



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.

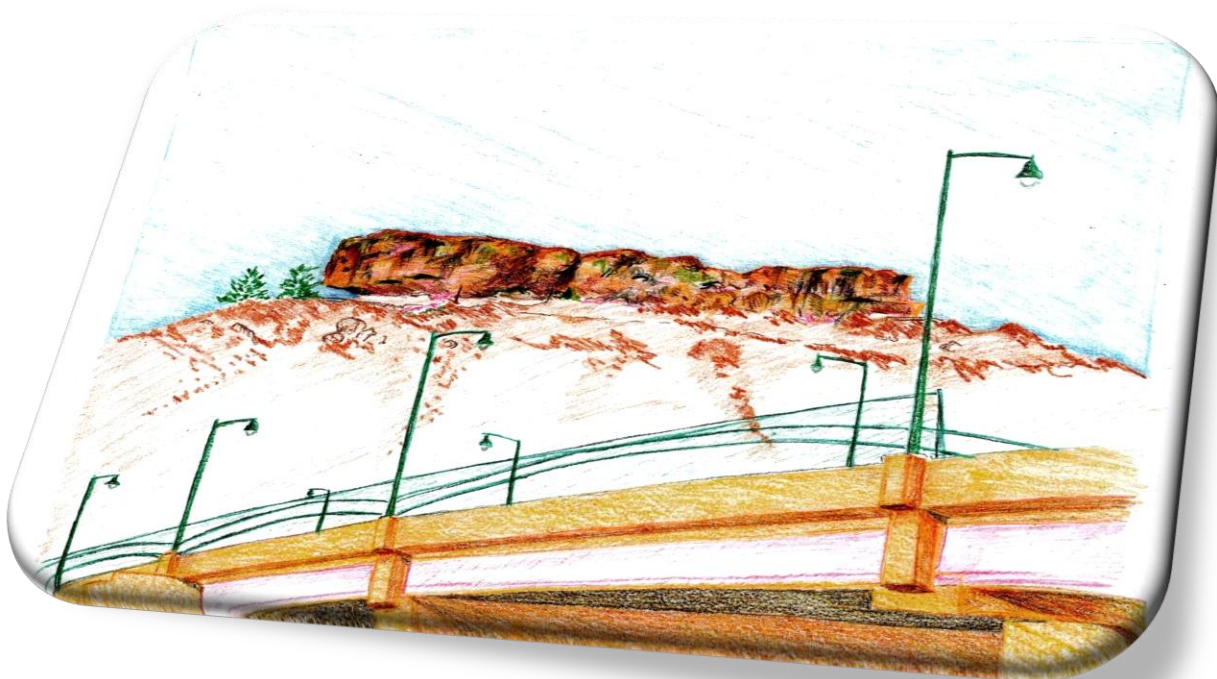
# PUBLIC WORKS DEPARTMENT



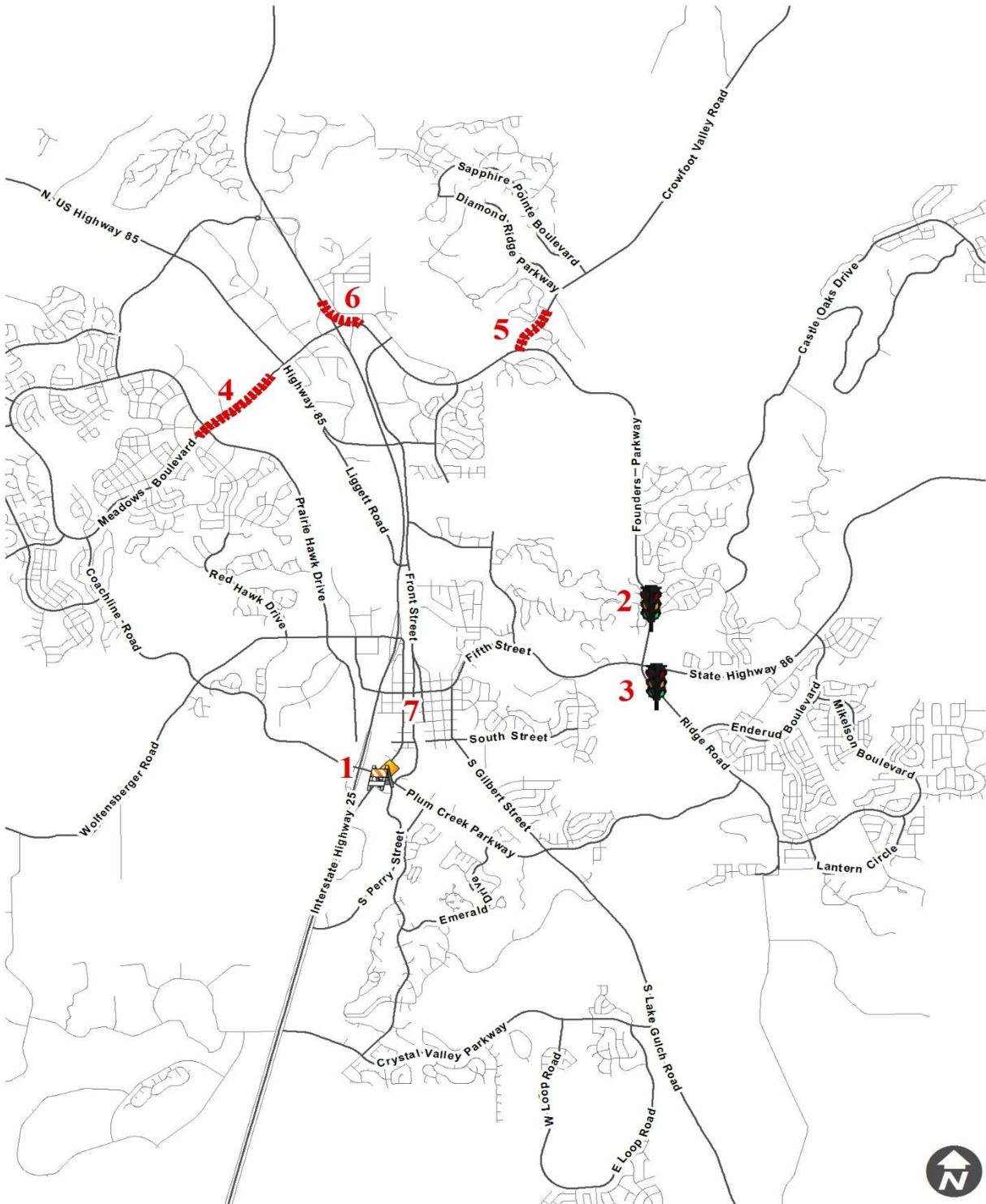
***Our Mission: To provide  
outstanding service, safety  
and support for  
transportation infrastructure  
and maintenance.***

## MONTHLY REPORT – JANUARY 2017

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# CAPITAL PROJECTS



1. Plum Creek Pkwy Intersection Improvements
2. Traffic Signal at Black Pine Drive/Copper Cloud Drive
3. Traffic Signal at Ridge Road/Kings Soopers Entrance
4. Meadows Parkway Reconstruction
5. Founders Pkwy/Crowfoot Valley Road Intersection Project
6. Founders Pkwy/Allen Way Intersection Project
7. Perry Street & 3<sup>rd</sup> Street Roundabout Project

1. **Plum Creek Parkway Intersection Improvements at Wilcox & Perry to I-25** – All construction improvements have been completed. Only minor punch list items remain. Budget: Capital Fund: \$3,050,000; Pavement Maintenance Fund: \$553,850; Utilities Department: \$59,000 Projected Construction Completion: Completed January 2017

2 & 3. **Intersection Signalization Projects** - This project completed the installation of two new traffic signals; one at the intersection of Black Pine Drive/Copper Cloud Drive/Founders Parkway; and one at Ridge Road/King Soopers Entrance. Phase: Construction – Both the traffic signals at Ridge Road/King Soopers entrance as well as the one at Founders Parkway/Black Pine/Copper Cloud are operational. Budget: \$480,000 Completion: Completed January 2017

4. **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 also add on-street bike lanes. Phase: Design – Felsburg, Holt and Ullevig is the design consultant for this project. The following is a summary of the project activities that took place this past month:

- Working on Utility agreement letters for CDOT clearance
- Environmental Clearance Reports Submitted to CDOT for review on December 16, 2016
- Submitted Final Office Review (FOR) plans to CDOT on January 18
- Attended Colorado Asphalt Pavement Association (CAPA) constructability review meeting on January 24
- Set up Final Office Review (FOR) meeting with CDOT to be held on February 13

Budget: \$112,385 Project Design Completion: February 2017

5. **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 Pkwy and Knobcone Drive.
- A southbound free right turn lane from Crowfoot Valley Road to westbound Founders Parkway
- Eastbound lanes added that are separated from the left turn lanes to allow the eastbound lanes to avoid stopping for the signal.
- Widen Founders Parkway both eastbound and westbound between the Crowfoot Valley Road and Woodlands Boulevard.

