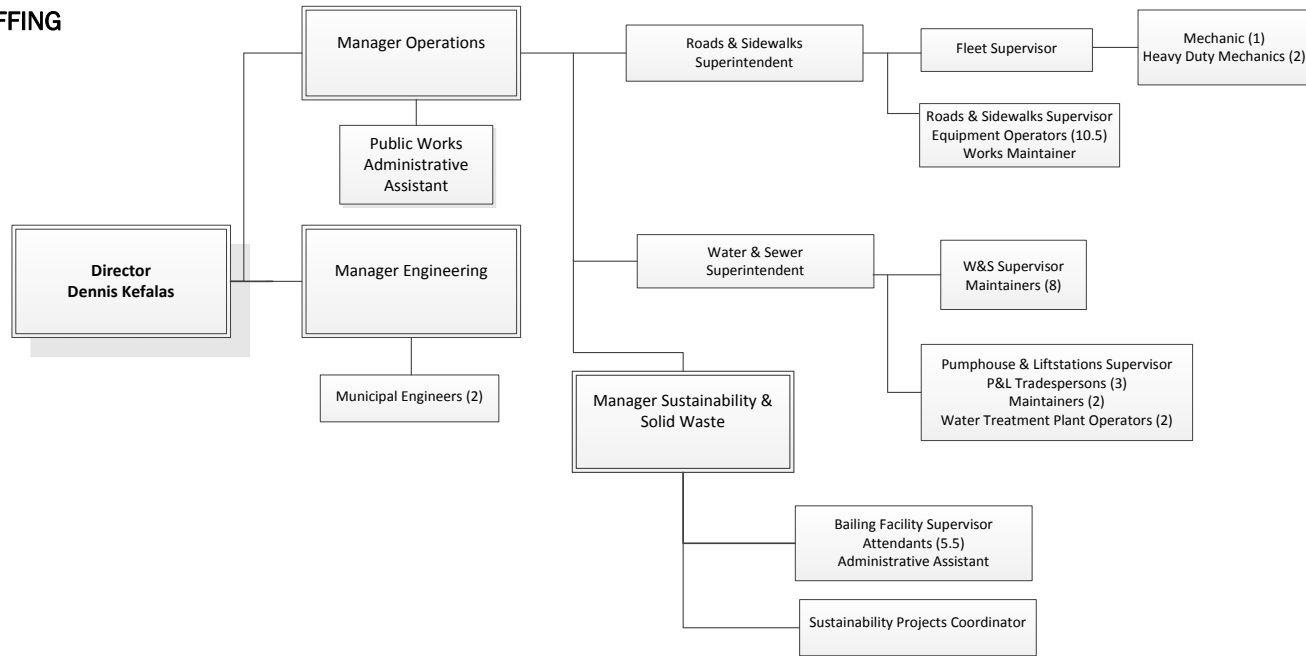


GENERAL FUND - Public Works & Engineering

DEPARTMENT STAFFING



Staffing Summary

	2015 Actual	2016 Budget	2016 Forecast	2017 Budget	2018 Budget	2019 Budget	Note
Directorate	7.00	7.00	7.00	5.00	5.00	5.00	(1)
City Garage	4.63	4.46	4.46	4.31	4.31	4.31	
Roads & Sidewalks	14.58	14.81	14.81	15.81	15.81	15.81	
Solid Waste Management	9.26	9.47	9.47	9.26	9.26	9.26	(2)
Water and Sewer	21.25	19.25	19.25	20.25	20.25	20.25	(3)
	56.72	54.99	54.99	54.63	54.63	54.63	
Permanent	53.08	51.08	51.08	51.08	51.08	51.08	
Part-time/Casual	3.64	3.91	3.91	3.55	3.55	3.55	
	56.72	54.99	54.99	54.63	54.63	54.63	
Note:							
(1) 2015 and 2016 include one engineer financed by Capital Fund but starting in 2017 the engineering tasks for new capital projects will go back to private consultants. Administrative Assistant was previously reported under Directorate but starting in 2017 it is under Roads & Sidewalks.							
(2) Facility Tradesperson from 2008 onwards =0.08 PY							
(3) One new Administrative Assistant starting from 2017							

PUBLIC WORKS & ENGINEERING

The Department of Public Works & Engineering strives to provide cost-effective and responsive municipal services to the public within the policies, objectives and budget outlined by City Council. The Department delivers programs in three areas: the Engineering Division, the Works Division and the Solid Waste Division.

