

Section II

Town Government Accounts

Section II Highlights**1: General Government**

- Funding for White Pond Management (see page 94)
- Sister Cities, and Concord Cultural Council support (see page 94)
- Half of Energy Conservation Coordinator salary covered by the General Fund (see page 104)
- Increased support for the Chamber of Commerce (see page 110)
- Town's share to operate & maintain 37 Knox Trail (see pages 112-113)
- Funding for additional elections anticipated in FY17 (see pages 114-117)

2: Planning & Land Management

- Moderate increase in funding for Regional Housing Services Office (see pages 122-125)
- Increase in hours for Assistant Building Inspectors (see pages 132-135)

3: Finance & Administration

- Banking and legal fees are proposed to increase (see pages 148-151)
- Increase for Audit Services to comply with new GASB rules (see pages 152-155)
- Funding of GIS Analyst position for IT (see 164-167)
- Increase in cost for payroll and accounting software licenses (see page 164-167)

4: Public Safety

- Increase in Overtime for Police Officers & Dispatchers (see pages 170-173)
- 2nd Ambulance Staffing (Decrease in use of Stabilization Fund) (see pages 174-177)
- Funding for new Dispatch Software License (see pages 180-181)

5: Public Works

- Increase for Snow/Ice removal (see pages 206-209)
- Additional capital funding for CPW equipment (see pages 212-213)

6: Human Services

- Substitute Library Staffing (see pages 226-229)
- Additional General Fund support for the Community Services Coordinator (see pages 230-233)
- Moderate increase in wage and hours for Outreach Coordinators (see pages 234-237)
- Increase in the General Fund share of the Recreation Director's salary (see pages 238-239)
- Increase in Veteran benefits due to more beneficiaries (see pages 244-245)

Public Works Departmental Mission Statement:

The mission of Concord Public Works is to enhance Concord's quality of life, and through sound management, communication, leadership, innovation, teamwork and vision, provide dependable, high quality, responsive public works and utility services, consistent with community values and at reasonable cost to Concord's citizens, businesses, institutions and visitors for today and into the future.

Administration Division Mission Statement:

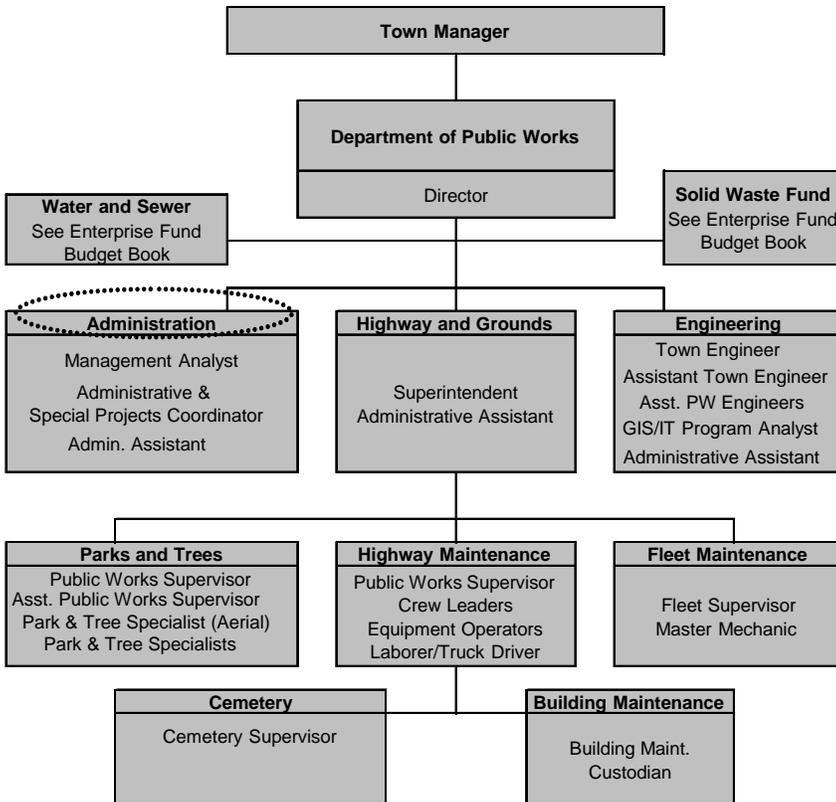
The mission of Public Works Administration is to lead and support Concord Public Works programs and divisions.

Budget Highlights:

- This budget represents a 0.4% decrease in the operating appropriation from the FY16 budget.
- Decreases experienced in the cost of telephone services, supplies and other expenses made a modest reduction in projected operating expenditures possible.
- In exchange for support services provided by Public Works Administration, the Solid Waste Fund funds 50% of the Administrative Assistant position and 13.5% of all other expenditures. In addition, the Water Fund covers 25% of Division expenses; the Sewer Fund covers 10%.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 178,912	\$ 181,338	\$ 184,968	\$ 184,155
Other Funds	\$ 187,194	\$ 191,185	\$ 194,419	\$ 193,895
Total Expenditures	\$ 366,106	\$ 372,523	\$ 379,387	\$ 378,050



Description:

Concord Public Works includes the following Divisions: Administration, Engineering, Highway, Snow and Ice Removal, Parks and Trees, Cemetery, and the CPW Keyes Road facility. In addition, the Department through its Director, manages the Water, Sewer, and Recycling and Solid Waste Disposal Enterprises.

The Administration Division provides support for the Director and his staff in carrying out the mission of Concord Public Works.

The Public Works Commission advises the Director of Public Works and others on matters that concern Town water, sewerage, solid waste, drainage and roads

PUBLIC WORKS: Administration

Item 17A

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Personnel Services	\$ 337,281	\$ 350,200	\$ 355,992	\$ 356,650	\$ 356,650
Purchased Services	8,930	5,630	11,785	11,385	11,385
Supplies	4,642	5,130	6,550	5,660	5,660
Other Charges	6,253	1,462	5,060	4,355	4,355
Capital Outlay	9,000	10,100	-	-	-
Totals	<u>\$ 366,106</u>	<u>\$ 372,523</u>	<u>\$ 379,387</u>	<u>\$ 378,050</u>	<u>\$ 378,050</u>

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 184,968	48.75%	\$ 184,155	48.71%	-0.44%
Water Fund	88,002	23.20%	87,585	23.17%	-0.47%
Sewer Fund	35,202	9.28%	35,036	9.27%	-0.47%
Solid Waste Fund	71,215	18.77%	71,274	18.85%	0.08%
Totals	<u>\$ 379,387</u>	100.00%	<u>\$ 378,050</u>	100.00%	-0.35%

PUBLIC WORKS: Administration

Item 17A

Personnel Services Summary					
		FY16 Budgeted		FY17 Proposed	
Code	Position Title	# of Positions	\$ Amount	# of Positions	\$ Amount
5111	CPW Director	1.00	\$ 139,776	1.00	\$ 139,776
	Management Analyst	1.00	86,782	1.00	86,782
	Administrative & Special Projects Coordinator	1.00	73,455	1.00	73,455
	Administrative Assistant	1.00	54,779	1.00	55,437
	Sub Total	<u>4.00 FTEs</u>	\$ 354,792	<u>4.00 FTEs</u>	\$ 355,450
5130	Overtime	0 hrs.	\$ -	0 hrs.	\$ -
5158	Cell Phone Allowance	N/A	\$ 1,200	N/A	\$ 1,200
	Total	<u>4.00 FTEs</u>	\$ 355,992	<u>4.00 FTEs</u>	\$ 356,650

Program Implementation
<p>The Administration budget includes funding for the Director and his immediate staff in support of public works programs as well as for office supplies and expenses. Responsibilities include the integration of all operating, maintenance and capital resources— money, labor, materials, equipment and facilities— in order to deliver public works services in an efficient, effective and responsive manner.</p> <p>The program involves the management of more than \$4.0 million in tax-impact program appropriations, and the executive-level direction, supervision and support of CPW and its 55 full-time employees (including Water and Sewer employees). With the mission to protect and maintain the public infrastructure in a cost-effective manner, CPW staffers and the services they provide affect every home, business, institution and individual residing in the Town, as well as visitors and people who pass through the Town on a daily basis. CPW functions have a direct impact on the character of Concord, its property values, and its quality of life.</p> <p>The Administration staff is involved in planning, programming, budgeting, organizing and staffing, developing systems, informing and educating the public, and maintaining records to accomplish the following goals:</p> <ul style="list-style-type: none"> ▪ Maintain, protect, and enhance the Town’s public way infrastructure, including streets, curbing, sidewalks, street signs, traffic islands, public shade trees, guardrails, storm drains, catch basins, culverts, and outfalls. ▪ Maintain, protect, and enhance the Town’s active and passive recreation areas, including parks and athletic fields, municipal grounds, and public shade tree inventory. ▪ Operate, maintain, and preserve the Town’s historic cemeteries. ▪ Provide municipal solid waste collection, recycling, and disposal services at competitive prices while maximizing recycling and waste reduction opportunities and striving to implement sustainable public works practices. ▪ Operate maintain, protect, and enhance the Town’s wastewater collection, treatment, and disposal system. ▪ Operate maintain, protect and enhance the Town’s public drinking water system, including its supply, treatment, distribution, and storage system; and promote water conservation. ▪ Provide professional engineering support for Town departments and the public to protect and enhance Concord’s infrastructure. ▪ Provide the vision, leadership and administrative support for achieving excellence in stewardship of public works, utility and environmental assets and resources under CPW care.

Town Manager Goals: Maintain the Town’s Infrastructure, and Ensure Quality Operational & Financial Management

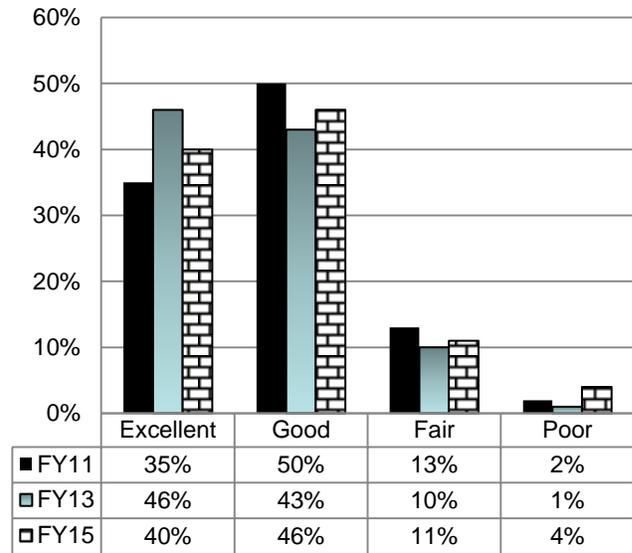
Division Goal: *To ensure the Public Works Department services are cost-effective, and of the highest quality.*

Objective: To measure citizen satisfaction with Public Works Department services

Measure: Town Biennial Citizen Survey of 1,337 Concord residents in FY15, that produces a statistically significant result.

Trend: Residents have been generally satisfied with the quality and level of services that the Public Works Department provides for the town.

Ratings of Services provided by Concord Public Works



Engineering Mission Statement:

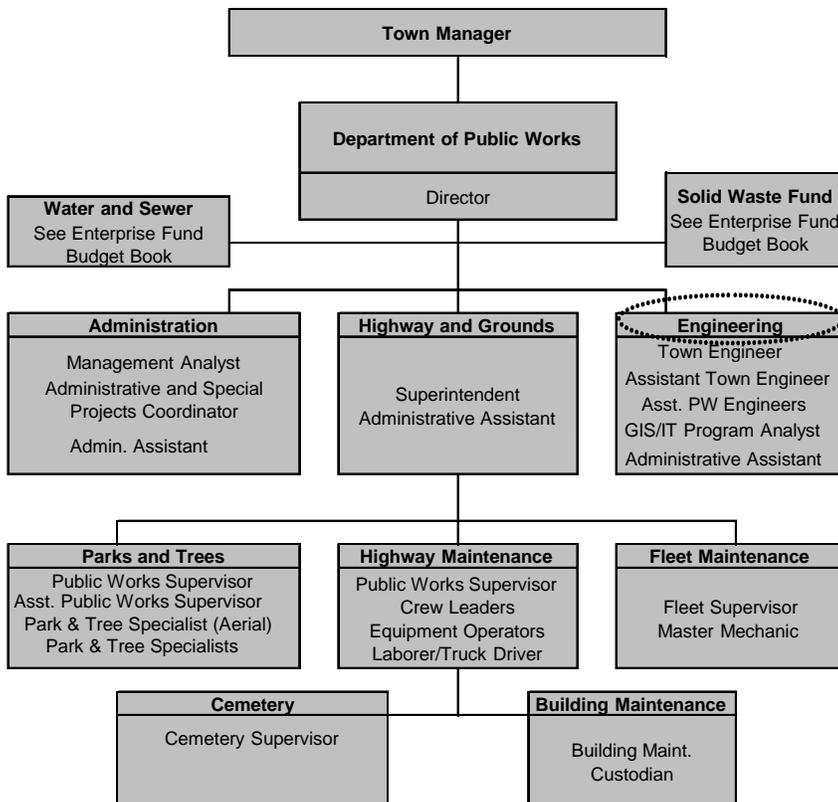
The mission of the Engineering Division is to provide timely and cost-effective comprehensive engineering and technical support services that promote safe, compliant, context-sensitive and environmentally sustainable infrastructure.

