



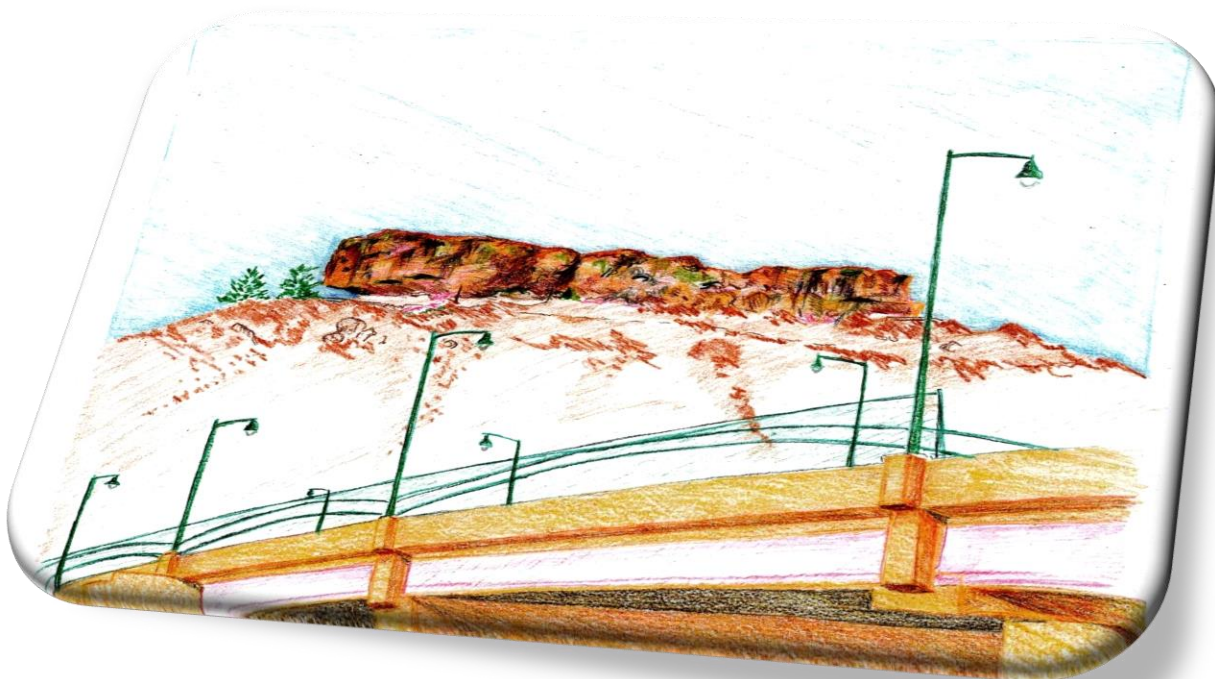
The Public Works Department operates under the CAN DO philosophy
- We are committed to doing the job right with a positive attitude
while staying dedicated to meeting the needs of our Town values
and continually searching for opportunities to improve.