The Works Division carries out the operations and maintenance programs which cover the delivery of basic municipal services, including: piped or trucked water and sewer services to all City residents, garbage collection, maintenance and repair of the City's roadways and sidewalks, and vehicle servicing for all City departments.

The Engineering Division delivers and administers the City's capital works programs, which include major construction under the water and sanitation program (such as water treatment and sewage disposal facilities), the roads and sidewalks program (new road construction, paving and concrete work), the land development program and major and minor capital works for other City departments.

The Solid Waste Division carries out the disposal of waste in accordance with regulations, and facilitates recycling.

This department is also responsible for Community Energy Plan initiatives. According to Yellowknife's 2013 Energy Inventory, the average Yellowknifer emitted less CO₂ than the national average but, as a whole, the community still spends an estimated \$144 million on energy annually. Within the framework of rising fuel prices and Canada's commitment to reduce emissions, the City has developed a Community Energy Plan (CEP) that was adopted by Council in 2006. The scope of the CEP includes a focused effort to reduce emissions and energy use within City operations and to support the community in its effort to do the same. An update to the CEP is being drafted now, setting targets to 2025 and 2050.



GENERAL FUND - Public Works & Engineering

Public Works & Engineering Budget						
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)
Revenue						
User Charges	504	391	415	421	429	433
	504	391	415	421	429	433
Expenditures (By Activity)						
Administration	636	899	776	815	852	879
City Garage	1,046	780	688	794	821	848
Public Transit	1,527	1,630	1,585	1,648	1,687	1,740
Roads & Sidewalks	3,428	3,684	3,716	3,729	3,862	3,977
	6,637	6,993	6,765	6,986	7,221	7,443
Net Revenue (Expenditures)	(6,134)	(6,602)	(6,351)	(6,565)	(6,793)	(7,010)
Expenditures (By Object)						
Wages & Benefits	2,617	2,997	2,859	3,032	3,123	3,195
Other O&M	4,593	4,937	4,848	4,733	4,901	5,086
Internal Recoveries	(573)	(942)	(942)	(780)	(803)	(839)
	6,637	6,992	6,765	6,986	7,221	7,443
Details of Other O&M						
General Services	1,750	1,909	1,912	1,931	1,987	2,047
Materials	510	523	546	530	553	569
Maintenance	50	65	69	65	68	70
Utility- Fuel	65	72	64	65	70	77
Utility- Power	966	959	966	983	1,026	1,067
Vehicle O&M & Fuel	680	467	349	379	395	420
Others	-	-	-	-	-	-
	4,020	3,995	3,907	3,953	4,098	4,248

GENERAL FUND - Public Works & Engineering

Public Works & Engineering Directorate Budget						
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)
Revenue						
User Charges	5	-	-	-	-	-
	5	-	-	-	-	-
Expenditures (By Activity)						
Legislation & Governance	64	90	78	82	85	88
Capital Planning	89	126	109	114	119	123
Project Management	95	135	117	122	128	132
Roads & Sidewalks	159	225	194	204	213	220
Water & Sewer	127	180	155	163	170	176
Public Transit	32	45	39	41	43	44
Drafting	70	99	85	90	94	97
	636	899	776	815	852	879
Net Revenue (Expenditures)	(631)	(899)	(776)	(815)	(852)	(879)
Expenditures (By Object)						
Wages & Benefits	607	856	730	779	810	836
Other O&M	29	43	46	36	42	42
	636	899	776	815	852	879
Details of Other O&M						
General Services	17	14	14	12	14	14
Materials	8	23	26	21	25	25
Maintenance	-	-	-	-	-	-
Utility- Fuel	-	-	-	-	-	-
Utility- Power	-	-	-	-	-	-
Vehicle O&M & Fuel	4	6	6	3	3	3
Others	-	-	-	-	-	-
	29	43	46	36	42	42



