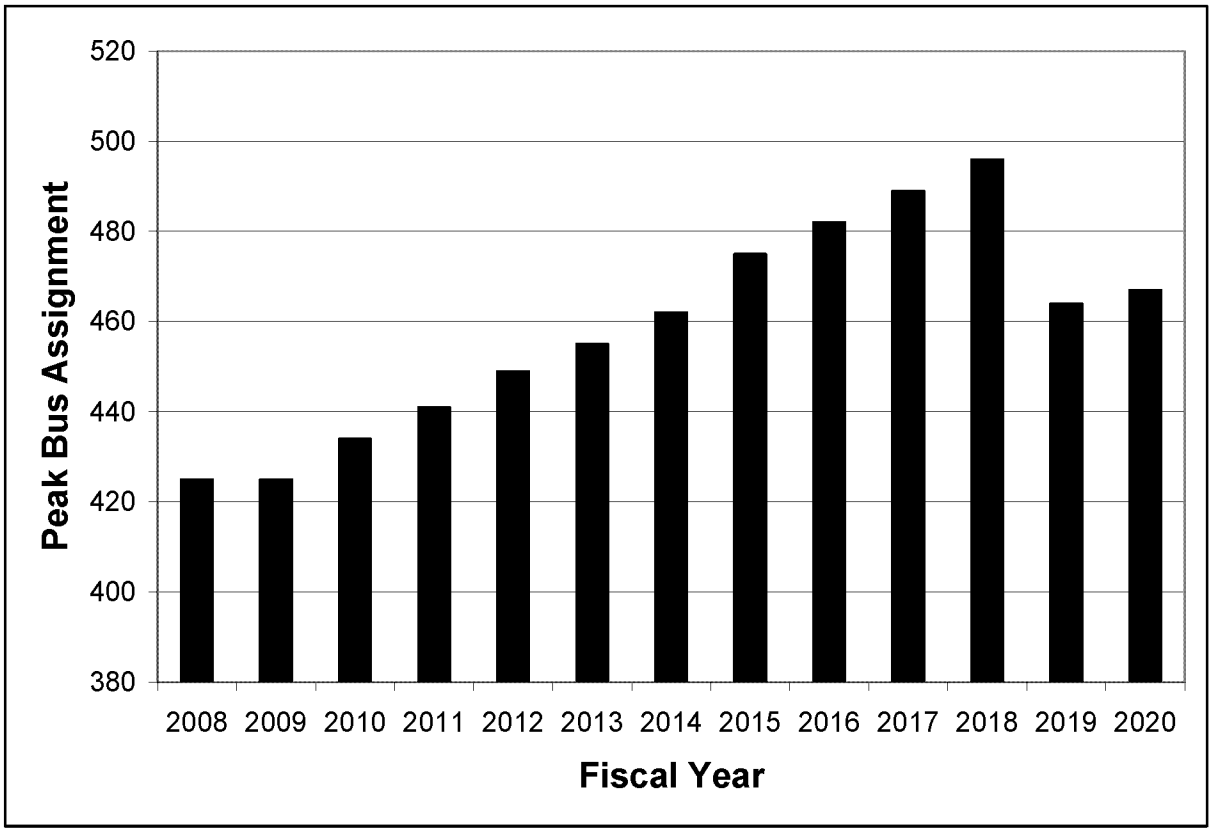

Figure 5: Peak Vehicle Requirements

3.1 Recent History of Fixed Route Ridership

TheBus reported 71,749,456 annual unlinked passenger trips for FY 2007 ending June 30, 2007. This is an increase of over 1,365,000 unlinked passenger trips, or about 1.9 percent, over FY 2006's 70,384,355 unlinked passenger trips, and an increase of over 4,340,000 unlinked passenger trips, or about 6.5 percent, over FY 2005's 67,406,827 unlinked passenger trips. Figure 6 presents this data for FY 2003 through FY 2007. FY 2004 was marred by a 34-day strike by TheBus operators that ended September 29, 2003. This was followed by a fare increase that went into effect on October 1, 2003.

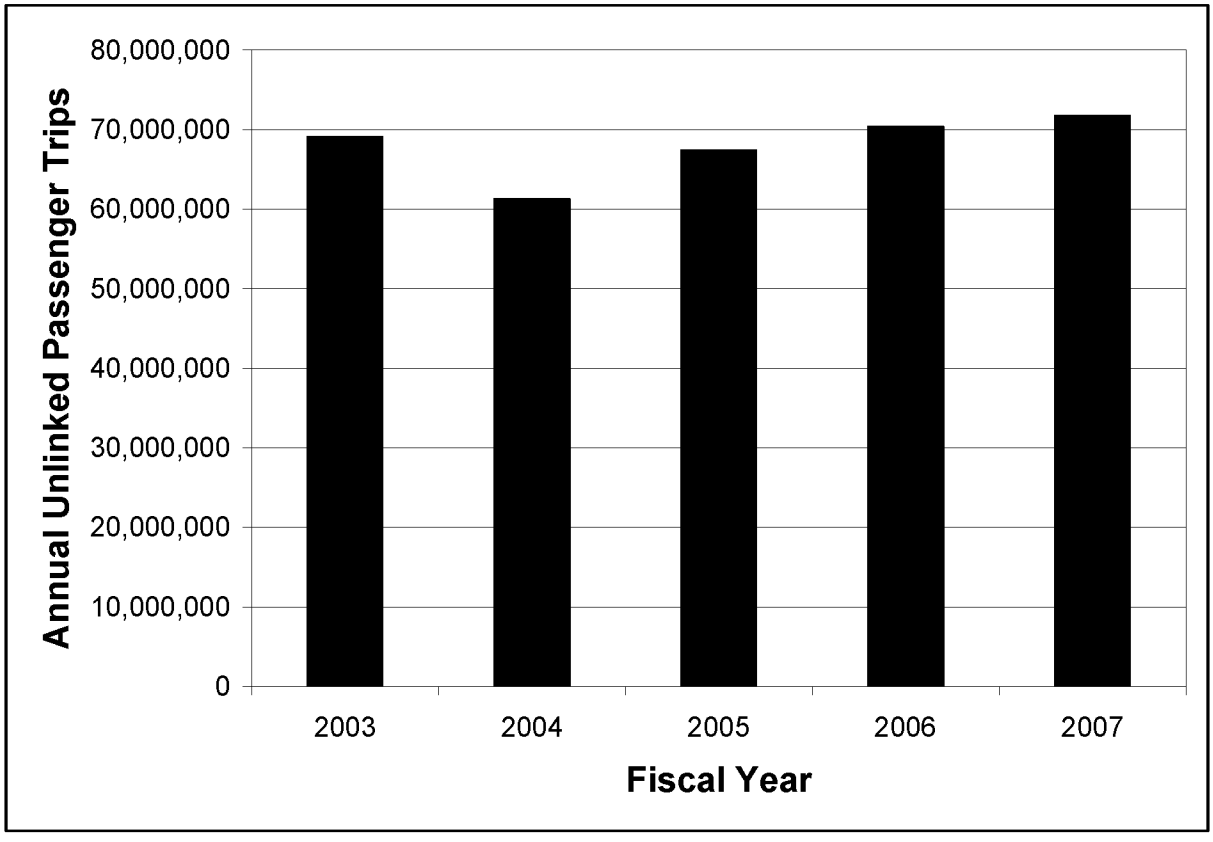

Figure 6: Fixed Route Unlinked Passenger Trips

Figure 7 shows unlinked passenger trips on an average weekday, average Saturday and average Sunday for the past five years.