PUBLIC WORKS DEPARTMENT

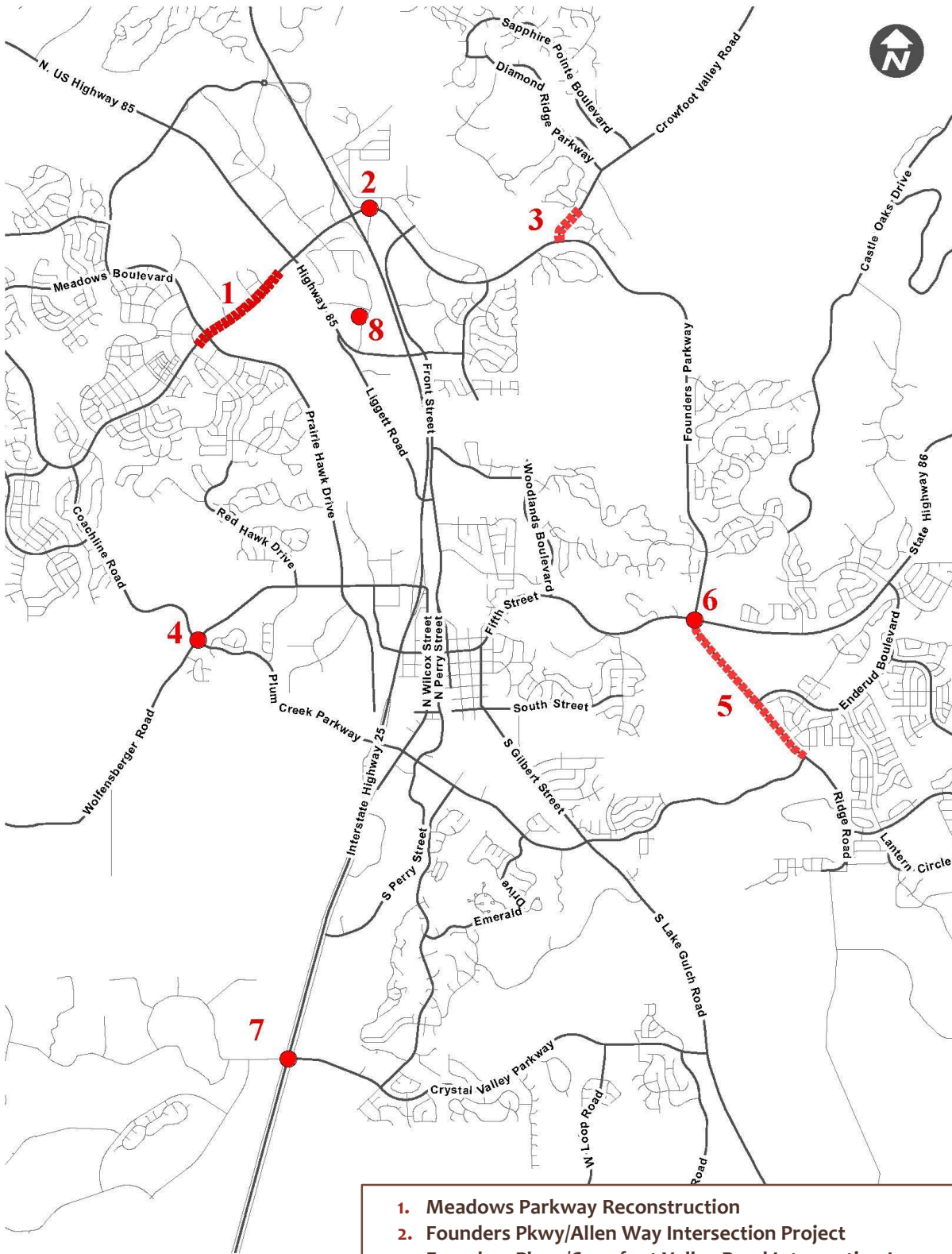


*Our Mission: To provide
outstanding service, safety
and support for
transportation infrastructure
and maintenance.*

MONTHLY REPORT – DECEMBER 2017



CAPITAL PROJECTS



1. Meadows Parkway Reconstruction
2. Founders Pkwy/Allen Way Intersection Project
3. Founders Pkwy/Crowfoot Valley Road Intersection Improvements
4. Roundabout at Wolfensberger Road/Plum Creek Pkwy
5. Ridge Road Widening (SH86 to Plum Creek Pkwy)
6. SH86/Fifth Street Intersection Improvements
7. Crystal Valley Interchange (Right-of-Way Acquisition)
8. Public Works Facility Expansion

1. **Meadows Parkway Reconstruction** - This improvement project will consist of the reconstruction of the existing 4-lane roadway of Meadows Parkway from the intersection of Meadows Parkway and Prairie Hawk Drive to the railroad overpass over Plum Creek near US 85. This reconstruction will also replace any broken curb/gutter, sidewalk, and add on-street bike lanes. **Phase: Design – Felsburg, Holt and Ullevig is the design consultant for this project. The project was advertised for bids on December 13. Bids will be opened January 11 and construction will begin late May/early June of 2018. Budget: \$112,385 Construction: Summer 2018**

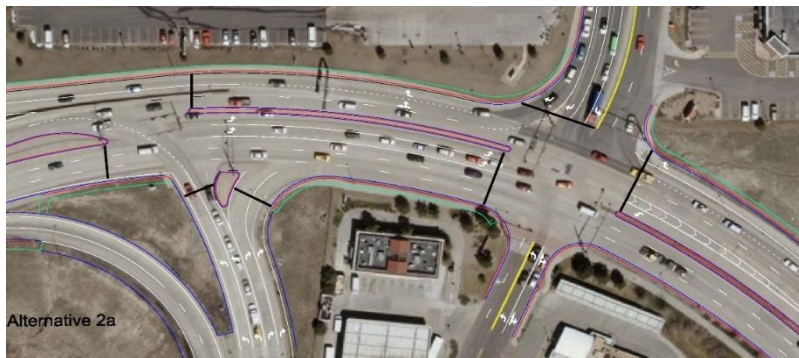
2. **Founders Pkwy/Allen Way Intersection Improvement Project** – This project will address the need for the following improvements:

- An additional eastbound left turn lane from Founders Parkway to Allen Way
- A dedicated right turn lane from Founders Parkway to Allen Way
- An additional southbound right turn lane from Allen Way to westbound Founders Parkway
- An additional I-25 northbound on-ramp lane
- A second through lane at Allen Way and Allen Street

Phase: Design & ROW Acquisition – Felsburg, Holt & Ullevig is the design consultant for this project. The following is a summary of the design activities that took place during this month:

- Appraisal/negotiation/acquisition of ROW in process
- The draft Minor Interchange Modification Request (MIMR) was provided to the Town for comment.

Budget: \$760,000 Projected Design & ROW Completion: Summer 2018



Founders Parkway/Allen Way Proposed Intersection Layout

3. **Founders Pkwy (SH86)/Crowfoot Valley Road Intersection Improvement Project and Crowfoot Valley Road Widening Project** – This project will address the need for the following improvements:

- An additional eastbound left turn lane from Founders Parkway to Crowfoot Valley Road
- An additional northbound lane on Crowfoot Valley Road between Founders Parkway and Knobcone Drive
- A southbound free right turn lane from Crowfoot Valley Road to westbound Founders Parkway
- Widen Founders Parkway both eastbound and westbound between the Crowfoot Valley Road and Woodlands Boulevard
- Widen Crowfoot Valley Road from Founders Parkway to Knobcone Drive

Phase: Design and ROW Acquisition – Kimley-Horn is the design consultant for this project. The following is a summary of the design activities performed this month:

- Final Office Review (FOR) comments addressed and submitted to CDOT on December 19.
- Western States has been working with HOA's on right-of-way and temporary easement acquisition.

Budget: \$650,000 (2016-17) Projected Design & ROW Completion: Winter 2017/18

4. Wolfensberger Road/Plum Creek Parkway Roundabout Project – This project will accomplish the design and construction of a roundabout at this intersection to improve operations and minimize potential accidents. Phase: Design –Short Elliott Hendrickson Inc. (SEH) is the consultant for design of this project. The following is a summary of the design activities performed this month:

- Finishing work on the 100% plans.
- Staff is working with Castle Rock Development Company on right-of-way needs.

