

STRATEGIC PLAN 2018

City of Des Moines
Department of Public Works



Dear Public Works Colleagues,
Partners, and Customers:

I am pleased to present the strategic plan for the Department of Public Works. This document reflects the Department's solid progress and continued commitment to service to the community.

As a large and growing city, we have continual pressure on all sides, competing for time, interest, and resources. We hear the call for expanded services in the face of constrained revenues. We enjoy broader mandates from the electorate while wrestling with tighter regulations. We struggle with diminished purchasing power in an era of rapidly escalating costs. We transition a changing workforce as many of our co-workers step into retirement.

Entrusted with great responsibility, the people of this Department work every day to be responsive to the needs of our citizens. With a professional approach to our business, we each contribute to the sustained effort to improve the quality of life for all who live, work, and visit Des Moines. This plan captures the most important issues we face and delivers a sound strategy for satisfying the public's demand for services.

This is our plan, crafted with participation from throughout the Department, not as a message from on high, but as a collaborative team effort of those directly entrusted with the responsibility to carry it out. This is how we roll.

Sincerely,

Jonathan A. Gano, P.E.
Director of Public Works



Preface and Acknowledgements

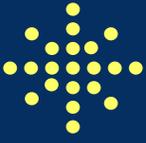
The Department of Public Works, established in chapter 2 of the municipal code of the City of Des Moines, operates, maintains, and improves the infrastructure of the City and provides essential services to the community. With responsibility for the care and maintenance of our transportation systems, storm water management, wastewater systems, residential solid waste and recycling, and the urban forest, the Department casts a broad reach into the lives of everyday citizens. This is a complex, multi-faceted mission that calls on a range of staff skills and demands coordination by all levels of management.

Strategic planning is a combination of vision, reflection, analysis, honest appraisal, and a willingness to suggest bold, new action. This plan offers a path forward into our unpredictable future. It is the best means of matching a tangible, current reality and projected future needs with conceptual aspirations of a multi-dimensional community.

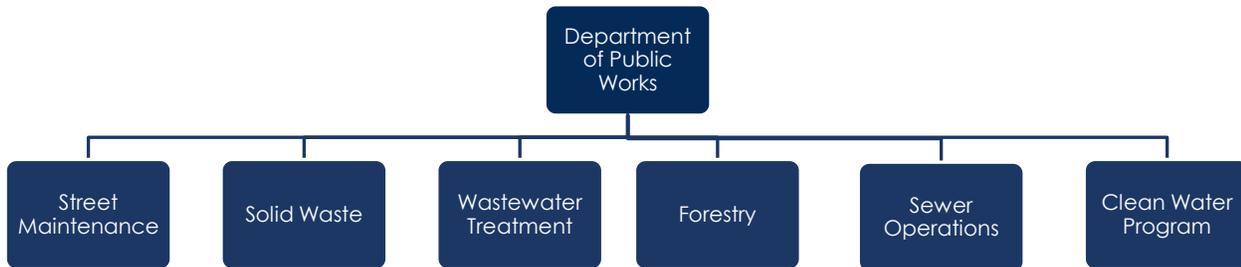
Without the contributions of each division of Public Works, this plan would not have been possible.

Serving as principal authors for various parts of the plan were:

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Organizational Structure



Director of Public Works Jonathan Gano, appointed in 2015, leads the Department.

The Department operates the wastewater utility, stormwater utility, flood control, street maintenance, snow removal, tree care, and residential trash and recycling. Our staff of nearly 400 is organized into six teams.

In 2018, the organization worked on an annual operational budget of \$129 million and was entrusted with \$43 million of metropolitan revenue for wastewater treatment. Valued at over \$260 million over the next 5 years, the planning of capital improvements is one of the most important functions of the Department.

Mission:

Public Works plans, constructs, and maintains the infrastructure of the community. The Department provides essential services that ensure safety, protects public health, and safeguards the environment through resource recovery.

Vision:

As the fastest growing city in the Midwest, we face increased pressure of higher demand for services in an era of inadequate infrastructure. Further challenged by a dynamic workforce, a historically under-resourced organization is presented with ever increasing regulations and less predictable weather. The Department will invest in infrastructure and the organization by planning ahead for a variety of futures so we can deliver the services our public expects.