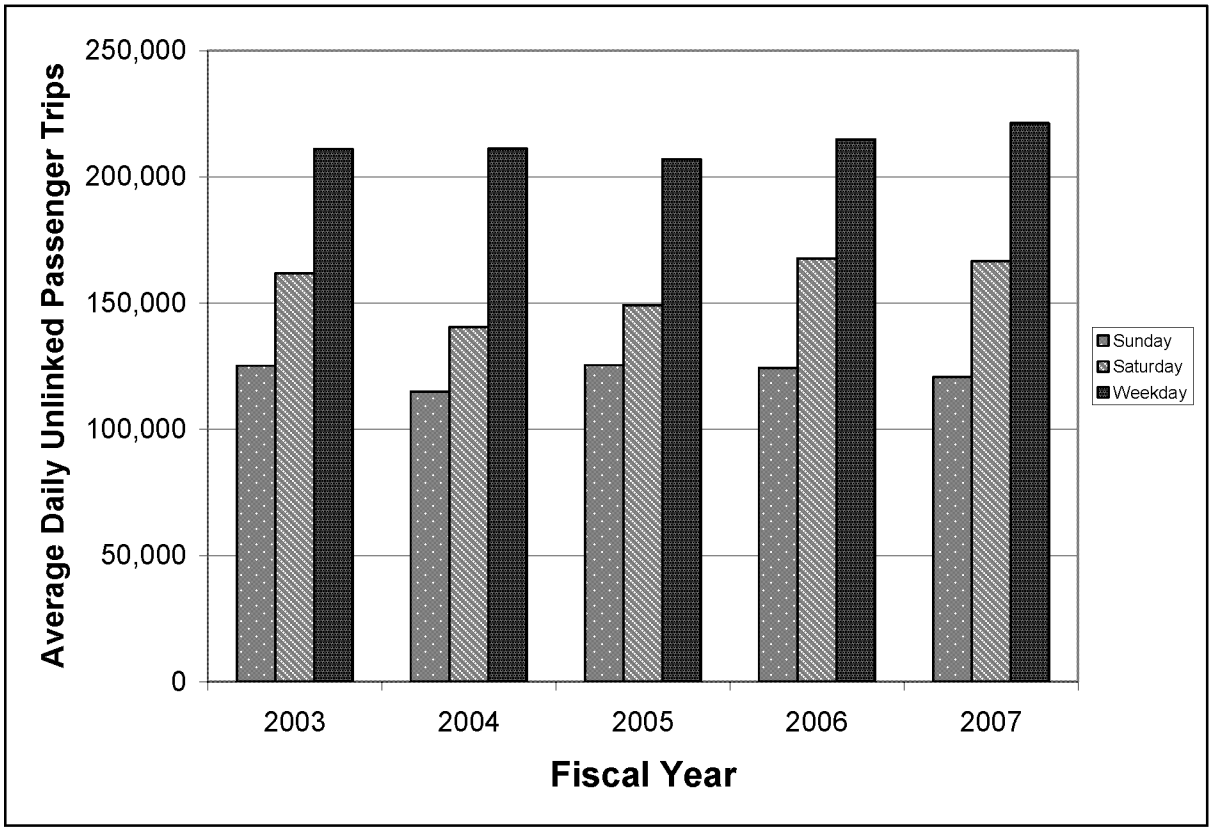

Figure 7: Average Daily Unlinked Passenger Trips

3.2 Ridership Changes

Ridership is expected to increase over time as overall travel demand grows on O'ahu. As shown in Figure 8, ridership from FY 2008 through FY 2018 is expected to grow about 2.3 percent per year, somewhat slower than the growth from FY 2005 to FY 2007.

With implementation of the fixed guideway system new riders are expected to take advantage of this new transit option. The fixed guideway system will afford existing and new riders with reliable access and connectivity to many social, business, educational and recreational activities. The fixed guideway system will interface with a modified fixed route bus network providing numerous options for existing and new riders. Assuming that the 20-mile fixed-guideway line is open for service upon completion of the entire line, in FY 2019, the first complete year that the line is open for service, a jump in ridership is forecast by the regional travel forecasting model. Linked transit trips are expected to be about 8 percent greater with the fixed guideway line in place than if it is not, reflecting new transit riders attracted by the transit system improvement. Due to increased transfers, a more sizable increase in unlinked trips is expected, as shown in the figure.

If the fixed-guideway line is opened in phases, then the ridership increase associated with the new system will occur in several increments as each new phase is opened.

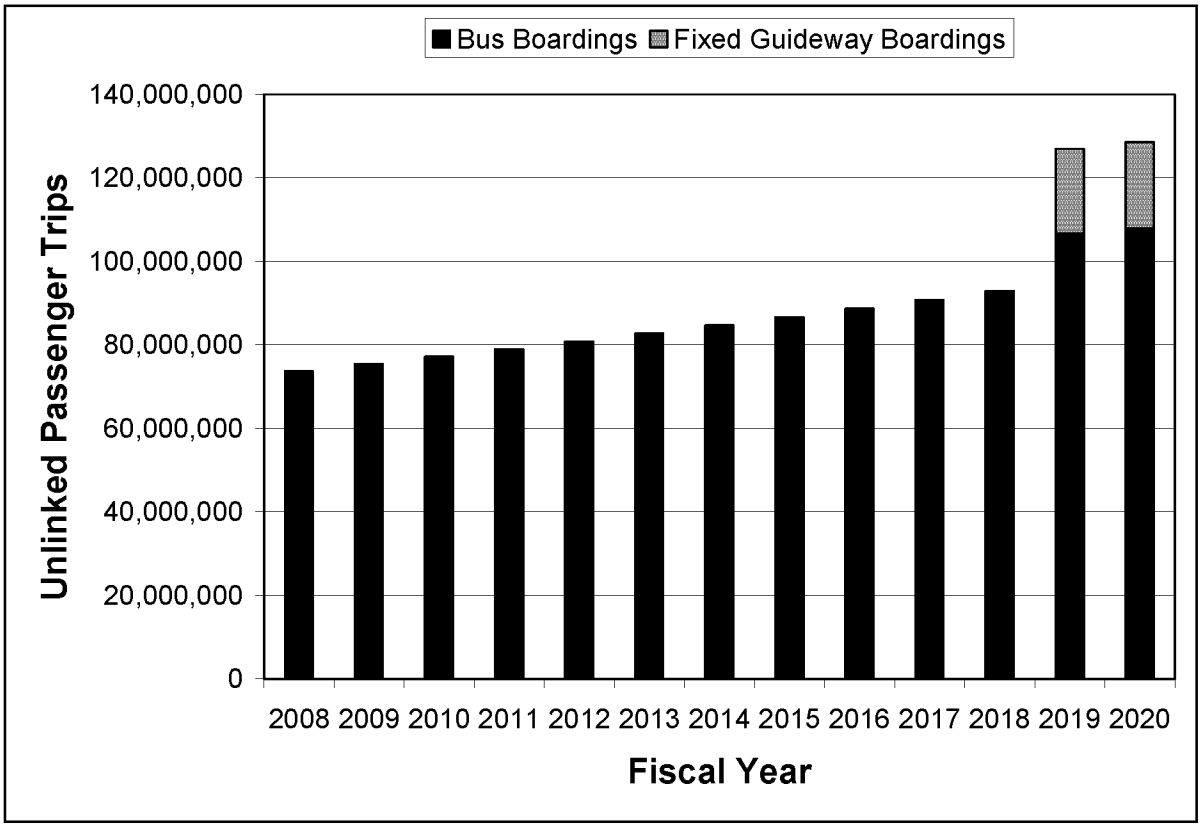

Figure 8: Anticipated Future Unlinked Passenger Trips

4.1 Current Fixed Route Fleet

TheBus fixed route fleet consists of 525 diesel buses. Of these 81 are articulated (including 10 hybrids); 407 are 40-foot; 12 are 35-foot and 25 are 30-foot, shown in Table 3. The fixed route service requires 425 vehicles operating in maximum service, which are deployed from two operating bases (Kalihi/Middle Street and Pearl City).

The Kalihi bus facility is located at 811 Middle Street. It was constructed in 1990 on a fifteen acre property. It includes administrative offices, a maintenance shop, a unit repair shop, fueling and wash areas, and parking for 300 buses. It is currently home base for 300 buses.

The Pearl City bus facility is located at 1200 Waimano Home Road. It was constructed in 2001 on seventeen acres of a twenty-one acre parcel of land. It includes transportation offices, a fuel and wash area, central training rooms and a maintenance shop. It has capacity for 250 buses; it is currently home base for 225.

