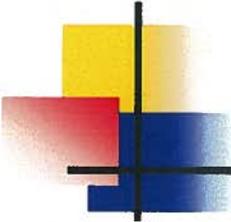


# Town of Winchester



## Department of Public Works 5-Year Capital Plan

*September 20, 2010*



# Principals Utilized in Plan Development

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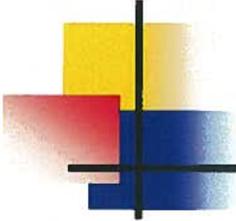
- Don't throw good money after bad
- Improve condition of infrastructure & equipment to cost effective/sustainable levels
- Continuous road maintenance program must be initiated
- Eliminate winter sand usage completely by 2011/2012
- Begin treated salt pilot program this winter 2010/2011
- Support productivity increases wherever possible
- Sell all old/obsolete equipment
- Trade in/replace equipment while it still has value
- Modern equipment will increase productivity & reduce costly breakdowns and repairs
- Specify all new equipment with consideration toward trade in value

**TOWN OF WINCHESTER FIVE (5) YEAR CAPITAL PLAN BY CATEGORY - PUBLIC WORKS**

PROJECT BY PRIORITY	EST COST FISCAL YR 2011/2012	EST COST FISCAL YR 2012/2013	EST COST FISCAL YR 2013/2014	EST COST FISCAL YR 2014/2015	EST COST FISCAL YR 2015/2016	EST COST FISCAL YR 2016/2017 AND BEYOND	TOTAL PROJECT COST	FUNDING SOURCE BONDS OR NOTES	FUNDING SOURCE LEASE PURCHASE	FUNDING SOURCE GRANTS FED/STATE
<b><u>PUBLIC WORKS:</u></b>										
EXCAVATOR	\$0	\$0	\$0	\$0	\$94,000	\$0	\$94,000	\$0	\$94,000	\$0
SNOW PLOW TRUCKS	\$290,000	\$302,000	\$157,000	\$164,000	\$170,000	\$0	\$1,083,000	\$0	\$1,083,000	\$0
ROADSIDE MOWER	\$100,000	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$100,000	\$0
ASPHALT ROLLER	\$35,000	\$0	\$0	\$0	\$0	\$0	\$35,000	\$0	\$35,000	\$0
VACUUM TRUCK (50% Town 50% Sewer)	\$125,000	\$0	\$0	\$0	\$0	\$0	\$125,000	\$0	\$125,000	\$0
PICKUP TRUCK - 4 WHEEL DRIVE	\$22,000	\$0	\$0	\$0	\$0	\$0	\$22,000	\$0	\$22,000	\$0
UTILITY TRUCK (Cemeteries)	<u>\$40,000</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$40,000</u>	<u>\$0</u>	<u>\$40,000</u>	<u>\$0</u>
TOTAL EQUIPMENT	\$612,000	\$302,000	\$157,000	\$164,000	\$264,000	\$0	\$1,499,000	\$0	\$1,499,000	\$0
SALT SHED	\$275,000	\$0	\$0	\$0	\$0	\$0	\$275,000	\$275,000	\$0	\$0
RETAINING WALLS	\$0	\$0	\$225,000	\$0	\$0	\$0	\$225,000	\$225,000	\$0	\$0
EAST WAKEFIELD BOULEVARD	\$0	\$0	\$90,484	\$0	\$0	\$0	\$90,484	\$90,484	\$0	\$0
WEST WAKEFIELD BOULEVARD	\$0	\$0	\$90,484	\$0	\$0	\$0	\$90,484	\$90,484	\$0	\$0
OAK STREET	\$0	\$0	\$0	\$22,629	\$0	\$0	\$22,629	\$22,629	\$0	\$0