Values:

We are professionals. We respond to the needs of our community in a helpful, courteous, and safe manner.



Overview of the Strategic Planning Process

This plan was crafted over the course of several months by a planning team drawn from each of the divisions of the Department and the administrative support staff. Beginning with a visioning session in January, we started with writing the mission, defining that vision of the future, and clarifying our values.

Every word in the mission, vision, and values came directly from a member of the workgroup. We literally crafted the statements on the fly, stitching together the words from repeating elements and themes common to each of the small groups working separately. We asked for adjectives we wanted people to use to describe the department and ourselves.

In a highly distributed fashion, this team collectively determined the major issues facing the Department and the community. The goals, objectives and strategies/actions of the strategic plan all flow from these issues. This strategic plan is not an operating plan – it does not address how the Department will handle its day-to-day issues. This plan devotes attention to the highly important issues that have significant potential to damage, disrupt, or inhibit quality of life for all or any element of the community.

The strategic plan is looking out and ahead for challenges and issues that we as professionals are hired by our community to solve. In the immortal words of Mike Tyson: “Everybody has a plan until they get punched in the face.”

These issues are the things that will jump up and punch us in the face in five or ten years if we don’t start planning to solve or prevent them now.

There is no one that knows our jobs better than we do. We are the experts. It is why we are here and this is part of our job.

Each of those issues was distilled down with three basic questions:

What is too high that must be reduced?

What is too low that must be increased? Or,

What is within an established standard that must be maintained?

Goals developed during the planning process provide direction toward general achievements or outcomes and subordinate objectives provide specific, quantified and annual progress toward the same desired achievements or outcomes. Goals are driven by the issues.

Strategies and actions were then developed to provide a specific path to achievement. They follow each objective and are the means to achieve the objectives. They describe how and when the Department plans to achieve those objectives.



Issue: Public Works infrastructure inventory continues to increase while maintenance positions remain steady or decrease. This leads to deferred maintenance, increased workloads, and increased time to ramp up for emergency responses.

In 2001 there were a total of 50 Pump Stations (sanitary, storm and WRA) and 15 employees assigned to the operation and maintenance of those stations. Contrast that to 2018, there are now 71 Pump Stations (an increase of 42%) and 12 employees (20% decrease) assigned to the operation and maintenance of those stations.

This increased workload results in employees spending less time at each Pump Station and deferred preventative maintenance. Currently assigned crews are only able to spend about 1 hour per week at each pump station. This time allows for general station checks, but not for preventative maintenance activities such as exercising/inspecting and cleaning check valves, air and surge relief valves, screening baskets, pumps and bar screens. There is also an increase in time required to put all stations on line in the event of flooding or localized intense rain events. Currently all necessary storm water pump stations can be put on-line in one day, but that requires all crews being taken away from normal duties.

Goal: To increase on-time performance of scheduled preventative maintenance at Pump Stations.

Objective 19: To increase, from 70% to 85%, the on-time performance of scheduled preventive maintenance at pump stations.

Strategies:

Study staffing levels to determine if additional personnel are warranted or if supplementing current staff with 7-month employees will alleviate maintenance back logs.

By January 1, 2019, submit justification to BRC for increase in staffing, if warranted.

Investigate contracting work on generators, HVAC, and pump controls to alleviate backlogs.

Since 2000 there have been an additional 48 miles of sanitary sewer (5% increase) and 65 miles of storm sewer (14% increase) added to the inventory. During that same time, maintenance staff numbers have remained level. The sewer televising compliment has been increased from 2 crews to 3, but this increase has resulted in televising of only 44 miles of sewer in 2017 (3% of total combined storm and sanitary sewer in the collection system). This amount of televising forces us to be reactive versus proactive in making repairs. We are responding to emergencies rather than finding and fixing problems before they become an emergency.



Goal: To increase the percentage of sewers televised annually.

Objective 19: To increase, from 3% per year to 5% per year, the percentage of sewers televised.

Strategies:

Study the options of contracting for television inspection versus the cost effectiveness of adding a second shift to utilize existing City owned televising equipment. By September 1, 2018, identify a minimum of 200,000 feet of sewer for a proposed televising contract.

Commit one Televising crew to full-time preventative maintenance televising.