Budget Highlights:

- The Engineering operating appropriation shows a 0.3% decrease from the FY16 budget.
- Major elements in Purchased Services are \$16,000 for groundwater and soil gas monitoring expense at the Landfill site and \$12,860 for custom application development and training for Public Works projects in the Geographic Information System (GIS).
- The Engineering budget is supported in part by transfers from other capital appropriations.
- The Capital Outlay budget includes \$10,000 for traffic signal replacement, \$20,000 for federal/state mandated street sign replacement program, \$25,000 for sustainable infrastructure practices, \$10,000 for NPDES Compliance, and \$20,000 for Public Works GIS application development

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 348,498	\$ 374,537	\$ 389,847	\$ 383,244
Other Funds	\$ 264,110	\$ 223,080	\$ 310,279	\$ 314,784
Total Expenditures	\$ 612,608	\$ 597,617	\$ 700,126	\$ 698,028



Description:

The Engineering Division is responsible for planning, designing, bidding, permitting, and providing construction administration for many of the Town's infrastructure improvement projects.

Projects include construction of: roadways, bridges, sidewalks, dams, culverts, traffic signals and drainage systems.

The Division provides a wide range of technical assistance and engineering services to achieve Department and Town goals and objectives.

The Division maintains Town plans and records, as well as infrastructure-related Geographic Information System (GIS) and asset management data.

PUBLIC WORKS: Engineering

Item 17B

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Personnel Services	\$392,017	\$386,637	\$ 473,057	\$ 475,399	\$ 475,399
Purchased Services	36,185	34,803	42,320	40,500	40,500
Supplies	9,360	7,371	11,930	10,580	10,580
Other Charges	7,287	4,426	11,175	11,445	11,445
Capital Outlay	56,903	64,582	65,000	75,000	65,000
GIS Operations	82,032	59,850	76,644	75,104	75,104
GIS Capital Outlay	28,824	39,948	20,000	20,000	20,000
Totals	\$ 612,608	\$ 597,617	\$ 700,126	\$ 708,028	\$ 698,028

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 389,847	55.68%	\$ 383,244	54.90%	-1.69%
Light Fund	-	0.00%	-	0.00%	0.00%
Water Fund	87,820	12.54%	87,425	12.52%	-0.45%
Sewer Fund	22,459	3.21%	22,359	3.20%	-0.45%
Capital Projects	175,000	25.00%	180,000	25.79%	2.86%
Grant Funds	-	0.00%	-	0.00%	N/A
Road Repair Fund	25,000	3.57%	25,000	3.58%	0.00%
Totals	\$ 700,126	100.00%	\$ 698,028	100.00%	-0.30%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
I-2	GIS System	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
J-2	Traffic Control Devices	10,000	10,000	10,000	10,000	10,000	10,000
J-7	Sustainable Drainage Improv.	25,000	25,000	25,000	25,000	25,000	25,000
J-8	NPDES Permit Compliance	10,000	10,000	10,000	10,000	10,000	10,000
J-10	Street Sign Replacement	20,000	20,000	20,000	20,000	20,000	20,000
	Totals	\$ 85,000					

PUBLIC WORKS: Engineering

Item 17B

Personnel Services Summary					
		FY16 Budgeted		FY17 Proposed	
Code	Position Title	# of Positions	\$ Amount	# of Positions	\$ Amount
5111	Town Engineer	1.00	\$ 109,593	1.00	\$ 109,593
	Asst. Town Engineer	1.00	96,169	1.00	96,169
	Public Works Engineer	0.00	-	0.00	-
	Asst. Public Works Engineer	3.00	210,862	3.00	211,789
	GIS/IT Program Analyst	1.00	62,244	1.00	62,244
	Associate Engineer	0.00	-	0.00	-
	Administrative Assistant	1.00	56,433	1.00	56,648
	Sub Total	<u>7.00 FTEs</u>	\$ 535,301	<u>7.00 FTEs</u>	\$ 536,443
	Cell Phone Allowance	N/A	\$ -	N/A	\$ 1,200
5191	Tuition Reimbursement	N/A	-	N/A	-
	Total	<u>7.00 FTEs</u>	\$ 535,301	<u>7.00 FTEs</u>	\$ 537,643

Program Implementation	
<p><u>Major projects anticipated for FY17 include:</u></p> <p>2016/17 Roads Program – In-house design, bidding and construction inspection/administration of the annual roads program contract. The program is anticipated to rehabilitate approximately 4.0 miles of roadway, 60 drainage structures, and 3,300 feet of drain pipe.</p> <p>Sleepy Hollow Cemetery Roadway Network - In-house design, bidding and construction inspection/administration of Phase 1 of the cemetery infrastructure rehabilitation which will include roadways, drainage system and wall improvements.</p> <p>Parking Lot Rehabilitation - In-house design, environmental permitting, bidding and construction inspection/administration for the reconstruction of the Keyes Road, Walden Street and Church Street parking lots, including significant drainage improvements.</p> <p>2016 Sidewalk Program - In-house survey, design, bidding and construction inspection/administration for the annual targeted rehabilitation areas. These include the Commonwealth Avenue/Church Street intersection reconstruction with traffic calming bump-outs as well as the Old Marlboro and Old Pickard Road areas.</p> <p>Culvert Replacements - In-house design, environmental permitting, bidding and construction oversight for culvert replacements on Lowell Road, Sleepy Hollow Cemetery, Great Meadows Trail and Westford Road. The Division was successful in obtaining \$580,000 in HMGP grant funds from FEMA over the past few years, representing 75% federal funding for the replacement of the Lowell Road and Westford Road culverts.</p> <p>Cambridge Turnpike Improvement Project – Continued consultant management and technical oversight for the final design, bidding and construction of the Cambridge Turnpike Reconstruction Project. Project bid is targeted for calendar year 2016.</p> <p>Stormwater and Drainage Management - Annual reporting (Year 13) for the 2003 National Pollution Discharge Elimination System (NPDES) MS4 Permit and/or development of the Notice of Intent to apply for coverage under the new 2016 NPDES MS4 permit, which is in draft form.</p>	

Performance

Town Manager Goal: To Maintain the Town's Infrastructure

Division Goal: To ensure that Engineering services are appropriate, cost-effective, and of the highest quality.

Accomplishments during the past year:

2015/16 Roads Program - Completed the in-house design, bidding and construction oversight for the 2015/16 Roads Program. The program rehabilitated 6.19 miles of roadway, replacing/installing 82 drainage structures and installing approximately 4,100 feet of drain pipe. The work, completed through three separate bid contracts, was coordinated with approximately one mile of water main infrastructure replacement.

97 Thoreau Street Sustainable Infrastructure Demonstration Project - Completed the in-house design, bidding and construction oversight for the stormwater demonstration project. The project included the installation of a new tree box filter and porous paver area to promote stormwater infiltration, a new water fountain, a solar compactor and two new planting areas.

Winter Road Assistance Program (WRAP) –For the second year in a row, the Town received state supplemental funding of \$101,000 to repair transportation infrastructure deterioration from the extraordinary winter weather. The Engineering Division targeted these funds toward strategic patching of 2.24 miles of the Town's major roadways, including repairs to portions of Monument Street, Sudbury Road, Main Street, Wheeler Road and Old Marlboro Road.

Cambridge Turnpike Improvement Project - Continued consultant management and technical engineering guidance for the public outreach and preliminary permitting and design efforts for the Cambridge Turnpike Reconstruction Project.

NPDES MS4 Permit - Completed the National Pollution Discharge Elimination System (NPDES) MS4 Permit Year 12 annual reporting to the Environmental Protection Agency by the May 1st deadline. Major permit accomplishments within Year 12 included the further refinement of the residential rain garden program. In addition, stormwater technical review and environmental monitoring review and administration were completed for 14 projects meeting NPDES permit thresholds. Field work continued to improve location and system condition accuracy of Concord's stormwater GIS layer. All field survey work for the data accuracy improvement has been completed by CPW GIS staff; post-processing and final mapping will be completed by mid-2016.

Fitchburg Turnpike Culvert Replacement – Completed the construction and project closeout of the FEMA Hazard Mitigation Grant Program (HGMP) funded Fitchburg Turnpike Culvert Replacement. The Town received over \$100,000 in HMGP grant funds from FEMA for the culvert replacement.

Sign Management Program - Continued administration of the sign replacement program utilizing a new GIS data layer and asset management tool, prioritizing replacements to meet federal retroreflectivity and dimensional requirements. The program installed or replaced 150 signs (warning, regulatory, and guide/street) in FY16.

2015 Crack Sealing Program – Developed and bid the annual crack–sealing contract in the fall. Construction activity is slated for the spring. The project will maintain 9.3 miles of Concord roadways.

2015 Pavement Marking - Developed and bid the annual pavement marking contract, coordinating installation of markings on the parade route prior to Patriots Day festivities.

Westford Road Replacement – Completed In-house final design and bidding for the Westford Road Culvert Replacement Project. Project will be constructed in the summer of 2016. The Division was successful in obtaining HMGP program grant funds from FEMA for this project as well, representing 75% federal funding for the replacement of the culvert.

Mission Statement:

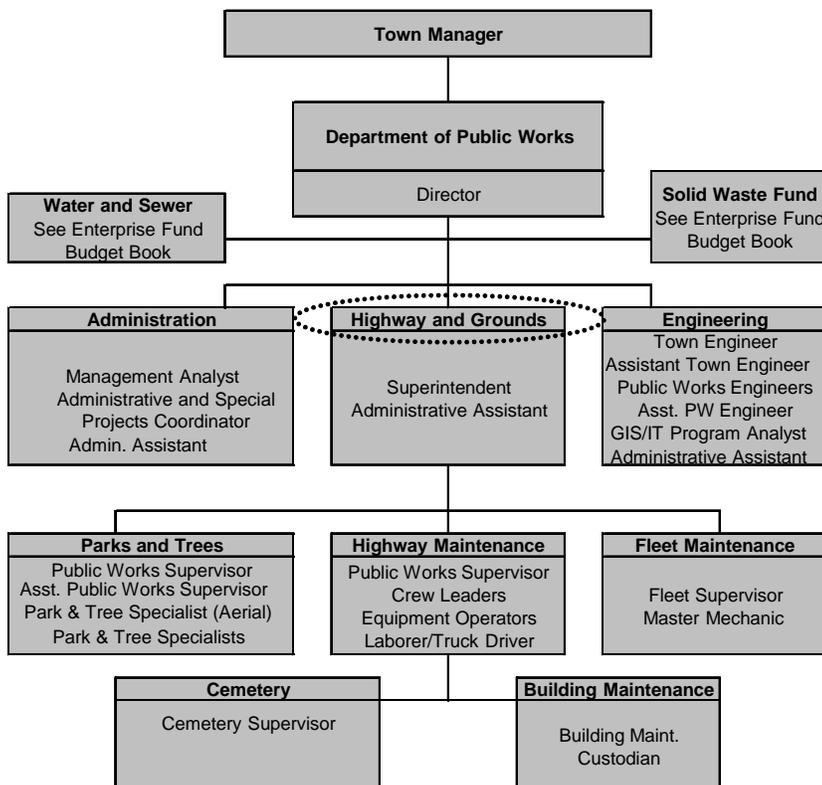
The mission of Highway Maintenance is to maintain and improve the Town’s public ways, transportation infrastructure and storm water drainage system in order to protect the public way infrastructure and abutting environmental resources in an efficient, effective, and responsive manner.

Budget Highlights:

- This budget represents a 0.7% decrease in the operating appropriation from that of the FY16 budget.
- The budgeted amount for infrared patching has been increased for FY17 to allow for more patching to be completed utilizing this technology.
- The cost of fuel continues to be unpredictable. FY17 costs are estimated to be lower than budgeted in FY16 but still higher than FY15, assuming a typical snow season.
- The estimated per ton cost for disposal of catch basin sediments in accordance with DEP regulations has been decreased slightly to reflect pricing trends for this service over the previous two years.
- Budget support is provided by the Water & Sewer Funds for fleet maintenance and trenching activities (\$24,128) and by the Solid Waste Fund for Drop-Off Day assistance and partial funding of Composting Site expenses (\$5,000).
- Capital Outlay includes \$10,000 for guardrail replacement, and \$5,000 for small equipment.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 1,239,559	\$ 1,277,325	\$ 1,298,187	\$ 1,288,604
Other Funds	\$ 27,368	\$ 28,161	\$ 28,916	\$ 29,128
Total Expenditures	\$ 1,266,927	\$ 1,305,486	\$ 1,327,103	\$ 1,317,732



Description:

The Highway Maintenance Program includes all public ways and associated infrastructure—Concord’s streets, curbing, shoulders, sidewalks, guardrails, signs, culverts, outfalls, manholes, catch basins, and street drains. The Program funds the material and equipment repair costs associated with street and sidewalk sweeping, roadside mowing, storm drain and line cleaning, brush clearance, and litter control, along with related support activities including Town celebrations, road races, parades, and elections.