BLUE STREET	\$0	\$0	\$0	\$0	\$56,606	\$0	\$56,606	\$56,606	\$0	\$0
WAHNEE ROAD	\$0	\$0	\$0	\$27,621	\$0	\$0	\$27,621	\$27,621	\$0	\$0
MUNDRY ROAD	\$0	\$0	\$0	\$0	\$29,002	\$0	\$29,002	\$29,002	\$0	\$0
MOUNTAIN ROAD	\$0	\$0	\$0	\$0	\$31,448	\$0	\$31,448	\$31,448	\$0	\$0
HIGHVIEW ROAD	\$0	\$19,016	\$0	\$0	\$0	\$0	\$19,016	\$19,016	\$0	\$0
SOUTH ROAD	\$0	\$56,444	\$0	\$0	\$0	\$0	\$56,444	\$56,444	\$0	\$0
SMITH HILL ROAD	\$0	\$0	\$0	\$54,243	\$0	\$0	\$54,243	\$54,243	\$0	\$0
OLD NORTH ROAD	\$0	\$0	\$0	\$22,629	\$0	\$0	\$22,629	\$22,629	\$0	\$0
SPENCER HILL ROAD	\$56,918	\$0	\$0	\$0	\$0	\$0	\$56,918	\$56,918	\$0	\$0
ROBERTSVILLE ROAD	\$0	\$0	\$0	\$0	\$17,471	\$0	\$17,471	\$17,471	\$0	\$0
MARSHALL STREET	\$0	\$44,069	\$0	\$0	\$0	\$0	\$44,069	\$44,069	\$0	\$0
WALLENS STREET	\$0	\$0	\$0	\$32,945	\$0	\$0	\$32,945	\$32,945	\$0	\$0
STANDARD AVENUE	\$0	\$0	\$0	\$0	\$12,230	\$0	\$12,230	\$12,230	\$0	\$0
ROBERTS STREET	\$0	\$0	\$0	\$0	\$5,241	\$0	\$5,241	\$5,241	\$0	\$0
WEST ROAD	\$0	\$41,956	\$0	\$0	\$0	\$0	\$41,956	\$41,956	\$0	\$0
NEWFIELD ROAD	\$427,882	\$0	\$0	\$0	\$0	\$0	\$427,882	\$427,882	\$0	\$0
KITTRIDGE LANE	\$14,825	\$0	\$0	\$0	\$0	\$0	\$14,825	\$14,825	\$0	\$0
WHITING STREET	\$0	\$0	\$65,487	\$0	\$0	\$0	\$65,487	\$65,487	\$0	\$0
THIBAUT AVENUE	\$0	\$24,906	\$0	\$0	\$0	\$0	\$24,906	\$24,906	\$0	\$0
FAIRVIEW AVENUE	\$0	\$2,113	\$0	\$24,027	\$0	\$0	\$26,140	\$26,140	\$0	\$0
MUNRO PLACE	\$0	\$36,221	\$0	\$0	\$0	\$0	\$36,221	\$36,221	\$0	\$0
GILLETTE ROAD	\$0	\$0	\$0	\$41,188	\$0	\$0	\$41,188	\$41,188	\$0	\$0
OVERLOOK ROAD	\$0	\$0	\$0	\$45,258	\$0	\$0	\$45,258	\$45,258	\$0	\$0
LAKEVIEW TERRACE	\$0	\$50,675	\$0	\$0	\$0	\$0	\$50,675	\$50,675	\$0	\$0
SHUEMAN ROAD	\$0	\$64,318	\$0	\$0	\$0	\$0	\$64,318	\$64,318	\$0	\$0
STONEHOUSE ROAD	\$0	\$0	\$0	\$0	\$39,135	\$0	\$39,135	\$39,135	\$0	\$0
PERKINS STREET	\$35,580	\$0	\$0	\$0	\$0	\$0	\$35,580	\$35,580	\$0	\$0
GROPPO DRIVE	\$0	\$79,910	\$0	\$0	\$0	\$0	\$79,910	\$79,910	\$0	\$0
MORGAN DRIVE	\$0	\$0	\$58,678	\$0	\$0	\$0	\$58,678	\$58,678	\$0	\$0
GREENWOODS AVENUE	\$29,897	\$0	\$0	\$0	\$0	\$0	\$29,897	\$29,897	\$0	\$0
HAMILL DRIVE	\$0	\$33,806	\$0	\$0	\$0	\$0	\$33,806	\$33,806	\$0	\$0
CHARLES STREET	\$0	\$34,246	\$0	\$0	\$0	\$0	\$34,246	\$34,246	\$0	\$0
INTERNATIONAL WAY	\$0	\$11,694	\$0	\$0	\$0	\$0	\$11,694	\$11,694	\$0	\$0
CORNELIO AVENUE	\$0	\$18,680	\$0	\$0	\$0	\$0	\$18,680	\$18,680	\$0	\$0