Since 2007 the number of Solid Waste customer accounts has increased by 416 (0.7% increase, however it should be noted that this is effectively a 0.7% increase to solid waste collection, recycling collection and yard waste collection). During that same time, collection personnel and equipment numbers have remained steady.

This increased work load requires more stops per operator and more time spent travelling to and from the transfer station. In 2017 Solid Waste crews hauled 63,735 tons of garbage to the transfer station (an increase of 448 tons from 2014). In FY17 Solid Waste crews hauled 10,931 tons of recycling to the contracted recycling facility (an increase of 1,496 tons compared to FY13). Unfortunately, the amount of garbage and other nonrecyclables in the recycling stream has increased to almost 20% of the weight, which consumes resources to collect and costs extra processing fees at the recycling center.

Importantly, the routes have not been optimized since 2004 which has led to unbalanced loads on different days of the week since that customer account growth has been concentrated in two corners of town. Some routes require overtime to handle the regularly recurring amounts of refuse while others are finished hours before the end of the shift.

Goal: To reduce the average weight of garbage per household account.

Objective 19: To reduce, from 1,942 pounds to 1,850 pounds, the weight of garbage collected per house per year.

Strategies:

Increase recycling tonnage by implementing effective public education with commercials on DMTV and City social media.



Targeted messaging to specific neighborhoods using collection route data to identify geographic areas needing improvement.

Deploy a 32-gallon cart option.

Goal: To reduce the contamination of recyclables in the single stream recycling carts

Objective 19: To reduce, from 20% to less than 18%, the rate of non-recyclable material

Strategies:

Better education, using photos from rejected loads, the reject pile at the processing center, and the end of the line at the processing center.

Better enforcement, using light-duty personnel to inspect carts set out for collection. Repeat offenders to be cited for violation of Sec 98-117.

Goal: To decrease the imbalance of hours worked during the week

Objective 19: To decrease, from 1,800 to 1620, the average number of paid hours of collection time to service every home every week.

Strategies:

To increase efficiency, we will optimize routes and staffing by contracting with a vendor by January 2019.

Since 2008 an additional 90 lane miles (4% increase) have been added to the street system. During that same time maintenance staff numbers have decreased by 20 positions (22% decrease).

This increase work load results in deferred preventative maintenance, increase in the number and severity of potholes and reduced Pavement Condition Index (PCI) scores. The average PCI for all streets in Des Moines has decreased from 67 in 2007 to 59 in 2015 (a 12% decrease). Pothole reports received by the Call Center from all sources have increased from 2,435 in 2015 to 3,937 as of April 2, 2018 (an 12% increase).



Goal: To increase Pavement Condition Index (PCI) for the system as a whole with special emphasis on the major street system.

Objective 19:

To increase, from 59 to 60, the average PCI for the entire system.

To increase, from 62 to 63, the average PCI for the major streets.

Strategies:

Implement the FY 2018-19 pavement preservation plan generated by dTIMS.

- Mill and overlay 177,540 square yards of asphalt pavement
- Reconstruct 30,040 square yards of streets
- Interim pave 39,240 square yards of residential streets
- Selective mill and overlay of 8,000 square yards of pavement
- Concrete pavement restoration on 10,960 square yards of pavement.

Goal: To decrease pothole reports from citizens.

Objective 19: To decrease, from 6,112 to 5,000, the number of potholes reported by residents from all sources.

Strategies:

Proactive pothole patching on snow routes that may require a slower response to complaints should reduce the call volume by patching potholes before they are called in. Increase the SLA to 3 or 4 days to free up manpower to facilitate proactive patching.

Identify and implement rehabilitation techniques that do not rely on complete overlays to extend pavement life, reduce pothole complaints, and increase PCI.

Identify and implement faster, better, and/or cheaper ways to patch potholes than just the present method of exclusively using hotboxes for asphalt pothole patching.

Over the last 25 years, the Forestry team has been reduced time and again. From a peak of 45 tree trimmers to a present-day staff of only 14, the Forestry team is a shadow of its former self. With a severely reduced staff, the amount of work that can even be done has been severely curtailed. There are more than 24,000 trees identified in the 2016 inventory as needing pruning, 2000 of those are small trees. There are 2,000 trees identified as hazardous and in need of removal, a backlog that exposes residents to too much risk of harm from falling limbs.