PUBLIC WORKS: Highway Maintenance

Item 17C

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Personnel Services	\$ 812,644	\$ 903,654	\$ 937,642	\$ 926,847	\$ 926,847
Purchased Services	92,385	82,044	110,480	127,648	120,148
Supplies	252,143	225,094	259,256	250,837	250,837
Other Charges	5,580	4,236	4,725	4,900	4,900
Capital Outlay	104,175	90,457	15,000	27,500	15,000
Totals	<u>\$ 1,266,927</u>	<u>\$ 1,305,486</u>	<u>\$ 1,327,103</u>	<u>\$ 1,337,732</u>	<u>\$ 1,317,732</u>

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 1,298,187	97.82%	\$ 1,288,604	97.79%	-0.74%
Water Fund	19,110	1.44%	19,280	1.46%	0.89%
Sewer Fund	4,806	0.36%	4,848	0.37%	0.87%
Solid Waste Fund	5,000	0.38%	5,000	0.38%	0.00%
Totals	<u>\$ 1,327,103</u>	100.00%	<u>\$ 1,317,732</u>	100.00%	-0.71%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
J-3	Guardrail Replacement	\$ 10,000	\$ 10,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
J-4	Small Equipment	5,000	5,000	5,000	5,000	5,000	5,000
	Totals	<u>\$ 15,000</u>	<u>\$ 15,000</u>	<u>\$ 20,000</u>	<u>\$ 20,000</u>	<u>\$ 20,000</u>	<u>\$ 20,000</u>

PUBLIC WORKS: Highway Maintenance

Item 17C

Personnel Services Summary					
		FY16 Budgeted		FY17 Proposed	
Code	Position Title	# of Positions	\$ Amount	# of Positions	\$ Amount
5111	Highway & Grounds Superintendent	1.00	\$ 94,099	1.00	\$ 85,442
	Administrative Assistant	1.00	61,429	1.00	57,086
	Public Works Supervisor	1.00	88,438	1.00	89,075
	Fleet Supervisor	1.00	77,522	1.00	78,676
	Crew Leader	2.00	143,077	2.00	143,698
	Master Mechanic	1.00	64,747	1.00	64,979
	Equipment Operator	6.00	321,605	6.00	322,057
	Laborer/Truck Driver	1.00	49,607	1.00	49,632
	Sub Total	<u>14.00 FTEs</u>	\$ 900,524	<u>14.00 FTEs</u>	\$ 890,645
	Less: Snow Reimbursement	-2500 hrs.	\$ (72,870)	-2500 hrs.	\$ (74,640)
	Sub Total	<u>12.80 FTEs</u>	\$ 827,654	<u>12.80 FTEs</u>	\$ 816,005
5120	Temporary/ Seasonal	1000 hrs.	\$ 14,000	1000 hrs.	\$ 14,000
5130	Overtime - Highway Staff	1420 hrs.	\$ 63,376	1420 hrs.	\$ 63,598
	Overtime - Compost Site	300 hrs.	13,390	300 hrs.	13,437
5131	Overtime - Police	400 hrs.	19,222	400 hrs.	18,607
	Cell Phone Allowance	N/A	-	N/A	1,200
	Total	<u>12.80 FTEs</u>	\$ 937,642	<u>12.80 FTEs</u>	\$ 926,847

Program Implementation

- The Highway Maintenance Program provides ongoing repair, improvement , and maintenance of approximately 107 miles of Town roads and 59 miles of Town sidewalks as well as the Town’s storm water system consisting of approximately 2,861 catch basins, 211 culverts, 438 outfalls, 1,185 drainage manholes, 3 dams, 15 detention basins, 143 leaching structures, 2 infiltration basins, 8 treatment chambers ,5 bio-retention areas, and over 59 miles of drain lines.
- Roadway and sidewalk maintenance - Maintenance of roads and sidewalks includes many activities such as pothole patching, full depth patching, trench repair, sign repair and installation, and roadside mowing. All Town roads are swept in the spring with sweeping of downtown areas completed on a weekly basis. Selected sidewalks are also swept in the spring. The FY17 budget includes funds for 5 days of infrared roadway patching. The use of this contractual service was increased in FY16 to repair deteriorated areas of pavement near manholes, catch basins, and small sections of roads.
- Storm water system maintenance – Continuous maintenance is needed to keep Concord’s storm water system functioning properly. Catch basins are cleaned every other year utilizing town-owned equipment; repairs to catch basins and pipes are ongoing as needed; detention areas and bio-retention areas are monitored and maintained on an ongoing basis as well.
- The budget includes \$95,951 for vehicle and equipment maintenance and supplies, \$41,800 for bituminous concrete material for road and sidewalk repairs, \$10,000 for repair and replacement of street and traffic signs, and \$20,000 for food and supplies for the Massachusetts Correctional Institute (Concord) crew in exchange for their work performing important roadside, equipment, and site maintenance duties.

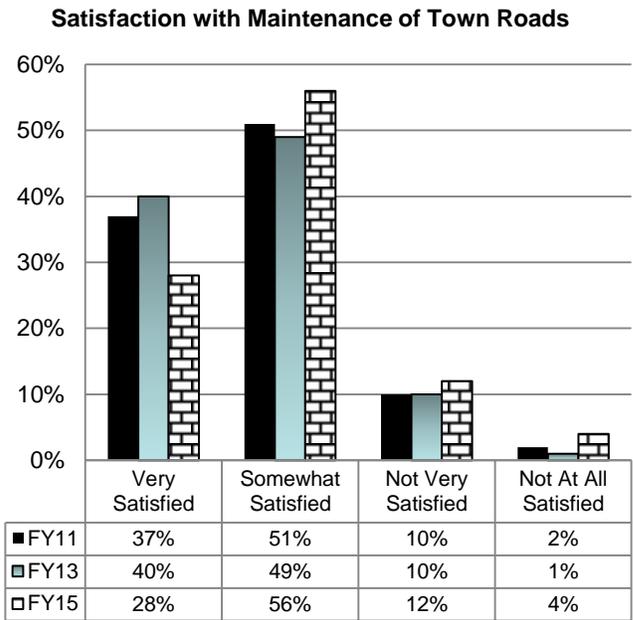
Town Manager Goal: To Maintain the Town’s Infrastructure

Division Goal: *To ensure the maintenance of town roads.*

Objective: To measure citizen satisfaction with town roads.

Measure: Town Biennial Citizen Survey of 1,337 Concord residents in FY15, that produces a statistically significant result.

Trend: Residents have been generally satisfied with the quality and level of services that the Highway Maintenance Division provides for the town. In FY15 84% of respondents were “Very Satisfied” or “Somewhat Satisfied” with maintenance of town roads.



Performance Measures

Town Manager Goal: To Maintain the Town’s Infrastructure

Division Goal: *To ensure the maintenance of town roads.*

	Municipal Standard*	Concord 2015
Response time – general maintenance	2 weeks	2 (+/-) days
Response time – potholes	24 hours	24 hours
Catch basins rebuilt per shift (3 persons per shift)	0.6 – 1	1
Response time – drainage emergency	24 hours	8 hours
Sweeping program on all town roads and selected sidewalks	by June 1 each year**	completed before June 1
Cleaning of catch basins & other drain structures	15-20 per day with 2-4 person crew	20 per day with 1-person crew
Sign replacement/installation program	2.73 signs per hour with a 2-person crew	2.5 signs per hour with a 2-person crew

* *Municipal Benchmarks: assessing local performance and establishing community standards* by David N. Ammons, 3rd ed., London, NY: Routledge, Taylor & Francis Group, 2015. Tables 29.5, 29.7, 29.8, 30.13, 30.14, 30.15.

** Division goal

Mission Statement:

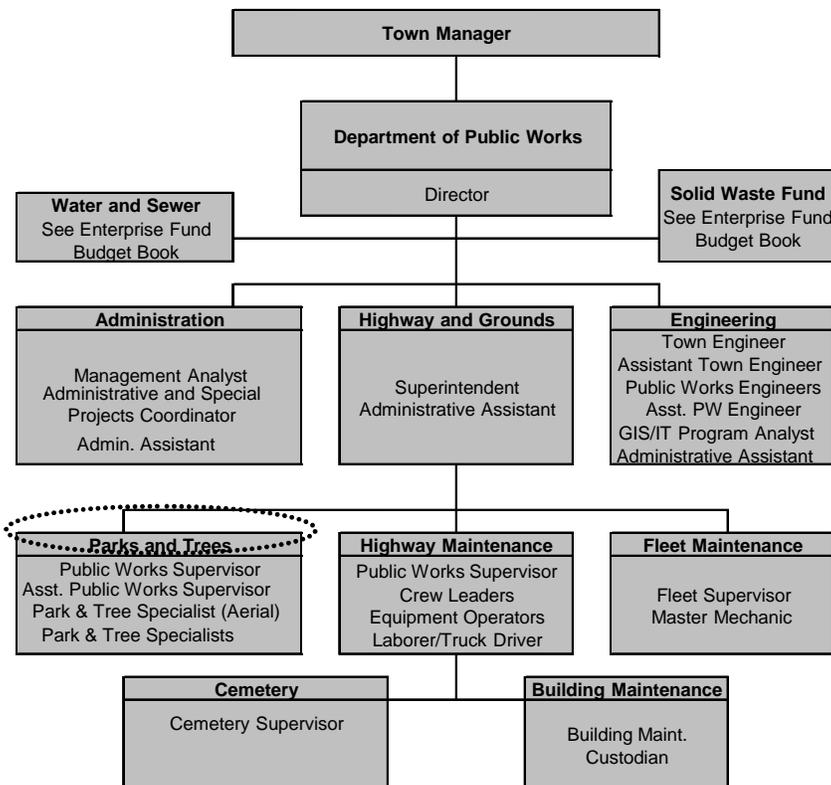
The mission of Parks and Trees is to preserve and enhance Concord's active and passive recreation areas, including its parks, park trees, athletic fields, municipal grounds, and Concord's streetscape of public shade trees and traffic islands.

Budget Highlights:

- This budget represents a 0.3% decrease in the operating appropriation over that of the FY16 budget.
- The FY17 budget reflects the newly created Assistant Public Works Supervisor position.
- The Light Fund is providing funding (\$7,225) for services associated with tree maintenance around power lines.
- A private sports organization, Friends of Concord Fields (FOCF), provides \$50,000 to cover costs associated with the multi-purpose turf fields. Concord-Carlisle Youth Baseball provides \$7,700 for maintenance of the Ripley Field baseball facility.
- Maintenance of other playing fields are partially supported by \$30,000 in allocations from the Recreation Fund and the School budget.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 649,873	\$ 646,590	\$ 647,670	\$ 663,288
Other Funds	\$ 37,225	\$ 37,225	\$ 94,925	\$ 94,925
Total Expenditures	\$ 687,098	\$ 683,815	\$ 742,595	\$ 758,213



Description:

The Parks and Trees Division provides for the preservation and maintenance of nearly 50 acres of active recreation areas, which include:

- Two playgrounds (Emerson and Rideout);
- Various school fields including Sanborn upper and lower fields;
- Four other playing fields (Ripley School, South Meadow, Cousins, and Cushing soccer fields);
- Ten tennis courts, four basketball courts, and three play equipment locations;
- Two multi-use artificial turf playing fields at CCHS.

In addition, Parks and Trees:

- Maintains passive recreation areas, five traffic islands (16 are maintained by volunteers), and outdoor skating rinks as weather and resources permit;
- Landscapes municipal buildings (Town House, Assessors' building, 141, 133, 135 Keyes Road) and cares for public shade and park trees.

