

# Staff Report

for the Maintenance & Resource Management Committee of May 26, 2020

**TO:** Maintenance & Resources Management Committee Members

**FROM:** Jacqueline Longshore, Maintenance Manager *JL*

**DATE:** May 20, 2020

**SUBJECT:** Fleet Replacement Process

---

---

## ***MAINTENANCE***

### **RECOMMENDATION**

Receive an informational presentation on the District Fleet Replacement Process.

### **BACKGROUND**

The Maintenance Department will present information regarding the District Fleet Replacement Process. This is an informational item only.

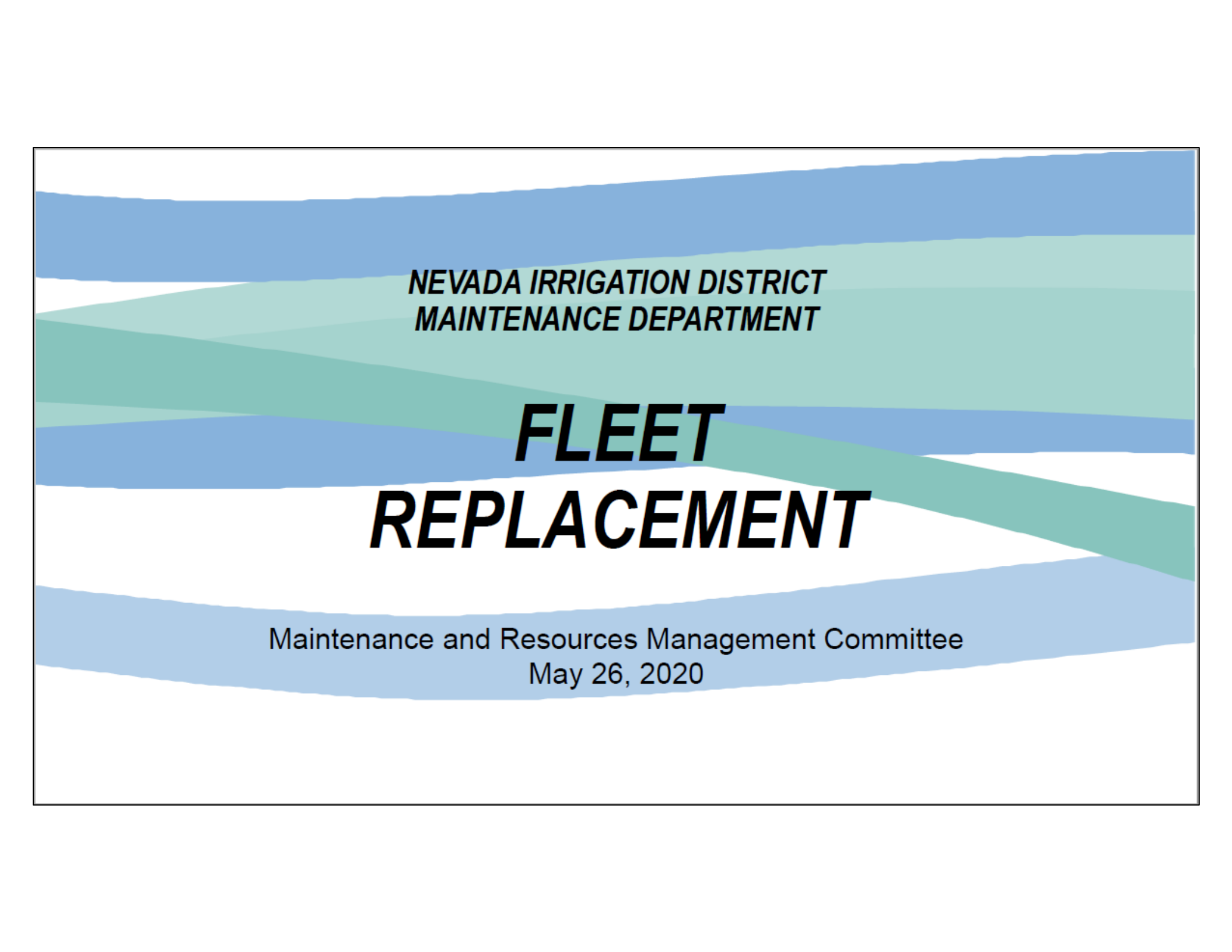
### **BUDGETARY IMPACT**

No budgetary impact

JSL

Attachments (1):