Goal: To reduce the backlog of trees requiring pruning or removal

Objective 19: To reduce, from 2,000 to 1,400 the backlog of small trees requiring pruning

Strategies:

To increase from 0 to 3 the number of 2-person crews to perform pruning City wide by June 30, 2019. Evaluate adjusting the SLA for response to tree-related issues to free up staff time to work proactively.

Develop and implement a small tree pruning program incorporating Forestry staff and trained volunteers that focuses on trees with a DBH of 5" to 9".

Investigate contracting some or all of pruning work until backlog is reduced to the point City crews can accomplish required pruning.

Issue: The average age of snow and ice removal equipment in Street Maintenance is 14 years old (purchased in 2004). It has older technology which slows down operations. Older equipment is in the garage at a higher rate and it costs 24% more to maintain older equipment in the fleet. All of this affects vehicle availability and therefore risks efforts to sustain effective daily operations and maintain snow removal completion times of less than 24 hours after snow accumulation.

Goal: To reduce the average age of the snow and ice control fleet

Objective 19: To reduce, from 14 years to 12 years, the average age of a piece of equipment in the fleet.

Goal: To increase the equipment availability rate

Objective 19: To increase, from 66% to 80%, the equipment availability rate during each snow event.

Strategies:

- Create a 5-year equipment replacement schedule (and hold to it) by July 1, 2018
- Maintain a minimum Road Use Tax funded equipment replacement fund for Street Maintenance at \$1.5 Million/ year. By July 1, 2019
- Evaluate using lease-purchase to accelerate replacement schedule to avoid excessive maintenance costs of beyond-lifespan equipment.

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- Apply for state funding from VW settlement funds to accelerate replacement of trucks
 - Adjust council approval process so money dedicated in a fiscal year can be appropriated at least 6 months in advance (this will result in delivery in the FY the money is allotted) by July 1, 2020

Adequate material on hand for an entire season and adequate number of drivers to spread city (all streets not just redlines) during ice events. Prior to winter weather events, 100% of streets should also be brined. The goal will be to maintain the 24-hour completion time after winter weather event which includes ice accumulation.

Goal: To increase resident satisfaction rates with snow and ice removal

Objective20: To increase, from 64% to 75%, the resident satisfaction rate

Goal: To reduce the cost per inch of accumulated snow removal over the season

Objective19: To reduce, from \$75K per inch to \$70K per inch, the average cost of snow removal

Goal: To increase the number of cost-saving preventive options.

Objective19: To increase, from 2 to 4, the number of cost-saving preventive treatment options.

Strategies:

- Revise the Unified Snow Plan by July 1, 2019.
- Revise the spreader routes to include cul-de-sac specific spread routes by July 1, 2019. Including additional equipment procurement to place one-ton spreaders in a total of 6 trucks by July 1, 2019.
- Increase total spreaders in fleet to a minimum of 42 (one per District PLUS 2 for school routes/ Central Business District) by July 1, 2020.
- Increase wing fleet (including a tow plow) to a minimum of 40 plus a tow plow by July 1, 2020.
- Evaluate increasing parking ban ordinance to encompass all streets (including odd/even, routes and districts) for a period of 24-hours after snowfall ends by July 1, 2022.
- Evaluate eliminating Snow Routes and make all streets “Snow Emergency Streets” by ordinance by July 1, 2022.



- Evaluate the range of preventive treatment options and find the most cost effective one.

Issue: Nearly 45% of the workforce is at or near the age of 50 and will face increasing challenges keeping up with the physiological demands of the work. Injury and sickness rates increase as the workforce continues to mature. In calendar year 2017, the City of Des Moines Public Works Department has had 120 injuries to employees and those injuries have cost over \$1.4 million and not every one has resulted in a full recovery of function.

59% of the injuries occurred to employees that have 20 years of service or more despite consisting of only 28% of the workgroup. Most of those injuries are strains caused by lifting, reaching, carrying, or holding. Two body parts alone -- the shoulders and lower back -- are 34% of the affected areas. This suggests that employees are attempting to work harder than their bodies will physically permit, exposing them to injury.

Goal: To reduce the number of injuries and illnesses.

Objective18: To reduce, from 120 to less than 100, the number of injuries incurred.