PUBLIC WORKS: Parks & Trees

Item 17D

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Personnel Services	\$ 475,292	\$ 417,270	\$ 556,021	\$ 557,949	\$ 557,949
Purchased Services	32,002	25,405	28,488	34,682	33,182
Supplies	96,129	94,254	129,506	122,447	121,447
Other Charges	3,160	2,677	3,580	3,135	3,135
Capital Outlay	80,516	144,209	25,000	132,500	42,500
Totals	<u>\$ 687,098</u>	<u>\$ 683,815</u>	<u>\$ 742,595</u>	<u>\$ 850,713</u>	<u>\$ 758,213</u>

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 647,670	87.22%	\$ 663,288	87.48%	2.41%
Light Fund	7,225	0.97%	7,225	0.95%	0.00%
Recreation Fund	15,000	2.02%	15,000	1.98%	0.00%
School Department	15,000	2.02%	15,000	1.98%	0.00%
C&C Youth Baseball	7,700	1.04%	7,700	1.02%	0.00%
Friends of Concord Fields - (Gift)	50,000	6.73%	50,000	6.59%	0.00%
Totals	<u>\$ 742,595</u>	100.00%	<u>\$ 758,213</u>	100.00%	2.10%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
K-1	Public Shade Trees	20,000	22,500	25,000	25,000	25,000	25,000
K-2	Turf Improvement	-	15,000	52,500	62,500	62,500	62,500
K-3	Small Equipment	5,000	5,000	5,000	5,000	5,000	5,000
	Totals	<u>\$ 25,000</u>	<u>\$ 42,500</u>	<u>\$ 82,500</u>	<u>\$ 92,500</u>	<u>\$ 92,500</u>	<u>\$ 92,500</u>

PUBLIC WORKS: Parks & Trees

Item 17D

Personnel Services Summary					
		FY16 Budgeted		FY17 Proposed	
Code	Position Title	# of Positions	\$ Amount	# of Positions	\$ Amount
5111	Public Works Supervisor	1.00	\$ 89,405	1.00	\$ 89,430
	Assistant Public Works Supervisor	0.00	\$ -	1.00	\$ 60,740
	Senior Park and Tree Specialist	1.00	\$ 60,803	0.00	\$ -
	Park and Tree Specialist (Aerial)	1.00	\$ 63,665	1.00	\$ 64,541
	Park and Tree Specialist	5.00	\$ 279,910	6.00	\$ 326,337
	Sub Total	<u>8.00 FTEs</u>	\$ 493,783	<u>9.00 FTEs</u>	\$ 541,048
	Less: Cemetery Adjustment	0 hrs.	\$ -	-695 hrs.	\$ (18,130)
	Less: Snow Reimbursement	-700 hrs.	\$ (20,159)	-700 hrs.	\$ (20,154)
Sub Total	<u>7.66 FTEs</u>	\$ 473,624	<u>8.33 FTEs</u>	\$ 502,764	
5120	Temporary (Summer Crew)	1220 hrs.	13,420	1220 hrs.	13,420
	Temporary (Seasonal Help)	1760 hrs.	26,400	0 hrs.	-
	Temporary (Ripley)	700 hrs.	7,700	700 hrs.	7,700
	Overtime	600 hrs.	26,607	600 hrs.	25,880
	Overtime (Playing Fields)	70 hrs.	3,105	70 hrs.	3,020
5131	Police Overtime	125 hrs.	5,165	125 hrs.	5,165
	Sub Total	<u>1.76 FTEs</u>	\$ 82,397	<u>0.92 FTEs</u>	\$ 55,185
Total		<u>9.43 FTEs</u>	\$ 556,021	<u>9.25 FTEs</u>	\$ 557,949

Program Implementation

- The Park and Tree Division provides professional-level services to preserve, maintain, and enhance Concord's athletic fields, parks, recreation areas, and public shade trees.
- Athletic field and park maintenance – Significant efforts are needed to properly maintain Concord's athletic fields and parks to keep them in top condition for users. Mowing is completed weekly with additional mowing scheduled as needed to maintain the proper height of the turf grass. Fertilizing is scheduled several times a year based on results from soil testing. Irrigation systems are continuously monitored to ensure water is being conserved as much as possible with repairs being performed by town staff and an outside contractor. Infields are groomed throughout the year to maintain level playing surfaces that are free of weeds. A fall over-seeding program is undertaken to increase turf density and assist turf areas in recovering from season-long use.
- Tree maintenance - Public shade trees are maintained throughout the year by town staff. Tree maintenance activities include planting, trimming, and removing trees and stumps. Trees are removed under the direction of the Tree Warden, involving public tree hearings as warranted. Trees planted under the replacement program receive ongoing care to ensure they properly establish. The Light Fund shares in the cost of trimming and removal of trees that are in close proximity to electric lines. A town-wide public shade tree inventory and management plan is scheduled to be completed in FY16. This tool will be very useful in managing these valuable resources.
- The FY17 budget reflects two position changes within the Park and Tree Division. First, the position of Senior Park and Tree Specialist was replaced by the newly created position of Assistant Public Works Supervisor, and the temporary seasonal positions are now staffed by one full-time Park and Tree Specialist shared with the Cemetery Division.
- The FY17 Parks and Trees Capital Outlay budget includes \$22,500 for the replacement of public shade trees, \$15,000 for turf improvement and park rehabilitation, and \$5,000 for small equipment.

Major Activities in FY15

Specific major objectives accomplished in 2015 include:

- Raking, dragging and marking of 12 ball fields weekly for 26 weeks
- Fertilizing, seeding, aerating, and liming (as needed) -- 35 acres of athletic fields and 10 acres of parks and Town building lawns..
- Continuing to maintain and operate nine irrigation systems.
- Inspecting and maintaining playground equipment, 10 tennis courts, and four basketball courts.
- Planting trees to replace public shade trees and park trees.
- Removing or pruning trees as necessary under the direction of the Tree Warden.
- Providing for the daily maintenance of the multi-use fields and bathroom facilities.
- Providing daily and long term maintenance to the Ripley premier youth baseball facility.

Performance Measures

	Industry Standards*	Concord 2015
Response time – tree emergency	24 hours	4 hours
Response time – routine citizen requests	7 days	3 days
Mowing frequency during growing season – parks	weekly	weekly
Acres mowed or maintained per work hour	1.2 acres	1.2 acres
Athletic fields - infield dragging - lining & general maintenance	0.75 hr – 1 person 2.5 labor hrs per field	0.75 hr – 1 person 2.25 labor hrs per field
Street tree maintenance - tree removal - stump removal	13 labor hrs per removal 3.5 labor hrs per removal	12 labor hrs per removal 3 labor hrs per removal

* *Municipal Benchmarks: assessing local performance and establishing community standards* by David N. Ammons, 3rd ed., London, NY: Routledge, Taylor & Francis Group, 2015. Tables 19.13, 19.14, 19.22

Mission Statement:

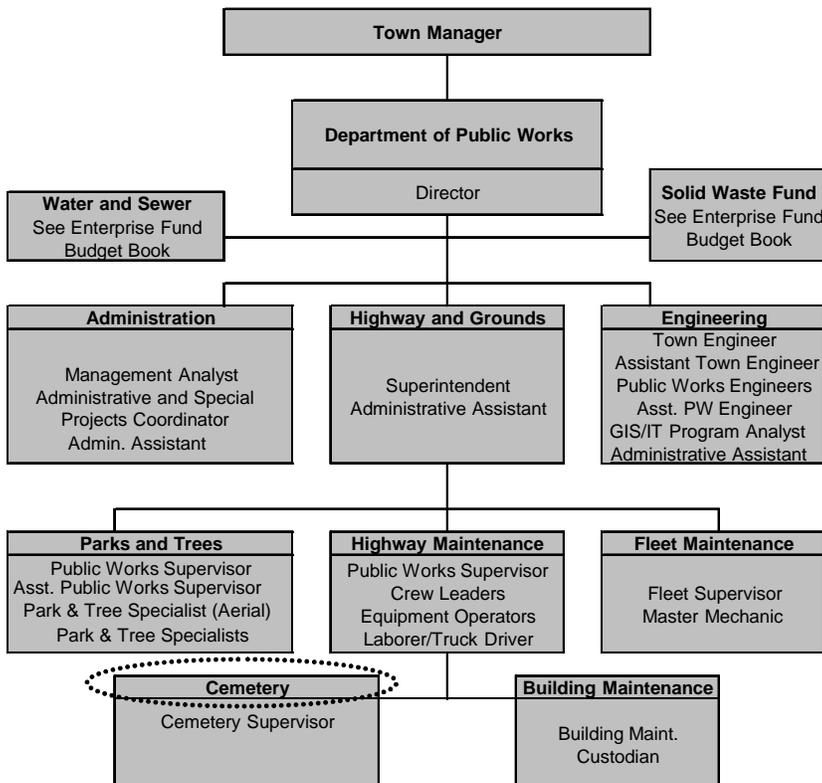
The mission of the Cemetery Division is to operate, maintain, and preserve Concord's four historic cemeteries and the Melvin Memorial with a commitment to quality, respect, compassion and cost-effectiveness while striving to ease the process of lot purchase, interment and historic burial research.

Budget Highlights:

- This budget represents a 2.1% decrease in the operating appropriation from that of the FY16 budget.
- The FY17 budget reflects the elimination of the skilled laborer position and includes a portion of the salary for a Park and Tree Specialist shared with the Park and Tree Division.
- There is an increase of 2% for the third year of a three-year contract for mowing and leaf clean up services.
- The General Fund covers 35% of total operating cost, while the Cemetery Fund covers the remaining 65% along with 100% of capital costs.
- Capital Outlay, funded entirely by the Cemetery Fund, consists of \$10,000 for the continuing grave marker preservation project and \$30,000 for Cemetery master plan improvements.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 60,401	\$ 61,336	\$ 68,114	\$ 66,684
Other Funds	\$ 113,697	\$ 121,811	\$ 166,503	\$ 163,846
Total Expenditures	\$ 174,098	\$ 183,147	\$ 234,617	\$ 230,530



Description:

The Cemetery Program provides for the operation, maintenance and preservation of Sleepy Hollow Cemetery and The Knoll at Sleepy Hollow, as well as the two ancient burial grounds at the Mill Dam— Old Hill Burying Ground and South Burial Ground. Cemetery maintenance, preservation and support services include showing and selling burial lots; grounds keeping including mowing, caring for turf and trees, walls, walks and roadways; readying grounds for Memorial Day and Veterans Day events; arranging for interments; preserving and protecting grave markers, including the Melvin Memorial; and assisting the general public and visitors. Due to their history and special character, Concord's cemeteries attract many tourists as well as residents.

PUBLIC WORKS: Cemetery

Item 17E

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Personnel Services	\$ 96,317	\$ 88,474	\$ 100,117	\$ 97,721	\$ 97,721
Purchased Services	45,087	79,620	83,585	81,679	81,679
Supplies	8,379	6,751	10,455	10,414	10,414
Other Charges	488	409	460	715	715
Capital Outlay	23,828	7,893	40,000	40,000	40,000
Totals	<u>\$ 174,098</u>	<u>\$ 183,147</u>	<u>\$ 234,617</u>	<u>\$ 230,530</u>	<u>\$ 230,530</u>

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 68,114	29.03%	\$ 66,684	28.93%	-2.10%
Cemetery Fund	166,503	70.97%	163,846	71.07%	-1.60%
Totals	<u>\$ 234,617</u>	100.00%	<u>\$ 230,530</u>	100.00%	-1.74%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
N/A	Cemetery Improvements*	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Totals	<u>\$ 40,000</u>					

* Funded by the Cemetery Fund

Personnel Services Summary					
		FY16 Budgeted		FY17 Proposed	
Code	Position Title	# of Positions	Amount	# of Positions	\$ Amount
5111	Cemetery Supervisor	1.00	\$ 71,849	1.00	\$ 71,849
	Sub Total	<u>1.00 FTEs</u>	\$ 71,849	<u>1.00 FTEs</u>	\$ 71,849
	1/3 Share of Park & Tree Specialist	0 hrs.	\$ -	695 hrs.	\$ 18,130
	Less: Snow Removal	-300 hrs.	(10,173)	-300 hrs.	(10,323)
	Sub Total	<u>0.86 FTEs</u>	\$ 61,676	<u>0.86 FTEs</u>	\$ 79,656
5120	Temporary Employee	1280 hrs.	\$ 20,634	0 hrs.	\$ -
5130	Overtime	345 hrs.	17,808	350 hrs.	18,065
	Total	<u>1.47 FTEs</u>	\$ <u>100,117</u>	<u>0.86 FTEs</u>	\$ <u>97,721</u>

Program Implementation
<ul style="list-style-type: none"> •Cemetery maintenance, operation, and support functions are performed under the supervision of the CPW Highway and Grounds Superintendent. The Cemetery Committee provides oversight for all Town cemeteries and burial grounds. The Friends of Sleepy Hollow also support the program through specific fund-raising activities and promotions. •Cemetery operations – Cemetery staff provide dignified, respectful burials throughout the year. Burials are completed, whenever possible, at the most convenient time for the families. The cemetery staff also respond to many inquiries from the public regarding the purchase of burial lots, locations of graves, and other burial information requests. •Cemetery maintenance – The maintenance of Sleepy Hollow Cemetery, including The Knoll, is performed by Town staff, a crew from MCI, and an outside contractor for mowing and leaf clean up services. Old Hill Burying Ground and South Burial Ground are mowed and spring and fall clean ups are completed by Town staff with assistance from the MCI crew. Gravesites are maintained on an ongoing basis to ensure the grounds of the cemetery are in excellent condition; activities by Town staff include leveling graves with loam, reseeding graves, fertilizing newly planted areas, and the care of planting areas. •The FY17 budget reflects the elimination of the temporary position which was replaced with a Park and Tree Specialist position that is shared with the Park and Tree Division. The use of a full time employee will allow for better delivery of cemetery services through continuous training and the higher skill level of the full-time employee. •The Cemetery Fund has three sources of income: (1) interment fees, (2) interest earned by the Perpetual Care Fund administered by the Trustees of Town Donations, and (3) revenue from the sale of burial lots. There are constraints on raising additional revenue since the Town’s cemetery rates fall in the upper bracket of comparable nearby communities. Outsourcing of mowing and fall/spring clean-up activities, now in the third year of the current contract, has helped to stabilize Cemetery costs. •The Capital Outlay budget includes (1) \$10,000 for continuation of the grave marker restoration project based on the comprehensive 1999 monument preservation plan (FY17 will be the eleventh year at the Old Hill Burying Ground at Sleepy Hollow), and (2) \$30,000 for Cemetery Master Plan improvements including tree pruning and removal work, road repair and resurfacing, wall, walkway and culvert repairs, building maintenance, handicap accessibility improvements, and development of an electronic database for Cemetery burial records.

