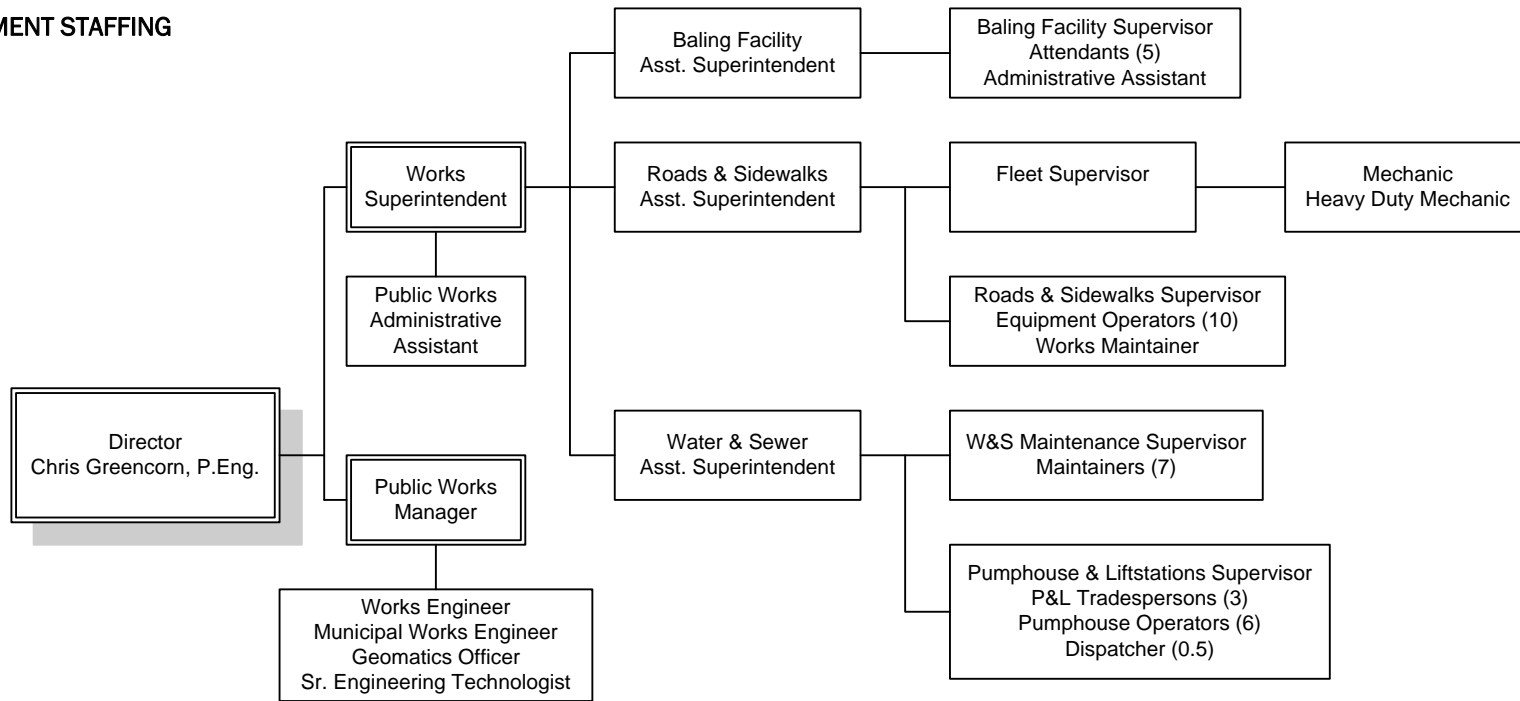


GENERAL FUND - Public Works & Engineering

DEPARTMENT STAFFING



Staffing Summary

	2012 Actual	2013 Budget	2013 Forecast	2014 Budget	2015 Budget	2016 Budget	Note
Directorate	7.00	7.00	7.00	8.00	8.00	8.00	(1)
City Garage	3.34	3.34	3.34	3.65	4.00	4.00	(2)
Roads and Sidewalks	14.54	14.54	14.54	14.54	14.54	14.54	
Solid Waste Mgmt.	9.08	9.52	9.52	10.03	9.69	9.69	(3)
Water and Sewer	20.75	20.75	20.75	20.75	20.25	20.25	(4)
	54.71	55.15	55.15	56.97	56.48	56.48	
Permanent Positions	51.56	51.58	51.58	52.58	53.08	53.08	
Part-time/ Casual	3.15	3.57	3.57	4.39	3.40	3.40	
	54.71	55.15	55.15	56.97	56.48	56.48	

Note:

- (1) One additional Engineer/ Senior Technologist from 2014 onwards (to be financed by Capital Fund)
- (2) One new HD Mechanic from 2015 onwards.
- (3) Facility Tradesperson from 2008 onwards = .08 PY
- (4) The cost of Senior Dispatcher has been shared equally with Fire & Ambulance Division.
Starting in September 2015, this PY will be fully reported under Fire & Ambulance Division.

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, such as piped or trucked sewer and water services to all residents, garbage collection, maintenance and repair of the City's roadways and sidewalks, and vehicle servicing to 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.

2013 HIGHLIGHTS

The 2013 construction season saw new challenges for the Public Works Department and, specifically, the Engineering Division. Having completed the detailed design, tender and resident engineering with City staff, the City saved the residents of Northlands Mobile Home Park approximately \$1.5 million in professional engineering fees for the infrastructure upgrades project. In addition to the Northlands project, the Engineering Division awarded the largest capital project in the City's history, in the Water Treatment Plant and Pumphouse #1 upgrades. And finally, the Department saw large increases to annual paving and CMP replacement projects.