Goal: To reduce worker's compensation costs.

Objective18: To reduce, from \$1.6M to less than \$1.5M, the cost of treating injuries and illnesses

Strategies:

- Fully embrace the relaunched City wellness program. Enhance and promote the wellness program. Provide free/reduced cost gym memberships, exercise classes, etc.
- Re-charter the Safety Committee to be the Injury and Illness Prevention Team.
- Build a program for Daily warm-up and stretching activities guided by trained volunteers
- Build a tailgate safety meeting curriculum that is tailored to the tasks to be encountered during that day's work.
- Provide an incentive to individual employees or work groups for a certain length of time with no lost days or no light duty restrictions.
- Execute better oversight of the treatment course recommended for employees by the clinic.
- Develop better training & methods and provide better equipment that reduce the manual labor that causes the most frequent injuries.
- Deploy smaller carts to households enrolled in the solid waste special service program, a source of a disproportionate number of injuries.



Issue: Recent watershed plans completed for local streams (Fourmile Creek 2015, Walnut Creek 2016) have identified nitrogen, phosphorus, and bacteria as pollutants of concern. Failing septic systems are identified as a significant source for each of these pollutants. More than 700 single-family homes in the City of Des Moines are assumed to be on private onsite septic systems. The exact number and condition of these septic systems is not available due to a lack of historical records for installation and limited requirements for inspection and maintenance. Connection to the public sanitary sewer is only compulsory upon discovery of failure if the property is within 200' of the sewer. Failure of septic systems is often only discovered during a sale of the home, making the chance to connect to sanitary sewer fleeting, at best, and too often, expensive.

Goal: To decrease the number of properties with septic tanks.

Objective19: To decrease, from over 700 to less than 700, the number of existing residential structures that are not within 200' of a sanitary sewer

Strategies:

Develop mini-connection districts to deploy sewer mains to locations not presently served so that, when the septic fields fail, sewer is readily available to compel connection.

There are almost 11,000 acres of undeveloped and lightly-developed property within the Des Moines corporate city limits which are unserved by trunk sanitary sewers. Lack of available trunk sewers limits the development potential of these areas which hinders the growth of the tax base. Sewer Enterprise funds available for capital improvements are limited and must be prioritized between rehabilitating or replacing aging infrastructure, compliance with NPDES permitting requirements, as well as trunk system expansion. Economic development and community development factors must be considered to target expansion areas with the highest potential return on investment and coordinated with other essential services. The estimate to provide trunk sanitary sewer service to these 11,000 acres is approximately \$55 million, an impractical amount to do in short order so it must be prioritized in a manner that harmonizes with the Comprehensive Land Use Plan.

Goal: To reduce the number of properties without adequate access to the trunk sewer network.



Objective19: To reduce, from X to Y, the number of districts that require trunk sewer access.

Strategies:

Determine the appropriate number of sewer districts to fully build out the City's collection system, noted above as X.

Build a new trunk sewer and pump station to service the Market District's future development potential.

Build Little Fourmile Trunk Sewer to facilitate new development in a growth area.

Study the remaining sewer basins in concert with the OED & CD to proactively provide sewer service in a way that supports the orderly development and redevelopment of the city in accordance with PlanDSM.

Issue: The goal of the Iowa Nutrient Reduction Strategy (INRS) is to reduce nitrogen and phosphorus releases from point sources like the WRA Wastewater Treatment Facility in the coming decades. The WRA is planning future projects that will reduce the amount of phosphorous and nitrogen to meet INRS goals at an expected cost of \$75 million. Before and during the expected window of nutrient regulation, the treatment plant and conveyance system is expected to need to construct additional capacity to satisfy anticipated growth, which is a more urgent need and expected to cost over \$400 million. To accomplish both sets of requirements separately requires increasing the debt to be issued by the Authority, jeopardizing future financial flexibility and increasing sewer rates for member communities.

Goal: To reduce the impact of rate increases on the ratepayers of the WRA communities for future compliance with nutrient management.

Objective: To reduce the total expenditure to satisfy anticipated growth and nutrient reduction requirements by implementing nutrient recovery technology as part of projects that increase capacity.

Strategies:

Refine the deployment of biological nutrient removal. With minor structural changes and changed operations, we can nitrify/denitrify and meet 90% of INRS removal goals for nitrogen.