**TOWN OF WINCHESTER FIVE (5) YEAR CAPITAL PLAN BY CATEGORY - PUBLIC WORKS**

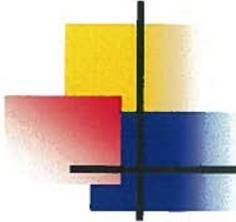
PROJECT BY PRIORITY	EST COST FISCAL YR 2011/2012	EST COST FISCAL YR 2012/2013	EST COST FISCAL YR 2013/2014	EST COST FISCAL YR 2014/2015	EST COST FISCAL YR 2015/2016	EST COST FISCAL YR 2016/2017 AND BEYOND	TOTAL PROJECT COST	FUNDING SOURCE BONDS OR NOTES	FUNDING SOURCE LEASE PURCHASE	FUNDING SOURCE GRANTS FED/STATE
<b><u>PUBLIC WORKS:</u></b>										
MOUNTAIN VIEW TERRACE	\$0	\$48,726	\$0	\$0	\$0	\$0	\$48,726	\$48,726	\$0	\$0
HANNIFIN ROAD	\$0	\$0	\$0	\$135,089	\$0	\$0	\$135,089	\$135,089	\$0	\$0
DEPOT STREET	\$11,860	\$0	\$0	\$0	\$0	\$0	\$11,860	\$11,860	\$0	\$0
DANBURY QUARTER ROAD	\$64,393	\$0	\$0	\$0	\$0	\$0	\$64,393	\$64,393	\$0	\$0
RUGG BROOK ROAD	\$75,029	\$0	\$0	\$0	\$0	\$0	\$75,029	\$75,029	\$0	\$0
SKINNER ROAD	\$0	\$0	\$0	\$154,714	\$0	\$0	\$154,714	\$154,714	\$0	\$0
GRANTVILLE (PARTIAL)	\$0	\$0	\$327,436	\$0	\$0	\$0	\$327,436	\$327,436	\$0	\$0
LAUREL WAY	\$0	\$0	\$0	\$0	\$209,830	\$0	\$209,830	\$209,830	\$0	\$0
FEHR AVENUE	\$0	\$0	\$0	\$0	\$23,042	\$0	\$23,042	\$23,042	\$0	\$0
SUNNY RIDGE	\$0	\$0	\$26,151	\$0	\$0	\$0	\$26,151	\$26,151	\$0	\$0
SUPERIOR STREET	\$0	\$0	\$39,227	\$0	\$0	\$0	\$39,227	\$39,227	\$0	\$0
CAREY AVENUE	\$0	\$0	\$0	\$0	\$88,592	\$0	\$88,592	\$88,592	\$0	\$0
CHAPEL ROAD (PLATT HILL SIDE)	\$0	\$0	\$96,011	\$0	\$0	\$0	\$96,011	\$96,011	\$0	\$0
REACHING HILL	\$0	\$79,168	\$0	\$0	\$0	\$0	\$79,168	\$79,168	\$0	\$0
NANNI DRIVE	\$0	\$9,055	\$0	\$0	\$0	\$0	\$9,055	\$9,055	\$0	\$0
GREGORY STREET	\$0	\$0	\$0	\$0	\$18,020	\$0	\$18,020	\$18,020	\$0	\$0
WILLIAMS AVENUE	\$67,859	\$0	\$0	\$0	\$0	\$0	\$67,859	\$67,859	\$0	\$0
LITCHFIELD AVENUE	<u>\$0</u>	<u>\$3,018</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$3,018</u>	<u>\$3,018</u>	<u>\$0</u>	<u>\$0</u>
TOTAL ROAD WORK	\$784,243	\$658,021	\$793,958	\$560,343	\$530,617	\$0	\$3,327,182	\$3,327,182	\$0	\$0
HOLABIRD AVENUE BRIDGE	\$0	\$1,500,000	\$1,500,000	\$0	\$0	\$0	\$3,000,000	\$3,000,000	\$0	\$0
WALLENS STREET BRIDGE	\$0	\$0	\$0	\$0	\$2,000,000	\$0	\$2,000,000	\$2,000,000	\$0	\$0
SUCKER BROOK ROAD BRIDGE	\$0	\$500,000	\$0	\$0	\$0	\$0	\$500,000	\$500,000	\$0	\$0
WEST ROAD BRIDGE	<u>\$350,000</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$350,000</u>	<u>\$350,000</u>	<u>\$0</u>	<u>\$0</u>
TOTAL BRIDGE REHABILITATION	\$350,000	\$2,000,000	\$1,500,000	\$0	\$2,000,000	\$0	\$5,850,000	\$5,850,000	\$0	\$0
LITCHFIELD STREET CULVERT REPLACE	\$125,000	\$0	\$0	\$0	\$0	\$0	\$125,000	\$0	\$0	\$125,000
PLATT HILL STONE CULVERT REPLACE	\$0	\$50,000	\$0	\$100,000	\$0	\$0	\$150,000	\$150,000	\$0	\$0
HIGHLAND LAKE CATCH BASINS	<u>\$0</u>	<u>\$25,000</u>	<u>\$100,000</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$125,000</u>	<u>\$125,000</u>	<u>\$0</u>	<u>\$0</u>
TOTAL DRAINAGE	\$125,000	\$75,000	\$100,000	\$100,000	\$0	\$0	\$400,000	\$275,000	\$0	\$125,000
<b>TOTAL PUBLIC WORKS</b>	<b>\$2,146,243</b>	<b>\$3,035,021</b>	<b>\$2,775,958</b>	<b>\$824,343</b>	<b>\$2,794,617</b>	<b>\$0</b>	<b>\$11,576,182</b>	<b>\$9,952,182</b>	<b>\$1,499,000</b>	<b>\$125,000</b>