- Presentation Slides



*NEVADA IRRIGATION DISTRICT  
MAINTENANCE DEPARTMENT*

***FLEET  
REPLACEMENT***

Maintenance and Resources Management Committee  
May 26, 2020



## TOPICS

1. **Fleet Program Overview**
2. **Fleet Vehicle Life Cycle**
3. **Vehicle Replacement Planning**
4. **Life Cycle Cost Analysis**
5. **Vehicle Replacement Process**
6. **Questions**

## 1. FLEET PROGRAM OVERVIEW

### Fleet

- On-Road Vehicles & Pool
- Equipment & Trailers

### Staff Resources

- Maintenance Superintendent (1)
- Office Assistant (1)
- Heavy Equipment Supervisor (1)
- Heavy Equipment Mechanics (2)
- Equipment Service Worker (1)

### Facilities

- Mechanic Shop (1)
- Enclosed Bays (3)
- Outdoor Covered Area (1)
- Office (1)
- Fuel Stations (4)

### DISTRICT FLEET TYPE PER UNIT

	WATER	HYDRO	REC	POOL
Vehicle - Light Duty	14	1	1	
Truck - Light Duty	75	23	12	23
Truck - Medium Duty	34	10		
Truck - Heavy Duty	14	2	1	
Equipment	118	17	2	
Trailers	28	7	1	
<b>TOTAL</b>	<b>283</b>	<b>60</b>	<b>17</b>	<b>23</b>



## 1. FLEET PROGRAM OVERVIEW

### Preventative Maintenance

- 1,000,000+ Fleet Miles
- Budget and Schedule
- Order Materials and Parts
- Record, Report and Invoice

### Reactive Maintenance

- Unplanned repair
- Emergency Events (e.g. PSPS)

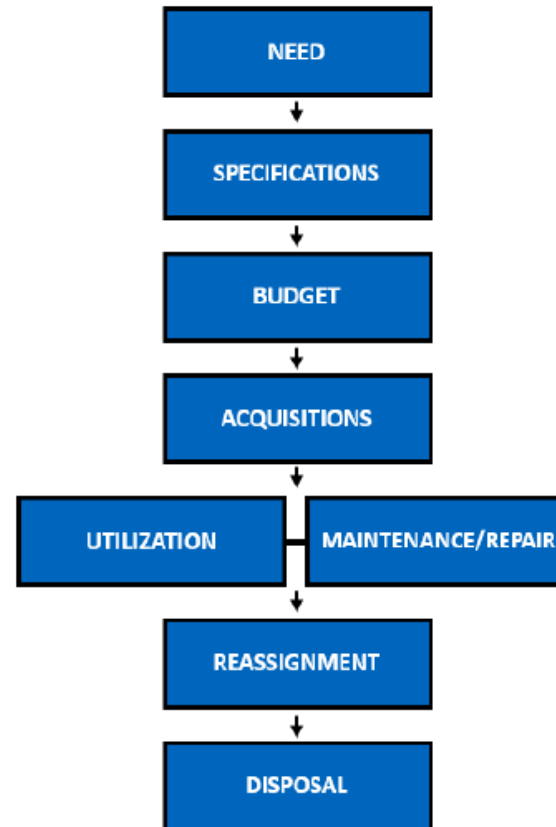
### Regulatory Compliance

- DOT BIT Inspections
- DMV Smog and Opacity
- CARB Emissions
- County HazMat

## 2. FLEET VEHICLE LIFE CYCLE

### Factors

- Make and Model
- Model Year and Age
- Usage
- Maintenance and Repair
- Location and Assignment
- Acquisition cost
- Expected service life
- Replacement Criteria
- Future Replacement Costs
- Expected Salvage Value
- Backlog of Replacement
- Total Replacement Cost