Select the most effective system to harvest phosphorous from phosphorous accumulating organisms produced in the biological nutrient removal processes.



Develop offsite nutrient removal capabilities in advance of a likely Nutrient Removal Exchange at the DNR.

Establish an industrial surcharge for phosphorous through the pre-treatment program.

Issue: Aging infrastructure is deteriorating faster than predicted. The street system is rapidly approaching the end of its design life and pavement conditions, already in an unsatisfactory state, have been declining across the city for the past 25 years, resulting in record numbers of potholes and pavement failures. The condition of streets in the city is the highest importance and the lowest satisfaction infrastructure item in the citizen survey, with 40% satisfied.

The sanitary and storm sewer systems in some areas of the city are over 100 years old and well past the intended useful life. Old sewer system pipes have a limited capacity for a densifying community and have an increase in failure, inflow & infiltration and can lead to sanitary sewer overflows and flooding which can become a health concern to the general public.

Goal: To increase the average PCI of the city's streets

Objective20: To increase, from 59 to 62, the average PCI of the city's streets

Strategies:

Execute the pavement maintenance and rehabilitation efforts recommended by the pavement management system.

Goal: To reduce the average age of the sanitary sewer system

Objective19: To reduce, from 100 yrs to 99 yrs, the average age of the sanitary sewer system

Strategies:

Direct sewer lining projects to address the oldest sewers

Develop a sewershed master plan to guide rehabilitation of the sewer collection system.

Deploy a sewer lateral service protection program to assist private property owners with the costs of private sewer repair and replacement.



Goal: To reduce the number of properties inundated by a 100-year storm

Objective19: To reduce, from 1,500 to 1,400, the number of properties affected by all 100-yr inundations

Strategies:

Execute floodplain buyout program in the Fourmile Creek corridor consistent with the acquisition priorities in the Fourmile Creek Greenway Master Plan.

Apply for FEMA Hazard Mitigation Plan funding of additional buyouts beyond what can be achieved with local funding.

Accelerate the construction of major watershed capacity projects.

Develop and implement a small watersheds project plan to address the areas most heavily impacted by the 2018 flood.

Goal: To reduce the number of sanitary sewer overflows (SSO) from preventable causes

Objective19: To reduce, from an average of 8 per year to 6, the number of reportable sanitary sewer overflows.

Strategies:

Prioritize grease and root control efforts over routine cleaning.

Map existing food service locations that are grandfathered under the FOG ordinance or have been given exceptions for physical or financial constraints.

Target education and outreach efforts to multi-family residents of problematic properties through their property management company.

Additionally prioritize sewer mains with recurring root intrusions resulting in repeat blockages in the sewer lining program.

Goal: To reduce the number of basement backups.

Objective: To reduce, from 253 to 200, the number of basement backups from all causes.

Strategies:



Increase the participation in the Private Property Protection Program with an increased subsidy from \$1000 to \$1500.

Direct market the program to homes that have a history of sewer backups.

Focus additional cleaning efforts in sewer basins that have a history of backups.

Goal: To reduce the amount of infiltration and inflow (I & I) in the sanitary sewer system.

Objective19: To reduce, from X% to Y%, the amount of flow attributable to rainwater in the sanitary system.

Strategies:

Determine, through flow monitoring data, the non-combined basins that have the largest disparity in dry weather vs. wet weather flows to serve as a proxy for inflow and infiltration.

Aim sewer lining projects to the most affected areas.

Conduct I&I studies of the selected basins to locate private sources.

Deploy a sewer lateral repair insurance program through HomeServe to assist homeowners with affording necessary repairs.

Issue: Though injury and illness rates among Public Works staff match national averages, the above-national-average length of rehabilitation time suggests that the intensity of the injury or illness exceeds the norm. The department's 4 reportable cases/100 employees (10 total injuries) for days away from work including restrictions is 74% above the national average of 2.3 reportable cases. Alternatively, the workforce may be less resilient than the national average. With more than half of injuries due to slips and trips or sprains and strains, either explanation poses a risk of induced absenteeism due to work-related injuries that limits the Department's ability to efficiently accomplish its mission.

Goal: To reduce the severity of injuries

Objective18: To reduce the department's number of long-term injuries from an average of 24 to less than 20.