Budget: \$150,000 Projected Design Completion: Winter 2017/18 Construction: 2018



5. Ridge Road Widening – Ridge Road will be widened from two to four lanes between the Founders Parkway (SH86)/Fifth Street/Ridge Road intersection and Plum Creek Parkway. The goal is to reduce traffic congestion on the Ridge Road corridor. Phase: Design: Stanley Consultants, Inc., has been awarded the design contract for this project. Design is currently at 30% awaiting design of the Founders Parkway/Fifth Street roundabout for tie-in location. **Budget: \$400,000 Projected Design Completion: 2018 Construction: 2021 (Tentative)**

6. Founders Parkway (SH86)/Fifth Street Intersection Improvements – The consultant investigated multiple alternatives to address safety concerns and capacity issues at the intersection and it was determined that a roundabout will be constructed at this location. Phase: Design –Short Elliott Hendrickson, Inc. (SEH) is the design consultant for this project. SEH has provided the Town a revised scope, fee, and schedule for the design of a roundabout at the intersection. **Budget: \$340,000 Project Design Completion: 2018 Construction: 2021 (Tentative)**

7. Crystal Valley Interchange – Right-of-Way Acquisition – The purpose of this project is to achieve acquisition of remaining right-of-way and set aside future project funding allowing potential funding partnerships to assist with advancing construction. Phase: Town of Castle Rock entered into a service agreement with Woolpert, Inc. to provide land surveying services for the Crystal Valley Interchange east and west side Right-of-Way Plan Review (ROWPR). The following is a summary of the activities performed this month:

- East side ROWPR:
 - ✓ Continuing with on-line work review
- West side ROWPR:
 - ✓ Reviewing title commitments

Budget: Development Escrow

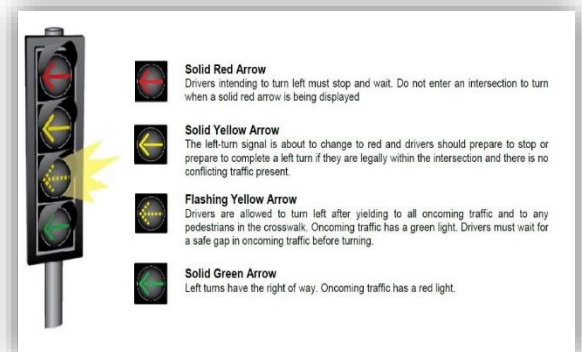
8. Public Works Facility Expansion – This project will complete design plans for the Service Center building expansion. Phase: Design - The following is a summary of the design activities that the firm D2C performed during this month:

- Continue to work on 90% design

Budget: \$220,000 Project Design Completion: Winter 2017/18

Traffic Signal System Upgrades - Phase 2 - In December, staff worked on troubleshooting the radio, switch, and system connections for the remaining signalized intersections that were a part of the Phase 2 system upgrade. Intersection maps with visual symbolization of detection and signal indication was started, including changes to flashing yellow arrow operation upgrades. Overall review of system control and monitoring through central system has begun and will begin implementation. To date, this project has completed the installation of battery back-up units at all Town intersections, video detection equipment that sends live feeds back to the Service Center and radios to bring all of the Town's traffic signals onto the communication network. Organization and documentation of system addresses and final troubleshooting of communication configurations remain. This project is nearly complete and is already a part of daily operation, with all contractor work finished and Town Staff working on finalizing organizational documentation. **Budget: \$400,000 Construction Completion: Winter 2017**

TABOR Flashing Yellow Arrow Intersection Conversion Project – In December, the Town's contractor, Sturgeon Electric, continued installing and converting existing signalized intersections to operate with flashing yellow arrows (FYA) for left turn movements. The project has gained momentum and to date 12 of the 19 intersections have been completed and the work accepted by Town staff. Two other intersections at school locations will have FYA installed and be in full operation by the end of the first week in January prior to school going back into session. This leaves five remaining intersections, three of which require rewiring. We anticipate these intersections to be complete and accepted by staff in mid-February. Town is supplying materials and equipment necessary for the project, including signs, and the new controller settings to run the new configurations. This project will continue until the conversion of 19 existing signalized intersections in Town operate with flashing yellow arrows for left turn movements. **Budget: \$228,000 Construction Completion: Winter 2017 / 2018**



National research has shown that these flashing yellow turn arrows can improve safety at an intersection due to the arrows reminding drivers to watch for oncoming cars before making a left turn at a signalized intersection which reduces the number of broadside collisions at an intersection. This project is one of the TABOR funded projects and is on track to be completed in early January.



TABOR Rectangular Rapid Flashing Beacon Project – In April 2017, Town Council approved a project to add seven additional locations for a total of 21 RRFB to be installed around Town. RRFBs consist of a pedestrian activated yellow strobe light which notifies drivers that a pedestrian is at crosswalk or within the crosswalk. The lights are solar powered and cost approximately \$10,000 per location for the hardware and installation. They have proven to be an effective means of enhancing pedestrian safety. This project is one of the TABOR funded projects and is on track and expected to be complete in mid-January. In December, the Town's contractor, Sturgeon Electric, finished assembling the rectangular rapid flashing beacon (RRFB) lights, solar panel, and push buttons. Town staff made signs, and completed the installation at Coachline and Ridgeline Park, and is halfway through assembly of four locations: Wilcox and mid-block north of 3rd, 5th & 6th streets, 5th and Rock streets, and Enderud and Mikelson. These locations have all required assistance from the Streets Operations & Maintenance Division to core drill sign boot locations. All material has been received and assembled to complete all the project installations at the seven priority intersections.