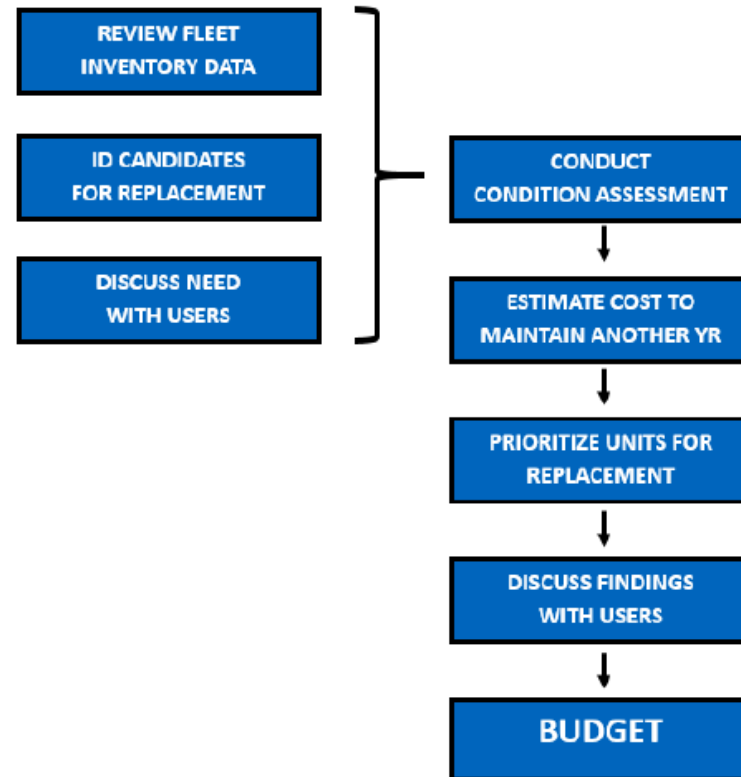
### 3. VEHICLE REPLACEMENT PLANNING

#### Methods

- Life Cycle Cost Analysis
- Established Intervals
- Repair Cost > Value

#### Factors

- Age and Mileage
- Condition and Repair Costs
- Regulatory Requirements



## 4. LIFE CYCLE COST ANALYSIS

### Assumptions

- Average Age at Disposal = 12
- Average Mileage at Disposal = 121,508
- Average Collection at Disposal = \$3,292
- Average MPG = 13
- Average \$/Gal = 3.387
- Moderate Depreciation (20 and 13.5)

### Input

- Data from Vehicles with mileage > 80k
- Cost to Operate
- Cost to Maintenance/Repair
- Cost of Depreciation
- Depreciation