Strategies:

Implement the Back Safe injury prevention program to incorporate both theoretical and practical training to promote safe movement in the workplace.

Goal: To reduce the number of careless injuries.

Objective18: To reduce the number of injuries due to slips, trips and falls from 52% to < 40%.

Strategies:

Evaluate the Slip Simulator to provide kinetic learning to reduce slip, trip, and fall injuries.

Discipline for failure to follow safety procedures.

Issue: There exists no means of communicating our efforts with the public beyond basic media methods. A lack of transparency hampers the public's ability to perceive the efficacy of PW efforts. The department has plans and operations that are entirely out of the public's view, which decreases the public's confidence in our ability to deliver infrastructure and services in a timely and cost-effective manner.

Goal: Increase the reach of communication efforts

Objective19: Increase, from 1% to 4%, the percent of the population reached on social media

Strategies:

Create engaging content, determined by studying effectiveness of earlier messaging, for regularly scheduled outbound posts on an at least weekly basis.

Advertise with Sponsored posts for recurring views of service line advertisements.

Objective19: Increase, from three to five, the number of channels for regularly scheduled messaging

Strategies:

Revive the PW Update for DMTV.

Plan and produce DMTV commercials for PW service lines.



Refresh the DMWW bill stuffer material used for PW purposes.

Refresh the Public Works content on the City's website as the new site is migrated, taking full advantage of improvements in the user interface to create features not presently available.

Develop targeted mailing for area-specific notices or service lines.

Create and populate the communication plan's content calendar for five channels of message distribution.

- DMTV
- Social media
- DMWW
- Direct mail
- City Sourced magazine

Issue: Within the next 10 years, the Public Works Department is forecasted to experience a 50% turnover in leadership at the section chief level and above resulting in the loss of 280 total cumulative years of service to the city. The institutional knowledge of 280 years of service will leave with these leaders and create a knowledge gap, cause unnecessary challenges, and create service issues across the department.

The current process for training and developing future leaders does not properly prepare individuals for advancement, leaving a pool of candidates with disparate amounts of leadership training, frequently with seniority being the chief differentiator.

The Public Works Department needs a cadre of employees at every level who are suited, trained, able, and ready to assume positions of greater responsibility within the organization.

Goals:

To increase the number of individuals ready to contend for levels of greater responsibility within the organization.

To decrease the impact of the loss of 280 years of collective institutional knowledge.

Strategies:



Identify candidates within each section to participate in a pilot program by the end of FY2019. Rotate through job shadowing with a presently-serving Section Chief. Host round table discussions with all Section Chiefs and all leadership mentees to glean info about own duties as well as duties of other Section Chiefs.

Identify core competencies common to all section chief positions throughout the department by the end of FY2019, including flood and snow competencies.

Develop a leadership management program to be implemented by the end of FY2020 that includes online courses from LTAP, built around the core competencies.

Implement a standardized method of capturing institutional knowledge by the start of CY2019, such as APWA Accreditation