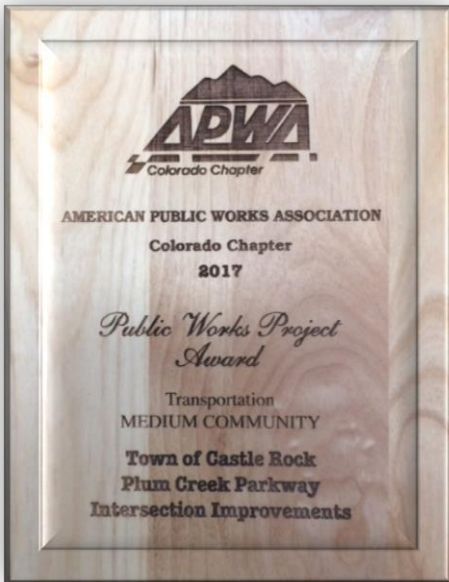
On December 21, FHWA, unexpectedly, rescinded the interim approval of RRFB installations, due to patent issues, not safety concerns. The best option for future installations is currently being reviewed. Prior installations shall remain through useful life of the RRFB equipment.

Budget: \$70,000 Construction Completion: Winter 2017 / 2018

2018 Intersection Signalization Design Projects – In December, Town staff addressed questions and requests for design consultant, Muller Engineering, to assist them in the signal design process. Staff assisted with obtaining IREA facility maps and determining feasibility for connection to Town’s fiber interconnect infrastructure. There are two new signalized intersections planned for construction in 2018. These intersections to include, Meadows Parkway and Low Meadows Boulevard, Plum Creek Parkway and Emerald Drive. The third planned location, 5th Street and Valley Drive, will be restriped to accommodate a westbound acceleration lane due to infeasibility of placing a signal pole on the steep embankment on the north side of 5th Street. Staff awaits submittal of 95% plans, specifications and engineering costs for our review and comment. Design completion and ad set are scheduled to be available before the end of January. **Budget: \$35,000 Design Completion: Winter 2017/18**

Engineering Division

CONGRATS!