Cemetery Operations

Town Manager Goal: To maintain the Town’s infrastructure.

Division Goal: To ensure that Cemetery services are appropriate, cost-effective, and of the highest quality.

Cemetery Fund Revenues increased substantially in FY15 but are expected to be slightly less in FY16 and FY17. Operational expenses are expected to hold at approximately the FY16 level after experiencing an increase in FY15 due to the addition of contracted maintenance services. Budgeted capital costs for FY17 have been maintained at an annual level of \$40,000. The Cemetery Fund balance at the end of FY15 stands at \$398,483.

Cemetery Revolving Fund Detail

	FY14 Actual	FY15 Actual	FY16 Revised Estimate	FY17 Estimate
Cemetery Fund Revenues				
Interment fees & other	\$57,171	\$70,502	\$63,200	\$63,200
Interest, Perpetual Care Fund	40,000	46,500	48,000	50,000
Lot sales plus interest	26,910	36,485	37,900	37,900
Capital gains distribution (from trust funds)	0	0	0	0
Total Revenue	<u>\$124,081</u>	<u>\$153,487</u>	<u>\$149,100</u>	<u>\$151,100</u>
Cemetery Fund Expenses				
Operations	\$97,569	\$114,555	\$124,877	\$123,844
Capital	16,128	7,256	40,000	40,000
Cemetery Dept. Subtotal	<u>\$113,697</u>	<u>\$121,811</u>	<u>\$164,877</u>	<u>\$163,844</u>
Town Clerk Transfer	3,000	3,000	3,000	3,000
Highway Department Transfer	0	0	0	0
Total Cemetery Expenses	<u>\$116,697</u>	<u>\$124,811</u>	<u>\$167,877</u>	<u>\$166,844</u>
Net For Year	<u>+\$7,384</u>	<u>+\$28,676</u>	<u>-\$18,777</u>	<u>-\$ 15,744</u>
Cemetery Fund Balance at Fiscal Year-End	<u>\$369,806</u>	<u>\$398,483</u>	<u>\$379,706</u>	<u>\$363,962</u>

Snow & Ice Mission Statement:

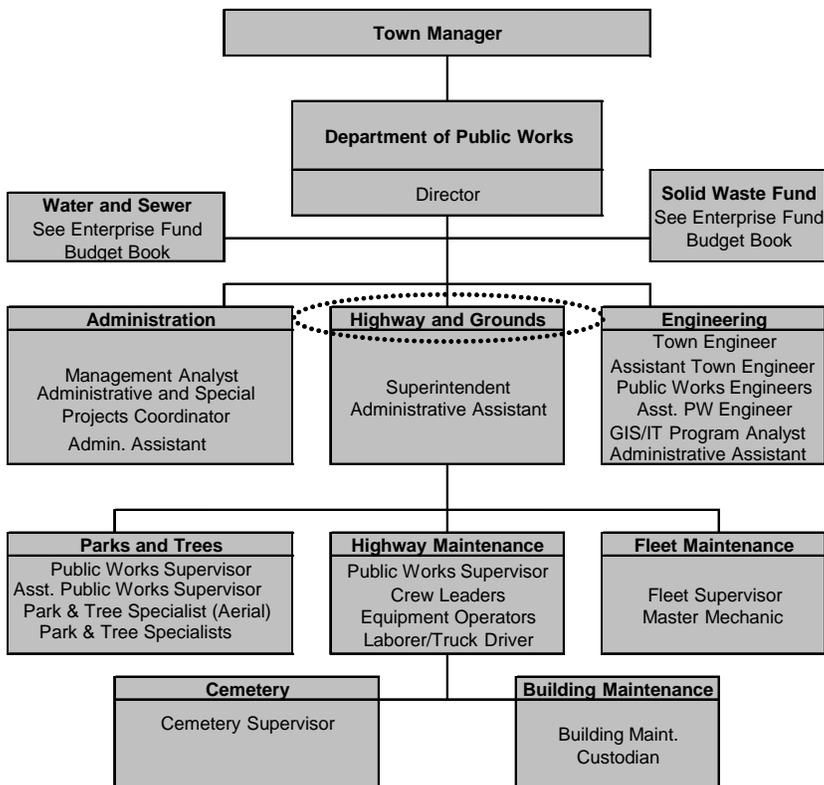
The purpose of this funding is to provide for the costs of maintaining the Town’s transportation network including streets, sidewalks, curb ramps and parking areas during winter storm periods in a condition that allows for safe and convenient vehicular and pedestrian use by the general public, commerce, and emergency services

Budget Highlights:

- This budget represents a 4.8% *increase* in the operating appropriation over that of the FY16 budget.
- An appropriation based on a 10-year average of actual net winter maintenance expenditures would be \$628,000. However, due to budget constraints, \$597,500 is being recommended.
- Winter maintenance expenditures, particularly personnel services, contract plowing, fuel costs, equipment maintenance, salt and deicing chemicals, are highly variable depending on weather conditions.
- Road salt is obtained through the State contract with area Towns participating. State contract prices have remained the same for FY15 and FY16. Salt can account for as much as 40% of winter maintenance expenditures.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 825,362	\$ 865,772	\$ 570,000	\$ 597,500
Other Funds	\$ -	\$ 99,839	\$ -	\$ -
Total Expenditures	\$ 825,362	\$ 965,611	\$ 570,000	\$ 597,500



Description:

- The Snow and Ice Removal Program funds the cost of snow and ice control and removal on public roads, sidewalks, and parking areas, as well as on certain private roads.
- The Program plan is based on a Town crew of 25 drivers and support personnel and 13 contract drivers and vehicles.
- Besides plowing, salting/brining and sanding, activities also include hauling snow, clearing at targeted locations, clearing catch basins, and maintaining equipment and support vehicles.
- If there are more snow and ice events during the winter season than planned, and this budget goes into deficit, the balance must be raised in the next year’s tax levy.
- Refer to Item 103 for a more detailed discussion of how the snow account deficit is handled.

PUBLIC WORKS: Snow & Ice Removal

Item 18

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Snow and Ice Removal	\$ 825,362	\$ 965,611	\$ 570,000	\$ 625,000	\$ 597,500
Totals	<u>\$ 825,362</u>	<u>\$ 965,611</u>	<u>\$ 570,000</u>	<u>\$ 625,000</u>	<u>\$ 597,500</u>

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 570,000	100.00%	\$ 597,500	100.00%	4.82%
Totals	<u>\$ 570,000</u>	100.00%	<u>\$ 597,500</u>	100.00%	4.82%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
	None	-	-	-	-	-	-
	Totals	<u>\$ -</u>					

PUBLIC WORKS: Snow & Ice Removal

Item 18

Personnel Services Summary					
		FY16 Budgeted		FY17 Proposed	
Code	Position Title	# of Positions	\$ Amount	# of Positions	\$ Amount
5111	Highway Staff	2500 hrs.	\$ 72,870	2500 hrs.	\$ 74,640
	Park/Tree Staff	700 hrs.	20,159	700 hrs.	20,154
	Cemetery Staff	300 hrs.	10,173	300 hrs.	10,323
	Water/Sewer Staff	200 hrs.	6,124	200 hrs.	6,124
	Sub Total	<u>1.77 FTEs</u>	\$ 109,326	<u>1.77 FTEs</u>	\$ 111,241
5130	Overtime - Highway Staff	2400 hrs.	104,933	2400 hrs.	107,482
	Overtime - Park/Tree Staff	600 hrs.	25,919	600 hrs.	25,912
	Overtime - Cemetery Staff	250 hrs.	12,716	250 hrs.	12,904
	Overtime - Water/Sewer Staff	600 hrs.	27,558	600 hrs.	27,558
	Sub Total	<u>0.00 FTEs</u>	\$ 171,126	<u>0.00 FTEs</u>	\$ 173,856
5131	Overtime - Police	40 hrs.	\$ 1,600	40 hrs.	\$ 1,600
	Total	<u>1.77 FTEs</u>	\$ <u>282,052</u>	<u>1.77 FTEs</u>	\$ <u>286,697</u>

Program Implementation
<ul style="list-style-type: none"> •The Snow and Ice Removal Program has been developed to deliver exceptional winter maintenance services that are efficient, effective, and environmentally responsible. • Salting/De-icing - Concord Public Works carefully follows a restricted salt use policy to keep Town roads as safe as possible without the overuse of chemicals. The use of sand has been eliminated from the normal salting/de-icing program; sand is used only in certain situations if needed. Concord works very hard to ensure salt usage is minimized as much as possible. Selected roads receive an application of salt brine prior to the start of storms to prevent the bonding of snow and ice to the roadway which aids in reducing salt usage. All trucks are calibrated at the beginning of the season to ensure they are applying the correct amount of salt. Most of the fleet of salt spreaders have been changed to computerized, closed- loop ground speed controllers. These controllers adjust the volume of salt applied in relationship to the speed of the truck. Studies have shown a significant reduction in salt usage though better control of the application equipment. Several trucks are equipped with under-body scrapers. These mid-mount plows allow the operator to scrape roads prior to applying salt so it is more effective. Liquid calcium chloride is used in colder temperatures to improve the effectiveness of the salt. • Snow Plowing - The Town is divided into 15 plowing routes, each utilizing 1 to 3 vehicles to complete the necessary plowing. Each route uses a combination of Town vehicles and, during major events, private contractors working together to plow the route. In addition, there are four sidewalk-plowing routes, each covered by a Town-owned sidewalk plow. All four of these sidewalk machines can also be equipped with snow blowers. Town parking lots are also plowed during and after each storm event. • Snow Removal - Snow is removed from Concord’s three business areas as needed and hauled to the Town’s former landfill site and to an area adjacent to the West Concord MCI facility. Most of these removals are now done with Town forces. For efficiency and safety purposes and to minimize traffic and negative impacts on commerce, this activity is normally carried out between the hours of 10:00 p.m. and 7:00 a.m.; during these times traffic detours are in place for motorist safety.

Town Manager Goal: To Maintain the Town’s Infrastructure

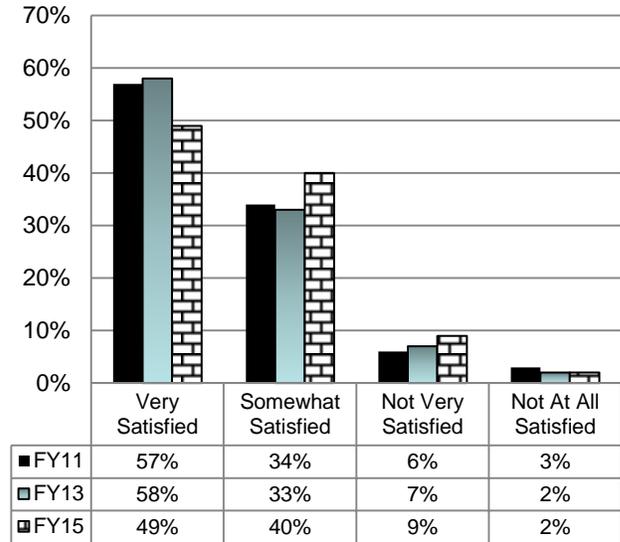
Goal: *To ensure that the Town’s roads, sidewalks, and parking areas are properly plowed.*

Objective: To measure citizen satisfaction with the Town’s snow and ice removal services

Measure: Town Biennial Citizen Survey of 1,337 Concord residents in FY15, that produces a statistically significant result.

Trend: Residents have been generally satisfied with the quality and level of services of the snow and ice removal services. In FY15 89% of respondents were either “Very Satisfied” or “Somewhat Satisfied”.