GENERAL FUND - Public Works & Engineering

City Garage Budget

	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)	Note
Expenditures (By Activity)							
Fleet Repair & Maintenance	1,416	1,512	1,426	1,373	1,420	1,479	
Maintenance Costs Allocated	(573)	(942)	(942)	(780)	(803)	(839)	(1)
Garage/Yard Maintenance	171	175	171	169	171	173	
Standby Generator Maintenance	32	34	33	31	32	34	
	<u>1,046</u>	<u>780</u>	<u>688</u>	<u>794</u>	<u>821</u>	<u>848</u>	
Wages & Benefits	450	526	482	523	535	545	
Other O&M	1,170	1,196	1,148	1,051	1,088	1,142	
Maintenance Costs Allocated	(573)	(942)	(942)	(780)	(803)	(839)	(1)
	<u>1,046</u>	<u>780</u>	<u>688</u>	<u>794</u>	<u>821</u>	<u>848</u>	

Details of Other O&M

General Services	36	28	31	29	30	31	
Materials	60	55	55	55	58	59	
Maintenance	-	-	-	-	-	-	
Utility- Fuel	65	72	64	65	70	77	
Utility- Power	55	49	55	58	60	63	
Vehicle O&M & Fuel	380	50	1	63	68	74	
Others	-	-	-	-	-	-	
	<u>596</u>	<u>254</u>	<u>206</u>	<u>271</u>	<u>286</u>	<u>303</u>	

Note:

(1) This represents the vehicle O&M and fuel costs to be incurred by Fleet Management on behalf of other departments. The costs will be reallocated to other departments.

GENERAL FUND - Public Works & Engineering

Public Transit Budget							
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)	Note
Revenue							
User Charges	424	391	391	396	404	408	
	424	391	391	396	404	408	
Expenditures (By Activity)							
Transit Operations	1,527	1,630	1,585	1,648	1,687	1,740	
Net Revenue (Expenditures)	(1,103)	(1,239)	(1,195)	(1,252)	(1,284)	(1,332)	
Expenditures (By Object)							
Other O&M	1,527	1,630	1,585	1,648	1,687	1,740	
	1,527	1,630	1,585	1,648	1,687	1,740	
Details of Other O&M							
General Services	1,517	1,621	1,576	1,638	1,677	1,730	(1)
Materials	9	4	4	5	5	5	
Maintenance	1	5	5	5	5	5	
Utility- Fuel	-	-	-	-	-	-	
Utility- Power	-	-	-	-	-	-	
Vehicle O&M & Fuel	-	-	-	-	-	-	
Others	-	-	-	-	-	-	
	1,527	1,630	1,585	1,648	1,687	1,740	

Note:

(1) Mostly transit contracted costs



GENERAL FUND - Public Works & Engineering

Public Transit Performance Measures	Projected 2015	Actual 2015	Projected 2016	Forecasted 2017	Forecasted 2018	Forecasted 2019	Notes
Workload Indicators							
No. of hours bus service provided	12,000	11,872	12,000	12,000	12,000	12,000	(1)
Annual ridership based on revenue	196,000	189,505	192,000	194,000	196,000	198,000	(2)
No. of hours accessible transit was provided	3,900	3,862	3,900	3,900	3,900	3,900	(3)
Annual ridership on accessible transit based on daily trip sheets	7,000	6,187	7,000	7,000	7,000	7,000	
Efficiency Measures							
Annual subsidized cost per capita	\$63.69	\$53.44	\$57.41	\$59.72	\$60.77	\$62.63	(4)
Annual revenue/cost ratio	0.22	0.28	0.25	0.24	0.24	0.23	(5)
Annual subsidized cost per capita (accessible transit)	\$12.52	\$12.49	\$12.72	\$12.82	\$13.04	\$13.36	(6)
Annual revenue/cost ratio (accessible transit)	0.07	0.06	0.07	0.06	0.06	0.06	(7)
Effectiveness Measures							
% of users very satisfied or somewhat satisfied with the overall transit system	-	86%	86%	86%	86%	86%	(8)
Notes:							
(1) Changes to transit routes in September 2014 and September 2015. Replacement of Route B Split bus with Express buses reduced the overall hours of service provided.							
(2) The ridership in 2013 was 165,226.							
(3) Accessible transit started in September of 2005.							
(4) The national average for Yellowknife's population group according to the Canadian Urban Transportation Association was \$30.53 in 2012.							
(5) The national average for Yellowknife's population group according to the Canadian Urban Transportation Association was 0.34 in 2012.							
(6) The national average for Yellowknife's population group according to the Canadian Urban Transportation Association was \$11.39 in 2012.							
(7) The national average for Yellowknife's population group according to the Canadian Urban Transportation Association was 0.15 in 2012.							
(8) According to a Transit Survey in 2012, 84% were satisfied or somewhat satisfied with the overall transit service.							