The 2013 highlights of the Public Works & Engineering Department are:

- Provided engineering for the replacement of water and sewer mains and water and sewer services on Bromley Drive, Bromley Court and Knutsen Court. The total budget was \$3.7 million
- Provided engineering and management for the construction, reconstruction, and landscaping of Deh Cho Boulevard, Morrison Drive, Matonabee Street and Byrne Road. The total budget was approximately \$5 million
- Provided engineering and management services for the Northlands Infrastructure Upgrade – Local Improvement project. The total budget for this multi-year project is approximately \$16 million.
- Participated in the Solid Waste Management Advisory Committee
- Provided engineering and management services for the design and construction of replacement piping for Pumphouse #4. The total budget was approximately \$1.1 million
- Completed analysis of existing transit routes and ongoing ridership data collection
- Provided engineering and management for the design phase of the water treatment plant; prepared and advertised water treatment plant construction tender and awarded contract to successful proponent
- Effectively managed and maintained the entire traffic light system
- Provided engineering and technical advice daily to other City departments on a wide range of issues
- Participated and presented at the Mackenzie Valley Impact Review Board hearings on Giant Mine Remediation; participated in a working group assembled to discuss establishment of an independent committee on oversight for the Giant Mine remediation project.
- Provide3d support in the implementation of the Department's new operation management software, CityWorks.



2014/2015/2016 Goals

The goals of the Public Works & Engineering Department are to:

- Provide cost-effective and responsive municipal services to the public within the policies, objectives and budget, as outlined by City Council
- Manage the daily operation and maintenance of the City's infrastructure
- Manage the capital works program
- Provide a challenging and rewarding work environment.
- Constantly monitor and evaluate existing practices to seek improvements and close any gaps that may exist in current practices.

2014/2015/2016 Objectives

The objectives of the Public Works & Engineering Department are to:

- Oversee the full implementation of CityWorks for tracking work orders and costs associated with all City staff related activities. Develop specific outputs and reports associated with various tasks.
- Update City design standards to current, best practices and industry standards. The last revision was in 1987, and many practices have been revised or are no longer current.
- Bring all current engineering services for annual capital paving and CMP projects in-house, once the Northlands project is completed in 2015. The Department will track and monitor staff time to compare with known consultant costs.
- Review operations and staffing continuously to balance efficiency, effectiveness, job challenges, and work environment
- Manage the operation and maintenance activities for the City's infrastructure
- Provide input and staff resources to assist the planning and implementation of Works crew activities
- Assist in the administration of personnel matters involving commendations, hiring, performance reviews, discipline, etc.
- Enhance and maintain an accurate infrastructure database through computer technology, for use by City personnel

- Provide technical assistance to field personnel in terms of engineering expertise
- Manage the contracts between the City and the contractors who provide waste collection, sewage pickup, water delivery and public transit services
- Assess short- and long-range capital infrastructure requirements and prioritize in accordance with Council direction
- Manage engineering/technical consultant input through requests for proposals and select appropriate firms in accordance with standards set by Council
- Direct/instruct/guide consultants throughout the pre-design and design work and review all pre-design reports and design/contract documents
- Draft and revise City contract documents as necessary, to reflect latest developments in Council policies and the law
- Supervise the tendering process
- Continue with planning and engineering work on a new water treatment plant and pumphouse
- Supervise construction through daily contact with consultants and contractors and by attending all project meetings
- Avoid costly litigation through daily contact with consultants and contractors and by attending all project meetings
- Review and approve all progress payments and ensure claims are dealt with in accordance with contract terms
- Be responsive to public requests and questions
- Review traffic intersections to determine if the level of service requires modifications
- Undertake analysis of City streets and record results

GENERAL FUND - Public Works & Engineering

Department Budget	2012	2013	2013	2014	2015	2016
	Actual	Budget	Forecast	Budget	Budget	Budget
	(\$000's)	(\$000's)	(\$000's)	Recommended	(\$000's)	(\$000's)
				(\$000's)		
Revenue						
Government Transfer						
Other Grants	-	-	-	-	-	-
User Charges	329	341	305	320	322	323
	<u>329</u>	<u>341</u>	<u>305</u>	<u>320</u>	<u>322</u>	<u>323</u>
Expenditures (By Activity)						
Administration	1,119	989	1,014	973	1,021	1,056
City Garage	725	607	655	675	747	776
Public Transit	1,107	1,288	1,288	1,394	1,625	1,647
Roads & Sidewalks	3,556	3,677	3,484	3,532	3,592	3,629
	<u>6,508</u>	<u>6,561</u>	<u>6,440</u>	<u>6,574</u>	<u>6,985</u>	<u>7,109</u>
Net Revenue (Expenditures)	<u>(6,179)</u>	<u>(6,219)</u>	<u>(6,135)</u>	<u>(6,254)</u>	<u>(6,663)</u>	<u>(6,785)</u>
Expenditures (By Object)						
Wages & Benefits	2,871	2,784	2,792	2,851	3,002	3,086
Other O&M	4,415	4,599	4,471	4,565	4,857	4,942
Internal Recoveries	(778)	(823)	(823)	(842)	(874)	(919)
	<u>6,508</u>	<u>6,561</u>	<u>6,440</u>	<u>6,574</u>	<u>6,985</u>	<u>7,109</u>
Details of Other O&M						
General Services	1,439	1,536	1,559	1,649	1,887	1,916
Materials	500	462	478	480	489	499
Maintenance	67	53	68	62	64	66
Utility- Fuel	69	74	83	85	90	99
Utility- Power	1,099	1,239	1,085	1,080	1,071	1,042
Vehicle O&M & Fuel	463	413	377	368	382	401
Others	-	-	-	-	-	-
	<u>3,637</u>	<u>3,776</u>	<u>3,648</u>	<u>3,723</u>	<u>3,983</u>	<u>4,023</u>