Year	Make	Length *(feet)*	Bus Number Series	Quantity
1993	TMC	35'	51 - 62	12
1993	TMC	40'	202 - 283	22
1994/95	Gillig	40'	601 - 699	98
1995	Gillig	40'	740 - 773	34
1996	Gillig	40'	774 - 795	22
1997	Gillig	40'	301 - 347	47
1998	Gillig	40'	348 - 365	18
1998	Gillig	40' LF	366 - 368	3
1998	Gillig	30'	40 - 49	10
2000	New Flyer Artic.	60' LF	70 - 99	30
2000	Gillig	40'	801 - 835	34
2001/02	Gillig	40'	836 - 853	19
2002	Chance	30' LF	30 - 39	10
2002	New Flyer Artic.	60' LF	100 - 115	16
2002	Chance	30' LF	25 - 29	5
2003	Gillig	40'	854 - 868	15
2004	Gillig	40' LF	501 - 555	55
2004	New Flyer Artic.	60' LF	116 - 131	16
2004	Hybrid Elec. Artic.	60' LF	132 - 142	10
2006	New Flyer Hybrid	40' LF	901-940	40
2007	Hybrid Elec. Artic.	60' LF		9
Total Buses In Inventory:				525
LEGEND: LF-Low Floor				

Table 3: TheBus Current Vehicle Inventory

4.2 Bus Fleet Replacement and Expansion

Table 4 shows the plan for replacement and expansion of the fixed route bus fleet from FY 2003 through the beginning of operation of the entire 20-mile fixed guideway line. As shown in the table (in the "Bus Manufacturer" column), both hybrid electric and standard diesel buses will be added to the fleet.

The *Honolulu High-Capacity Transit Corridor Project Financial Plan – November 2007* describes the capital and operating revenue sources used to fund the replacement and expansion program.

Table 4: Fixed Route Bus Fleet Replacement and Expansion Plan

BUDGET FY	DELIVERY FY	BUS MANUFACTURER	SIZE (FT)	AVAILABLE FOR USE IN FISCAL YEAR																	
				2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	1983	Gillig	40'	50	11																
	1990	TMC	40'	35	16																
	1993	TMC	35'	12	12	12	12	12	12	2	0	0	0	0	0	0	0	0	0	0	0
	1993	TMC	40'	82	82	71	71	37	22	22	3	0	0	0	0	0	0	0	0	0	0
	1994/95	Gillig	40'	98	98	98	98	98	98	98	98	63	21	0	0	0	0	0	0	0	0
	1995	Gillig	40'	34	34	34	34	34	34	34	34	34	34	15	0	0	0	0	0	0	0
	1996	Gillig	40'	22	22	22	22	22	22	22	22	22	22	22	7	0	0	0	0	0	0
	1997	Gillig	40'	47	47	47	47	47	47	47	47	47	47	45	45	22	0	0	0	0	0
	1998	Gillig	40'	18	18	18	18	18	18	18	18	18	18	18	18	18	11	0	0	0	0
	1998	Gillig	40' LF	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0
	1998	Gillig	30'	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0
	2000	New Flyer	60' LF	30	30	30	30	30	30	30	30	30	30	30	30	15	0	0	0	0	0
	2000	Gillig	40'	34	34	34	34	34	34	34	34	34	34	34	34	34	34	3	0	0	0
	2001/02	Gillig	40'	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	0	0	0
	2002	Chance	30' LF	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0
2001	2002	New Flyer	60' LF	16	16	16	16	16	16	16	16	16	16	16	16	16	15	0	0	0	0
2001	2002	Chance	30' LF	5	5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
2001	2003	Gillig	40'		15	15	15	15	15	15	15	15	15	15	15	15	15	15	4	0	0
2002	2004	Gillig	40' LF		55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	46	36
2003	2004	New Flyer	60' LF		16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	0	0
2003	2004	New Flyer (Artic. Hybrid)	60' LF			10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	0
2005	2006	New Flyer (Std. Hybrid)	40' LF					40	40	40	40	40	40	40	40	40	40	40	40	40	40
2006	2007	Artic. Diesel	60' LF						9	9	9	9	9	9	9	9	9	9	9	9	0
2007	2008	Artic. Hybrid Electric	60' LF							10	10	10	10	10	10	10	10	10	10	10	10
2008	2009	Artic. Hybrid Electric	60' LF								20	20	20	20	20	20	20	20	20	20	20
2008	2009	Standard Diesel	30' LF								10	10	10	10	10	10	10	10	10	10	10
2009	2010	Hybrid Electric	40' LF									50	50	50	50	50	50	50	50	50	50
2010	2011	Hybrid Electric	40' LF										50	50	50	50	50	50	50	50	50
2011	2012	Hybrid Electric	40' LF											50	50	50	50	50	50	50	50
2012	2013	Hybrid Electric	40' LF												50	50	50	50	50	50	50
2013	2014	Standard Diesel	30' LF													21	21	21	21	21	21
2013	2014	Artic. Hybrid Electric	60' LF													42	42	42	42	42	42
2014	2015	Artic. Hybrid Electric	60' LF														53	53	53	53	53
2015	2016	Standard Diesel	30' LF															12	12	12	12
2015	2016	Hybrid Electric	40' LF															7	7	7	7
2015	2016	Artic. Hybrid Electric	60' LF															50	50	50	50
2016	2017	Artic. Hybrid Electric	60' LF																36	36	36
2017	2018	Standard Diesel	30' LF																	13	13
2017	2018	Artic. Hybrid Electric	60' LF																	18	18
2018	2019	Hybrid Electric	40' LF																		10
2018	2019	Artic. Hybrid Electric	60' LF																		17
Total Bus Fleet				**525**	**553**	**525**	**525**	**531**	**525**	**525**	**534**	**546**	**554**	**562**	**572**	**575**	**583**	**592**	**595**	**595**	**595**
Active Fleet				525	536	496	499	531	501	501	510	522	530	538	548	563	572	580	591	559	559
Peak Assignment				427	425	416	415	424	425	425	434	441	449	455	462	475	482	489	496	464	467
Spares				98	111	80	84	107	76	76	76	81	81	83	86	88	90	91	95	95	92
Spare Ratio				23%	26%	19%	20%	25%	18%	18%	18%	18%	18%	18%	19%	19%	19%	19%	19%	20%	20%
Active Fleet Average Age				8.4	6.6	7.3	8.3	8.3	8.7	9.4	9.6	9.3	8.8	8.3	8.0	7.6	7.2	6.5	6.7	6.5	6.8
Total Fleet Average Age				8.4	7.0	7.2	8.2	8.3	9.0	9.7	9.9	9.6	9.2	8.7	8.4	7.8	7.4	6.7	6.8	7.0	7.4

5 Performance Standards and Policies for Bus Operations

The following measures are used in examining bus performance:

- On-Time Performance
- Vehicle Assignment
- Vehicle Headway
- Transit Amenities
- Transit Access/Coverage.

5.1 On-Time Performance

The overall on-time performance standard for *TheBus* is expressed as *percent of trips that are on-time.* On-time for routes with service headways greater than 15 minutes is considered to be from one minute early to ten minutes late. On-time performance for routes with service headways less than 15 minutes is not as important as the operational headway of all trips on those routes.

The standards are as follows:

Period	Time	On-Time Performance Standard
AM (Peak)	3:42 a.m. to 9:00 a.m.	70%
Base	9:00 a.m. to 2:00 p.m.	80%
PM (Peak)	2:00 p.m. to 6:00 p.m.	70%
Night	6:00 p.m. to end of service	80%

5.2 Vehicle Assignment

Vehicle assignments are made according to the following criteria:

- Bus assignments are made to match bus capacity to expected demand.
- Articulated buses are assigned to City Express! and other high volume routes.
- Circulator buses (less than 40') are assigned to circulator and feeder routes.
- Routes that have narrow streets and tight corners may use smaller buses.

- Routes with overhanging trees may require buses with rounded roof edges.

5.3 Vehicle Headway

Vehicle headway standards are:

- Urban trunk 15 minutes
- Suburban trunk 30 minutes
- Circulator 60 minutes
- Limited Stop Express:
  - Urban 15 minutes
  - Suburban 30 minutes
- Peak Period Express Not applicable

5.4 Passenger Amenities

Passenger amenities include benches, shelters, trash receptacles, landscaping, static information (such as a route map and schedule), and real-time information available through electronic message sign boards.

Installation of such amenities should not block the accessible landing area or pedestrian pathway around the stop, the immediate area around the transit bus shelter, or the curbside limits of the bus stop zone.

Transit shelters must be accessible to persons in wheelchairs, and provide adequate space for persons in wheelchairs to maneuver into the shelter and remain there fully sheltered.

The minimum standards for applying passenger amenities to any bus stop are as follows:

- All amenities shall continue compliance with Americans with Disabilities Act Accessibility Guidelines (ADAAG).
- Shelters – Transfer points, two or more bus routes that service a stop, and stops on bus routes with headways greater that 40 minutes.
- Benches – Transfer points, two or more bus routes that service a stop, and stops on bus routes with headways greater that 30 minutes.
- Trash receptacle – Transfer points, two or more bus routes that service a stop, and stops on bus routes with headways greater that 15 minutes and/or in the general vicinity of waste receptacle use generator(s).