GENERAL FUND - Public Works & Engineering

Roads & Sidewalks							
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)	Note
Revenue							
User Charges	75	-	24	25	25	25	
	75	-	24	25	25	25	
Expenditures (By Activity)							
Administrative Support	-	-	-	86	92	96	(1)
Snow & Ice Control	1,192	1,155	1,316	1,310	1,351	1,383	
Street Maintenance	566	617	623	583	602	617	
Street Sweeping	226	325	246	238	245	253	
Storm/Ditch Maintenance	288	370	323	309	318	326	
Traffic Signals/Lighting/Marking	1,158	1,217	1,209	1,203	1,254	1,303	
	3,428	3,684	3,716	3,729	3,862	3,977	
Net Revenue (Expenditures)	(3,353)	(3,684)	(3,692)	(3,704)	(3,837)	(3,952)	
Expenditures (By Object)							
Wages & Benefits	1,560	1,615	1,647	1,731	1,778	1,815	
Other O&M	1,868	2,069	2,069	1,999	2,084	2,162	
	3,428	3,684	3,716	3,729	3,862	3,977	
Details of Other O&M							
General Services	180	246	291	252	266	273	(2)
Materials	433	441	461	449	465	480	
Maintenance	50	60	64	60	63	65	
Utility- Fuel	-	-	-	-	-	-	
Utility- Power	911	911	911	925	966	1,004	(3)
Vehicle O&M & Fuel	295	411	342	313	324	342	
Others	-	-	-	-	-	-	
	1,868	2,069	2,069	1,999	2,084	2,163	

Note:

- (1) Administrative Assistant was previously budgeted under PW & Engineering Directorate and starting in 2017, it is under Roads & Sidewalks.
(2) Mostly road patching & snow removal contracted costs
(3) Street and traffic lights



GENERAL FUND - Public Works & Engineering

Snow & Ice Control Budget						
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)
Snow Removal/Clearing						
General Services	10	53	53	61	68	69
Materials	0	2	2	1	1	1
	10	55	55	62	69	70
Vehicle O&M & Fuel	130	156	151	138	143	151
Labour	729	666	769	769	788	803
	869	876	975	968	999	1,024
Winter Sanding						
Materials	198	208	208	211	217	221
	198	208	208	211	217	221
Vehicle O&M & Fuel	14	9	16	15	15	16
Labour	111	62	117	117	120	122
	322	279	341	343	352	359
	1,192	1,155	1,316	1,310	1,351	1,383

GENERAL FUND - Public Works & Engineering

Snow and Ice Control Performance Measures	Projected 2015	Actual 2015	Projected 2016	Forecasted 2017	Forecasted 2018	Forecasted 2019	Notes
Workload Indicators							
Annual snowfall (cm)	155	166.4	155	155	155	155	(1)
Lane/road kilometres maintained	205.97	205.97	206.89	206.89	206.89	206.89	
Efficiency Measures							
Cost per km of snow removed and cleared on roads and city streets	\$6,350	\$6,350	\$5,583	\$5,708	\$5,829	\$5,960	(2)
Notes:							
(1) Annual Snowfall: (Actual)							
2008 199.0 cm							
2009 174.1 cm							
2010 124,8 cm							
2011 130 cm							
2012 140.8 cm							
2013 152 cm							
2014 136 cm							
2015 166.4 cm							
(2) Cost per km includes ice control (winter sanding).							