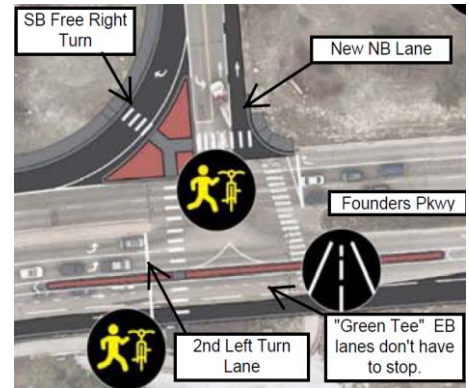
Phase: Design and ROW Acquisition – Kimley-Horn is the design consultant for this project. The following is a summary of the project activities performed this month:

- Reached out to potential utility providers in the project area, developed contact list, and obtained utility maps
- Continued data collection including drainage reports, master plans, and as-built construction plans
- Prepared the traffic analysis and report for intersection alternative evaluations which include:
  - ✓ No-Build (existing condition)
  - ✓ A traditional intersection widening that would include an additional eastbound (EB) left off of Founders, an additional southbound (SB) right off of Crowfoot, and a SB free right
  - ✓ A continuous green T which would allow eastbound traffic on Founders Parkway to not stop at the Crowfoot intersection (with second EB left + SB free right)
  - ✓ Roundabout

✓ **Continuous Flow Intersection (CFI)**

- Conducted project kick-off meeting and reviewed alternatives, where it was concluded that reasonable alternatives to move forward include the traditional intersection widening and a continuous green T.
- Completed preliminary property ownership mapping
- Completed ground topo of project limits
- Completed 3D scan of the intersection
- Prepared the preliminary control diagram and land survey control diagram
- Preparing conceptual roadway layouts for the 2 alternative intersection configurations
- Began preparing conceptual quantity estimates for cost evaluations
- Continued coordination with CDOT for review of alternatives

**Budget: \$650,000 (2016-17) Projected Design & ROW Completion: December 2017**



**6. 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 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** – The Intergovernmental Agreement (IGA) between the Town and CDOT was approved along with the services agreement between the Town and Felsburg, Holt & Ullevig for the design and ROW acquisition was approved at the January 17 Council meeting.

**Budget: \$760,000 Projected Design & ROW Completion: November 2017**

**7. Perry Street and 3<sup>rd</sup> Street Roundabout Project** – This project consists of a roundabout being constructed at the Perry Street/3<sup>rd</sup> Street intersection. **Phase: Design** – The design contractor, Felsburg, Holt & Ullevig (FHU), working on 90% plan submittals which includes the following tasks:

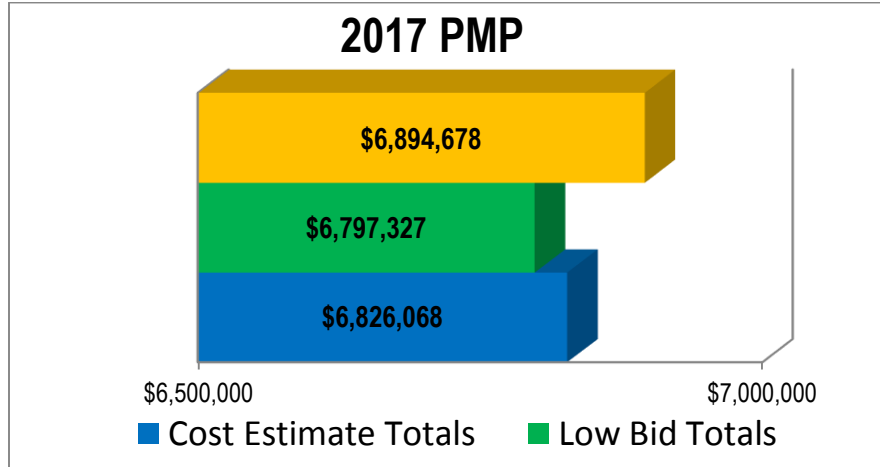
- Roadway/Traffic design
- Hydrology design
- Drainage memorandum
- Lighting design
- Utility coordination/plans
- Project Specifications/Opinion of Cost