# 5-Year Capital Plan Cost Summary

<b>5-Year Capital Plan by Category &amp; Year</b>							
<b>Category</b>	<b>Time</b>					<b>TOTAL</b>	<b>% of Total</b>
	<b>Year 1</b> 2011/2012	<b>Year 2</b> 2012/2013	<b>Year 3</b> 2013/2014	<b>Year 4</b> 2014/2015	<b>Year 5</b> 2015/2016		
<b>Equipment</b>	\$ 612,000	\$ 302,000	\$ 157,000	\$ 164,000	\$ 264,000	<b>\$ 1,499,000</b>	<b>12.9 %</b>
<b>Roads</b>	\$ 784,242	\$ 658,020	\$ 793,959	\$ 560,342	\$ 530,615	<b>\$ 3,327,178</b>	<b>28.7 %</b>
<b>Bridges</b>	\$ 350,000	\$ 2,000,000	\$ 1,500,000	\$ 0	\$ 2,000,000	<b>\$ 5,850,000</b>	<b>50.5 %</b>
<b>Drainage</b>	\$ 125,000	\$ 75,000	\$ 100,000	\$ 100,000	\$ 0	<b>\$ 400,000</b>	<b>3.5 %</b>
<b>Salt Shed</b>	\$ 275,000	\$ 0	\$ 0	\$ 0	\$ 0	<b>\$ 275,000</b>	<b>2.4 %</b>
<b>Retaining Wall</b>	\$ 0	\$ 0	\$ 225,000	\$ 0	\$ 0	<b>\$ 225,000</b>	<b>1.9 %</b>
<b>TOTAL</b>	<b>\$ 2,146,242</b>	<b>\$ 3,035,020</b>	<b>\$ 2,775,959</b>	<b>\$ 824,342</b>	<b>\$ 2,794,615</b>	<b>\$ 11,576,178</b>	<b>100.0 %</b>

*(Bridge Category includes Holabird Avenue Road Reconstruction)*



# 5-Year Capital Plan Year 1 (2011/2012) Summary

---

## **ROADS** (\$ 784,242)

- **2.1 Miles Reconstruction** (*Greenwoods Avenue, Newfield Road, Williams Avenue*)
- **0.2 Miles Overlay** (*Kittredge Lane, Depot Street, Perkins Street*)
- **6.8 Miles Chip Seal** (*Spencer Hill Road, Danbury Quarter Road, Rugg Brook Road*)

## **BRIDGES** (\$ 350,000)

- **West Road Bridge Replacement**

## **DRAINAGE** (\$ 125,000)

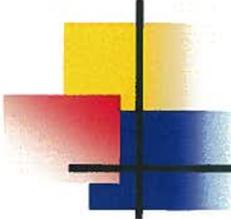
- **Litchfield Street Culvert Replacement**

## **EQUIPMENT** (\$ 612,000)

- **(2) Snow Plow Trucks**
- **(1) Roadside Mower**
- **(1) Vacuum Truck**
- **(1) Asphalt Roller**
- **(1) 4-Wheel Drive Pickup & (1) Cemetery Utility Truck**