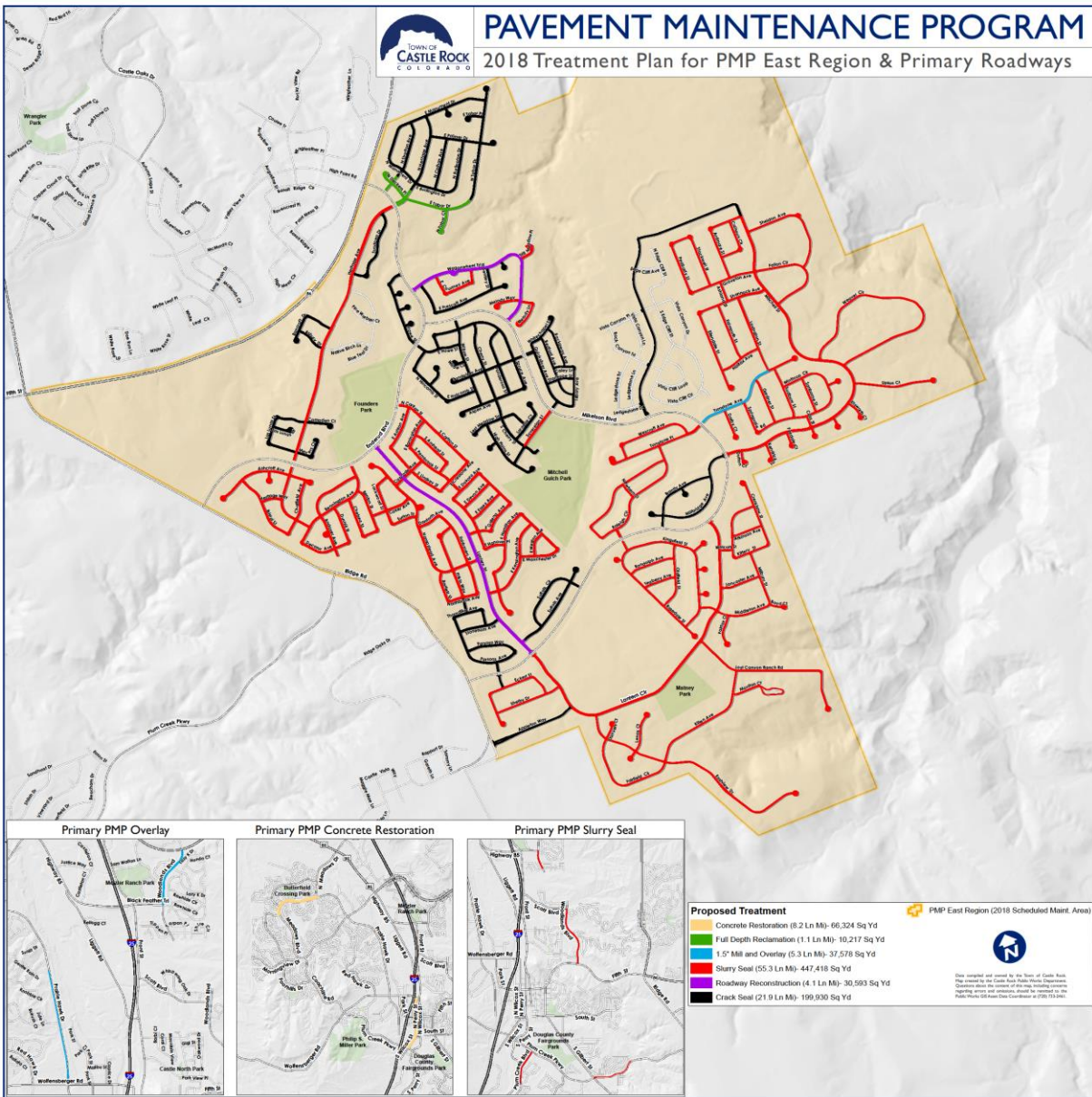


Public Works Project Award was presented to Public Works Department for Plum Creek Intersection Improvements at Town Council on December 5th by Dave Schmit, Public Works and Development Director for Arapahoe County on behalf of APWA Colorado Chapter.

2017 Pavement Maintenance Program (PMP) – Staff continues to work with the Miscellaneous Concrete Replacement contractor to schedule concrete repairs on issues called in by residents or found by Town staff.

2018 Pavement Maintenance Program (PMP) - The PMP team has completed the bid packages for the 2018 PMP projects. Eight bid packages were sent to Rocky Mountain E-Purchasing on December 20 and 28, 2017. The bid packages were for the Asphalt Overlay and Full Depth Reclamation Project, the Curb, Gutter and Sidewalk Replacement Project, Slurry Seal Project, two Concrete Pavement Restoration projects, two Reconstruction projects, and the Mastic & Crack Seal Project. All eight bid packages have a pre-bid meeting scheduled for January 23 and 24, 2018 with the bid openings for all eight projects scheduled for February 1 and 2, 2018.

The PMP map (shown below) indicates the proposed scheduled treatments for street within the South PMP area and Primary Streets. This map may change based on maintenance treatments and resources available.



2018 Facilities Parking Lot Improvements Program - With the completion of the bid package for the 2018 Town Facility Parking Lot Improvement Project, staff is in the process of soliciting bids. The bid package was sent to Rocky Mountain E-Purchasing on December 20, 2017. A pre-bid meeting is scheduled for January 23, 2018, with the bid opening scheduled for February 1, 2018. The scheduled parking lots for the 2018 Town Facility Parking Lot Improvement Project include: the parking lots at the Metzler Park, Castle North Park, Rock Park, parking lot at 4th Street and Jerry Street, and the parking lot at the Castle Rock Museum. Changes in the proposed facilities may occur due to current evaluation taking place and/or actual bid pricing received that may require some modifications.

2018 Bridge Maintenance Program (BMP) - Staff has identified the following

locations for the 2018 BMP:

Bridge Repair

- Castle Oaks Bridge at Rocky View Road
 - ✓ Girder repairs
- Fifth Street Bridge over I-25
 - ✓ Place riprap at column and repair spalled areas
- Perry Street Bridge over Sellers Gulch
 - ✓ Repair girder and girder bearing and upgrade approach rail

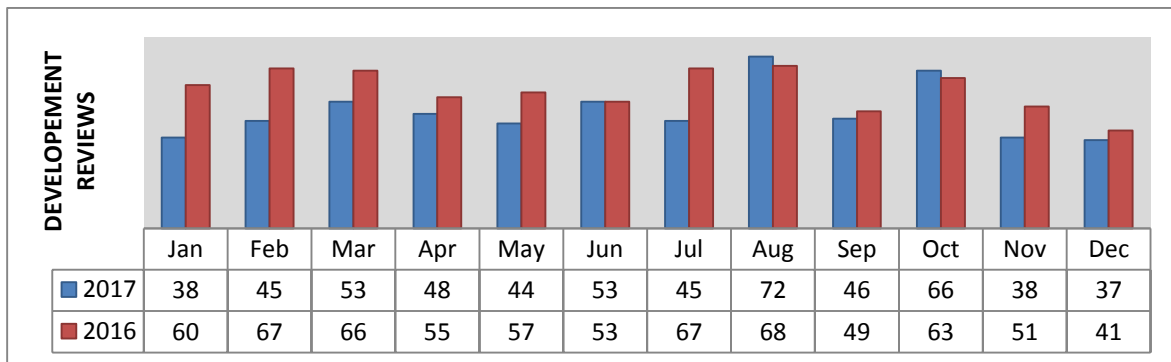
Bridge Surface Treatment

- Front Street Flyover
 - ✓ Mill and overlay wearing surface

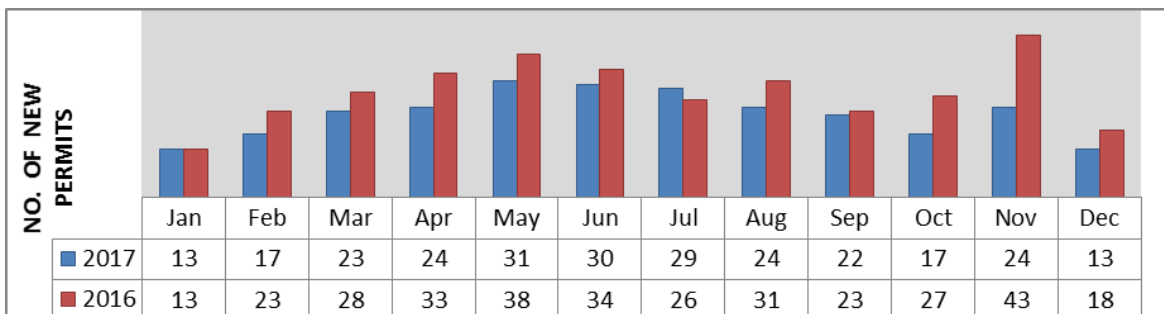
Treatments and locations may change pending current evaluation taking place and/or actual bid pricing received that may require some modifications.