Public Works Strategic Plan At-A-Glance

GOALS	Start 2018	Goal 2019	Actual 2019	Goal 2020	Actual 2020
Increase the PCI for the system as a whole with special emphasis on arterials	59	60	60.5	62	
Decrease pothole reports from citizens	6,112	5,000	16,004	6,000	
Reduce the average age of the sewer system	100 yrs	99 yrs	99 yrs	98 yrs	
Reduce the number of properties inundated by the 100-year storm	1500	1400	1420	1400	
Reduce the number of sanitary sewer system overflows from preventable causes	8	6	4	4	
Reduce the amount of infiltration and inflow in the sanitary sewer system	X	<X	X	<X	
Reduce the number of basement backups	253	200	508	200	
Reduce the age of the fleet	14 yrs	12 yrs	12 yrs	10 yrs	
Increase the equipment availability rate	66%	80%	91%	90%	
Increase resident satisfaction rates with snow and ice removal	64%		No survey this year	75%	
Reduce the cost per inch of accumulated snow removal over the season	\$75,000	\$70,000	\$66,781	\$70,000	
Increase the number of cost-saving preventive options	2	4	4	6	
Increase the on-time performance of preventive maintenance at pump stations	70%	85%	77%	85%	
Increase the percentage of sewers televised annually	3%	5%	5%	10%	
Reduce the average weight of garbage per household	1,800	1,700	1,742	1,700	
Reduce the contamination of recyclables in single stream carts	20%	18%	17.5%	15%	
Decrease the imbalance of hours worked during the collection week	1,800	1,620	1,720	1,620	
Reduce the backlog of small trees requiring pruning	2,000	1,400	1,495	800	
Reduce the number of injuries and illnesses	68	60	70	65	
Reduce workers compensation costs	\$1.6M	\$1.5M	\$1.47M	\$1.2M	
Decrease the number of properties with septic tanks	over 700	under 700	over 700	under 700	
Reduce the number of properties without adequate access to the trunk sewers	X	Y	X	Y	
Reduce the impact of rate increases for future compliance with nutrient regulation	\$75M	????	\$75M	????	
Reduce the severity of injuries	24	20	17	15	
Reduce the number of careless injuries	52%	40%	14%	25%	
Increase the reach of communication efforts	1%	4%	2%	4%	
Increase the number of communication channels in the communication calendar	2	5	4	6	
Increase the number of employees ready to contend for positions of greater responsibility	0	12	0	12	
Decrease the impact of the loss of 280 years of collective institutional knowledge	0	1	1	1	

Appendix B: Data Sources

PCI for city streets: dTims - Average Condition for All_Roads – projected value in non-inspected years

Pothole reports: HEAT - CallType Report “Pothole Repair” + CitySourced Service Requests “Pothole” for the calendar year.

Reduce the average age of the sewer system: Average of “Year Built” or “Year Lined”, whichever is more recent, for all Pipe IDs

Reduce the number of properties inundated by the 100-year storm: calculated from intersection of residential properties and inundation mapping, FEMA FIRMs

Reduce the number of sanitary sewer overflows from preventable causes: Count of paper copies of reports filed to Iowa DNR

Reduce the amount of infiltration and inflow in the sanitary system: cumulative sum of delta between wet flow and dry flow across all basins -- TBD

Reduce the number of basement backups: Lucity - Work Order History

Reduce the age of the fleet: RMS Fleet Age report

Increase the equipment availability rate: Calculated from the Snow Equipment Status Report

Increase resident satisfaction rates with snow and ice removal: ETC Institute, Resident Survey, average of sum of “very satisfied” and “satisfied” for Q19-13 & -14.

Reduce the cost per inch of accumulated snow over the season: calculated from Snow and Ice Control Costs report

Increase the number of cost-saving preventive options: Snow and Ice Control Operations Manual

Increase the on-time performance of preventive maintenance at pump stations: Lucity Work Order History

Increase the percentage of sewers televised annually: Lucity Work Order History

Reduce the average weight of garbage per household: calculated from average # of accounts and total tonnage

Reduce the contamination of recyclables in single stream carts: MidAmerican Recycling audit, “Residue” category

Decrease the imbalance of hours worked during the collection week: hours of time, overtime, and incentive time required to collect all routes

Reduce the backlog of trees requiring pruning: TreeKeeper 8

Reduce the number of injuries and illnesses: City of Des Moines Loss Analysis Dashboard – PW & WR – Total Number of Injuries/Claims – tracked by calendar year due to EMC reporting

Reduce workers compensation costs: City of Des Moines Loss Analysis Dashboard – PW & WR – Injury Cost (Incurred) - tracked by calendar year due to EMC reporting

Decrease the number of properties with septic tanks: DMWW billing of residents with no sanitary charges

Reduce the number of properties without adequate access to the trunk sewers: Number of future sanitary sewer basins not connected to the system, TBD

Reduce the severity of injuries: City of Des Moines Loss Analysis Dashboard – PW & WR – LT Injury count for calendar year

Reduce the number of careless injuries: City of Des Moines Loss Analysis Dashboard – PW & WR – Injury type: Trip/slip + Fall/slip same level + Fall/slip different level

Increase the reach of communication efforts: Facebook Insights data export – Des Moines Public Works, average of Daily Total Reach as a percent of the population

Increase the number of communication channels in the communication calendar: Calendar

Increase the number of employees ready to contend for positions of greater responsibility: roster of Section Chief School

Decrease the impact of the loss of 280 years of collective institutional knowledge: contract for accreditation