**Budget: \$123,273 Projected Design Completion: March 2017**

**Traffic Signal System Upgrades - Phase 2** - The Town's consultant completed a draft design plan for a design project that would provide a communication link to the CDOT signals on Meadows / Founders Parkway. These plans are currently under review by Town staff. Once the design is complete, the intent will be for the Public Works Department to take over maintenance and operational responsibilities of the CDOT traffic signals within the Town limits of Castle Rock. The details of the transfer of responsibility still need to be worked out with CDOT but the signal system upgrades completed in both Phase 1 and Phase 2 upgrade projects will allow the Town to take on this maintenance responsibility. **Budget: \$400,000 Construction Completion: Spring 2017**

## Engineering Division

**2017 Pavement Maintenance Program (PMP)** - With the bid openings complete in January, staff is in the process of evaluating the bids submitted and begin the contract award recommendations. This process includes checking and verifying all bid proposals and contractor references. All six (6) project bids were under budget by 5.9% including contingencies.



Contracts under consideration this year are:

- Asphalt Overlay and Full Depth Reclamation
- Concrete Pavement Restoration
- Slurry Seal
- Mastic and Crack Seal
- Curb, Gutter & Sidewalk Replacement
- Reconstructions (Emerald Drive, Prestwick Drive, and October Drive)

Once the bid evaluation are complete, staff will prepare all contract documents to present to the Public Works Commission on March 6 and Town Council on March 7.

**2017 Facilities Parking Lot Improvements Program** - The bid opening for this program is complete with the low bid coming in under budget. The process of checking and verifying the bid documents is currently underway. The scheduled parking lots for the 2017 Facilities Parking Lot Improvements Project include the following parking lots: Prairie Hawk Fire Station, Bison Park, Wrangler Park, Gemstone Park, Paintbrush Park, East Plum Creek Trail Head lot, and Water Headquarters.

**2017 Bridge Maintenance Program (BMP)** - Staff has identified the following locations for the 2017 BMP:

### Bridge Repair

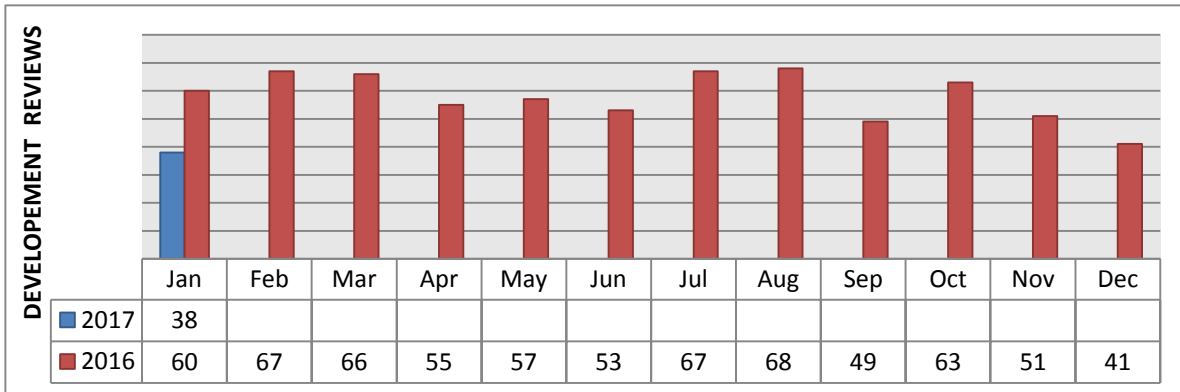
- Meadows Parkway Bridges over Plum Creek – Upgrade interior bridge railing
  - ✓ Design engineer is in the process of developing construction plans, 30% submittal scheduled for February 6.
- Plum Creek Parkway Bridge over the Union Pacific Railroad – Repair bridge deck, and girders
  - ✓ Design engineer is in the process of developing construction plans, 30% submittal scheduled for February 6.

Bridge Surface Treatment

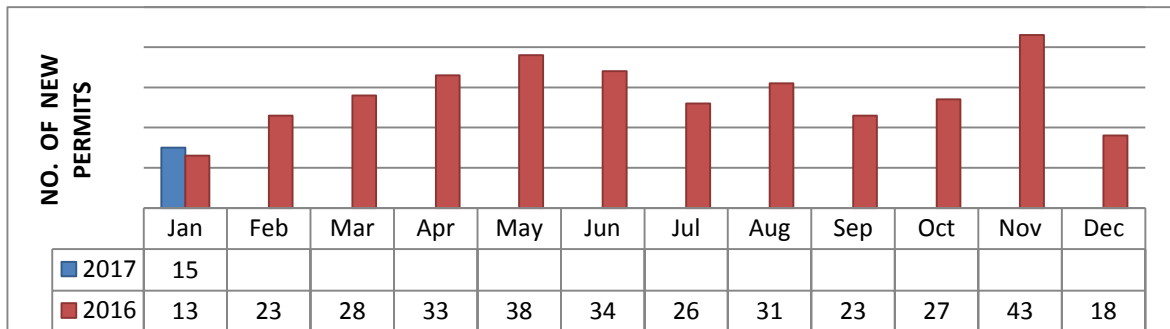
- Meadows Parkway Bridges over Plum Creek – Mill and overlay wearing surface
  - ✓ Bid was received as part of the 2017 Asphalt Overlay and Full Depth Reclamation project on January 19 and was within budget. Staff is in the process of evaluating the bid submitted and begin the contractor award recommendation.