GENERAL FUND - Public Works & Engineering

Directorate Budget	2012	2013	2013	2014	2015	2016
	Actual	Budget	Forecast	Budget	Budget	Budget
	(\$000's)	(\$000's)	(\$000's)	Recommended	(\$000's)	(\$000's)
				(\$000's)		
Revenue						
User Charges	-	-	-	-	-	-
	-	-	-	-	-	-
Expenditures (By Activity)						
Legislation & Governance	112	99	101	97	102	106
Capital Planning	157	138	142	136	143	148
Project Management	168	148	152	146	153	158
Roads & Sidewalks	280	247	253	243	255	264
Water & Sewer	224	198	203	195	204	211
Public Transit	56	49	51	49	51	53
Drafting	123	109	112	107	112	116
	1,119	989	1,014	973	1,021	1,056
Net Revenue (Expenditures)	(1,119)	(989)	(1,014)	(973)	(1,021)	(1,056)
Expenditures (By Object)						
Wages & Benefits	1,053	951	949	931	978	1,012
Other O&M	67	38	65	42	43	44
	1,119	989	1,014	973	1,021	1,056
Details of Other O&M						
General Services	34	10	31	13	14	13
Materials	27	22	27	23	23	24
Maintenance	-	-	-	-	-	-
Utility- Fuel	-	-	-	-	-	-
Utility- Power	-	-	-	-	-	-
Vehicle O&M & Fuel	6	5	7	6	6	7
Others	-	-	-	-	-	-
	67	38	65	42	43	44

CITY GARAGE

2013 Highlights

The highlights of the City Garage operations include:

- Purchased fleet equipment such as street sweeper, motor grader, skid steer, fire pumper truck, loader, an ambulance, Zamboni, SUV for administration at City Hall and an SUV for MED
- Discontinued the use of WorkTech as our operational management software and fully migrated to a new, GIS-based software called CityWorks
- Continued to work on many occupational health and safety / Fire Code updates at the City Garage
- Continued work on “Service Standards” and implementation for Public Works activities to standardize cost tracking and services
- Continued review by an efficiency expert of the Operations and Maintenance Division to upgrade work monitoring and reporting to industry standards
- Equipment maintenance was altered to meet original equipment manufacturing and staff shortage requirements; arrangement made with local contractor to take on overflow
- Increased maintenance standards on fire equipment to meet National Fire Code; due to the workload this work is now contracted out
- Hired casual mechanics to help with maintenance tasks
- Updated one genset at Liftstation #6.
- Continued to make use of the fuel monitoring program for City equipment to run more meaningful reports based on hours and kilometres used

2014/2015/2016 Goals

The goals of the City Garage are to:

- Maintain the City’s fleet and stationary equipment, such as standby generators, in proper working condition
- Shelter the City’s fleet and properly maintain the City Garage, Stores, Carpentry Shop and Mechanics Shop, Public Works Operations and Maintenance offices and training room
- Provide regular repairs and preventative maintenance service by qualified mechanics for all City mobile equipment; investigate

- operating the Equipment Shop as a cost centre, under which all mobile equipment would have an internal rental rate
- Monitor contracted repairs requested by user departments to ensure value for dollars
- Provide a base for the various Public Works divisions by:
 - stockpiling granular materials
 - having an inventory control area
 - using vehicle fuel fobs and employee ID cards to track fuel consumption by vehicle and department
- Track operational costs to better identify opportunities for improvement

2014/2015/2016 Objectives

The objectives of the City Garage are to:

- Fully implement and manipulate data input into CityWorks to produce reports on departmental activities
- Review staffing positions and evaluate departmental organization
- Provide preventative and service maintenance to all City vehicles on a timely and cost-effective basis; check and service all equipment and light vehicles by master schedule and capacity plan as a means of preventative maintenance. During such checks, mechanics shall examine tie rod ends, ball joints, exhaust systems, “U” joints, leaky seals, fluid levels, lights, tires and front-end alignment
- Provide priority maintenance to emergency vehicles
- Service diesel pumps and generators located at City facilities annually (including City Hall, Fire Hall, Multiplex, Ruth Inch Memorial Pool, Yellowknife Community Arena, pumphouses and liftstations, and City Garage) per CSA Standards
- Provide equipment and labour to City departments on an as-required basis
- Maintain accurate records of fuel consumption for each City vehicle and encourage fuel conservation through reduced use, education and instilling a “turn-it-off” attitude
- Maintain accurate records of all parts and labour expended to service City equipment and recover these costs from the receiving departments where applicable
- Maintain fleet gas and diesel fuel pumps, tanks and other accessories in good operating condition and fill fuel tanks as required



GENERAL FUND - Public Works & Engineering

- Provide a healthy, safe and challenging work environment that promotes pride in workmanship
- Meet requirements of an occupational health and safety audit of buildings surrounding garage
- Continue to implement, where practical, the suggestions made by the consultant in the operational review.