Satisfaction with Town’s Snow Plowing and Winter Maintenance



Winter Maintenance Activity Hours

	2012-2013 Actual	2013-2014 Actual	2014-2015 Actual	2015-2016 Budgeted	2016-2017 Proposed
Regular and Overtime Hours	8,099	11,188	12,117	7,550	7,550

Performance Measures

	Municipal Standard*	Concord FY2014
Salt Spreading	12.5 lane-miles per hr 2-person crew	11.1 lane-miles per hr 1-person crew
Salt Application	250 lbs per lane-mile	Meets standard with computerized ground speed controllers
Plowing	3.39 lane-miles per hr heavy snow	2.96 to 3.7 lane-miles per hr on average

* *Municipal Benchmarks: assessing local performance and establishing community standards* by David N. Ammons, 3rd ed., London, NY: Routledge, Taylor & Francis Group, 2015. Table 30.13

Mission Statement:

The purpose of this funding is to provide for the cost of illuminating public streets for safe travel by vehicular traffic, potentially hazardous spot locations along public roadways, and commercial area sidewalks within the public way.

Budget Highlights:

- This budget represents *no change* in the operating appropriation from that of the FY16 budget.
- Over the past several years, the number of street lights was reduced from 1,636 in FY03 to 867 at the end of FY10, but was increased again thereafter to the present level of 1,402 as a result of public demand for better lighting in some areas. No significant additions or removals of fixtures are planned for FY16.
- Down-sizing of existing fixtures has continued, resulting in further energy savings.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 71,049	\$ 64,955	\$ 73,463	\$ 73,463
Other Funds	\$ 540	\$ 537	\$ 537	\$ 537
Total Expenditures	\$ 71,589	\$ 65,492	\$ 74,000	\$ 74,000

Description:

The proposed program provides for the operation and maintenance of the streetlights that will be in service in FY17. This account also provides funding for decorative lighting on poles and trees during the holiday season between Thanksgiving and New Year's Day, flag lighting for nighttime display, and lighting for passenger loading at the Depot. Restoration of many of the streetlight fixtures that had previously been removed will increase the estimated annual electricity consumption in FY17 to approximately 448,090 kWh from a low of 334,900 kWh in FY11.

The Town's street lighting is provided and maintained by the Concord Municipal Light Plant, a department of the Town Government. A Trust Fund pays for the cost of lighting the flagpole in Monument Square; all other lighting costs are paid by the Town's General Fund.

The Town's policy is to provide the minimum amount of street lighting necessary to accomplish program objectives in an equitable manner throughout the Town, consistent with public safety, energy conservation, cost effectiveness, and aesthetic appropriateness. The majority of mercury vapor and sodium fixtures have been replaced with more energy-efficient fixtures, allowing for the maintenance of safe and appropriately illuminated streets. Down-sizing of fixtures will continue in FY17 with further energy savings expected.

Street lighting costs to the Town by the Concord Municipal Light Plant are calculated in accordance with the provisions of Massachusetts General Laws, Chapter 164, § 58. All expenses of the Light Plant for a calendar year are divided by the total kilowatt-hours sold for the same calendar year to determine the price per kilowatt-hour for the next calendar year. The Light Plant estimates that the street light rate (including a 1.5% surcharge for undergrounding and a 0.52% surcharge for the CARES program) will be 13.54 cents per kWh for the period July-December 2016 and 14.68 cents per kWh for the period January-June 2017 for an annual average in FY17 of 14.11 cents per kWh. The decrease in cost is due to the advantageous terms of a new supply contract.

Streetlight charges for FY17 are estimated as follows:

July-December 2016	210,983 kWh	(47%)	@ \$0.13543	= \$28,574
January-June 2017	<u>237,917 kWh</u>	(53%)	@ \$0.14687	= <u>\$34,943</u>
Total	448,900 kWh			\$63,517

The proposed FY17 budget amount of \$74,000 represents an estimate of expenses made prior to receiving the cost analysis shown above.

PUBLIC WORKS: Street Lighting

Item 19

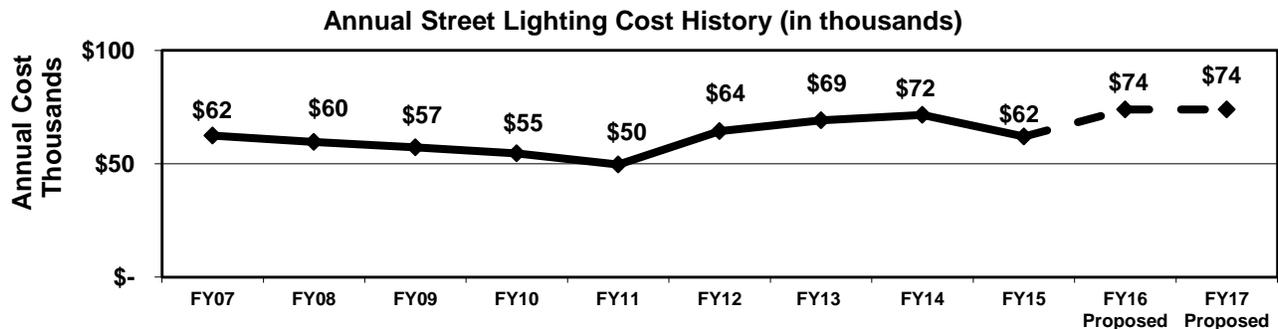
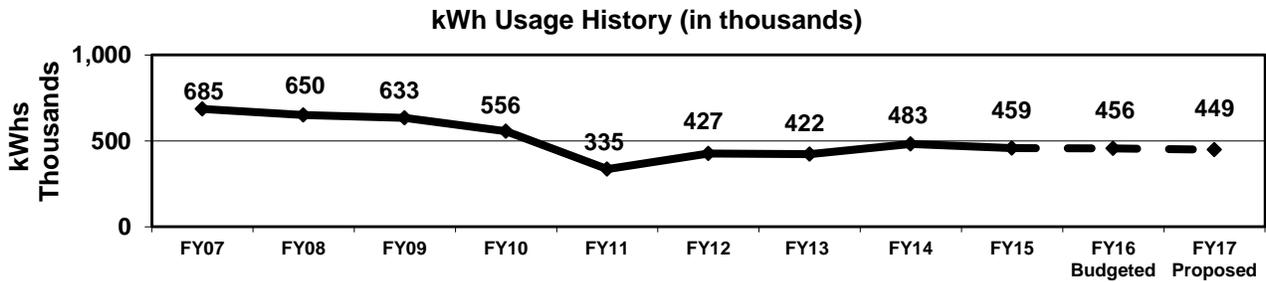
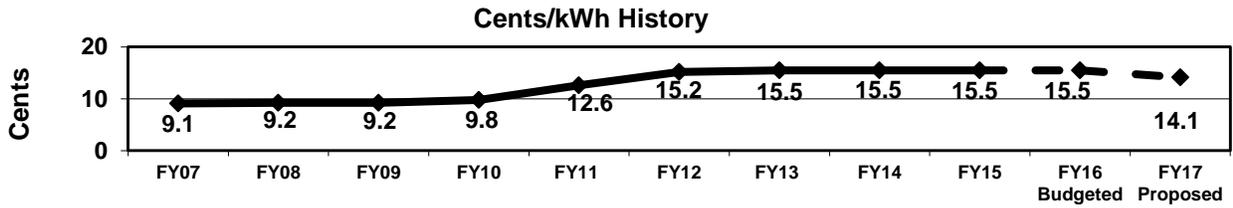
Expenditure Detail

	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Purchased Services	71,589	65,492	74,000	74,000	74,000
Totals	\$ 71,589	\$ 65,492	\$ 74,000	\$ 74,000	\$ 74,000

Funding Plan

	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 73,463	99.27%	\$ 73,463	99.27%	0.00%
Town Trust Fund	537	0.73%	537	0.73%	0.00%
Totals	\$ 74,000	100.00%	\$ 74,000	100.00%	0.00%

Street Lighting Trends



Mission Statement:

The purpose of this funding is to provide for the cost of purchasing and maintaining properly sized and appropriately equipped vehicles and equipment for the efficient and effective delivery of Public Works services.

Budget Highlights:

- This budget represents approximately a 20% *increase* in the capital appropriation from that of the FY16 budget.
- The FY17 replacement plan includes replacement of H30 – 1998 56,000 GVWR 10 wheel truck with dump/plow and the replacement of H36 – 2002 35,000 GVWR truck with swap loader/plow/scraper

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 277,000	\$ 288,000	\$ 250,000	\$ 300,000
Other Funds	\$ -	\$ -	\$ -	\$ -
Total Expenditures	\$ 277,000	\$ 288,000	\$ 250,000	\$ 300,000

Description:

The Equipment Program funds the replacement of public works vehicles and heavy equipment through appropriations from the Town’s General Fund (equipment for Water and Sewer Programs is purchased by the Water and Sewer Enterprise Funds). This replacement plan supports a CPW inventory of 70 vehicles/heavy equipment including four sedans, one light van, 26 trucks ranging in size from ½ ton pickup trucks to 10-wheel dump trucks, two street sweepers, 24 pieces of specialized equipment for roadway/grounds maintenance and snow removal, five sidewalk tractors (three multi-use), two turf tractors, and six trailers.

The FY17 equipment plan includes replacement of the following:

- Truck H30 – 1998 56,000 GVWR 10 wheel truck with dump/plow. This truck will be replaced with a 35,000 GVWR truck with dump/plow.
- Truck H36 – 2002 35,000 GVWR truck with swap/spreader/plow/scraper. This truck will be replaced with a 35,000 GVWR truck with swap/spreader/plow/scraper/wing.
- If funding allows, the purchase and installation of (2) Cirrus Spreadsmart Rx spreader controls to complete the retrofit of the fleet to computerized, closed loop, ground speed salt application controllers.
- If funding allows, the purchase and installation of a wing plow to be mounted on loader H41. This would be helpful with plowing operations and road widening efforts after snow events.

The two trucks scheduled to be replaced have reached the end of their useful lives and have ongoing maintenance issues. Both H30 and H36 will be traded in when the new trucks are purchased.

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
H46 - 2014 Elgin Sweeper	167,215				
H13 - 2014 19,500 GVWR Truck w/Dump/Plow	42,847				
H76 - 1995 SnoGo Blower (refurbish)	44,116				
H41 - 2014 Cat Wheel Loader + Wing Plow		117,000		30,000	22,000
H43 - 2014 Cat Backhoe		94,000			
G61 - 2014 John Deere Tractor/Implements		46,997			
H34 - 2008 35,000 GVWR Truck - Swap/Plow Repair		3,649			
H10 - 2015 Supervisor Pickup w/Plow		25,358	19,000		
H15 - 2003 Rack Body Truck			24,000		
G50 - 2003 Supervisor Pickup w/Plow			19,000		
H11 - 2004 Ext. Cab Repair Truck			22,000		
H02 - 2001 SUV Hybrid			19,000		
G57 - 2000 Vermeer Chipper			69,000		
H32A- 1995 Swap Salt/Sand Spreader			29,000		
G49 - 2001 Pickup w/Plow			29,000		
H18 - 2001 Electronic Signboard			20,000		
H30 (1998) - 35,000 GVWR Truck w/Dump/Plow				125,000	110,000
H36 (2002) - 35,000 GVWR Truck w/Swap/Spreader/Plow/Scraper/Wing				175,000	150,000
Cirus Closed Loop Spreader Controls	18,700	775		18,000	18,000
Encumbrances	4,122	221			
Totals	\$ 277,000	\$ 288,000	\$ 250,000	\$ 348,000	\$ 300,000

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 250,000	100.00%	\$ 300,000	100.00%	20.00%
Totals	\$ 250,000	100.00%	\$ 300,000	100.00%	20.00%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
L-1	Vehicles & Heavy Equipment	\$ 250,000	\$ 300,000	\$ 325,000	\$ 325,000	\$ 350,000	\$ 350,000
	Totals	\$ 250,000	\$ 300,000	\$ 325,000	\$ 325,000	\$ 350,000	\$ 350,000

Mission Statement:

The purpose of this funding is to provide for the costs of improving, protecting, and maintaining the Town’s stormwater/drainage infrastructure consistent with sound engineering and best management practices.

Budget Highlights:

- The budget represents *no change* in the capital appropriation from the FY16 budget.

FY17 preliminary plan includes:

- Reconstruction of the Lowell Road, Westford Road, Shadyside Road, Great Meadows Trail and Sleepy Hollow Cemetery culverts.
- Drainage collection system rehabilitations, including Assabet Avenue, in conjunction with the 2016/17 Roads Program.
- Drainage swale rehabilitation on Heywood Mill Road.
- Maintaining Town’s compliance with the EPA’s National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II General Permit

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 205,000	\$ 205,000	\$ 205,000	\$ 205,000
Other Funds	\$ -	\$ -	\$ -	\$ -
Total Expenditures	\$ 205,000	\$ 205,000	\$ 205,000	\$ 205,000

Description:

The Drainage Program funds rehabilitation, replacement, additions, and major repairs to the Town’s stormwater drainage system consisting of approximately 211 culverts, 438 outfalls, 1,185 drainage manholes, 2,861 catch basins, 143 leaching structures, 59.6 miles of drain lines, 15 detention basins, 2 infiltration basins, 5 bioretention areas, 8 treatment chambers and 3 dams.