GENERAL FUND - Public Works & Engineering

Street Maintenance Budget						
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)
Dust Control						
Materials	33	27	34	33	34	35
	33	27	34	33	34	35
Vehicle O&M & Fuel	5	9	6	6	6	6
Labour	35	47	37	37	38	39
	73	83	77	76	78	80
Gravel Road Maintenance						
Materials	24	16	16	16	17	17
	24	16	16	16	17	17
Vehicle O&M & Fuel	8	10	10	9	9	10
Labour	36	35	38	38	39	40
	68	62	64	63	65	66
Paved Road Maintenance						
General Services	153	157	197	160	165	169
Materials	77	78	78	78	82	83
	230	235	275	238	247	252
Vehicle O&M & Fuel	19	30	22	20	21	22
Labour	123	152	129	129	133	135
	372	416	426	387	400	410
Sidewalk Maintenance						
General Services	44	45	45	45	48	49
Materials	4	6	6	6	6	6
	48	51	51	51	54	55
Vehicle O&M & Fuel	1	1	1	1	1	1
Labour	5	5	5	5	5	5
	54	57	57	57	60	61
	566	617	623	583	602	617

GENERAL FUND - Public Works & Engineering

Street Maintenance Performance Measures	Projected 2015	Actual 2015	Projected 2016	Forecasted 2017	Forecasted 2018	Forecasted 2019	Notes
Workload Indicators							
Lane kms of paved roads	156.99	156.99	160.96	160.96	164.26	165.12	
Lane kms of paved alleys	8.37	8.37	9.05	9.05	9.05	9.05	
Lane kms of unpaved roads	30.69	30.69	26.96	26.96	23.66	22.8	
Lane kms of unpaved alleys	9.92	9.92	9.92	9.92	9.92	9.92	
Total	205.97	205.97	206.89	206.89	206.89	206.89	
Kms of new roads added	3,739	3,970	0.000	0.000	0.000	0.000	(1)
Efficiency Measures							
Cost per km maintained – road/alley	\$2,913	\$2,996	\$3,011	\$2,847	\$2,910	\$2,982	
Note (1):							
2014 Reconstruct - 52 Avenue from 49 Street to 56 Street (610 m); Raccine / Ingraham / Doornbos (592 m)							
2014 Pave - DeWeerdt Drive, Driscoll Road, Haener Drive (465 m) - gravel to pavement							
2014 Added gravel roads to maintain- Lemay Drive (314 m); Norseman Drive (498 m); Gibben Drive (66m); Hall Cres (353 m) - total 1,231 m							
2015 Pave - Utsingi Drive, including Taltheilei Drive, Etthen Drive, Drybones tie-ins to Deh Cho Boulevard (1,150 m); Lemay Drive (144 m) - gravel to pavement							
2015 Added gravel roads to maintain - Hall Crescent (812 m); Stinson/Fairchild/Bellanca/Anson/Catalina (1,927 m) - total 2,739 m							
2016 Added paved road to maintain Highway 4, 49th Avenue to Giant boat launch (3,653 m) (Note) road not acquired by city in 2016							
2016 Reconstruct - Franklin Avenue, 41 Street to Wiley Road (697 m);							
2016 Pave - Etthen/Taltheilei/Cameron (1,015 m) - gravel to pavement							
2016 Added gravel roads to maintain - Hall Crescent (315 m), Grace Lake South (609 m)							
2017 Reconstruct - Kam Lake Road, Finlayson Drive to Deh Cho Boulevard (845 m)							
2017 Reconstruct - 52 Street, 52 Avenue to 51 Avenue overlay (184 m); 51 Street, 51 Avenue to 52 Avenue overlay (184 m)							
2018 Pave - Northlands (Norseman/Stinson/Fairchild/Bellanca/Anson/Catalina) (2,270 m); Block 501 Phase 1,2&3 (528m); Grace Lake North (500 m) 3.298 m gravel to pavement							
2019 Pave Cemetery road, (400 m) Block 501 phase 4 (465 m) 865 m gravel to pavement							
2019 Reconstruct- School Draw, 46 Street to 44 Street (235 m) 45 Street, 49 Avenue to 50 Avenue (215 m) 47 Street, 49 Avenue to 51 Avenue (386 m)							