Development Review and Permitting

Development Review - Included in the 37 submittals are 17 first time applications with six pre-applications. All reviews were completed on or before the due date assigned by the Development Services Project Manager.

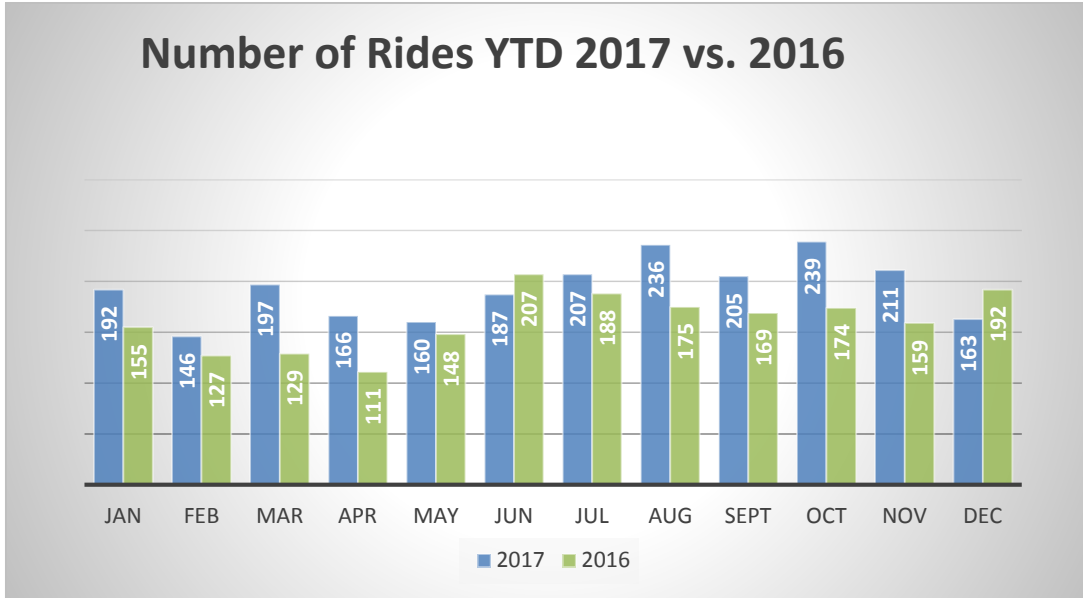


Permitting - Included in the 13 permits are: two commercial (Meadows Filing 20, Sherwin Williams Paint Store); and 11 permits for work within the public right-of-way, four of which were for chase drains.

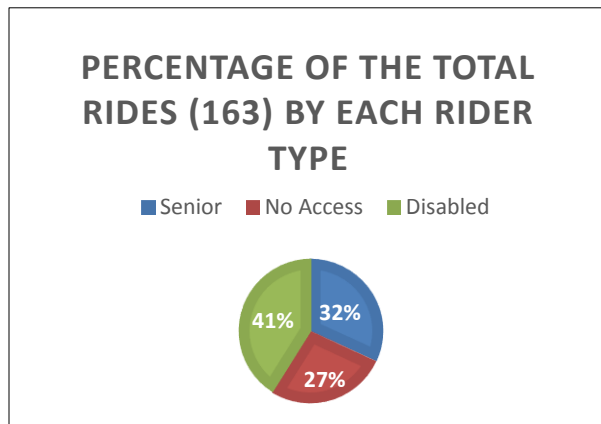
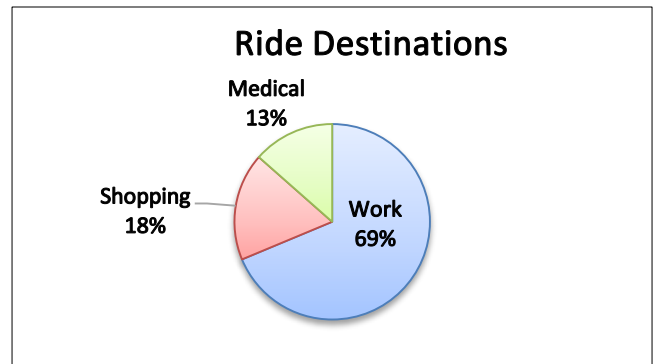
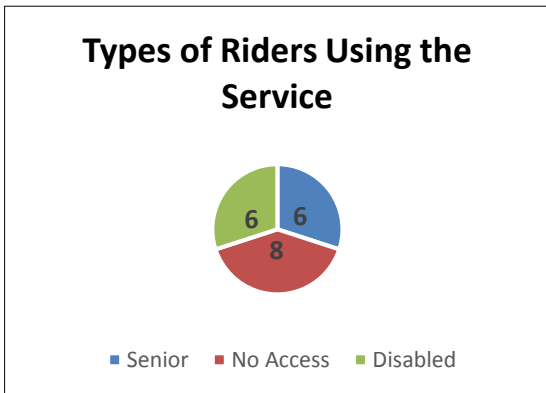