**Development Review and Permitting**

**Development Review** - Included in the 38 submittals are 18 first time applications with five pre-applications. All reviews were completed on or before the due date assigned by the Development Services Project Manager.



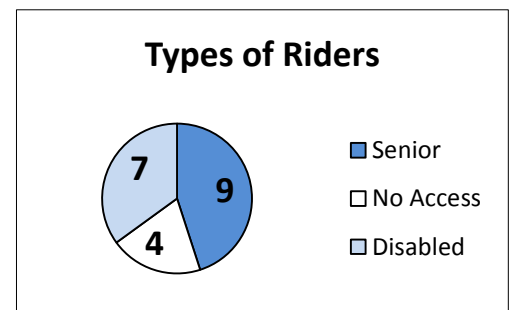
**Permitting** - Included in the 15 permits are: one - Residential Development (Meadows F20, Lokal Homes; one - Commercial (Town Hall Expansion); and 13 permits for work within the public right-of-way.

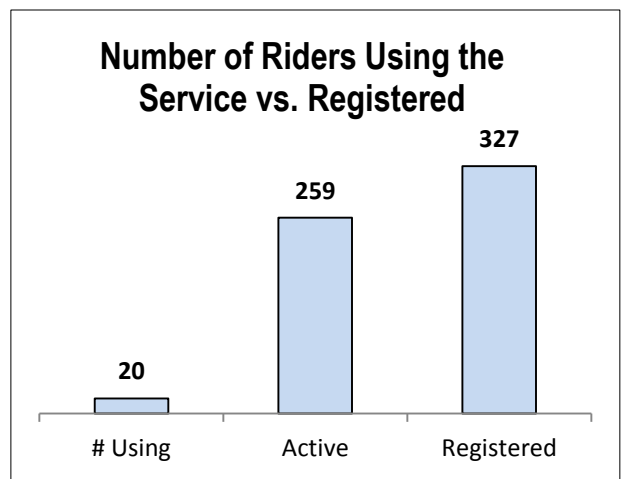
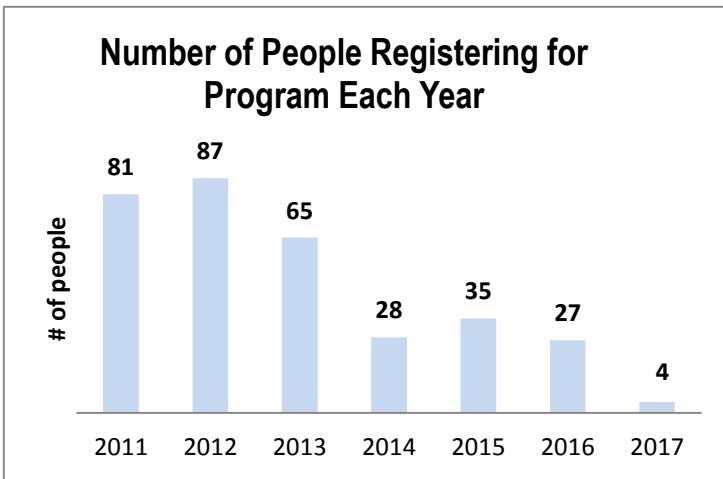
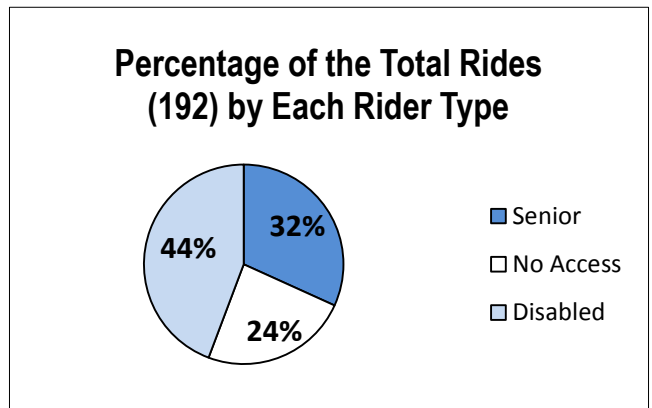
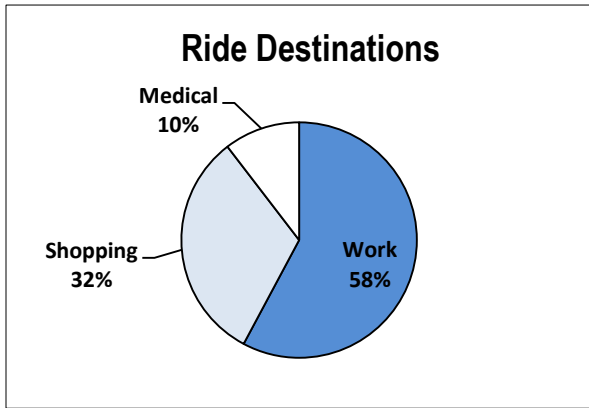
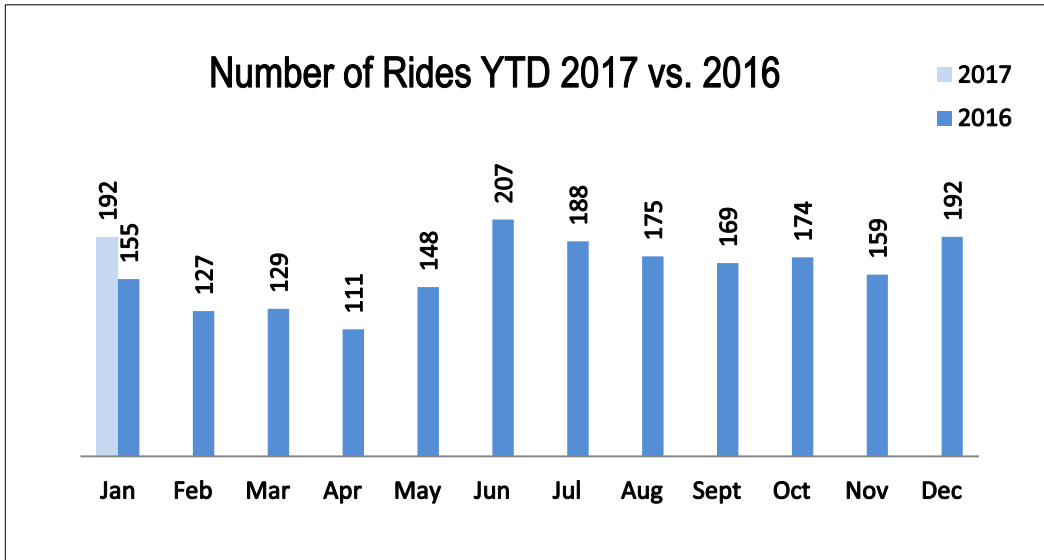


**Transportation Division**

**Taxi Voucher** - The Taxi Voucher Program funded 192 rides for the month of January. This was a 24% increase from last January’s total of 155 rides. The increase in rides is a result of taking on four new registrants needing help to get to work and the recent inclement weather in January.

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.





We had four new registrants for the Taxi program this month. Since its inception, a total of 327 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

**Senior Center Shuttle** - The Senior Center provided 655 rides in the month of January which was a 14% increase from last month's rides of 573. The volunteer driver program provides service Monday through Friday from 9 am to 3 pm.



**Town Trolley** - The Trolley is taking a break for the winter season and is getting some well deserved **R&R**.

2017 Sponsorships have gone out for the new season of events and its looking to be another great year with the classic Trolley!

## Traffic Engineering & Operations

**Traffic Signal Operations and Maintenance** - There were a total of twelve non-routine traffic signal maintenance visits this month completed by either Town staff or the Town's signal maintenance contractor. Most of these visits were related to vehicle detection problems or repairs needed due to damage cause by vehicle collisions or damage due to weather. Other repairs completed were associated with LED change-outs for pedestrian signal heads.



**Street Signs and Pavement Marking Maintenance** - During the month of January, the signs and markings crew primarily focused on street sign maintenance projects including area inspections, post straightening, repairing and/or replacing knocked down signs and the replacement of faded signs. They also provided support to the Town's snow plow operations as needed.