The drainage program also funds the compliance with EPA’s National Pollution Discharge Elimination System Municipal Separate Storm Sewer System Phase II General Permit (NPDES MS4 Permit) . The permit, originally issued in August 2003, requires Towns to meet “Minimal Control Measures” to improve water quality within the Commonwealth. These minimum control measures include:

1. Public education and outreach
2. Public involvement and participation
3. Illicit discharge detection and elimination
4. Construction-site stormwater runoff control
5. Post-construction stormwater management in new development and redevelopment
6. Pollution prevention and good housekeeping in municipal operations

PUBLIC WORKS: Drainage

Item 21

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Capital Outlay	205,000	205,000	205,000	205,000	205,000
Totals	<u>\$ 205,000</u>	<u>\$ 205,000</u>	<u>\$ 205,000</u>	<u>\$ 205,000</u>	<u>\$ 205,000</u>

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 205,000	100.00%	\$ 205,000	100.00%	0.00%
Totals	<u>\$ 205,000</u>	100.00%	<u>\$ 205,000</u>	100.00%	0.00%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
J-5	Drainage Imprvt.	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000
J-6	Culvert Imprvt.	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
	Totals	<u>\$ 205,000</u>					

Program Implementation**Background:**

In 2002 and 2003, the Town completed an inventory of the Town's drainage collection system and integrated the data into the Town's Geographical Information System (GIS). The Town also completed a town-wide culvert inventory in 2011, which provided location and condition assessment of the Town's culverts. These inventories provide the basis for the development of the Town's 20-year Stormwater/Drainage Management Plan. This Plan is intended to provide a cost-effective framework for the upgrade and repair of the Town's stormwater/drainage system and to prevent expensive emergency repairs from occurring in the future through a planned and scheduled maintenance and replacement program.

Staff continue to update the location and condition data of Concord's stormwater/drainage infrastructure in the GIS system. CPW Highway Division staff verify and supplement GIS drainage data during annual catch basin system cleaning operations. The Engineering Division also updates drainage data obtained through ground survey for various capital improvement projects. All updated inventory data are used in prioritizing replacement projects and/or CPW repair projects.

Drainage system maintenance and improvement projects are typically designed and permitted internally by the Engineering Division. The Engineering Division evaluates each project scope to determine whether it should be completed as an internal project by CPW's Highway Division, included in the annual Roads Program bid, or bid as a stand-alone drainage project. The Division also evaluates opportunities for Sustainable Infrastructure retrofits.

The Town's National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II General Permit is also a key component of the Drainage Program. The permit, issued in August 2003, requires Towns to meet multiple objectives to improve water quality within the Commonwealth including: public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction-site stormwater runoff control, post-construction stormwater management in new development and redevelopment, pollution prevention and good housekeeping in municipal operations. The permit is scheduled to be updated and re-issued by EPA in 2016. A draft permit was issued in Fall 2014 with a comments requested by February 2015. The Town of Concord will be required to file a Notice of Intent to be covered under the new NPDES MS4 Permit. The new permit will build on the requirements and minimum control measures of the 2003 permit and is expected to include increased sampling and testing requirements for outfalls, increased project review requirements, and development of outfall catchment delineations in addition to other new requirements which will require funding through this capital item.

Preliminary Program Plan (FY17):

Planned improvements for the FY17 Drainage Program include culvert replacements on Lowell Road and Shadyside Avenue, Great Meadows Trail and the Sleepy Hollow Cemetery. In addition, drainage collection system replacements are planned to be included within the 2016/17 Roads Program bid on Sudbury Road, Lowell Road, Westford Road, Shadyside Avenue, Commonwealth Avenue, and Adams Road. Preliminary evaluations anticipate the replacement of 60 drainage structures and 0.63 miles of drainage pipe in the Roads Program bid. The drainage program will also make improvements to the Hayward Mill drainage swale. Lastly, various headwall maintenance repairs have been targeted as internal Highway Division drainage work

Performance

Town Manager Goal: To Maintain the Town's Infrastructure

Multiple improvements to the Town's drainage system were constructed in FY16:

- **Stormwater Collection System** - The Engineering Division designed replacements for drainage collection systems on Deacon Haynes Road, Barrett's Mill Road, Hunter's Ridge Road Liberty Street, Barrett's Mill Road, Powder Mill Road, Jennie Dugan Road and the Southfield Riverdale neighborhood for inclusion in the 2015/16 Roads Program bids. In total, the three bids included replacement/installation of 82 drainage structures and the installation of about 4,100 feet of drain pipe and 3,500 feet of underdrain.

- **97 Thoreau Street Sustainable Pocket Park** - The Engineering Division also completed the in-house design, bidding and construction oversight for the stormwater demonstration project. The project included the installation of a new tree box filter and porous paver area to promote stormwater infiltration, a new water fountain, a solar compactor and two new planting areas.

- **NPDES MS4 Permit** - The Engineering Division completed the National Pollution Discharge Elimination System (NPDES) MS4 Permit Year 12 annual reporting to the Environmental Protection Agency by the May 1st deadline. Major permit accomplishments within Year 12 included the further refinement of the residential rain garden program. In addition, stormwater technical review and environmental monitoring review and administration were completed for 14 projects meeting NPDES permit thresholds.

- **Fitchburg Turnpike Culvert Replacement** – The Engineering Division completed the construction and project closeout of the FEMA Hazard Mitigation Grant Program (HGMP) funded Fitchburg Turnpike Culvert Replacement. The Town received over \$100,000 in HMGP grant funds from FEMA for the project.

- **Westford Road Replacement** – The Engineering Division completed in-house final design and bidding for the Westford Road Culvert Replacement Project to be constructed in the summer of 2016. The Division was successful in obtaining HMGP program grant funds from FEMA for this project as well, representing 75% federal funding for the replacement of the culvert.

Recent Funding History	
Fiscal Year	Appropriation
2007	155,000
2008	160,000
2009	105,000
2010	205,000
2011	205,000
2012	215,000
2013	205,000
2014	205,000
2015	205,000
2016	205,000

Mission Statement:

The purpose of this funding is to provide safe and accessible pedestrian accommodations within the Town.

Budget Highlights:

- This budget represents *no change* in the capital appropriation from that of the FY16 budget.
- The sidewalk budget also funds ADA compliance maintenance activities and upgrades to the sidewalk network including pedestrian access routes and curb ramps.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Other Funds	\$ -	\$ -	\$ -	\$ -
Total Expenditures	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000

Description:

The Sidewalk Program funds the rehabilitation and replacement of existing sidewalks including curb ramps and, when funding allows, the construction of new sidewalks. The Town’s sidewalk inventory consists of approximately 59 miles of sidewalks and 875 curb ramps.

Sidewalks are inspected and rated in conjunction with the pavement condition survey every four years, most recently in FY15. Town staff continues to perform in-house ratings on an interim basis for maintenance planning. In addition, the Town-wide inventory of curb ramps completed in FY11 is updated annually to assess compliance with current ADA standards.

Public Works staff develops repair strategies and project scopes based on the sidewalk and curb ramp condition assessments, and the Concord Police Department staff assists in evaluating safety hazards. Preference is given to repairs involving school districts, ADA compliance, and areas with high volumes of pedestrian traffic. Final selections are incorporated in the annual Roads Program project or bid as stand-alone projects. When combined with sidewalk refurbishment and overlays performed by the Highway Division, the annual Sidewalk appropriation is normally sufficient to meet the target SCI range of 80-85.

PUBLIC WORKS: Sidewalks

Item 22

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Capital Outlay	\$ 100,000	\$ 100,000	\$ 100,000	\$ 125,000	\$ 100,000
Totals	\$ 100,000	\$ 100,000	\$ 100,000	\$ 125,000	\$ 100,000

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 100,000	100.00%	\$ 100,000	100.00%	0.00%
Totals	\$ 100,000	100.00%	\$ 100,000	100.00%	0.00%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
J-9	Sidewalk - Maintenance	\$ 100,000	\$ 100,000	\$ 110,000	\$ 115,000	\$ 125,000	\$ 125,000
	Totals	\$ 100,000	\$ 100,000	\$ 110,000	\$ 115,000	\$ 125,000	\$ 125,000

Performance Information

Town Manager Goal: To Maintain the Town's Infrastructure

Division Goal: The goal of the Sidewalk Program is to maintain an overall 80 - 85 Sidewalk Condition Index (SCI), approximately equal to condition of the Town roadway network.

Sidewalk Type Detail	
Type	Miles
Bituminous Concrete	53.0 mi
Stone Dust	2.0
Portland Cement	3.4
Stone Treated	0.3
Brick	0.3
Total Miles	59.0

Sidewalk Condition Index (SCI)	
Year	SCI Network Average
2011	81
2012	81
2013	78
2014	84
2015	83

Sidewalk Condition Detail			
Condition	SCI Range	Miles	Percent
Replace	0-50	1	1%
Localized Repair	51-70	15	26%
Shows Wear	71-90	36	59%
No Distresses	91-100	8	14%
Total		59.0	100%

Mission Statement:

The purpose of this funding is to provide for the cost of keeping Concord’s public roads in good condition, and of protecting the road infrastructure in a cost-effective manner

Budget Highlights:

- FY17 funding level represents *no change* from the FY16 capital appropriation.
- Total funding from all sources for the Roads Program is \$2,268,500, with an assumed state aid level of \$678,500.
- Major program highlights include the rehabilitation of Lowell Road coordinated with planned culvert improvements.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000
Other Funds	\$1,578,481	\$2,315,069	\$ 1,875,340	\$ 2,028,500
Total Expenditures	\$1,668,481	\$2,405,069	\$ 1,965,340	\$ 2,118,500

Description:

Concord’s road infrastructure includes approximately 107 miles of public roads functionally classified as arterial roads, collector roads and local streets. Arterial roads provide movement between collector roads, other arterial roads and major highways. They make up approximately 34% of Concord’s public roads. Collector roads, used primarily to connect local streets to other collector and arterial roads, make up approximately 7% of Concord’s public roadway network. The remaining 59% of our public roads consist of local streets.

The Town’s 20-year Roads Program is developed utilizing a pavement management software output, coordinated with planned Town utility replacement projects and finalized on the basis of CPW Engineering Division judgment. The Town’s road infrastructure undergoes a comprehensive condition evaluation every four years. Staff continues to perform annual surveys and updates in the intermediate years. CPW’s analysis shows that a minimum investment of \$1.5 million annually is required to cost-effectively maintain Concord’s roads in good condition. With increases in petroleum costs, the amount of roadway improvements and paving that can be completed for this investment has significantly decreased. Utilizing both Town funds and State aid, the Town has been able to maintain at least this level of effort and investment adjusted for inflation since the mid-1990’s.

Road rehabilitation contracts and related activities are administered by the CPW Engineering Division. Each spring, the Public Works Commission holds a public hearing to present the planned road rehabilitation activities. Funding is provided by a combination of General Fund appropriation, life-cycle maintenance fees collected in conjunction with right-of-way work permits, General Fund borrowing, and State aid (“Chapter 90”).

PUBLIC WORKS: Road Improvements

Item 23

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Road Improvements	\$ 1,668,481	\$ 2,405,069	\$ 1,965,340	\$ 2,273,500	\$ 2,118,500
Total Expenditure	\$ 1,668,481	\$ 2,405,069	\$ 1,965,340	\$ 2,273,500	\$ 2,118,500

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 90,000	4.58%	\$ 90,000	4.25%	0.00%
State Aid - Chapter 90	675,340	34.36%	678,500	32.03%	0.47%
Roads Program Borrowing	1,200,000	61.06%	1,350,000	63.72%	12.50%
Totals	\$ 1,965,340	100.00%	\$ 2,118,500	100.00%	7.79%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
J-1	Road Improvements	\$ 90,000	\$ 90,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
	Totals	\$ 90,000	\$ 90,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000

Program Implementation

Development of the annual Roads Program begins with the inspection of the roadway network every four years. A pavement condition index (**PCI**) is developed for each segment in the Town's roadway network based on pavement distresses and their severity. The PCI, which is a 0-100 rating, is then linked to the roads program software utilized by the Engineering Division to prioritize pavement rehabilitation and preventative maintenance repair projects. The software analyzes which type of rehabilitation treatment would be the most economical for each road segment.

The PCI, rehabilitation treatment cost and traffic volume of the roadway are used to calculate the benefit value index (BVI) which prioritizes the Town's rehabilitation projects for a given year. Roads are then selected for rehabilitation based upon a combination of pavement management software output, CPW/Engineering judgment, and coordination with planned Town utility projects.