GENERAL FUND - Public Works & Engineering

Street Sweeping Budget						
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)
Vehicle O&M & Fuel	73	124	84	77	80	84
Labour	153	201	162	161	165	169
	226	325	246	238	245	253

Street Sweeping Performance Measures	Projected 2015	Actual 2015	Projected 2016	Forecasted 2017	Forecasted 2018	Forecasted 2019	Notes
Workload Indicators							
Total paved roads/alleys/lanes (km)	165.4	165.4	170.0	170.0	173.3	174.2	
Lane kms							
Efficiency Measures							
Cost per km to street sweep	\$1,820	\$1,366	\$1,447	\$1,406	\$1,414	\$1,453	(1)
Sweeping includes parking lots, sweeping 7 days a week, bulk sand pickup and street washing.							
Notes:							
(1) Cost includes sweeping: labour, fuel and O&M costs.							

GENERAL FUND - Public Works & Engineering

Storm / Ditch Maintenance Budget						
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)
Ditch Maintenance						
General Services	6	14	18	14	15	15
Materials	5	3	3	3	3	3
	11	17	21	17	18	18
Vehicle O&M & Fuel	9	16	11	10	10	11
Labour	33	42	35	35	35	36
	53	75	67	62	63	65
Storm Sewer Maintenance						
General Services	1	3	8	3	3	3
Materials	28	29	28	28	30	30
	29	31	36	30	33	33
Vehicle O&M & Fuel	26	41	30	27	28	30
Labour	180	223	190	190	194	198
	235	295	256	247	255	261
	288	370	323	309	318	326



GENERAL FUND - Public Works & Engineering

Traffic Signals/Lighting/Marking						
	2015 Actual (\$000's)	2016 Budget (\$000's)	2016 Forecast (\$000's)	2017 Budget Approved (\$000's)	2018 Budget (\$000's)	2019 Budget (\$000's)
Line Painting						
Materials	37	36	36	37	37	38
	37	36	36	37	37	38
Vehicle O&M & Fuel	3	4	3	3	3	3
Labour	70	93	74	74	76	77
	110	133	113	114	116	118
Sign Maintenance						
General Services	-	1	1	1	1	1
Materials	22	30	30	30	32	38
	22	31	31	31	33	39
Vehicle O&M & Fuel	4	6	4	4	4	4
Labour	48	55	51	51	52	53
	74	91	86	86	89	97
Street Decorating						
General Services	11	12	12	9	9	9
Materials	6	10	10	8	8	8
	17	22	22	17	17	17
Vehicle O&M & Fuel	3	5	4	4	4	4
Labour	29	26	31	31	32	32
	49	53	57	52	53	53
Traffic & Street Lighting						
General Services	5	20	33	18	21	21
Power - Street lights	872	869	869	868	903	939
Power - Traffic lights	39	42	42	58	63	65
	916	931	944	943	987	1,025
Vehicle O&M & Fuel	0	0	0	0	0	0
Labour	8	9	9	9	9	9
	924	940	953	952	996	1,035
	1,158	1,217	1,209	1,203	1,254	1,303

GENERAL FUND - Public Works & Engineering

Traffic Signals/Lighting/Marking Performance Measures	Projected 2015	Actual 2015	Projected 2016	Forecasted 2017	Forecasted 2018	Forecasted 2019	Notes
Workload Indicators							
Street lights	1617	1,634	1,657	1737	1760	1783	
Traffic lights	18	18	18	20	20	20	(1), (2)
Pedestrian crosswalks	7	7	8	8	8	8	
Efficiency Measures							
Average yearly energy cost for street lighting	\$937,300	\$871,552	\$869,000	\$868,400	\$903,200	\$939,300	
Average yearly energy cost for traffic lights	\$46,200	\$39,346	\$42,000	\$58,000	\$62,500	\$65,000	(3)
Notes:							
(1) The traffic lights are in sets, therefore 18 sets of traffic lights totals 87 traffic lights.							
(2) 2017 Budget includes addition of traffic lights at the intersection of Kam Lake Road and Finlayson Drive and Franklin Avenue and 44th Street.							
(3) LED light installation completed in 2008, intersections to be metered. Actual power costs were reduced from \$83,000 in 2008 to \$39,346 in 2015.							