Restrictions

1. No amenities (i.e.; newspaper/print material vendor stands) should be chained to any pole where a bus stop sign is installed, a separately installed bus stop information display board within 10 feet of any transit bus shelter area, or on the curbside within a bus stop zone.
2. Fixed bicycle stands should not be installed where passengers enter or exit a bus within a bus stop zone.
3. No bicycles, mopeds, or scooters should be chained and left unattended leaning against any pole where a bus stop sign is installed, a separately installed bus stop information display board, or a transit bus shelter.

5.5 Transit Access/Coverage

Bus service, including fixed route service and paratransit service, is provided to cover all inhabited parts of O'ahu. Paratransit service will continue to cover O'ahu with implementation of the fixed-guideway system.

Standards for transit access are:

- Access distance – Provide a bus stop within ¼ mile (1,320 feet) of 85% of bus riders.
- Major Activity Center Access – Provide a bus stop within 1,000 feet of major activity centers.
- Ease of Use – Make published route maps available to the public.

6 Bus Fleet Maintenance Plan

The Maintenance Department of Oahu Transit Services (OTS) is responsible for the maintenance of the fixed route bus fleet.

OTS's Maintenance Goals and Objectives are listed on the following page.

MAINTENANCE DEPARTMENT
GENERAL OPERATING PROCEDURE

Policy Number: MTCE 2.400 Page: 1 of 1

Title: MAINTENANCE GOALS AND OBJECTIVES Effective: 04/10/07
Supersedes: 06/01/06

MISSION STATEMENT

Oahu Transit Services, Inc., under the policy guidance and direction of the City Department of Transportation Services and within the budgetary resources provided, is responsible for providing safe, secure, economical, efficient, effective and dependable public bus service to the community in an environmentally sensitive manner. We will follow a policy of nondiscrimination in employment and in the provision of TheBus service without regard to race, national origin, gender, income level, or disability status. Our business dealings will follow high standards of integrity and ethical business conduct. Our strength and our future growth lie with our employees who we will listen to and support. We value innovation and excellence in the provision of transit services and will seek to perpetuate the Aloha Spirit and the feeling of 'Ohana

Current Goals:

1. Convert the City and County of Honolulu's entire bus and support fleet of tires to Nitrogen vs. Compressed Air.
2. Increase intervals between engine overhauls.
3. Increase brake lining life.
4. Convert the entire revenue fleet to synthetic transmission fluid.
5. Energy conservation efforts.
6. Recycling.
7. 10,000 miles between mechanical road calls.
8. Minimum of 85 percent availability.
9. Overtime less than 5 percent.

Current Challenges:

1. Aging infrastructure at Kalihi-Palama facility.
2. Aging bus fleet.
3. Aging Handi-Van fleet.
4. Handi-Van relocation.
5. Non-revenue fleet replacement.
6. Maintenance equipment in general.
7. Manpower.

Future Goals:

1. Infrastructure improvements at the Kalihi-Palama facility.
2. Infrastructure improvements at the Pearl City facility.

6.1 Scheduled Maintenance

OTS's Maintenance Plan for recurring inspections is attached as Appendix A.

6.2 Unscheduled Maintenance

Figure 9 shows OTS's recent history of unscheduled maintenance road calls. The annual number of road calls is usually about equally divided between equipment failure and other miscellaneous reasons. Although the number of road calls in both categories increased noticeably in FY 2007, the pull-outs were not affected. As data from FY 2008 becomes available it can be determined whether FY 2007 represented the start of a trend or was an anomalous year.

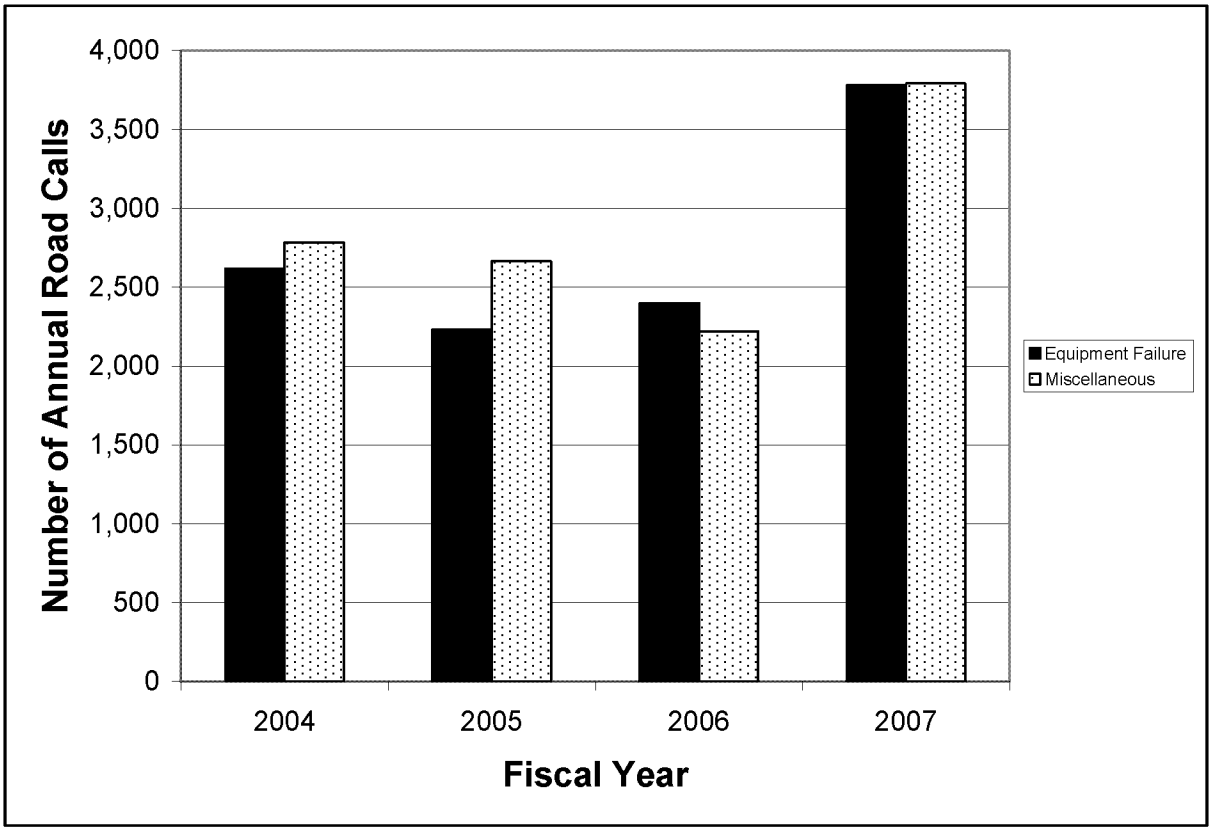

Figure 9: Annual Summary of Road Calls

Figure 10 shows the history of miles between mechanical road calls from FY 2004 through FY 2007. Consistent with Figure 9 shows OTS's recent history of unscheduled maintenance road calls. The annual number of road calls is usually about equally divided between equipment failure and other miscellaneous reasons. Although the number of road calls in both categories increased noticeably in FY 2007, the pull-outs were not affected. As data from FY 2008 becomes available it can be determined whether FY 2007 represented the start of a trend or was an anomalous year.

Figure 9, FY 2007 was noticeably different than the two previous years.