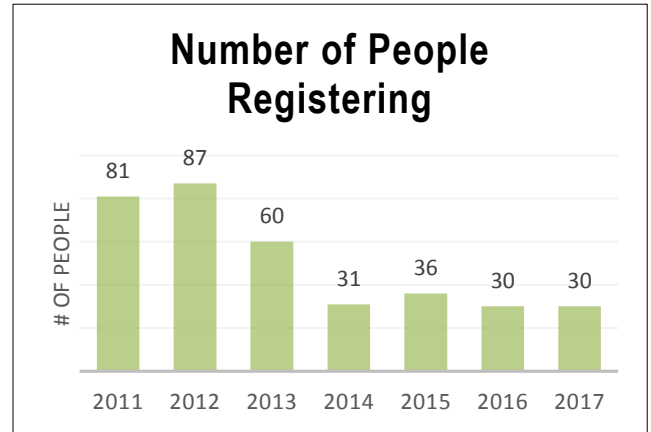
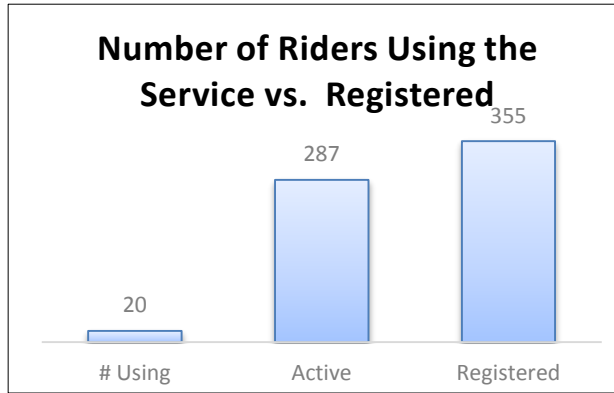
Transportation Division

Taxi Voucher – For the month of December, the Taxi Voucher Program funded 163 rides, this was a 15% decrease from last December’s total of 192 rides. The decrease in rides is a result of the holidays, and a number of the evening rides have been transferred over to Douglas County’s Transportation Program due to not having enough rides for a driver to cover those times.



Rides are available for work, shopping or medical trips. Transportation services are provided for Castle Rock residents who are senior citizens, have a disability that prevents them from driving, or do not have access to a vehicle.





There were three new registrants for the Taxi program this month. Since its inception, a total of 355 people have registered for the Town of Castle Rock Taxi Voucher Program. Currently 68 of these past registrants are inactive or have dropped out of the program.

Town Trolley - The Trolley drove for three events in December which included the Annual Holidays in the Meadows, Town of Castle Rock Story Tellers and S'mores Event and the Annual Grange Holiday Light Contest.



The Trolley provided a fun ride for all as many people and characters got to ride aboard the trolley at these events.



Senior Center Shuttle - The Senior Center provided 587 rides in the month of December which was a decrease of 4% from last month's rides of 612. The volunteer driver program provides service Monday through Friday from 9 am to 3 pm.

Traffic Engineering & Operations

Traffic Signal Operations and Maintenance - In the month of December, staff addressed 11 requests from the public related to traffic signal and intersection operations and maintenance. A total of 31 non-routine traffic signal maintenance visits were completed by Town staff and approximately six by the Town's signal maintenance contractor. These visits were related to installing parts for vehicle and emergency vehicle detection; investigations for public requests, accident response repairs, proofing conduit for future construction, and replacing bulbs. Also included are signal troubleshooting for potential timing adjustments, addressing communication alerts in central software, pedestrian detectors not functioning properly, vehicle detection problems, preemption problems for emergency vehicles, and incorrect time of day issues.



Finally, some of the fourth quarter preventative maintenance follow-up items identified in October and November were addressed in December.

Street Signs and Pavement Marking Maintenance - During December, the Signs and Markings crew installed 122 new signs for the rapid flashing beacon project bringing our total up to 14,462 signs in the Town. The crew also fabricated 32 signs for the flashing yellow arrow project. When not working on those two projects the team inspected 128 signs and nearly 11 hours were spent on a special event. Finally, staff provided eight hours of time to snow removal operations.



Transportation Planning

Neighborhood Traffic Calming Program (NTCP)

No new inquiries

Development Review

- Staff reviewed and commented on two transportation impact studies during the month. All reports were completed by the due date.
- Staff also reviewed and commented on the revised Meadows Arterial Access Plan. Some of the projected traffic volumes needed to be amended because projected volumes were lower than existing volumes on Meadows Blvd. In addition, there were new roadway improvements identified for CRDC that will need to be constructed as the Meadows continues to develop.
- Apex Charter School submitted their revised TIA. The applicant has made the changes suggested by Town Staff and the applicant's consultant team. There are still several small edits needed on the TIA before it can be accepted. The applicant is expected to submit the revised study soon.



Future CDOT Bustang Stop - It appears the former King Soopers parking lot is currently not available for a short term Bustang stop. The property is trying to be sold by the current owner. Therefore, any use of the lot by Bustang will have to wait until it can be negotiated with the new owner. Further work and analysis still needs to be conducted before any long term location can be identified as a preferred spot.

DRCOG Active Transportation Plan - DRCOG staff held the technical group meeting in December. The group discussed strategies to get the public more involved. While the regional bike map will be updated with recent changes by Castle Rock, it was decided that the map will not be used in the upcoming Transportation Improvement Program (TIP). Instead, any bike or pedestrian project identified in a local plan will be eligible for TIP funding.



Fleet Services
"Keeping Castle Rock on the Move"



As we drive around this Town of ours and see how busy all the different departments are with all the growth, from the Fire and Police departments along with Parks, Public Works, Water and Development Services relying on their Town issued vehicles to keep up with the first class service that

we provide to the citizens of Castle Rock here at the Fleet Services Division, we take great pride in knowing that those vehicles are reliable and safe to operate.