## Transportation Planning

### Neighborhood Traffic Calming Program (NTCP)

#### Updates:

- **Cherry Plum Way:** Town staff is still awaiting the return of the support petition to begin the traffic/volume study.
- **Starry Night Loop & Quartz Street:** The homeowner was informed to send in the original petitions since they were not legible in their email. They said they would get back to the Town after the holidays. Homeowner still has not contacted the Town with the original petitions.
- **Woodlands and Escavera:** Staff is working with the Engineering and Streets divisions for Phase I and II construction cost estimates. Construction is expected to begin this summer and be completed by fall.

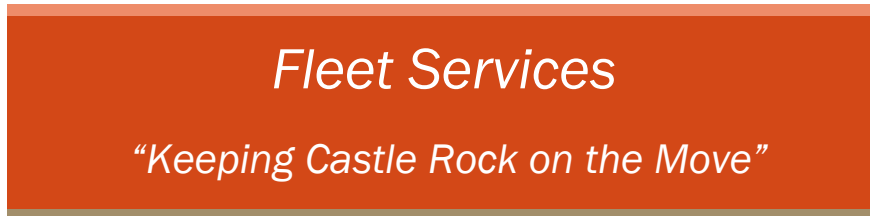




**Transportation Master Plan (TMP) Update** - The TMP public comment period ended January 31. All comments are currently being compiled by the consultant. A potential new interchange between the US 85 bridge and the Liggett bridge has been analyzed in the transportation model. The initial results indicate that it will relieve or reduce traffic volumes on Founders Parkway. The actual location and design has not been determined. An additional model run is underway with the new interchange located between the Pioneer Ranch and Pine Canyon proposed developments. The vision and goals of the TMP were also reviewed and provided to the consultant. Lastly, the bicycle and pedestrian elements of the TMP were discussed with the consultant.

**Development Review -**

- Staff reviewed and commented on six transportation impact studies, including the Town Hall expansion, Meadows Self-Storage, and several studies and analyses submitted by the proposed Ridge Estates development. All reports were completed by the due date.
- Two potential school preliminary project application (PPA) proposals were reviewed and commented on. Schools include an expansion at Academy Charter School on Prairie Hawk and Milestone Academy on Ridge Road near Plum Creek Parkway. Milestone is proposed to be for grades K-12.



The Fleet Services Division had a good start to 2017. The Fleet Services team continued to increase our work order total and amount of parts and labor billed; working on 119 Town vehicles and equipment (which is about 1/3 of our total fleet), and billing out over \$67,000 of parts and labor. Staff is now working on ordering our replacement and/or additional vehicles which totals over \$5.5 million!



**Objective/Benchmark:** Complete at least 75% of our work orders within 24-hours of coming to shop.  
**Outcome:** Fleet team completed 79% of the work orders within 24-hours of opening repair requests or service requests. This number shows the quick turnaround of vehicles that come into our shop for repairs.

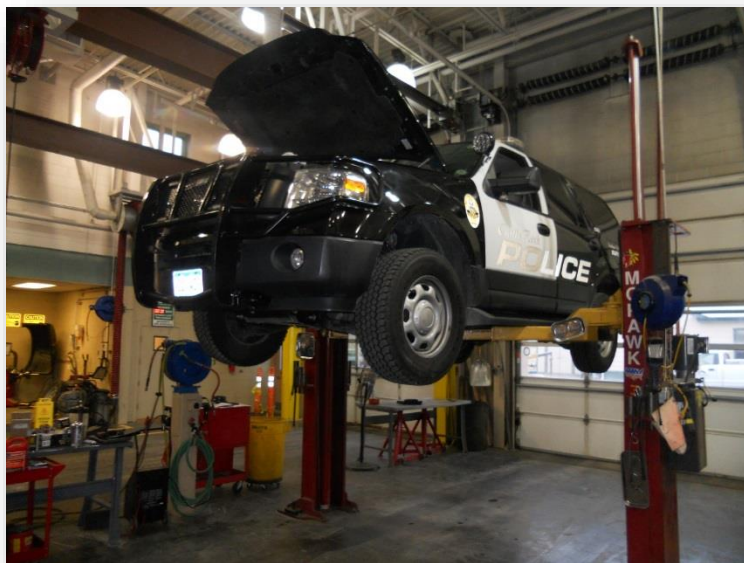
**Objective/Benchmark:** Town vehicles and equipment available for use 95% of time.  
**Outcome:** Town vehicles and equipment were available 97.7% of the time. This demonstrates a very low percentage of downtime and shows how well we are keeping Castle Rock “On the Move” even with major repairs needed on several vehicles.