YEAR/MAKE/MODEL	FLEET DISPOSAL SUBJECTS				
	PURCHASE YEAR	DISPOSAL YEAR	DISPOSAL AGE	DISPOSAL MILEAGE	DISPOSAL COLLECTION
1999 Ford F150 4x4 PU	1999	2011	12	139,067	\$ 1,620
2001 Ford F150 4x4 PU	2001	2011	10	99,187	\$ 1,200
2000 Ford F150 4x4 PU	2000	2013	13	138,725	\$ 2,400
2001 Ford F150 4x4 PU	2001	2013	12	108,998	\$ 2,600
1998 Ford F150 4x4 PU	1998	2015	17	-	\$ 2,000
1998 Ford F150 4x4 PU	1998	2015	17	-	\$ 2,700
1998 Ford F150 4x4 PU	1998	2015	17	-	\$ 2,400
1999 Ford F150 4x4 PU	1999	2015	16	-	\$ 1,100
2000 Ford F150 4x4 PU	2000	2015	15	-	\$ 1,800
2001 Ford F150 4x4 PU	2001	2015	14	-	\$ 1,800
2002 Ford F150 4x4 PU	2002	2015	13	-	\$ 2,400
2003 Ford F150 4x4 PU	2003	2015	12	-	\$ 2,200
2003 Ford F150 4x4 PU	2003	2015	12	-	\$ 1,800
2002 Ford F150 4x4 PU	2002	2016	14	108,460	\$ 3,500
2007 Ford F150 4x4 PU	2007	2016	9	153,098	\$ 7,000
2007 Ford F150 4x4 PU	2007	2016	9	135,644	\$ 2,100
2007 Ford F150 4x4 PU	2007	2016	9	130,129	\$ 5,500
2008 Ford F150 4x4 PU	2008	2016	8	139,303	\$ 6,750
2010 Ford F150 4x4 PU	2010	2017	7	-	\$ 2,500
2007 Ford F150 4x4 PU	2007	2018	11	104,375	\$ 4,750
2007 Ford F150 4x4 PU	2007	2018	11	95,771	\$ 4,200
2007 Ford F150 4x4 PU	2007	2018	11	146,464	\$ 3,600
2013 Ford F150 4x4 PU	2013	2018	5	90,132	\$ 5,945
2011 Ford F150 4x4 PU	2011	2019	8	-	\$ 4,758
2012 Ford F150 4X4 PU	2012	2019	7	111,754	\$ 5,688



#### 4. LIFE CYCLE COST ANALYSIS

##### Assumptions

- Average Age at Disposal = 12
- Average Mileage at Disposal = 121,508
- Average Collection at Disposal = \$3,292
- Average MPG = 13
- Average \$/Gal = 3.387
- Moderate Depreciation (20 and 13.5)

##### Input

- Data from Vehicles with mileage > 80k
- Cost to Operate
- Cost to Maintenance/Repair
- Cost of Depreciation
- Depreciation