## **FACILITIES** (\$ 275,000)

- **Salt Shed**



# Roads

73.1 Miles Improved (paved)

8.3 Miles Unimproved (dirt)

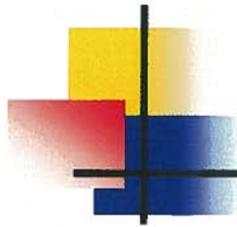
- A Road Program needs to be established that is comprehensive, continuous & funded
- Road Program should include
  - Crack Sealing
  - Chip Sealing
  - Shimming & Bituminous Concrete Overlay
  - Total Reconstruction (pulverize & Pave)
- It is most cost-effective to maintain roads thru scheduled Sealing and/or Overlay projects to avoid complete pavement breakdown necessitating Total Reconstruction (pulverize & pave).

*More Expensive*

*Road Condition*

*Good*

*Bad*



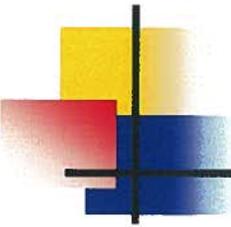
# Roads

73.1 Miles Improved (paved)

8.3 Miles Unimproved (dirt)

---

- Crack Sealing & Chip Sealing
- Appropriate for:
  - Roads in generally **GOOD** condition but have developed pavement surface cracks. These roads would possess a good base, well draining cross section but may require some shimming prior to sealing.
- Benefits:
  - Keeps water from infiltrating into the pavement & base materials where it can cause destruction
- Cost:
  - Least Costly of all maintenance alternatives



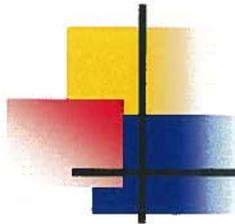
# Roads

73.1 Miles Improved (paved)

8.3 Miles Unimproved (dirt)

---

- Shimming & 2" Bituminous Overlay
- Appropriate for:
  - Roads in generally **FAIR** condition that have developed considerable pavement defects and have grade/cross section problems. These roads would possess a good base, but do not have a well draining cross section. Extensive shimming may be necessary prior to overlaying.
- Benefits:
  - An entirely new road surface is obtained
- Cost:
  - Average to Moderate Cost related to maintenance alternatives



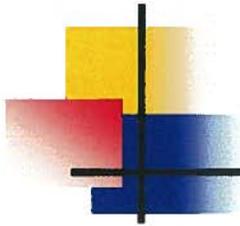
# Roads

73.1 Miles Improved (paved)

8.3 Miles Unimproved (dirt)

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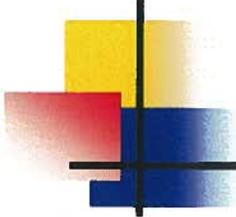
- Total Reconstruction
- Appropriate for:
  - Roads in generally **POOR** condition that have developed extensive pavement and/or base breakdown. These roads require complete pulverizing, grading and repaving.
- Benefits:
  - An entirely new road surface and cross section is obtained
- Cost:
  - Most Costly of all maintenance alternatives



# Bridges

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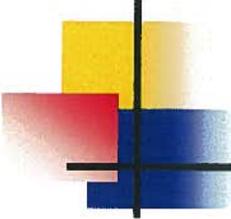
- Bridges are one of the town's largest infrastructure liabilities
- Additional investigation needs to be done on all the town's structures to create an accurate inventory & resulting Bridge Program
- We are currently awaiting CTDOT's written reports for their most recent inspections
- Bridges included in this 5-Year Capital Plan:
  - Holabird Avenue Bridge & Roadway Reconstruction
  - West Street Bridge
  - Sucker Brook Road Bridge
  - Wallens Street Bridge



# Drainage

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- Components of the drainage infrastructure are extremely old and not well documented
- Additional investigation needs to be done on all the town's drainage system to create a Drainage Program
- Drainage Projects included in this Capital Plan:
  - Litchfield Street culvert replacement
  - Platt Hill stone culvert replacement
  - Pratt Street stone culvert replacement
  - Highland Lake catch basin replacement



## ■ Salt Shed

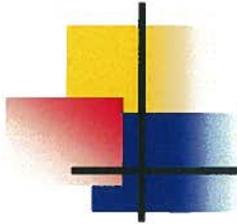
### *Current Shed*

Size = 24' x 26' (624 sf)

