



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

# WMATA BUS MID-LIFE OVERHAUL PROGRAM

March 27, 2012



# Purpose / Mission

- Designed to maintain the fleet of 1492 buses in a state of good repair.
- Commitment to good maintenance and maximizes capital investments
- Reduce in-service breakdowns
- Increase customer satisfaction
- Provides for Engineering Modification Improvements
- Yields a safe and reliable fleet

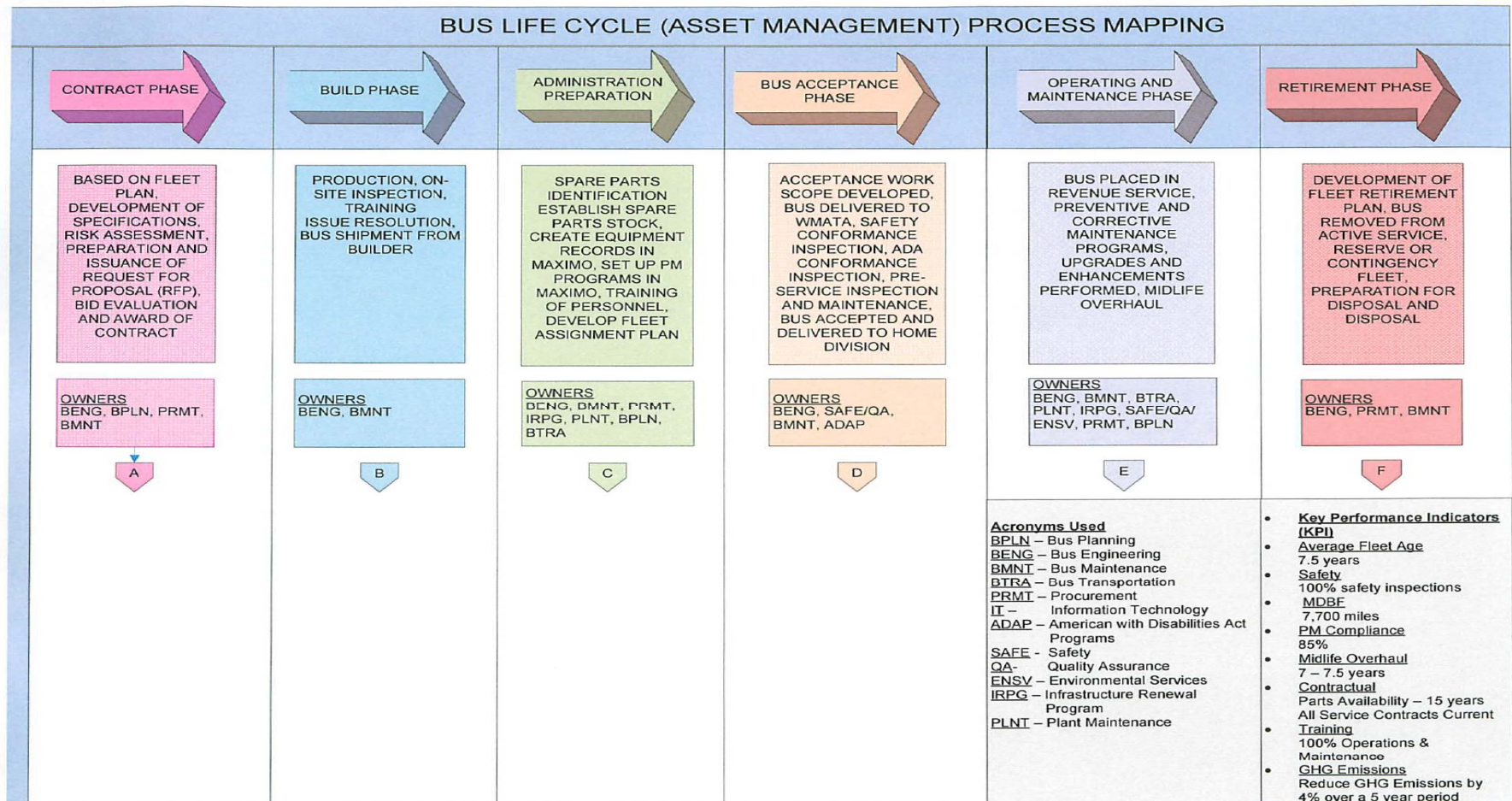


# Mid Life Overview

- Program was developed in 1994
- To date 1584 buses have been through the process
- Each year 100 buses complete the process
- Buses enter the process at approximately 7.5 years of age
- Process involves 107 employees at two locations
- All work is performed in-house
- Average cost per bus \$122,000
- Average cost of a new bus \$495,000