**Objective/Benchmark:** Technician productivity percentage of 70% (APWA standard)  
**Outcome:** Technican productivity was 69.6%. This was a little below our benchmark mainly because Fleet Technician Chris Selheim was away for two weeks serving our country in the Army reserve.



*Lead Technician, Chad Bednar, repairing a V-box sander for dump truck.*

*Fleet's new portable lift system being used to work on street sweeper.*



*Police Department Expedition in for regular maintenance.*

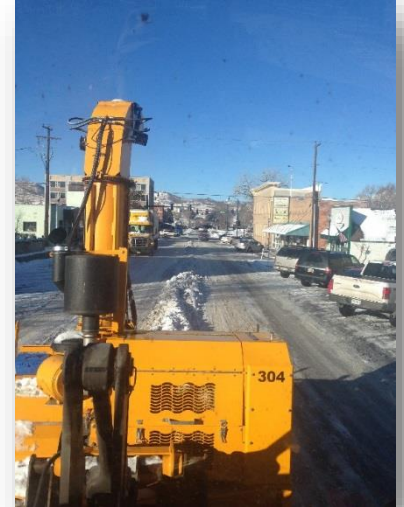
# Street Operations & Maintenance Division

During the month of **January**, the Street Operations & Maintenance Division (SO&MD) performed work in nine maintenance operations functions:

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

## **Snow & Ice Control**

There were two snow events during the month of January that required staff response. During these events, the Town received a total of **6"** of snow, however the need for ice control seemed to be a more constant issue. Staff responded quickly, and completed the operations ahead of our 8 hour service goal. Additionally, staff removed the snow from the downtown area ahead of our 72 hour service goal.



## **Ice Mitigation**

During the month of January, ice started to build up in some locations around town. The weather has been generally mild in comparison to last year, which has been a welcome relief to people that have to deal with ice issues. Staff received **eight requests** for ice mitigation operations. While the staff responded to those requests, they also performed proactive ice mitigation operations at a total of **77 locations** throughout town! A partial list of roadways receiving ice mitigation operations are as follows: Masters Point (Place, Drive and Circle), Ember Place, McCracken, Kelsey Place, Pine Needle Way, Cherry Plum Way, Donnington Circle, Prestwick Way, Purple Sage Loop, Lazy K Drive, Black Feather Trail, Rawhide Circle, Maverick Court,

Avenida Del Sol, Tulip Tree Place, Via Los Pinon, Tierra Alta Drive, Mira del Sol Court, Zodiac Place, Conner Court, Opportunity Drive, Concho Court, Marblehead Place, Starry Night Loop, Timeless Drive, First Light Drive, Avery Way, and Sky Church Drive. Over the course of the month, ice mitigation was performed on **7.62 miles of roadway**.

## **Street Sweeping**

During the month of January, staff performed sweeping activities following each snow event. The goal is to sweep 40% of the all of the primary roadways that receive de-icing materials. Staff was able to meet our goal by removing **181 yards** of materials from the roadways, helping to keep our waterways and the air we breathe a little cleaner.



### [Pothole Patching](#)

During the month of January, the SO&MD received [4 requests](#) for pothole repairs. The repairs took place on Spring Meadows Loop, Splendor Lane, Crowfoot Valley Road, Ridge Road, and Butterfield Crossing Drive. In all [186 pothole repairs](#) were completed ahead of our ten day service goal.

### [Road Shoulder Maintenance](#)

During the month of January we continued our road shoulder grading operations to repair sections of roadway where the edge of the road had become exposed over the course of the year. These repairs were completed on Wolfensberger Road and Ridge Road with a total of [4,190 feet](#) of edge line repaired.

### [Pavement Maintenance](#)

Staff repaired two pavement sections following some water main breaks. The repairs were completed on Fair Street and Burgess Drive.



### [Equipment Maintenance](#)

Staff performed equipment maintenance on all of the dump trucks and other small equipment after each snow event. Staff also finished installing battery tenders on the dump trucks to improve cold starting during snow events.

### [Training](#)

Hands-on training was provided to several of our employees on our motor grader, wheel loader, backhoe, ice breaker, and skid steer Bobcat machines.

### [Special Operations](#)

Staff responded to three special operations requests; one of the requests was to assist the Parks Maintenance Department in moving two sheds from Festival Park back to their storage location off of Liggett Road; and the other two requests were assisting with a stop sign and a school warning sign that was knocked down during a high wind event.

### [Looking Ahead](#)

During the month of *February*, the SO&MD staff will continue our snow control operations, pothole patching, and ice mitigation operations as needed.