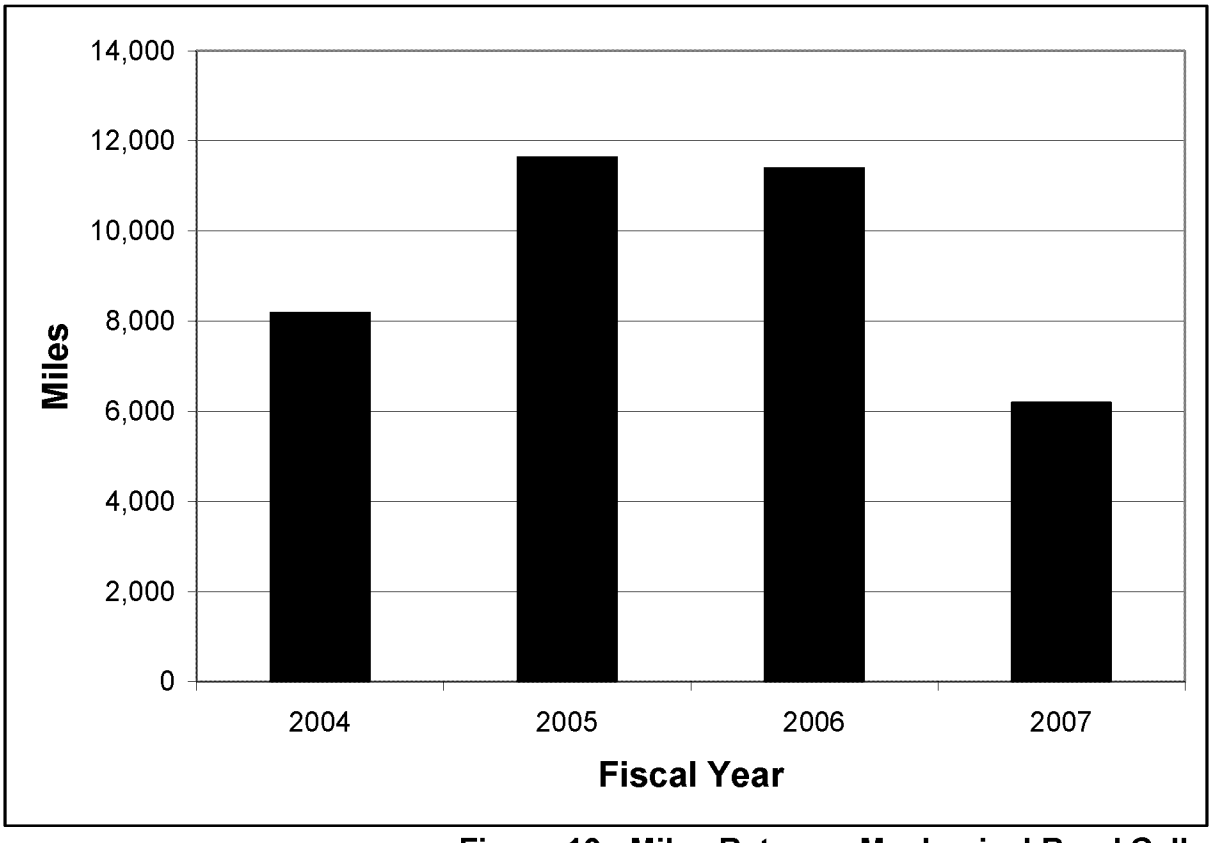

Figure 10: Miles Between Mechanical Road Calls

Appendix A Bus Maintenance Plan

MAINTENANCE DEPARTMENT
GENERAL OPERATING PROCEDURE

Policy Number: MTCE 2.200 Page: 1 of 2

Title: MAINTENANCE PLAN – RECURRING INSPECTIONS Effective: 06/01/06
Supersedes: 07/01/03

POLICY

An active preventative maintenance plan is critical in order to ensure that the bus fleet is maintained in optimum operating condition. In this regard, the maintenance divisions must utilize the following:

1. Manufacturer-specific maintenance plans as promulgated through maintenance manuals, both printed and CD-ROM based. Each time a new bus fleet is delivered, ample quantities of maintenance manuals are procured and distributed to the various shops as well as to division administrative offices.

2. "K" inspection checklists for inspections occurring at 3,000 miles; 6,000 miles; 12,000 miles; 24,000 miles; 36,000 miles; 48,000 miles and 72,000 miles. Copies of the most current fixed route checklists (Rev. 4/02) and paratransit checklists (Rev. 4/99) are attached. As changes occur, checklists will be revised and reissued.

   Note: a) On new buses, oil is dropped at 3,000 miles; then the 6,000-mile schedule is followed.
   b) On new buses, synthetic transmission fluid is dropped at 3,000 miles; then the appropriate K- mile schedule is followed in compliance with factory-recommended filter changes.
   c) On new Hybrid buses, synthetic transmission fluid is dropped at 5,000 miles; then the 72,000-mile schedule is followed in compliance with recommended filter change intervals.

3. Wheelchair lift inspection checklist. A copy of the most current checklist (Rev. 4/02) is attached. As changes occur, this checklist will be revised and reissued.

4. Voith transmission inspection checklist. A copy of the most current checklist (Rev. 4/02) is attached. As changes occur, this checklist will be revised and reissued.

5. Transynd inspection checklist. A copy of the most current checklist (Rev. 4/02) is attached. As changes occur, this checklist will be revised and reissued.

6. Articulated joint inspection checklist. A copy of the most current checklist (7/03) is attached. As changes occur, this checklist will be revised and reissued.

7. Tune-up inspection checklist. A copy of the most current checklist (Rev. 4/02) is attached. As changes occur, this checklist will be revised and reissued.

8. As with any program, monitoring and follow-up are critical elements to the effectiveness of the preventative maintenance program. In this regard, we use the Vehicle Condition Report (VCR) card. The VCR card is filled out by drivers, collected at the end of the day and then distributed to the appropriate shops to take corrective action. A copy of the most current VCR is attached.

OAHU TRANSIT SERVICES, INC. MAINTENANCE DEPARTMENT

3,000 / 6,000 Miles Inspection

BUS #_____ **ODOMETER READING**_____ **DATE**_____

VRO #_____ **TOTAL TIME**_____ **MECHANIC'S NAME**_____

(3) = If OK **(2) = Adjusted/Repaired/Replaced** **(1) = Repairs Needed** **(N/A) = Not Applicable**

BOTTOM INSPECTIONS:

_____ Driver Seat Operation and Lube
_____ Horn and Alarm
_____ All Mirrors, Chimes and Visors
_____ All Sign and Annunciator Operations
_____ Windshield Wiper, Washer and Delay
_____ Dash Control Switches, Knobs
_____ Dash Warning, Indicator Lights
_____ Door Control and Door Operation
_____ Microphone Operation
_____ Driver Light and Fan
_____ A/C and Defroster Operation
_____ Air Pressure Gauge
_____ Volt Gauge (Charging System)
_____ Wheelchair Lift and Safety Operation
_____ Kneeling Operation
_____ All Interior Lights
_____ All Exterior Lights and Reflectors
_____ Proper Height of Coach
_____ Body Damage
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Outrigger Bolts and Mounts
_____ Engine, Trans and Differential Oil Leaks
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator/Air Compressor Leaks
_____ Electrical Cables and Wiring
_____ All Engine/Trans Bolts and Nuts
_____ Grease Coach, Jack Up Front End
_____ Wheel Bearings/Seals and Oil Hubs
_____ King Pin and Front Axle
_____ Tie Rod Ends
_____ Drag Link and Pitman Arm
_____ Steering Box and U-Joints
_____ All Bellows, Height Controls and Links
_____ Stabilizer Bar and Links
_____ Radius Rod and Bushings
_____ Radius Rod Bolts and Nuts
_____ Lateral Rod and Bushings
_____ Lateral Rod Bolts and Nuts
_____ Engine and Trans Mounts
_____ Frame Structure and Trunnion
_____ Shock Absorbers
_____ Tire Condition
_____ Wheel Splash Guard
_____ Oil Sample Engine
_____ Drain Engine Oil / R&R Engine Oil Filter
_____ Drain Air Tanks Completely
_____ Air Dryer
_____ All Brake Adj/Lining/Cam Height
_____ Driveline, U-Joints and Bolts
_____ Air System Leaks (Lines, Valves & Chambers)

TOP INSPECTIONS:

_____ All Door Props
_____ Lube All Door Rollers/Tracks/Linkages
_____ Rear Door Sensitive Edge and Bars
_____ Lube Accel/Brake Pedal Pivots
_____ Test Emergency Engine Shutdown
_____ Wheelchair Lift and Safety Operation
_____ Tilt Steering and Lube
_____ Fire Extinguisher / Triangle Kit and Chalk
_____ Stanchions and Subway Straps
_____ All Interior Decals
_____ Seats/Frame/Arm Rest
_____ Wheelchair Folding Seats
_____ Wheelchair Belts
_____ Buzzer Cord and Touch Tape Strips
_____ A/C Filter
_____ Escape Latches and Roof Hatch
_____ Glass and Window Operation
_____ Floor Covering
_____ Interior Body Damage
_____ Car Cards and Lock Strips
_____ Interior Bolts, Screws and Rivets
_____ Battery Cable Connections
_____ Bike Rack
_____ All Compartment Door Latches
_____ Exterior Body Screws, Bolts and Rivets
_____ Body Damage
_____ Wheelchair Oil Level
_____ Alternator Belt
_____ A/C Belt
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Muffler Mounts
_____ Outrigger Bolts and Mounts
_____ Oil Pressure and Gauge
_____ Water Temperature Gauge
_____ Engine and Trans Oil Leaks
_____ Engine Water Leaks
_____ Engine and Trans Mounts
_____ Frame Structure
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator and Air Compressor Leaks
_____ All Engine/Trans Bolts and Nuts
_____ Air Cleaner Indicator
_____ Engine Compartment Lights
_____ Throttle Springs and Linkages
_____ A/C Compressor
_____ Accumulator Charge 50psi (TMC)
_____ Fill Engine Oil
_____ Test Engine Coolant
Glycol_____ / Nitrite_____
_____ Qts. Engine Oil
_____ Qts. Trans Oil
_____ Pts. Power Steering Oil
_____ Pts. Wheelchair Oil