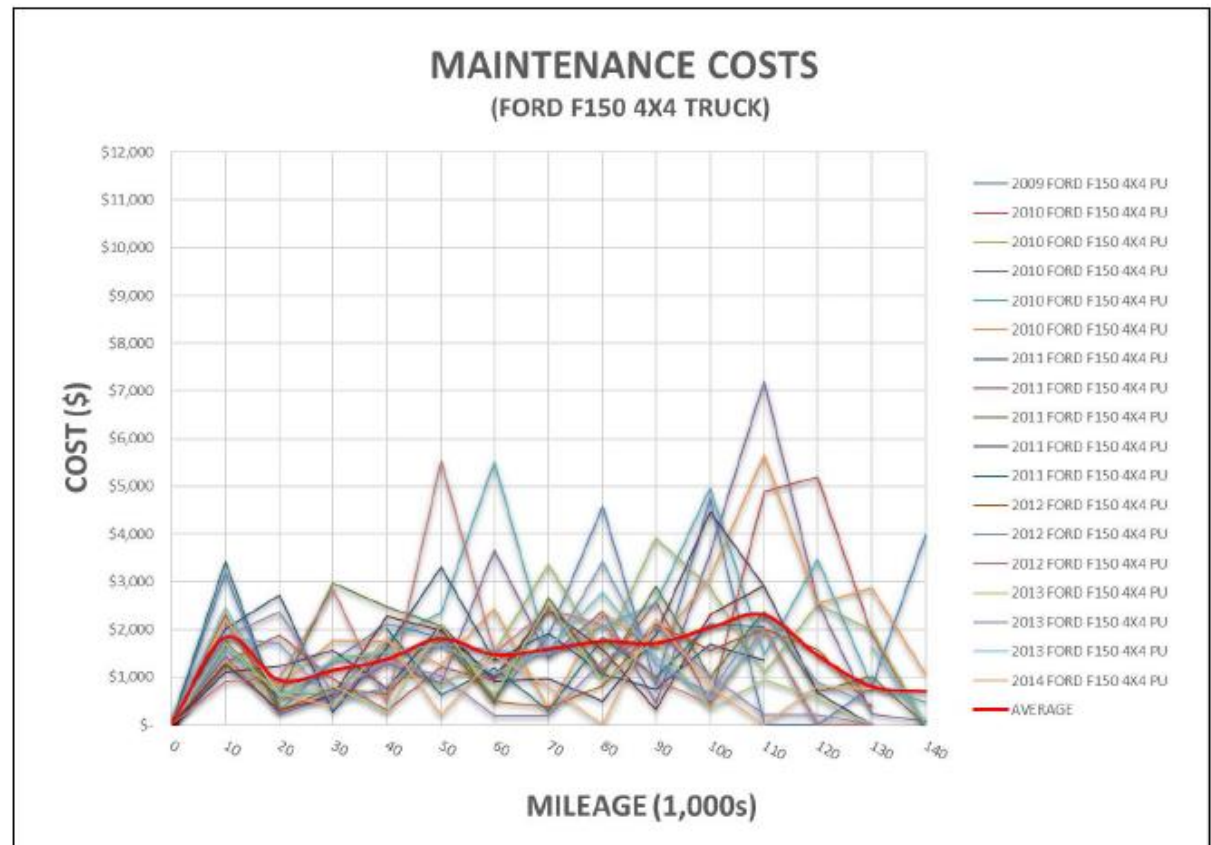
FLEET ANALYSIS SUBJECTS		
UNIT	YEAR/MAKE/MODEL	PURCHASE PRICE
1	2009 FORD F150 4X4 PU	\$ 18,805
2	2010 FORD F150 4X4 PU	\$ 20,276
3	2010 FORD F150 4X4 PU	\$ 20,276
4	2010 FORD F150 4X4 PU	\$ 20,276
5	2010 FORD F150 4X4 PU	\$ 20,276
6	2010 FORD F150 4X4 PU	\$ 20,276
7	2011 FORD F150 4X4 PU	\$ 21,109
8	2011 FORD F150 4X4 PU	\$ 21,990
9	2011 FORD F150 4X4 PU	\$ 21,990
10	2011 FORD F150 4X4 PU	\$ 21,990
11	2011 FORD F150 4X4 PU	\$ 22,090
12	2012 FORD F150 4X4 PU	\$ 22,204
13	2012 FORD F150 4X4 PU	\$ 22,204
14	2012 FORD F150 4X4 PU	\$ 22,204
15	2013 FORD F150 4X4 PU	\$ 21,866
16	2013 FORD F150 4X4 PU	\$ 21,866
17	2013 FORD F150 4X4 PU	\$ 23,283
18	2014 FORD F150 4X4 PU	\$ 22,385