City Garage Budget

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)	Note
Revenue							
Government Transfer	-	-	-	-	-	-	
Other Grants	-	-	-	-	-	-	
Expenditures (By Activity)							
Fleet Repair & Maintenance	1,307	1,238	1,283	1,320	1,417	1,487	
Maintenance Costs Allocated	(778)	(823)	(823)	(842)	(874)	(919)	(1)
Garage/Yard Maintenance	166	163	165	167	171	174	
Standby Generator Maintenance	30	29	30	30	32	34	
	<u>725</u>	<u>607</u>	<u>655</u>	<u>675</u>	<u>747</u>	<u>776</u>	
Net Revenue (Expenditures)	<u>(725)</u>	<u>(607)</u>	<u>(655)</u>	<u>(675)</u>	<u>(747)</u>	<u>(776)</u>	
Wages & Benefits	382	369	388	417	478	492	(2)
Other O&M	1,121	1,061	1,089	1,100	1,143	1,203	
Maintenance Costs Allocated	(778)	(823)	(823)	(842)	(874)	(919)	(1)
	<u>725</u>	<u>607</u>	<u>655</u>	<u>675</u>	<u>747</u>	<u>776</u>	
Details of Other O&M							
General Services	34	25	26	25	26	27	
Materials	61	47	47	48	49	50	
Maintenance	-	-	-	-	-	-	
Utility- Fuel	69	74	83	85	90	99	
Utility- Power	44	44	49	52	54	56	
Vehicle O&M & Fuel	134	47	62	48	50	52	
Others	-	-	-	-	-	-	
	<u>343</u>	<u>238</u>	<u>267</u>	<u>258</u>	<u>269</u>	<u>284</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.
- (2) One new Heavy Duty Mechanic from 2015 onwards

PUBLIC TRANSIT

2013 Highlights

The Public Transit highlights for 2013 include:

- Continued advertising on the exterior and interior of regular transit buses
- Continued the Accessible Transit System through a dedicated bus
- Posted schedules for Folk on the Rocks busing at regular bus stops
- Gave out free passes at special events to encourage the use of public transportation
- Repaired bus shelters. Vandalism in the city continues to be a concern.
- Provided once weekly Golf Club shuttle during July and August
- Reviewed existing and proposed transit routes to determine feasibility and costs
- Received a test drive on a low-floor bus to check road clearances
- Received a report on the current transit system composed by a third party consulting company who interviewed the users and management group on various transit topics

2014/2015/2016 Goals

The goals of Public Transit are to:

- Increase public transit system ridership and reliability
- Increase public transit ancillary services such as signage and schedule availability
- Promote transit as an alternative to single vehicle trips
- Increase public transit revenues through marketing of advertising space on the buses

2013/2014/2015 Objectives

The objectives of Public Transit are to:

- Conduct monthly quality control meetings with the public transit contractor
- Review transit routes, schedules and fares yearly and implement amendments as deemed necessary

- Market the transit system to the public and various agencies throughout the city, with the objective of increasing revenues
- Market advertising space on the buses with the objective of increasing total public transit revenues
- Review public complaints and suggestions and work with contractor to remedy them
- Carry out regular customer surveys
- Manage the City's contract for the provision of public transit and monitor service provided (quality of service, invoicing, timing, condition of equipment, etc.)
- Maintain public transit-related facilities in good and clean condition (shelters, signs, posted schedules, advertising, etc.)



GENERAL FUND - Public Works & Engineering

Public Transit Budget

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)	Note
Revenue							
Government Transfer							
Other Grants	-	-	-	-	-	-	
User Charges	320	341	305	320	322	323	
	<u>320</u>	<u>341</u>	<u>305</u>	<u>320</u>	<u>322</u>	<u>323</u>	
Expenditures (By Activity)							
Transit Operations	1,107	1,288	1,288	1,394	1,625	1,647	(1)
Net Revenue (Expenditures)	<u>(787)</u>	<u>(947)</u>	<u>(983)</u>	<u>(1,074)</u>	<u>(1,303)</u>	<u>(1,324)</u>	
Expenditures (By Object)							
Wages & Benefits	-	-	-	-	-	-	
Other O&M	1,107	1,288	1,288	1,394	1,625	1,647	
	<u>1,107</u>	<u>1,288</u>	<u>1,288</u>	<u>1,394</u>	<u>1,625</u>	<u>1,647</u>	
Details of Other O&M							
General Services	1,095	1,279	1,279	1,385	1,616	1,638	
Materials	4	4	4	4	4	4	
Maintenance	8	5	5	5	5	6	
Utility- Fuel	-	-	-	-	-	-	
Utility- Power	-	-	-	-	-	-	
Vehicle O&M & Fuel	-	-	-	-	-	-	
Others	-	-	-	-	-	-	
	<u>1,107</u>	<u>1,288</u>	<u>1,288</u>	<u>1,394</u>	<u>1,625</u>	<u>1,647</u>	

Note:

- (1) Transit contracted cost increases as it increases services to Niven Lake subdivision and to the Stanton Territorial Hospital. Starting in 2015, the fleet will be replaced with low-floor buses.

GENERAL FUND - Public Works & Engineering

Public Transit Performance Measures	Projected 2012	Actual 2012	Projected 2013	Forecasted 2014	Forecasted 2015	Forecasted 2016	Notes
Workload Indicators							
No. of hours bus service provided	9,200	9,133	9,200	10,000	12,100	12,100	(1)
Annual ridership based on revenue	196,000	172,460	180,000	181,000	198,000	201,000	(2)
No. of hours accessible transit was provided	3,900	3,861	3,900	3,900	3,900	3,900	(3)
Annual ridership on accessible transit based on daily trip sheets	6,800	6,571	6,800	6,800	6,800	6,800	
Efficiency Measures							
Annual subsidized cost per capita	\$37.45	\$39.84	\$49.46	\$53.72	\$64.83	\$65.47	(4)
Annual revenue/cost ratio	0.32	0.29	0.24	0.23	0.20	0.20	(5)
Annual subsidized cost per capita (accessible transit)	\$10.45	\$11.60	\$12.37	\$12.42	\$12.47	\$12.52	(6)
Annual revenue/cost ratio (accessible transit)	0.08	0.08	0.07	0.07	0.07	0.07	(7)
Effectiveness Measures							
% of users very satisfied or somewhat satisfied with the overall transit system	84%	84%	-	-	86%	86%	(8)

Notes:

- (1) Changes to transit routes starting in September 2014.
- (2) The ridership in 2007 was 162,000.
- (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 \$32.38 in 2011.
- (5) The national average for Yellowknife's population group according to the Canadian Urban Transportation Association was 0.38 in 2011.
- (6) The national average for Yellowknife's population group according to the Canadian Urban Transportation Association was \$19.18 in 2011.
- (7) The national average for Yellowknife's population group according to the Canadian Urban Transportation Association was 0.08 in 2011.
- (8) According to a Transit Survey in 2012, 84% were satisfied or somewhat satisfied with the overall transit service.