The Road Program selection process was revised in 2008 to dedicate a minimum of 35% of the total annual funds to neighborhood roads which typically have a much smaller BVI due to their lower traffic volumes. This modification ensures that adequate Roads Program funds will be directed towards residential roads which typically have the worst conditions within the roadway network.

Sound pavement management emphasizes adequate investment in road rehabilitation combined with preventive and routine maintenance. A key tool used within the maintenance of the Town's roadway network is crack sealing (funded in Highway Maintenance, Item 18).

The 2016/17 Roads Program will be developed based on the results of the pavement management program analysis, a review of the existing conditions, final approved funding levels, and input received at the April 2015 Public Works Commission public hearing on the Roads Program. At this point approximately 4.0 miles of roadway improvements are planned for the 2016/2017 program.

Performance

Town Manager Goal: To Maintain the Town’s Infrastructure

• The 2015/16 Roads Program improved approximately 6.2 miles of roadway and improved the Townwide PCI to 82, within the target 80-85 PCI range. At the requested level of capital funding, the pavement management software predicts that the Town-wide PCI target of 80 will be sustained and the residential roadway target of 80 will be reached. Reduced funding would result in a deterioration of road conditions resulting in higher future costs.

• The following table presents the improvements in overall PCI realized in the past years as a result of the Town’s adequately funded, pro-active pavement management strategy. With the current funding amounts, the PCI network average is expected to remain in the target range. Improvement trends can also be seen in the percentages of the Town-wide network of roadways requiring different types of repairs. The “recommended” repairs in the chart below do not take into account the budget constraints for a given year so actual percentages of roads repaired may be significantly different.

Pavement Management History

	2007	2008	2009	2010	2011	2012	2013	2014	2015
<u>PCI Network Average</u>	84	83	81	82	80	80	80	81	82
<u>Recommended Repairs</u>									
Rehabilitation	14%	12%	9%	8%	8%	10%	6%	7%	6%
Maintenance	42%	52%	51%	48%	52%	51%	40%	29%	35%
No Maintenance Required	44%	36%	40%	44%	40%	39%	54%	64%	59%

• The recommended funding level for FY17 provides total Roads Program funding of approximately \$2,268,500, consisting of \$90,000 from the General Fund for related engineering design and inspection services, an estimated \$678,500 in Chapter 90 aid, and \$1,350,000 from Local Borrowing Authorization for Roads.

Road Program Funding History & Improvement Plan

		General Fund	Borrowing Authorization	State Aid Chapter 90	MA Reference Number	Total
2003		70,000	795,000	352,000	3246067	1,217,000
2004		75,000	600,000	352,000	4246067	1,027,000
2005		80,000	650,000	421,000	4501 35369	1,151,000
2006		80,000	900,000	420,700	39125	1,400,700
2007		80,000	700,000	614,000	44466, 48240	1,394,000
2008		80,000	300,000	526,400	50771	906,400
2009		85,000	700,000	525,144	50771	1,310,144
2010		85,000	1,400,000	521,630	50771	2,006,630
2011		90,000	700,000	537,984	50771	1,327,984
2012		90,000	750,000	689,671	50771	1,529,671
2013		90,000	950,000	685,297	50771	1,725,297
2014		90,000	900,000	678,481	50771	1,668,481
2015		90,000	1,300,000	1,015,069	50771	2,405,069
2016	Plan	90,000	1,200,000	675,340	50771	1,965,340
2017	Plan	90,000	1,350,000	678,500	50771	2,118,500
2018	Plan	100,000	1,350,000	678,500	50771	2,128,500
2019	Plan	100,000	1,200,000	678,500	50771	1,978,500
2020	Plan	100,000	1,200,000	678,500	50771	1,978,500
2021	Plan	100,000	1,200,000	678,500	50771	1,978,500

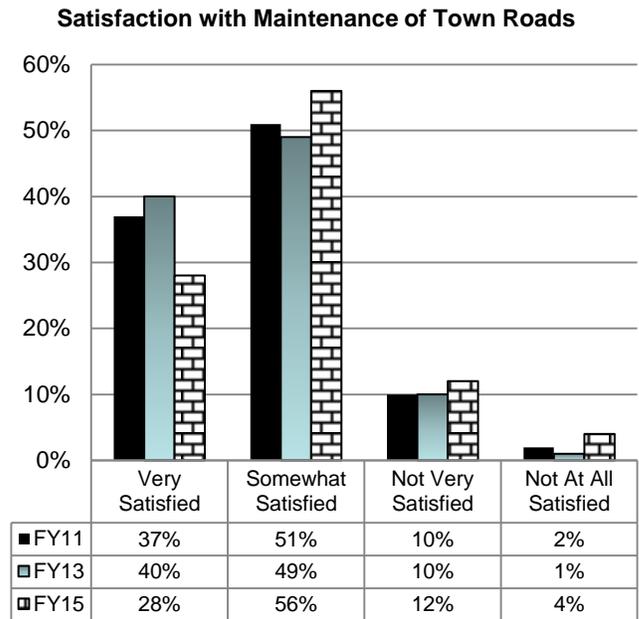
Town Manager Goal: To Maintain the Town’s Infrastructure

Division Goal: To maintain a Townwide target PCI of 80 for both the major and residential roadway networks.

Objective: To measure citizen satisfaction with town roads

Measure: Town Biennial Citizen Survey of 1,337 Concord residents in FY15, that produces a statistically significant result.

Trend: Residents have been generally satisfied with the quality of the town’s roads. In FY15 84% of respondents were “Very Satisfied” or “Somewhat Satisfied” with maintenance of town roads.



Town Manager Goal: To Maintain the Town’s Infrastructure

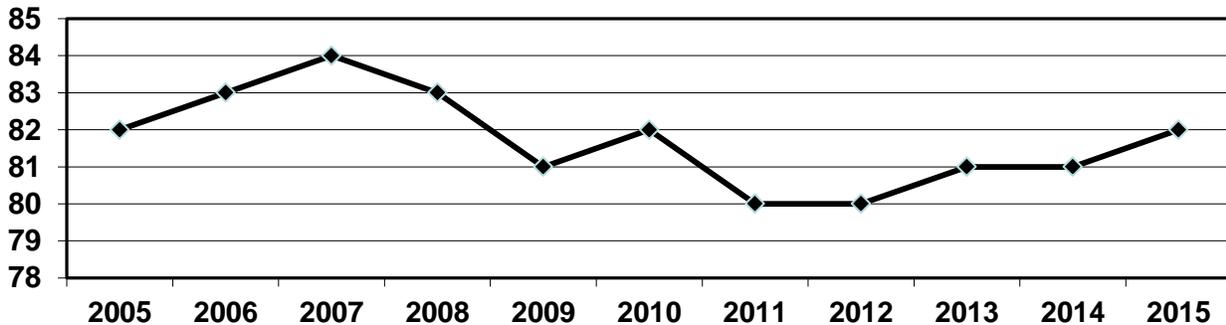
Division Goal: *To maintain quality roads*

Objective: To Maintain a town-wide Pavement Condition Index (PCI between 80-85)

Measure: Pavement Condition Index (via roads program software)

Trend: The pavement condition index (**PCI**) is a 0-100 rating based on a physical inspection of every segment of the public roadway network which is completed every four years. The inspections log pavement distresses and severity into a database, which is then linked to the roads program software utilized by the Engineering Division to prioritize pavement repair projects. The Historic PCI Trend in the graph above is a weighted average of the pavement condition index of all the individual roadway segments maintained by Concord Public Works. The Town’s current PCI is 82 and within the targeted 80-85 range.

Historic PCI Trend



PUBLIC WORKS: 133 / 135 Keyes Road

Item 24

Mission Statement:

The purpose of this funding is to provide for the costs of operating, maintaining, and repairing the Concord Public Works facilities at 133 and 135 Keyes Road

Budget Highlights:

- This budget represents a 1.2% *increase* in the operating appropriation from that of the FY16 budget.
- Utility costs (electric, water and natural gas) typically comprise 45% of the operation and maintenance expenditures. Overall, these utility expenses are budgeted to decrease slightly in FY17.
- Capital Outlay consists of \$10,000 for building and site improvements.

Expenditure Summary

	FY14 Actual	FY15 Actual	FY16 Budgeted	FY17 Proposed
General Fund	\$ 109,058	\$ 109,202	\$ 101,305	\$ 102,263
Other Funds	\$ 66,313	\$ 67,115	\$ 68,463	\$ 69,349
Total Expenditures	\$ 175,371	\$ 176,317	\$ 169,768	\$ 171,612

Description:

The 133/135 Keyes Road account provides for the operation and maintenance of the public works buildings at 133 and 135 Keyes Road. The two-story front section of the 133 building houses the offices of the Director, Administration Division, and Engineering Division. CPW's Highway, Fleet Maintenance, and Parks & Trees Programs utilize the garage section of the 133 building. The Water/Sewer program is located at 135 Keyes Road, along with the Highway/Grounds program administrative staff. A feasibility study is being recommended to evaluate the long-term needs of the entire Keyes Road campus.

133 Keyes Rd Utility Performance

Year	Natural Gas Used (Therms)	Therms per HDD	% Change in Therms/HDD from Base Year	% Change in Therms/HDD from Previous Year	Electricity Used (kWh)	% Change in Electricity Use from Base Year	% Change in Electricity Use from Previous Year
CY2008	15,013	2.36			158,960		
FY2010	13,887	2.30	-3%	-3%	148,320	-7%	-7%
FY2011	16,992	2.58	9%	12%	147,200	-7%	-1%
FY2012	12,963	2.39	1%	-7%	139,868	-12%	-5%
FY2013	15,337	2.44	3%	2%	146,080	-8%	4%
FY2014	15,611	2.21	-6%	-9%	149,600	-6%	2%
FY2015	16,291	2.31	-2%	4%	133,680	-16%	-11%

135 Keyes Rd Utility Performance

Year	Natural Gas Used (Therms)	Therms per HDD	% Change in Therms from Base Year	% Change in Therms from Previous Year	Electricity Used (kWh)	% Change in Electricity Use from Base Year	% Change in Electricity Use from Previous Year
CY2008	1,873	n/a			89,600		
FY2010	1,862	n/a	-1%	-1%	75,400	-16%	-16%
FY2011	2,960	n/a	58%	59%	68,923	-23%	-9%
FY2012	1,576	n/a	-16%	-47%	50,133	-44%	-27%
FY2013	2,344	n/a	25%	49%	48,560	-46%	-3%
FY2014	3,145	n/a	68%	34%	44,640	-50%	-8%
FY2015	3,539	n/a	89%	13%	43,040	-52%	-4%

PUBLIC WORKS: 133 / 135 Keyes Road

Item 24

Expenditure Detail					
	Previous Fiscal Years			FY17 Proposed	
	FY14 Actual	FY15 Actual	FY16 Budgeted	Department Request	Town Manager's Proposed
Personnel Services	\$ 54,817	\$ 53,408	\$ 54,474	\$ 54,888	\$ 54,888
Purchased Services	-	-	-	-	-
Capital Outlay	19,997	24,254	10,000	16,250	10,000
133 Keyes Road	73,831	66,475	78,343	79,273	79,273
135 Keyes Road	26,726	32,180	26,951	27,451	27,451
Totals	\$ 175,371	\$ 176,317	\$ 169,768	\$ 177,862	\$ 171,612

Funding Plan					
	FY16 Budgeted	% of Budget	FY17 Proposed	% of Budget	% Change in Dollars
General Fund	\$ 101,305	59.67%	\$ 102,263	59.59%	0.95%
Water Fund	\$ 49,782	29.32%	\$ 50,440	29.39%	1.32%
Sewer Fund	\$ 12,039	7.09%	\$ 12,200	7.11%	1.34%
Solid Waste Fund	\$ 6,642	3.91%	\$ 6,709	3.91%	1.01%
Totals	\$ 169,768	100.00%	\$ 171,612	100.00%	1.09%

Capital Outlay Plan							
Ref. #	Description	FY16 Budgeted	FY17 Proposed	FY18 Proposed	FY19 Proposed	FY20 Proposed	FY21 Proposed
I-1	Building Improvements	10,000	10,000	10,000	10,000	10,000	10,000
I-3	Rolling Storage Shelves	-	-	-	-	-	-
	Totals	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000

Personnel Services Summary					
		FY16 Budgeted		FY17 Proposed	
Code	Position Title	# of Positions	\$ Amount	# of Positions	\$ Amount
5111	Building Maintenance Custodian	1.00	\$ 52,221	1.00	\$ 52,618
5130	Overtime	60 hrs.	\$ 2,253	60 hrs.	\$ 2,270
	Total	<u>1.00 FTEs</u>	<u>\$ 54,474</u>	<u>1.00 FTEs</u>	<u>\$ 54,888</u>