# Life of the Bus





# Current Fleet Profile

FLEET PROFILE FY12 as of 2/22/12

**DIESEL** **CNG** **HYBRID** **HYBRID WITH DEF FLUID**

YEAR	1997	1997	1997	2000	2000	2001	2002	2003	2005	2005	2005	2006	2006	2006	2007	2007	2008	2008	2009	2009	2009	2009	2009	2010	2010	2011	2012	ACTUAL	AVG	
	HB								HB			HB			BRT										STIMULUS					
LENGTH	40'	40'	30'	40'	40'	40'	40'	60'	40'	40'	30'	40'	40'	40'	26'	40'	60'	42'	42'	42'	62'	37'	42'	42'	40'	40'				
# OF SEATS	42	42	30	43	38	40	40	66	41	41	29	39	39	38	20	40	61	39	39	39	62	29	39	39	40	40				
MODEL	ORION	ORION	ORION	ORION	ORION	NF	NF	NEO	ORION	ORION	ORION	NF	NF	NF	TAG	NF	NABI	NF	NF	NF/EXP	NF	NF	NF	NF	NF	NF	NF	NF	TOTALS	AGE
	V	V	V	V					VII	VII	VII																			
					VI	CNG	CNG		CNG	CNG	CNG	HYB	CD	CD		CNG	CNG	HYB	HYB	HYB	HYB	HYB	HYB	HYB	HYB	HYB	HYB	HYB		
LNMT	16		9		31							24		6				23	14					45				168	6.85	
MOMT	3			16	30							25	27	5				23		8	19			17		31		204	5.77	
SAMT			26										77													27		130	6.76	
MD	19	0	35	16	61	0	0	0	0	0	0	49	104	11	0	0	0	46	14	8	19	0	62	0	58	0	502	6.64		
BLMT				18		99	64				17					25	22									40		285	8.13	
NOMT	22			28				20										29		14	3	10			48		174	6.55		
WEMT			16	17																16				33			47	129	4.33	
DC	22	0	16	63	0	99	64	20	0	0	17	0	0	0	0	25	22	29	0	30	3	10	33	48	40	47	588	6.51		
FMMT									185	30	18				6													239	6.95	
WEST OX	18				30													28	6			10	5				97	8.25		
ROMT	10	13		53																							76	12.91		
VA	28	13	0	53	30	0	0	0	185	30	18	0	0	0	6	0	0	28	6	0	0	10	5	0	0	0	412	8.35		
SYSTEM																														
TOTAL	69	13	51	132	91	99	64	20	185	30	35	49	104	11	6	25	22	103	20	38	22	20	100	48	98	47	1502	7.17		



# Mid Life Reliability

- The MDBF of the 2001/02 New Flyer CNG fleet prior to entrance in the mid life overhaul was trending downward. Trending this degradation to August 2011 without midlife overhaul it was predicted the MDBF would have been 6,759.
- Midlife overhaul on this fleet of 164 buses began in April 2009 and took 20 months to complete. Halfway thru the rehab process (February 2010) BMNT began to see an improved MDBF and by August 2011, a full eight months after the last bus was completed, and 28 months after the first buses entered the process, the actual MDBF was 8,976. This number represents a 25% improvement in reliability over projections of no midlife overhaul.
- BMNT current FY12 target MDBF for all fleets is 7,700 miles with this fleet of buses exceeding that target.



# WMATA Bus Mid Life Overhaul Program

## Station 1 Chassis Area

Removal and Installation of:

- Power Train
- Suspension System
- Front Axle
- Rear Axle (as required)
- Structural Rehab (as required)
- Pneumatic System (wheelchair lift installed)
- Electrical System





# WMATA Bus Mid Life Overhaul Program

## Station 2 Body Disassembly Area

Removal of:

- Destination Signs
- Panels and handholds
- Window Assemblies
- Communication System
- Seat Frames
- Farebox
- Door System







# WMATA Bus Mid Life Overhaul Program

## Station 3 Paint and Graphic Area Interior and Exterior

- Complete Repainting
- Replacement of all signage
- Upgrade to new paint scheme





# WMATA Bus Mid Life Overhaul Program

## Station 4

### Body Reassembly Area

Reassembly and/or installation of:

- Destination Signs
- Panels and handholds
- Window Assemblies
- Communication System
- Seat Frames
- Farebox
- Door System





# WMATA Bus Mid Life Overhaul Program

## Station 5 Final Test and Inspection

- Power train
- Door System
- Environmental
- Instrumentation
- Lighting/Farebox
- Communication System
- State Safety Inspection
- Road Test





# WMATA Bus Mid Life Overhaul Program





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