ROADS & SIDEWALKS

2013 Highlights

The highlights for the Roads & Sidewalks Division include:

- Reduction of dust (airborne particles) through:
 - Timely snow removal, including downtown alleys and City-owned parking lots
 - Concentrated effort of street sweeping in the spring and summer using three sweepers during peak time and one sweeper during the summer, in order to reduce buildup of windblown litter and debris
 - Hand sweeping of City-owned sidewalks and medians
 - Wash streets in the downtown core using a Vactor truck to further reduce airborne dust particles
 - Use of calcium chloride on gravel roads and alleys for dust control
- Clearing snow and applying ice melt on Franklin Avenue alleyway, intersections, City bus shelters and sidewalks adjacent to City properties
- Maintenance and repair of 81.6 km of paved and chip-sealed roads, 24.4 km of gravel roads and 62.6 km of sidewalks
- Maintenance and repair of 18 sets of traffic lights and four sets of pedestrian crossing lights
- Maintenance and repair of 2,339 traffic signs and 282 parking meters; fabrication and repair of pedestrian crossing lights and pedestrian crossing buttons
- Provision of construction equipment to Water & Sewer Division as required for replacement of water and sewer services, water and sewer mains, as well as repair of water breaks and surface water lines
- Provision of construction equipment to Community Services Department as required for cemetery services and park maintenance
- Assisting and supplying equipment and materials to Solid Waste Facility as needed
- Assisting Planning & Lands with the Yellowknife Harbour Plan
- Installation of new signs and barriers as per request
- Maintenance and repairs to City storm sewer system
- Pruning trees to remove obstructive and unsafe branches/limbs hanging over sidewalks and roads
- Resurfacing gravel roads when needed
- Painting curbs for no parking zones on corners and by fire hydrants in the downtown area
- Clearing brush from ditches to promote positive drainage
- Camera inspection of boat launch landing pads every two years to detect washouts at the end of ramps
- Carrying out spring and fall cleanup by picking up bulky waste at request of residents
- Maintenance of the sewage lagoon, including the construction of new cells for honey bags and coverage for existing cells
- Installation and removal of the floating curtain under the McMeekan Causeway in order to promote ice formation
- Installation and removal of dock at City boat launch
- Providing support and supplying barricades, signage (etc.) to special events such as the Santa Claus Parade, Canada Day Parade, Aboriginal Day, Terry Fox Run, Run for the Cure, Old Town Ramble and Ride, and the bike rodeo
- Installation of Christmas silhouettes downtown
- Installation and repair of Christmas lights and banners on streetlights on Old Airport Road, Wiley Road and in Downtown Core
- Maintenance and repair of 28 bus shelters including cleaning and glass replacement, as well as the installation of new shelters and bus routes, and painting of older, faded shelters; vandalism continues to be a problem
- Cleaning up Kam Lake boat launch and area for annual fishing derby
- Resurfacing or replacing city sidewalks that were in poor shape, especially downtown, and perform yearly inspections
- Cleaning up or assisting with cleanup of any oil contaminants on city streets and properties
- Repair and maintenance of Giant Mine boat launch and access road, cleaning up shoreline where houseboaters were moored
- Water sampling on major storm outfalls three times yearly
- Continue repair of small potholes and asphalt surface breakage with cold mix
- Cleanup of debris in area of Esso bulk station
- Provision of line painting throughout the city for traffic control and public safety
- Crack sealing on asphalt surfaces to prolong asphalt life expectancy
- Cleaning up and blocking off areas and sandpits to reduce dumping of refuse in off-road areas

GENERAL FUND - Public Works & Engineering

- Overlaying areas on Priority 1 and 2 roads to cover surface rutting and breakage, to promote a safe driving surface
- In residential areas, removing heaved asphalt that draws complaints of vehicles bottoming out in front of driveways
- Continuing to install, remove and monitor trash separator at School Draw outfall
- Backfilling around new parking garage to promote drainage and reduce contracted costs
- Patching lower priority areas with cold mix to reduce contracted costs
- Hauling used street sweepings to landfill and lagoon to use as road cover and cell cover material
- Updating City service standards to accurately reflect staff hours, cost and duration of tasks at hand

2014/2015/2016 Goals

The goals for the Roads & Sidewalks Division are to:

- Provide safe roads for residents
- Provide equipment and labour to other divisions and departments when required (especially Water & Sewer)
- Provide winter road maintenance, snow removal and ice control
- Provide street sweeping and dust control services to reduce airborne dust particles
- Maintain storm drain system and ditches to promote positive water flow
- Maintain signs, traffic lights, and bus shelters
- Provide a safe, team-oriented atmosphere for staff of Roads & Sidewalks Division

2014/2015/2016 Objectives

The objectives for the Roads & Sidewalks Division are to:

- Monitor work performance using CityWorks software to determine most efficient use of labour and equipment
- Promote safe work procedures
- Promote vehicle inspections by operators to maintain control of breakdown repairs
- Provide year-round 24-hour call-out services.