Mech. Signature:_____ **Mech. Signature:**_____

OAHU TRANSIT SERVICES, INC. MAINTENANCE DEPARTMENT

12,000 / 36,000 Miles Inspection

BUS #_____ **ODOMETER READING**_____ **DATE**_____

VRO #_____ **TOTAL TIME**_____ **MECHANIC'S NAME**_____

(3) = If OK **(2) = Adjusted/Repaired/Replaced** **(1) = Repairs Needed** **(N/A) = Not Applicable**

BOTTOM INSPECTIONS:

_____ Driver Seat Operation and Lube
_____ Horn and Alarm
_____ All Mirrors, Chimes and Visors
_____ All Sign and Annunciator Operations
_____ Windshield Wiper, Washer and Delay
_____ Dash Control Switches, Knobs
_____ Dash Warning, Indicator Lights
_____ Door Control and Door Operation
_____ A/C and Defroster Operation
_____ Air Pressure Gauge
_____ Volt Gauge (Charging System)
_____ Wheelchair Lift and Safety Operation
_____ Lube Wheelchair Ramp Pins
_____ Kneeling Operation
_____ Microphone Operation
_____ Driver Light and Fan
_____ All Interior Lights
_____ All Exterior Lights and Reflectors
_____ Proper Height of Coach
_____ Body Damage
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Outrigger Bolts and Mounts
_____ Engine, Trans and Differential Oil Leaks
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator/Air Compressor Leaks
_____ Electrical Cables and Wiring
_____ All Engine/Trans Bolts and Nuts
_____ Oil Sample Engine and Trans
_____ Drain Engine and Trans Oil
_____ R&R Engine and Trans Oil Filters
_____ Flush Steering System
_____ Grease Coach, Jack Up Front End
_____ Wheel Bearings/Seals and Oil Hubs
_____ King Pin and Front Axle
_____ Tie Rod Ends
_____ Drag Link and Pitman Arm
_____ Steering Box and U-Joints
_____ All Bellows, Height Controls and Links
_____ Air System Leaks (Lines, Valves & Chambers)
_____ Stabilizer Bar and Links
_____ Radius Rod and Bushings
_____ Radius Rod Bolts and Nuts
_____ Lateral Rod and Bushings
_____ Lateral Rod Bolts and Nuts
_____ Engine and Trans Mounts
_____ Frame Structure and Trunnion
_____ Shock Absorbers
_____ Tire Condition
_____ Wheel Splash Guard
_____ Drain Air Tanks Completely
_____ Air Dryer
_____ All Brake Adj/Lining/Cam Height
_____ Driveline, U-Joints and Bolts

Mech. Signature:_____

TOP INSPECTIONS:

_____ All Door Props
_____ Lube All Door Rollers/Tracks/Linkages
_____ Rear Door Sensitive Edge and Bars
_____ Lube Accel/Brake Pedal Pivots
_____ Test Emergency Engine Shutdown
_____ Wheelchair Lift and Safety Operation
_____ Tilt Steering and Lube
_____ Fire Extinguisher / Triangle Kit and Chalk
_____ Stanchions and Subway Straps
_____ All Interior Decals
_____ Seats/Frame/Arm Rest
_____ Wheelchair Folding Seats
_____ Wheelchair Belts
_____ Buzzer Cord and Touch Tape Strips
_____ A/C Filter
_____ Escape Latches and Roof Hatch
_____ Glass and Window Operation
_____ Floor Covering
_____ Interior Body Damage
_____ Car Cards and Lock Strips
_____ Interior Bolts, Screws and Rivets
_____ Battery Cable Connections
_____ Bike Rack
_____ All Compartment Door Latches
_____ All Access Door Hinges and Lube
_____ Body Screws, Bolts and Rivets
_____ Body Damage
_____ Power Steering Filter
_____ Wheelchair Pump Filter
_____ Wheelchair Oil Level
_____ Alternator Belt
_____ A/C Belt
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Muffler Mounts
_____ Outrigger Bolts and Mounts
_____ Oil Pressure and Gauge
_____ Water Temperature Gauge
_____ Engine and Trans Oil Leaks
_____ Engine Water Leaks
_____ Engine and Trans Mounts
_____ Frame Structure
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator and Air Compressor Leaks
_____ All Engine/Trans Bolts and Nuts
_____ Air Cleaner Indicator
_____ Engine Compartment Lights
_____ Throttle Springs and Linkages
_____ A/C Compressor
_____ Fill Engine and Trans Oil
_____ Trans Filter
_____ Engine Spinner
_____ Flush Steering System
_____ R&R Power Steering Filter
_____ Accumulator Charge 50psi (TMC)
_____ Qts. Engine Oil
_____ Qts. Trans Oil
_____ Pts. Power Steering Oil
_____ Pts. Wheelchair Oil

Mech. Signature:_____

OAHU TRANSIT SERVICES, INC. MAINTENANCE DEPARTMENT

VOITH TRANSMISSION - 36,000 Miles Inspection

BUS #_____ **ODOMETER READING**_____ **DATE**_____

VRO #_____ **TOTAL TIME**_____ **MECHANIC'S NAME**_____

(3) = If OK **(2) = Adjusted/Repaired/Replaced** **(1) = Repairs Needed** **(N/A) = Not Applicable**

BOTTOM INSPECTIONS:

_____ Driver Seat Operation and Lube
_____ Horn and Alarm
_____ All Mirrors, Chimes and Visors
_____ All Sign and Annunciator Operations
_____ Windshield Wiper, Washer and Delay
_____ Dash Control Switches, Knobs
_____ Dash Warning, Indicator Lights
_____ Door Control and Door Operation
_____ A/C and Defroster Operation
_____ Air Pressure Gauge
_____ Volt Gauge (Charging System)
_____ Wheelchair Lift and Safety Operation
_____ Lube Wheelchair Ramp Pins
_____ Kneeling Operation
_____ Microphone Operation
_____ Driver Light and Fan
_____ All Interior Lights
_____ All Exterior Lights and Reflectors
_____ Proper Height of Coach
_____ Body Damage
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Outrigger Bolts and Mounts
_____ Engine, Trans and Differential Oil Leaks
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator/Air Compressor Leaks
_____ Electrical Cables and Wiring
_____ All Engine/Trans Bolts and Nuts
_____ Oil Sample Engine and Trans
_____ Drain Engine and Trans Oil
_____ R&R Engine and Trans Oil Filters
_____ Flush Steering System
_____ Grease Coach, Jack Up Front End
_____ Wheel Bearings/Seals and Oil Hubs
_____ King Pin and Front Axle
_____ Tie Rod Ends
_____ Drag Link and Pitman Arm
_____ Steering Box and U-Joints
_____ All Bellows, Height Controls and Links
_____ Air System Leaks (Lines, Valves & Chambers)
_____ Stabilizer Bar and Links
_____ Radius Rod and Bushings
_____ Radius Rod Bolts and Nuts
_____ Lateral Rod and Bushings
_____ Lateral Rod Bolts and Nuts
_____ Engine and Trans Mounts
_____ Frame Structure and Trunnion
_____ Shock Absorbers
_____ Tire Condition
_____ Wheel Splash Guard
_____ Drain Air Tanks Completely
_____ Air Dryer
_____ All Brake Adj/Lining/Cam Height
_____ Driveline, U-Joints and Bolts

Mech. Signature:_____

TOP INSPECTIONS:

_____ All Door Props
_____ Lube All Door Rollers/Tracks/Linkages
_____ Rear Door Sensitive Edge and Bars
_____ Lube Accel/Brake Pedal Pivots
_____ Test Emergency Engine Shutdown
_____ Wheelchair Lift and Safety Operation
_____ Tilt Steering and Lube
_____ Fire Extinguisher / Triangle Kit and Chalk
_____ Stanchions and Subway Straps
_____ All Interior Decals
_____ Seats/Frame/Arm Rest
_____ Wheelchair Folding Seats
_____ Wheelchair Belts
_____ Buzzer Cord and Touch Tape Strips
_____ A/C Filter
_____ Escape Latches and Roof Hatch
_____ Glass and Window Operation
_____ Floor Covering
_____ Interior Body Damage
_____ Car Cards and Lock Strips
_____ Interior Bolts, Screws and Rivets
_____ Battery Cable Connections
_____ Bike Rack
_____ All Compartment Door Latches
_____ All Access Door Hinges and Lube
_____ Body Screws, Bolts and Rivets
_____ Body Damage
_____ Power Steering Filter
_____ Wheelchair Pump Filter
_____ Wheelchair Oil Level
_____ Alternator Belt
_____ A/C Belt
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Muffler Mounts
_____ Outrigger Bolts and Mounts
_____ Oil Pressure and Gauge
_____ Water Temperature Gauge
_____ Engine and Trans Oil Leaks
_____ Engine Water Leaks
_____ Engine and Trans Mounts
_____ Frame Structure
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator and Air Compressor Leaks
_____ All Engine/Trans Bolts and Nuts
_____ Air Cleaner Indicator
_____ Engine Compartment Lights
_____ Throttle Springs and Linkages
_____ A/C Compressor
_____ Fill Engine and Trans Oil
_____ Trans Filter
_____ Engine Spinner
_____ Flush Steering System
_____ R&R Power Steering Filter
_____ Accumulator Charge 50psi (TMC)
_____ Qts. Engine Oil
_____ Qts. Trans Oil
_____ Pts. Power Steering Oil
_____ Pts. Wheelchair Oil

Mech. Signature:_____

OAHU TRANSIT SERVICES, INC. MAINTENANCE DEPARTMENT

24,000 / 48,000 Miles Inspection

BUS #_____ ODOMETER READING_____ DATE_____

VRO #_____ TOTAL TIME_____ MECHANIC'S NAME_____

(3) = If OK (2) = Adjusted/Repaired/Replaced (1) = Repairs Needed (N/A) = Not Applicable

BOTTOM INSPECTIONS:

_____ Driver Seat Operation and Lube
_____ Horn and Alarm
_____ All Mirrors, Chimes and Visors
_____ All Sign and Annunciator Operations
_____ Windshield Wiper, Washer and Delay
_____ Dash Control Switches, Knobs
_____ Dash Warning, Indicator Lights
_____ Door Control and Door Operation
_____ A/C and Defroster Operation
_____ Air Pressure Gauge
_____ Volt Gauge (Charging System)
_____ Wheelchair Lift and Safety Operation
_____ Lube Wheelchair Ramp Pins
_____ Kneeling Operation
_____ Microphone Operation
_____ Driver Light and Fan
_____ All Interior Lights
_____ All Exterior Lights and Reflectors
_____ Proper Height of Coach
_____ Body Damage
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Outrigger Bolts and Mounts
_____ Engine, Trans and Differential Oil Leaks
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator/Air Compressor Leaks
_____ Electrical Cables and Wiring
_____ All Engine/Trans Bolts and Nuts
_____ Oil Sample Engine and Trans
_____ Drain Engine and Trans Oil
_____ R&R Engine and Trans Oil Filters
_____ Drain and Fill Differential Oil
_____ Flush Steering System
_____ Grease Coach, Jack Up Front End
_____ Wheel Bearings/Seals and Oil Hubs
_____ King Pin and Front Axle
_____ Tie Rod Ends
_____ Drag Link and Pitman Arm
_____ Steering Box and U-Joints
_____ All Bellows, Height Controls and Links
_____ Air System Leaks (Lines, Valves & Chambers)
_____ Stabilizer Bar and Links
_____ Radius Rod and Bushings
_____ Radius Rod Bolts and Nuts
_____ Lateral Rod and Bushings
_____ Lateral Rod Bolts and Nuts
_____ Engine and Trans Mounts
_____ Frame Structure and Trunnion
_____ Shock Absorbers
_____ Tire Condition
_____ Wheel Splash Guard
_____ Drain Air Tanks Completely
_____ Air Dryer
_____ All Brake Adj/Lining/Cam Height
_____ Driveline, U-Joints and Bolts

Mech. Signature:_____

TOP INSPECTIONS:

_____ All Door Props
_____ Lube All Door Rollers/Tracks/Linkages
_____ Rear Door Sensitive Edge and Bars
_____ Lube Accel/Brake Pedal Pivots
_____ Test Emergency Engine Shutdown
_____ Wheelchair Lift and Safety Operation
_____ Tilt Steering and Lube
_____ Fire Extinguisher / Triangle Kit and Chalk
_____ Stanchions and Subway Straps
_____ All Interior Decals
_____ Seats/Frame/Arm Rest
_____ Wheelchair Folding Seats
_____ Wheelchair Belts
_____ Buzzer Cord and Touch Tape Strips
_____ A/C Filter
_____ Escape Latches and Roof Hatch
_____ Glass and Window Operation
_____ Floor Covering
_____ Interior Body Damage
_____ Car Cards and Lock Strips
_____ Interior Bolts, Screws and Rivets
_____ Battery Cable Connections
_____ Bike Rack
_____ All Compartment Door Latches
_____ All Access Door Hinges and Lube
_____ Body Screws, Bolts and Rivets
_____ Body Damage
_____ Power Steering Filter
_____ Wheelchair Pump Filter
_____ Wheelchair Oil Level
_____ Alternator Belt
_____ A/C Belt
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Muffler Mounts
_____ Outrigger Bolts and Mounts
_____ Oil Pressure and Gauge
_____ Water Temperature Gauge
_____ Engine and Trans Oil Leaks
_____ Engine Water Leaks
_____ Engine and Trans Mounts
_____ Frame Structure and Trunnion
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator and Air Compressor Leaks
_____ All Engine/Trans Bolts and Nuts
_____ Air Cleaner Indicator
_____ Engine Compartment Lights
_____ Throttle Springs and Linkages
_____ A/C Compressor
_____ Fill Engine and Trans Oil
_____ Trans Filter
_____ Engine Spinner
_____ Flush Steering System
_____ R&R Power Steering Filter
_____ Accumulator Charge 50psi (TMC)
_____ Qts. Engine Oil
_____ Qts. Trans Oil
_____ Pts. Power Steering Oil
_____ Pts. Wheelchair Oil
_____ Pts. Differential Oil

Mech. Signature:_____

OAHU TRANSIT SERVICES, INC. MAINTENANCE DEPARTMENT

TRANSYND - 72,000 Miles Inspection

BUS #_____ **ODOMETER READING**_____ **DATE**_____

VRO #_____ **TOTAL TIME**_____ **MECHANIC'S NAME**_____

(3) = If OK **(2) = Adjusted/Repaired/Replaced** **(1) = Repairs Needed** **(N/A) = Not Applicable**

BOTTOM INSPECTIONS:

_____ Driver Seat Operation and Lube
_____ Horn and Alarm
_____ All Mirrors, Chimes and Visors
_____ All Sign and Annunciator Operations
_____ Windshield Wiper, Washer and Delay
_____ Dash Control Switches, Knobs
_____ Dash Warning, Indicator Lights
_____ Door Control and Door Operation
_____ A/C and Defroster Operation
_____ Air Pressure Gauge
_____ Volt Gauge (Charging System)
_____ Wheelchair Lift and Safety Operation
_____ Lube Wheelchair Ramp Pins
_____ Kneeling Operation
_____ Microphone Operation
_____ Driver Light and Fan
_____ All Interior Lights
_____ All Exterior Lights and Reflectors
_____ Proper Height of Coach
_____ Body Damage
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Outrigger Bolts and Mounts
_____ Engine, Trans and Differential Oil Leaks
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator/Air Compressor Leaks
_____ Electrical Cables and Wiring
_____ All Engine/Trans Bolts and Nuts
_____ Oil Sample Engine and Trans
_____ Drain Engine and Trans Oil
_____ R&R Engine and Trans Oil Filters
_____ Flush Steering System
_____ Grease Coach, Jack Up Front End
_____ Wheel Bearings/Seals and Oil Hubs
_____ King Pin and Front Axle
_____ Tie Rod Ends
_____ Drag Link and Pitman Arm
_____ Steering Box and U-Joints
_____ All Bellows, Height Controls and Links
_____ Air System Leaks (Lines, Valves & Chambers)
_____ Stabilizer Bar and Links
_____ Radius Rod and Bushings
_____ Radius Rod Bolts and Nuts
_____ Lateral Rod and Bushings
_____ Lateral Rod Bolts and Nuts
_____ Engine and Trans Mounts
_____ Frame Structure and Trunnion
_____ Shock Absorbers
_____ Tire Condition
_____ Wheel Splash Guard
_____ Drain Air Tanks Completely
_____ Air Dryer
_____ All Brake Adj/Lining/Cam Height
_____ Driveline, U-Joints and Bolts