## 4. LIFE CYCLE COST ANALYSIS

### Maintenance Costs

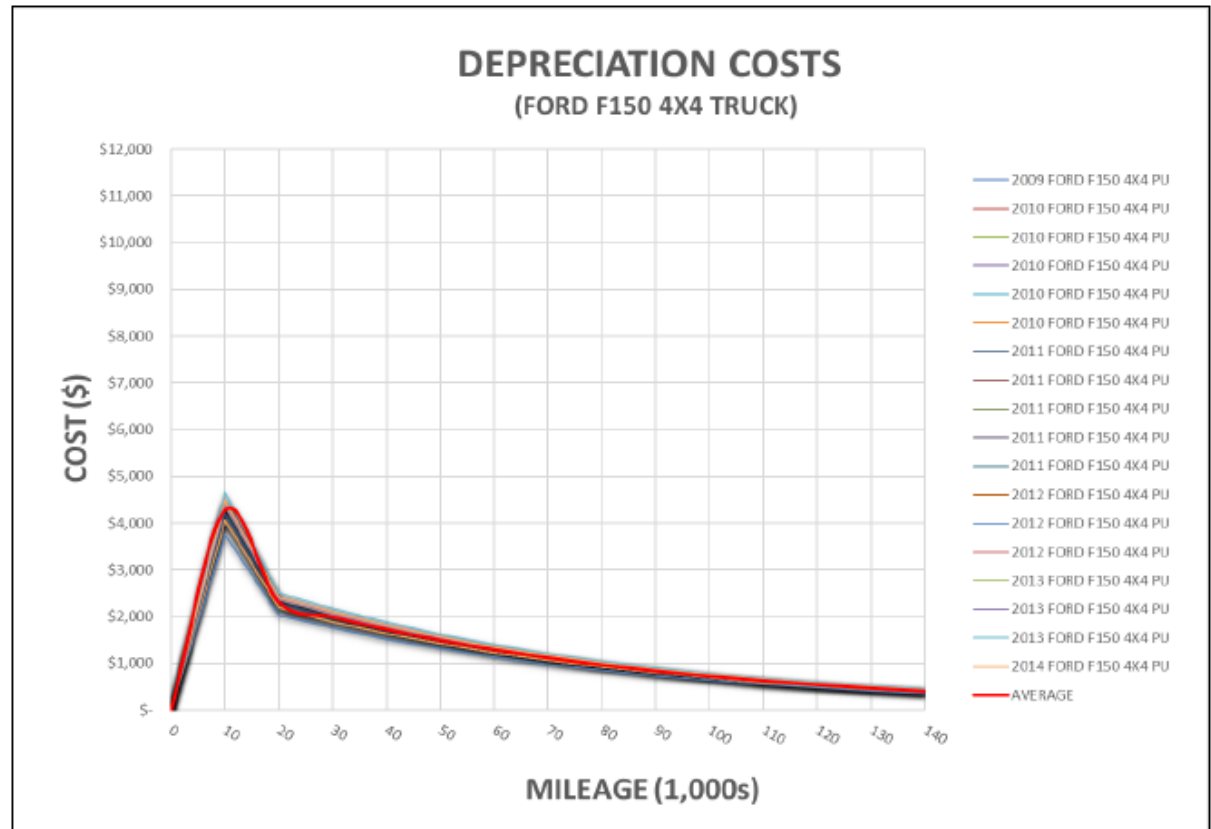
- Preventative & Reactive
  - Oil Changes
  - Brakes
  - Tires
  - Transmission
  - Engine
  - Labor
- Avg Annual Cost = \$1,494