GENERAL FUND - Public Works & Engineering

Roads and Sidewalks Budget

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)
Revenue						
User Charges	9	-	-	-	-	-
	9	-	-	-	-	-
Expenditures (By Activity)						
Snow & Ice Control	887	871	890	913	939	966
Street Maintenance	456	489	467	475	487	499
Street Sweeping	126	126	126	128	132	136
Storm/Ditch Maintenance	178	185	176	180	185	190
Traffic Signals/Lighting/Marking	1,303	1,391	1,222	1,217	1,211	1,185
	2,950	3,062	2,881	2,912	2,954	2,977
Labour & Vehicle O&M Allocation	(1,179)	(1,222)	(1,175)	(1,209)	(1,247)	(1,285)
	1,771	1,840	1,707	1,703	1,707	1,692
Net Revenue (Expenditures)	(1,762)	(1,840)	(1,707)	(1,703)	(1,707)	(1,692)
Expenditures (By Object)						
Wages & Benefits	1,436	1,464	1,455	1,503	1,547	1,581
Other O&M	2,120	2,213	2,029	2,029	2,046	2,048
	3,556	3,677	3,484	3,532	3,592	3,629
Details of Other O&M						
General Services	275	222	223	226	232	238
Materials	408	389	399	405	413	422
Maintenance	59	48	63	57	59	60
Utility - Fuel	-	-	-	-	-	-
Utility - Power	1,055	1,194	1,036	1,028	1,017	986
Vehicle O&M & Fuel	323	361	307	313	325	342
Others	-	-	-	-	-	-
	2,120	2,213	2,029	2,029	2,046	2,048

SNOW & ICE CONTROL

2014/2015/2016 Goals

The goals of the Snow & Ice Control Division are to:

- Provide a cost-effective, safe, and reliable municipal transportation system during the winter months through the use of three primary activities: snow plowing, road sanding (ice control), and snow removal.

2014/2015/2016 Objectives

The objectives of the Snow & Ice Control Division are to:

- Remove snow from major thoroughfares and intersections before ice and snow accumulations cause the roadway to become unsafe
- Remove snow from residential streets, sidewalks, and alleys at least once a year and remove snow from the downtown streets and sidewalks at least twice a year
- Update road priority system annually, especially as new City streets are added; incorporate new streets into winter maintenance plans
- Maintain paved roads through snow removal, plowing, and sanding
- Maintain gravel roads through grading, snow clearing and sanding
- Tender annual requirements for winter street sand to achieve an acceptable balance between cost, preferred rock type, and public satisfaction with road sanding
- Maintain City facility roads and parking lots, including snow removal from the Fire Hall, City Hall, Ruth Inch Memorial Pool, pumphouses, liftstations, arenas, the Fieldhouse, cemetery, and Pumphouse #2 located at the Yellowknife River
- Use road salt mixture in treacherous conditions in spring and fall on major intersections to reduce ice buildup
- Provide 24-hour call-out service for snowstorms or slippery roads
- Clear City-owned sidewalks of snow and ice
- Remove snow and apply ice melt at City bus shelters
- Apply ice melt to sidewalks at alley entrances to reduce ice buildup in downtown core along Franklin Avenue.



GENERAL FUND - Public Works & Engineering

Snow and Ice Control Budget

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)
Snow Removal/Clearing						
General Services	33	40	40	40	41	42
Materials	1	1	1	1	1	1
	34	41	41	41	43	44
Vehicle O&M & Fuel	187	220	178	181	188	198
Labour	397	352	402	415	427	437
	618	613	621	638	658	678
Winter Sanding						
General Services	-	-	-	-	-	-
Materials	188	189	189	192	196	200
	188	189	189	192	196	200
Vehicle O&M & Fuel	20	19	19	20	21	22
Labour	60	50	61	63	65	67
	269	258	269	275	281	288
	887	871	890	913	939	966

GENERAL FUND - Public Works & Engineering

Snow & Ice Control Performance Measures

	Projected 2012	Actual 2012	Projected 2013	Forecasted 2014	Forecasted 2015	Forecasted 2016	Notes
Workload Indicators							
Annual snowfall (cm)	155	140.8	150	155	155	155	(1)
Lane/road kilometres maintained	202.11	202.11	202.11	202.11	202.11	202.11	
Efficiency Measures							
Cost per km of snow removed and cleared on roads and city streets	\$5,902	\$6,085	\$6,268	\$6,456	\$6,650	\$6,850	(2)

Notes:

- (1) Annual Snowfall:
- | | |
|------|----------|
| 2008 | 199.0 cm |
| 2009 | 174.1 cm |
| 2010 | 124.8 cm |
| 2011 | 130 cm |
| 2012 | 140.8 cm |
- (2) Cost per km includes ice control (winter sanding).



STREET MAINTENANCE

2014/2015/2016 Goals

The goals of the Street Maintenance Division are to:

- Provide safe travel in the city for our residents, whether walking or driving, in a cost-effective manner
- Maintain all roads and sidewalks in a reasonable operating condition
- Carry out line painting and road markings to reduce contracted costs
- Seal cracks in asphalt surfaces to reduce contracted costs
- Provide equipment operations for other Public Works & Engineering divisions and City departments where needed in a timely, efficient, and cost-effective manner

2014/2015/2016 Objectives

The objectives of the Street Maintenance Division are to:

- Inspect roads, streets and sidewalks regularly to determine which areas require repairs or maintenance; effect necessary repairs on a priority basis
- Provide emergency 24-hour call-out services for road maintenance/repairs throughout the year
- Maintain paved roads by patching potholes, sealing cracks and reconstruction
- Maintain gravel roads through grading, resurfacing, reconstruction, and the application of dust suppressant
- Work closely with the Engineering Division so that Roads & Sidewalks staff can prepare more patches, thus avoiding the expense of hiring a paving contractor to carry out this task