In the month of December, Fleet Technicians worked on 90 town vehicles and equipment and billed out over \$50,000 worth of parts and labor on 95 separate work orders.

Fleet Services staff has started the process of ordering new vehicles for 2018. We have pre-ordered nine police patrol units and one new ambulance.



Fleet Services staff continues to work on the upgrade to our Fleet Management Software (FASTER). Staff has received the new tablets for the technicians and are testing various aspects before going live.

Fleet Services staff is also continuing to look for ways to help with environmental sustainability by looking mainly for more ways to go paperless and recycle more shop waste.



Objective/Benchmark: Complete at least 75% of our work orders within 24-hours of coming to shop.

Outcome: Fleet team completed 78.6% of the work orders within 24-hours of opening repair requests or service requests. This benchmark shows how quickly the Fleet Services Division is completing work orders.

Objective/Benchmark: Town vehicles and equipment available for use 95% of time.

Outcome: Town vehicles and equipment were available 98.5% of the time. This high availability rate indicates that Town vehicles and equipment are ready when they are called upon to perform.

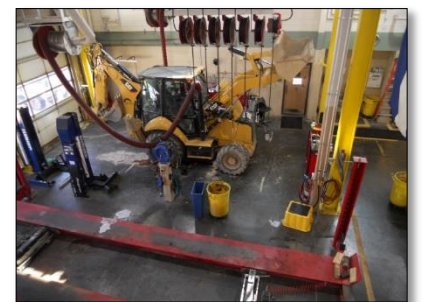
Objective/Benchmark: Technician productivity percentage of 70% (APWA standard).

Outcome: Technician productivity was 67.8%. This was slightly below our benchmark mainly due to technician time off for the holidays.

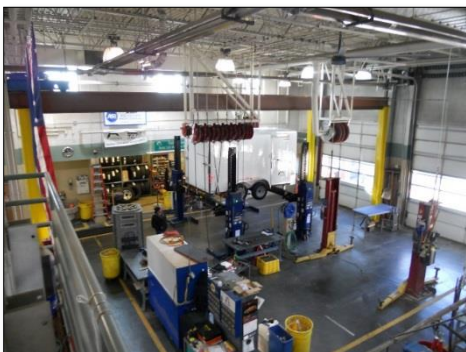


Fleet Services staff has inspected and certified all plow trucks for winter season.

Fleet Services staff passed storm water audit with no action items. Staff keeps shop clean and environmentally friendly.



Water Department back-hoe in for regular service.



Street Operations & Maintenance Division

During the month of **December**, the Street Operations & Maintenance Division (SO&MD) performed work in six (6) maintenance operations:

- Snow & Ice Control
- Street Sweeping
- Special Operations
- Pothole Patching
- Road Shoulder Maintenance
- Equipment Maintenance

Snow & Ice Control

December delivered four snow events. Staff worked diligently to be prepared and react effectively to each and every one of these events. During the first event, staff responded to the icy road conditions and bitter cold temperatures. During the second, third, and fourth events, the Town received minor snow accumulations. In total, the Town received approximately **four inches (4") of snow** during the month. During each of these snow events, snow operations were completed ahead of our eight hour service goal.

Street Sweeping

Staff executed sweeping operations subsequent to each snow event in total removing **49 yards** of material on **415 lane miles of roadway**. The goal of reaching 60% of roadways that received granular de-icing materials swept within four days of a snow event were well underway with the crews averaging 17% daily until brought to a halt by another snow event. These operations not only help to keep our Town vibrant and beautiful, they also help to keep our waterways and the air we breathe a little cleaner.

Special Operations

SO&MD staff has been working with our partners in the Parks and Water departments to improve the Town's lot at the north end of Caprice Street. This lot will soon be converted into the new Parks Department Service Center, however, before that can happen, staff has the task of moving approximately 15,000 cubic yards of materials in and around the site. To date, **6000 cubic yards** of material has been brought into the site from locations off site to fill in areas requiring fill. In addition to this, approximately **3000 cubic yards** of material already on-site has been relocated to facilitate snow and ice storage operations for this year. Due to weather conditions (snow events) these operations will be continued into next month.

Pothole Patching

SO&MD received a few requests for pothole repairs during the month and completed the repairs ahead of our 10-day service level. In total the staff proactively repaired **69 potholes** during the month. The potholes were repaired in the following areas; Butterfield Crossing, Meadows Parkway, Meadows Boulevard, and Ridge Road.



[Road Shoulder Maintenance](#)

Tree trimming operations are essential at protecting vehicles from receiving damages from branches that become weighted down with snow over the winter season. Crews removed [17.5 yards](#) of branches and vegetation within the Craig and Gould alleys. In other areas of the Town, crews performed roadside grading and fill operations depositing [7 tons](#) of road base. These operations were completed in the following areas; Wolfensberger Road, South Valley Drive, Ridge Road, Mitchell Street, and Topeka Way.

[Equipment Maintenance](#)

Equipment maintenance is a necessity in order to keep things ready to go at a moment's notice. During the month, staff worked on ensuring snow plows were ready, de-icing spreaders, and street sweepers just to name a few. In total, staff completed [131 work orders](#) helping to ensure the equipment is working at optimum performance and reliability.

[Looking Ahead](#)

During the month of [January](#), staff will continue to address snow events as they occur and sweeping operations after the event has cleared, and pothole repairs as needed. Work will continue on the snow storage site located on the north end of Caprice Street. We will also be performing onboarding and training of three new team members - integrating them into the Town's workforce and getting them ready to provide the outstanding service that Castle Rock is known for.