## 4. LIFE CYCLE COST ANALYSIS

### Depreciation Costs

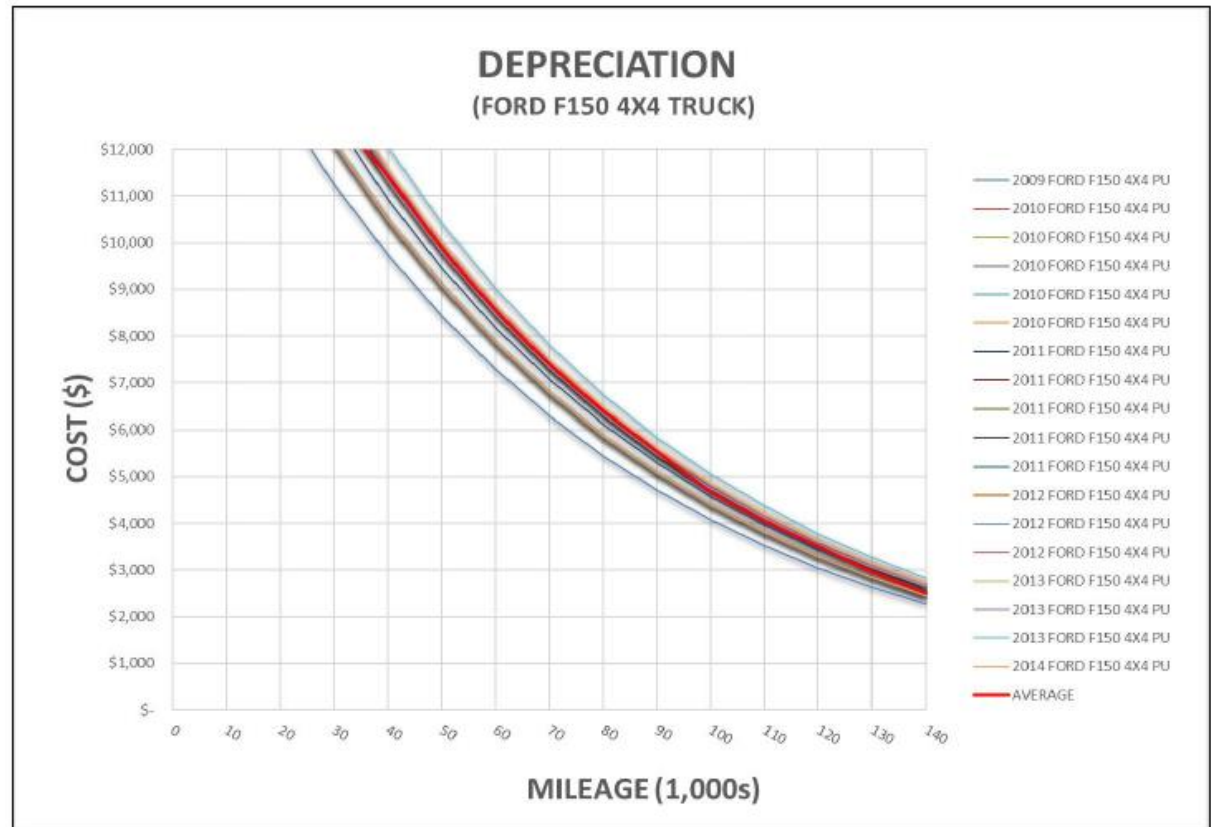
- Cost Annualized
- Moderate Rate (20/13.5)
- Match Avg Disposal Collection (\$3,292 at 120K miles)
- Avg Annual Cost = \$1,340