GENERAL FUND - Public Works & Engineering

Street Maintenance Budget

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)
Dust Control						
General Services	-	-	-	-	-	-
Materials	15	30	30	31	31	32
	15	30	30	31	31	32
Vehicle O&M & Fuel	7	8	7	7	7	7
Labour	22	22	23	24	24	25
	45	59	59	61	62	64
Gravel Road Maintenance						
General Services	-	-	-	-	-	-
Materials	17	15	15	16	16	16
	17	15	15	16	16	16
Vehicle O&M & Fuel	7	20	7	7	7	8
Labour	28	42	28	29	30	31
	52	77	50	52	53	54
Paved Road Maintenance						
General Services	152	150	150	153	157	161
Materials	73	74	74	75	77	79
	225	224	224	228	234	239
Vehicle O&M & Fuel	7	14	7	7	7	7
Labour	71	42	72	74	76	78
	303	280	302	309	317	325
Sidewalk Maintenance						
General Services	46	42	42	43	44	45
Materials	7	5	9	6	6	6
	52	47	50	49	50	51
Vehicle O&M & Fuel	1	5	1	1	1	1
Labour	5	21	5	5	5	5
	57	74	56	54	55	57
	456	489	467	475	487	499



GENERAL FUND - Public Works & Engineering

Street Maintenance Performance Measures

	Projected 2012	Actual 2012	Projected 2013	Forecasted 2014	Forecasted 2015	Forecasted 2016	Notes
Workload Indicators							
Lane kms of paved roads	154.84	154.84	155.23	155.72	157.7	157.7	
Lane kms of paved alleys	8.37	8.37	8.37	8.37	8.37	8.37	
Lane kms of unpaved roads	28.98	28.98	28.59	28.1	26.12	26.12	
Lane kms of unpaved alleys	9.92	9.92	9.92	9.92	9.92	9.92	
Total	202.11	202.11	202.11	202.11	202.11	202.11	
Kms of roads reconstructed and new roads	0.717	2.733	2.367	2.082	2.233	1.332	(1)
Efficiency Measures							
Cost per km maintained -- road/alley	\$2,747	\$2,832	\$2,917	\$3,004	\$3,095	\$3,188	
Effectiveness Measures							
% of citizens very satisfied or somewhat satisfied with summer road maintenance	-	-	-	67%	-	-	(2)

Notes:

- (1) 2012 Gravel - Enterprise Drive Extension (729 m); Grace Lake extension (554 m). Pave - 41A Street (56 m); 49 Avenue (70 m); 41 Street (126 m); 42 Street (47 m); 49 Avenue (110 m)
 2012 Pave - Moyle Drive (644 m); Stirling Court (90 m); McMahon Court (108 m); Lyons Point (43 m); Findlay Court (46 m)
 2013 Reconstruct - Deh Cho Boulevard (1,196 m); Morrison Drive (723 m) and N'Dilo (448 m)
 2014 Reconstruct - 52 Avenue from 49 Street to 56 Street (610 m); Raccine / Ingraham / Doornbos (592 m); Cameron Road (415 m)
 2014 Pave - DeWeerd Drive, Driscoll Road, Haener Drive (465 m)
 2015 Pave - Utsingi Drive, Cameron Road, Talthelie Drive, Etthen Drive (1,856 m); 45 Street (172 m); 52 Street (205 m)
 2016 Reconstruct - School Draw (240 m); Franklin Avenue (677 m); Cemetery Road (415 m)
- (2) The 2010 survey showed 63% of citizens were satisfied.

STREET SWEEPING

2013 Highlights

The highlights of 2013:

- Sweep downtown core daily and on weekends and holidays to reduce debris build up
- Wash downtown streets as early as possible in the spring to reduce airborne dust particles

2014/2015/2016 Goals

The goals of the Street Sweeping Division are to:

- Carry out spring cleanup activities with the intent of reducing dust generation
- Reduce dust generation through investigation and trial of alternatives

2014/2015/2016 Objectives

The objectives of the Street Sweeping Division are to:

- Remove dust and debris from streets as quickly as is practical, particularly following spring thaw, to reduce suspended particles in the air. The level of dust has decreased in the past few years, as reported by the GNWT in its Air Quality Report (ENR).
- Continue to sweep throughout summer and as late as possible in the fall to minimize buildup of gravel and debris on city streets.



GENERAL FUND - Public Works & Engineering

Street Sweeping Budget

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)
Street Sweeping						
General Services	-	-	-	-	-	-
Materials	-	2	2	-	-	-
	-	2	2	-	-	-
Vehicle O&M & Fuel	52	34	49	50	52	55
Labour	74	90	75	78	80	82
	126	126	126	128	132	136

Street Sweeping Performance Measures

	Projected 2012	Actual 2012	Projected 2013	Forecasted 2014	Forecasted 2015	Forecasted 2016	Notes
Workload Indicators							
Total paved roads/alleys/lanes (km)	163.20	163.21	163.60	164.09	166.07	166.07	
Efficiency Measures							
Cost per km to street sweep	\$1,428	\$1,472	\$1,516	\$1,561	\$1,608	\$1,656	(1)

Sweeping includes parking lots, sweeping 7 days a week, and bulk sand pickup

Notes:

(1) Cost includes all costs of sweeping: labour, repairs, replacement costs.