Mech. Signature:_____

TOP INSPECTIONS:

_____ All Door Props
_____ Lube All Door Rollers/Tracks/Linkages
_____ Rear Door Sensitive Edge and Bars
_____ Lube Accel/Brake Pedal Pivots
_____ Test Emergency Engine Shutdown
_____ Wheelchair Lift and Safety Operation
_____ Tilt Steering and Lube
_____ Fire Extinguisher / Triangle Kit and Chalk
_____ Stanchions and Subway Straps
_____ All Interior Decals
_____ Seats/Frame/Arm Rest
_____ Wheelchair Folding Seats
_____ Wheelchair Belts
_____ Buzzer Cord and Touch Tape Strips
_____ A/C Filter
_____ Escape Latches and Roof Hatch
_____ Glass and Window Operation
_____ Floor Covering
_____ Interior Body Damage
_____ Car Cards and Lock Strips
_____ Interior Bolts, Screws and Rivets
_____ Battery Cable Connections
_____ Bike Rack
_____ All Compartment Door Latches
_____ All Access Door Hinges and Lube
_____ Body Screws, Bolts and Rivets
_____ Body Damage
_____ Power Steering Filter
_____ Wheelchair Pump Filter
_____ Wheelchair Oil Level
_____ Alternator Belt
_____ A/C Belt
_____ All Hoses and Clamps
_____ Exhaust Pipes and Clamps
_____ Muffler Mounts
_____ Outrigger Bolts and Mounts
_____ Oil Pressure and Gauge
_____ Water Temperature Gauge
_____ Engine and Trans Oil Leaks
_____ Engine Water Leaks
_____ Engine and Trans Mounts
_____ Frame Structure
_____ Hydraulic Hoses and Leaks
_____ Water Pump, Radiator and Water Leaks
_____ Fan Blades, Hubs and Drive
_____ All Fuel Lines and Connections
_____ Alternator and Air Compressor Leaks
_____ All Engine/Trans Bolts and Nuts
_____ Air Cleaner Indicator
_____ Engine Compartment Lights
_____ Throttle Springs and Linkages
_____ A/C Compressor
_____ Fill Engine and Trans Oil
_____ Trans Filter
_____ Engine Spinner
_____ Flush Steering System
_____ R&R Power Steering Filter
_____ Accumulator Charge 50psi (TMC)
_____ Qts. Engine Oil
_____ Qts. Trans Oil
_____ Pts. Power Steering Oil
_____ Pts. Wheelchair Oil

Mech. Signature:_____

24,000 Miles Wheelchair Inspection

BUS #_____ ODOMETER READING_____ DATE_____

TOTAL TIME_____ MECHANIC'S NAME_____

(3) = If OK (2) = Adjusted/Repaired (1) = Repairs Needed (4) = Send to Other Department

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1. _____ Clean all chains, sprockets and rails
2. _____ Power on pushbutton "ON" only with front doors fully open
3. _____ Handrails secure and tight
4. _____ Clearance between handrails and front door panels
5. _____ Clearance between blue plastic bundle and lift during in-and-out travel of lift platform
6. _____ Stow latch for adjustment, wear and operation
7. _____ Sensitive edge/switch mat operation and override functions
8. _____ Lift travel, uneven movement or binding while cycling 3x
9. _____ Ramp/barrier locked when in raised position
10. _____ Ramp/barrier switch and linkage for wear or damage
11. _____ Bridge/barrier switch and linkage for wear or damage
12. _____ Slave chains for correct tension, wear or damage
13. _____ Master chains for wear or damage
14. _____ Master chain limit switch for damage
15. _____ Master chain limit switch activating arm position correct
16. _____ Stow/floor level switch and cams for wear or damage
17. _____ Hydraulic lines and fittings for wear or leaks
18. _____ Lift cylinders for leaks
19. _____ Stow/deploy motor chain for wear or damage
20. _____ Stow/deploy motor drive gears for slipping wear or damage
21. _____ Stow/deploy chains for correct tension, wear or damage
22. _____ Stow/deploy channel sprockets for alignment
23. _____ Stow/deploy switch, arm and elec. cable for wear or damage
24. _____ Stow cam for secure mounting, wear or damage
25. _____ Deploy cam for secure mountings
26. _____ Lift tray components for wear, damage, leaks, etc.
27. _____ Lube master, drive, slave and stow/deploy chains
28. _____ Torque shaft crutch
29. _____ Lube ramp/bridge barrier actuating cams and pins
30. _____ Lube ramp/barrier support pivot (hinge)
31. _____ Lube bridge/barrier pivot points, bolts and linkage
32. _____ Lube stow latch pivot
33. _____ Lube main lift cylinder anchor pins

Nos. **28** and **30** ..... CHAIN LUBE
No. **31** ..... MARINE GREASE
Nos. **32**, **33** and **34** ..... ANTI-SEIZE (MOLYBDENUM DISULFIDE)

Mechanic Signature:_____

Mechanic Signature:_____

24,000 / 48,000 Miles Inspection

TUNE-UP

BUS #_____ ODOMETER READING_____ DATE_____

VRO #_____ TOTAL TIME_____ MECHANIC'S NAME_____

(3) = If OK (2) = Adjusted/Repaired (1) = Repairs Needed (N/A) = Not Applicable

_____ Injector Condition
_____ Injector Timing
_____ Injector Wiring and Harness
_____ Valve Clearance
_____ Valve Springs
_____ Valve Bridges
_____ Injector Rack Bridges
_____ Control Tubes
_____ Fuel Rods
_____ Rocker Arms
_____ Rocker Arm Shafts
_____ Rocker Arm Buttons
_____ Rocker Arm Adjusting Screw
_____ Push Rods
_____ Camshaft and Rollers
_____ Cam Followers
_____ Governor Cover
_____ Governor Weights

_____ Throttle Linkage
_____ Throttle Return Spring
_____ Fast Idle Cylinder
_____ Engine Stop Cylinder
_____ Throttle Pedal Assembly
_____ Front Throttle Valve
_____ Rear Throttle Slave Cylinder
_____ Intake Hoses and Clamps
_____ Exhaust Piping and Clamps
_____ RPM Idle and Max No Load
_____ Road Test
_____ Steam Clean Engine Assembly
_____ Rear Seat Hinges
_____ Rear Seat Safety Prop
_____ Engine Access Panel
_____ Engine Access Opening
_____ Engine Safety Guard and Brackets

Comments: _____

Mechanic Signature:_____

6,000 / 60,000 Miles Inspection

ARTICULATED JOINT

BUS #_____ **ODOMETER READING**_____ **DATE**_____

VRO #_____ **TOTAL TIME**_____ **MECHANIC'S NAME**_____

(3) = If OK **(2) = Adjusted/Repaired** **(1) = Repairs Needed** **(N/A) = Not Applicable**

6,000 Miles:

_____ Check all fastener torques
_____ Check rear fastening screws (515 ft-lbs.)
_____ Check front fastening screws (370 ft-lbs.)
_____ Check cover M10 screws (22 ft-lbs.) +/- 5%
_____ Check support plate securing screws (check for fastener security only)
_____ Check folding bellows for firm seating

60,000 Miles:

_____ Perform 6,000 mile torque check
_____ Perform 6 month cleaning procedure
_____ Insert 200 g. approved lubricant into the grease distributor
_____ Perform "Backlash Adjustment"
_____ Perform "Hydraulic Control Unit Maintenance"

6-Month Articulated Joint Area Cleaning:

1. Open folding bellows insert floor
2. Clean interior of all dirt
3. Open platform service plate and remove all dirt from hydraulic area
4. Close all access doors

Mechanic Signature:_____