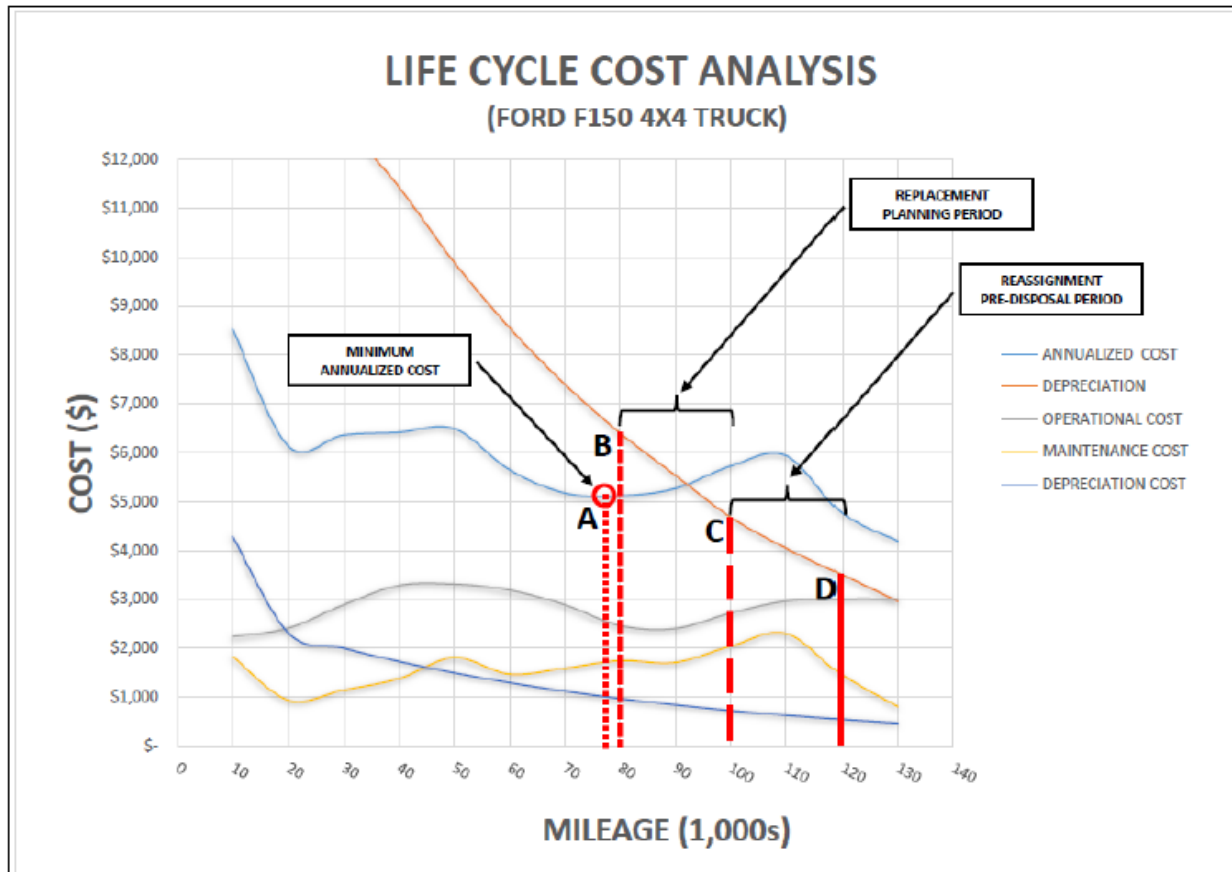
## 4. LIFE CYCLE COST ANALYSIS

### Depreciation Rate

- Moderate Rate
- 20% / 13.5%
- Match Ave Disposal Collection (\$3,292 at 120K miles)



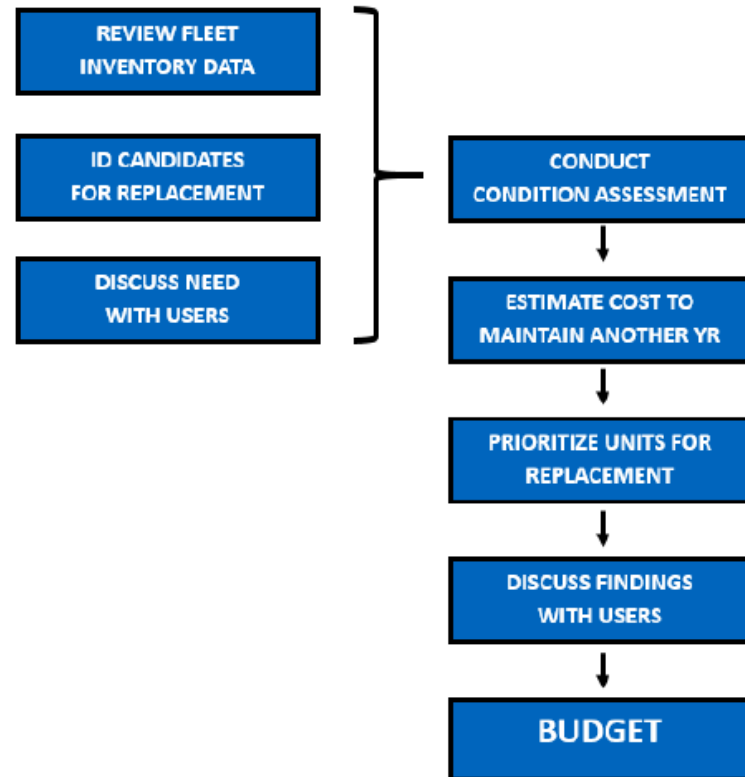
## 4. LIFE CYCLE COST ANALYSIS



## 5. VEHICLE REPLACEMENT PROCESS

### Process and Schedule

- Q2: Review Fleet Inventory Data
- Q2: ID Candidates for Replacement
- Q2-Q3: Discuss Needs with Users
- Q1-Q4: Condition Assessment
- Q2-Q3: Cost Estimates
- Q2-Q3: Prioritize Replacement
- Q2-Q3: Discuss Findings with Users
- Q3-Q4: Budget





**QUESTIONS?**