### Reason New Shed Needed:

- Extremely Undersized
- Not Efficient to Fill/Empty
- End Open to the Elements
- Current Configuration Promotes Material Waste
- Poor Location - Salt Leaches into the Still River





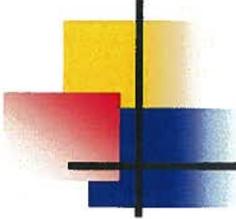
## ■ Salt Shed

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### *Proposed Shed*

Size = 50' x 75' (3,750 sf)

- Treated Salts must be kept dry and under cover to keep additive from leaching out
- A properly sized structure will allow more storage volume and guard against material shortages
- Material waste will be reduced
- Productivity will increase during snow operations
- Relocated shed will help protect Still River from pollution

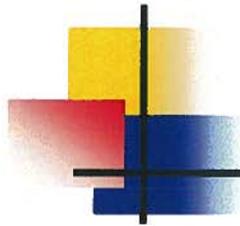


## ■ Treated Salt

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### *Benefits of Utilizing Treated salts:*

- Reduce the amount of chlorides being applied to the roads
- Eliminate sand usage thereby reducing phosphate & nitrate levels in bodies of water
- Allow for melting at lower temperatures than traditional methods
- Safe roads quicker
- Less spring clean up (sand usage eliminated)
- Less accidents



## ■ Sand



### Reason to Eliminate:

- Pollutes Highland Lake, Streams & All Other Natural Systems
- Clogs Drainage Systems
- Has No Melting Attributes
- Expensive, public perception is that sand is cheap – IT IS NOT  
(some estimates say cost = \$500/ton – Cradle to Grave)
  - Goal is to eliminate sand usage completely by 2011/2012

# Capital Equipment Needs

## ■ Roadside Mower

### Reason Needed:

- To Protect Road Structure From Vegetation & Root Damage
  - To Maintain Adequate Road Clearances
  - To Maintain Proper Site Distances
- 
- Present Machine currently inoperable
  - 22 yrs old
  - needs \$10,000.00 worth of repairs



### ***Current Mower***

*Estimated value = \$ 2,500.00*

# Capital Equipment Needs

## ■ Roadside Mower

### Machine Rental Alternative:

- Machine Rental = \$ 6k/month
- Machine Availability is problematic
- Needed (3) months/yr minimum to trim vegetation town wide



### ***Proposed Mower***

New Machine Cost = \$ 100,000

Lease/Purchase - Payback in 5.5 yrs

# Capital Equipment Needs

## ■ Snow Plow Trucks

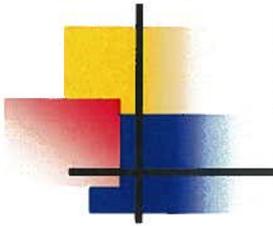
### Obvious Reason Needed:

- To Keep Roads Safe & Free of Snow
- To Keep Commerce Moving

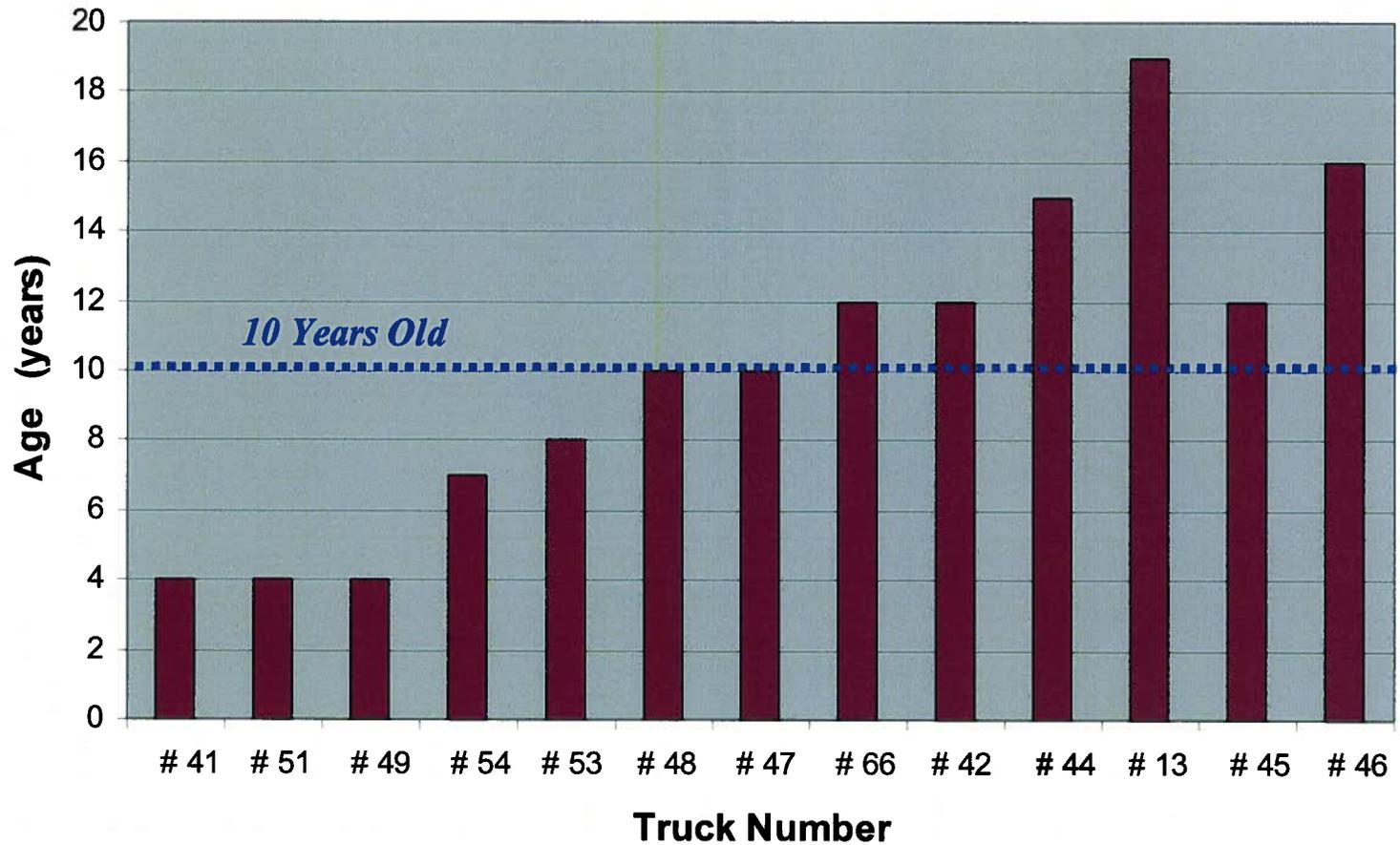
### Reason To Modernize

- Purely Economics
- To Support Proposed Treated Salt Program
  - Trade in/replace equipment when it still has value
  - Keep Snow Plow Trucks for a period of 10 years (spare trucks for 11 years – then trade them in)
  - New equipment will increase productivity & reduce costly breakdowns and repairs