STORM/DITCH MAINTENANCE

2013 Highlights

The highlights of 2013:

- Sweep downtown core daily and on weekends and holidays to reduce debris build up
- Wash downtown streets as early as possible in the spring to reduce airborne dust particles

2014/2015/2016 Goals

The goals of the Street Sweeping Division are to:

- Carry out spring cleanup activities with the intent of reducing dust generation
- Reduce dust generation through investigation and trial of alternatives

2014/2015/2016 Objectives

The objectives of the Street Sweeping Division are to:

- Remove dust and debris from streets as quickly as is practical, particularly following spring thaw, to reduce suspended particles in the air. The level of dust has decreased in the past few years, as reported by the GNWT in its Air Quality Report (ENR).
- Continue to sweep throughout summer and as late as possible in the fall to minimize buildup of gravel and debris on city streets.



GENERAL FUND - Public Works & Engineering

Storm / Ditch Maintenance Budget

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)
Ditch Maintenance						
General Services	13	5	20	13	13	14
Materials	4	3	3	3	3	3
	17	8	23	16	16	17
Vehicle O&M & Fuel	6	8	6	6	6	6
Labour	16	27	17	17	18	18
	40	42	45	39	40	41
Storm Sewer Maintenance						
General Services	2	1	2	1	1	1
Materials	27	20	20	28	28	29
	29	21	22	29	29	30
Vehicle O&M & Fuel	24	15	23	23	24	25
Labour	85	106	86	89	92	94
	138	142	131	141	145	149
	178	185	176	180	185	190

TRAFFIC SIGNALS/LIGHTING/MARKING

2013 Highlights

The Traffic Signals/Lighting/Marking Division highlights include:

- Completed annual maintenance on traffic light cabinets and hardware
- Performed monthly preventative maintenance checks to ensure signals working properly
- Installed new traffic light controllers at all intersections
- Installed camera detection system at the intersection of Norseman Drive and Franklin Avenue

2014/2015/2016 Goals

The goals of the Traffic Signals/Lighting/Marking Division are to:

- Carry out yearly inspections of traffic lights
- Maintain traffic control systems in good operating condition
- Improve traffic flow along Franklin Avenue between Old Airport Road and the Central Business District by coordinating the timing of traffic lights
- Improve communication and detection of problem intersections
- Update traffic light controllers and software
- Continue monthly preventative maintenance checks and perform repairs as required

2014/2015/2016 Objectives

The objectives of the Traffic Signals/Lighting/Marking Division are to:

- Install signs within the city in accordance with relevant standards and legislation
- Carry out traffic counts to determine modifications needed at existing intersections
- Install and maintain traffic control systems
- Inspect city streetlights on a regular basis and notify the utility company of problems

- Coordinate the hanging of banners and Christmas decorations in the city
- Administer the closure of roads for special events
- Establish truck routes within the city limits
- Perform street line painting as required on an annual basis
- Repaint traffic light poles when necessary
- Identify locations and install pedestrian crosswalks
- Improve traffic circulation by revising the program that controls timing of traffic lights
- Record location of street signs and track them when necessary using GPS technology



GENERAL FUND - Public Works & Engineering

	2012 Actual (\$000's)	2013 Budget (\$000's)	2013 Forecast (\$000's)	2014 Budget Recommended (\$000's)	2015 Budget (\$000's)	2016 Budget (\$000's)
Traffic Signals/Lighting/Marking Budget						
Line Painting						
General Services	-	-	-	-	-	-
Materials	21	16	21	20	21	21
	21	16	21	20	21	21
Vehicle O&M & Fuel	2	2	2	2	2	2
Labour	17	24	17	17	18	18
	39	42	40	40	41	42
Sign Maintenance						
General Services	-	1	1	1	1	1
Materials	30	17	17	17	17	18
	30	18	18	18	18	19
Vehicle O&M & Fuel	5	7	5	5	5	6
Labour	43	33	43	45	46	47
	77	58	66	68	70	71
Street Decorating						
General Services	11	12	12	12	12	13
Materials	2	4	4	4	4	4
	13	16	16	16	17	17
Vehicle O&M & Fuel	4	9	4	4	4	5
Labour	34	48	35	36	37	38
	51	72	55	56	58	59
Traffic & Street Lighting						
General Services	75	20	20	20	21	22
Power - Street lights	1,023	1,165	1,000	993	981	949
Power - Traffic lights	32	29	36	35	36	37
	1,130	1,214	1,056	1,048	1,038	1,008
Vehicle O&M & Fuel	1	1	1	1	1	1
Labour	5	5	5	5	5	5
	1,135	1,219	1,061	1,054	1,043	1,013
	1,303	1,391	1,222	1,217	1,211	1,185

GENERAL FUND - Public Works & Engineering

Traffic Signals/Lighting/Marking Performance Measures

	Projected 2012	Actual 2012	Forecasted 2013	Forecasted 2014	Forecasted 2015	Forecasted 2016	Notes
Workload Indicators							
Street lights	1,559	1,554	1,573	1,592	1,611	1,630	(1)
Traffic lights	18	18	18	18	18	18	(2)
Pedestrian crosswalks	7	7	7	7	7	7	
Efficiency Measures							
Average yearly energy cost for street lighting	\$1,030,000	\$1,022,867	\$1,000,000	\$930,000	\$981,000	\$949,000	
Average yearly energy cost for traffic lights	\$30,000	\$32,102	\$36,200	\$34,800	\$35,700	\$37,000	(3)
% of citizens satisfied or very satisfied with residential street lighting	-	-	-	93%	-	-	(4)

Notes:

- (1) Niven Lake Phase VII constructed summer 2011.
- (2) The traffic lights are in sets, therefore 18 sets of traffic lights totals 87 traffic lights.
- (3) LED light installation completed in 2008, intersections to be metered. Actual power cost was reduced from \$83,000 in 2008 to \$32,100 in 2012.
- (4) The 2006 survey showed 92% of citizens were satisfied.