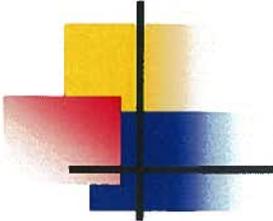




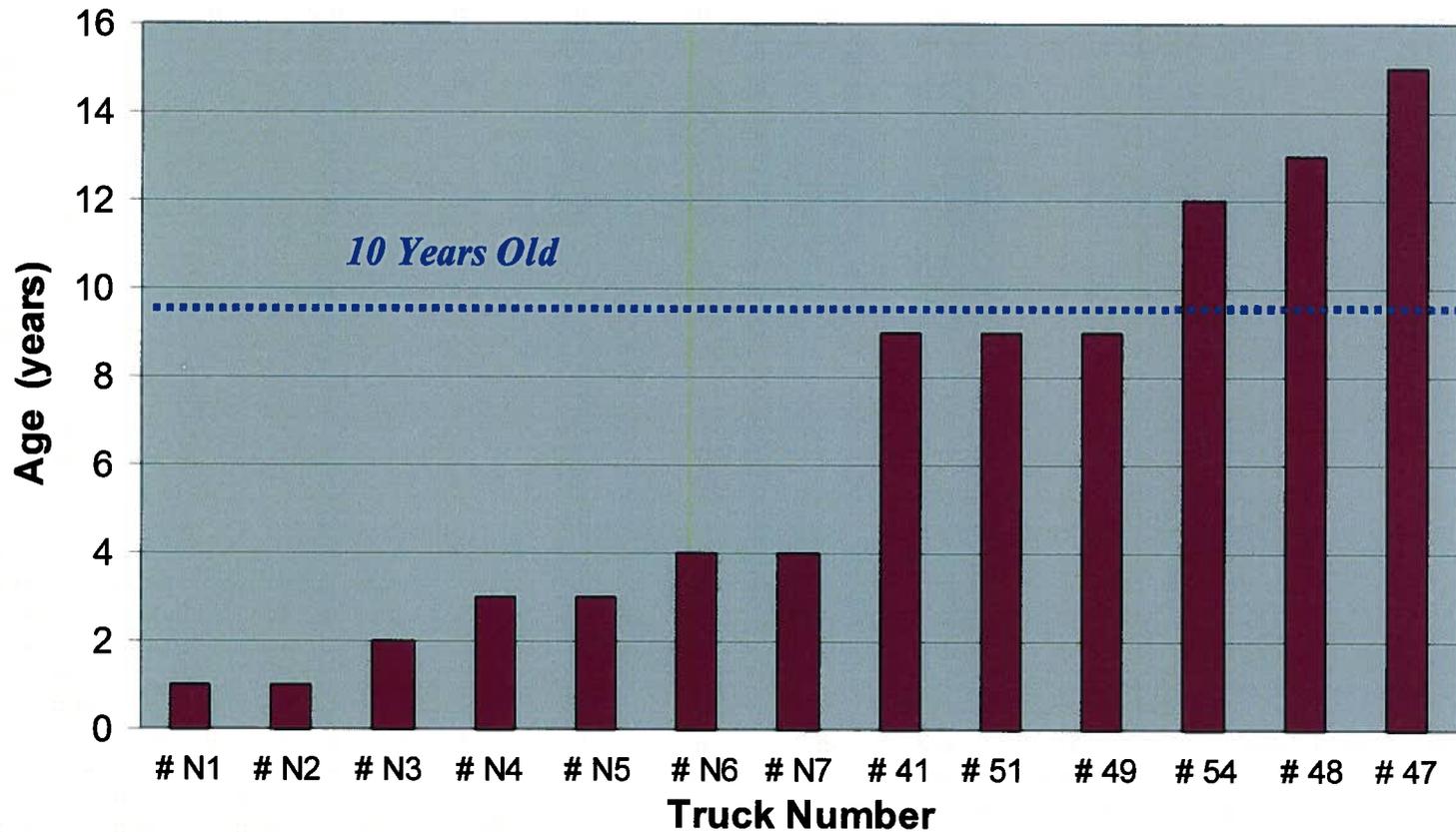
## Current Age Distribution of Snow Plow Trucks 2010/2011 (@ Present Time)



*Average Age of Fleet = 10.2 Years Old*  
*(8) Trucks 10 Years Old or Older*



## Proposed Age Distribution of Snow Plow Trucks 2015/2016 *(After 5 Years of Capital Plan)*



*Average Age of Fleet = 6.5 Years Old*  
*(3) Trucks 10 Years Old or Older*

# Capital Equipment Needs

## ■ Asphalt Roller

### Reason Needed:

- For Bituminous Concrete Installation
- Road Repairs, Large Potholes, Driveway Aprons, etc...
- Present Roller is obsolete
- 25 yrs old
- Major mechanical issues – not cost effective to repair
- Increase Capabilities - proposed roller is (3) ton vs. (1.5) ton



***Current Roller***  
(1.5) ton capacity

# Capital Equipment Needs

## ■ Vacuum Truck

### Reason Needed:

- To Vacuum Catch Basins
- To Vacuum Sewer Backups
- For Hydro Excavation
- Machine is 13 yrs old and has had a history of mechanical problems
- Present Machine Vacuum is currently inoperable
- needs \$20,000.00 worth of repairs with no guarantee against additional problems developing



### *Current Truck*

*Estimated*

*"As Is" Value = \$ 25,000.00*

# Capital Equipment Needs

## ■ Vacuum Truck

### Machine Costs:

- New 2010 Camel 200  
cost = \$ 369,000.00
  - 2008 Camel 200 Demo Unit  
cost = \$ 252,500.00
  - Trade in value of existing machine  
value = \$ 25,000.00
- 
- Purchase Price of Demo Unit = \$227,500.00  
(Split between Highway & Sewer departments)



***Proposed Truck***

*2008 Camel Model 200 Demo Unit*

*(This allocation is time sensitive – Demo Unit may be sold at any time)*

# Capital Equipment Management

- Obsolete Equipment



**SELL !**

**SELL !**



**SELL !**

**SELL !**



**SELL !**

**SELL !**

