



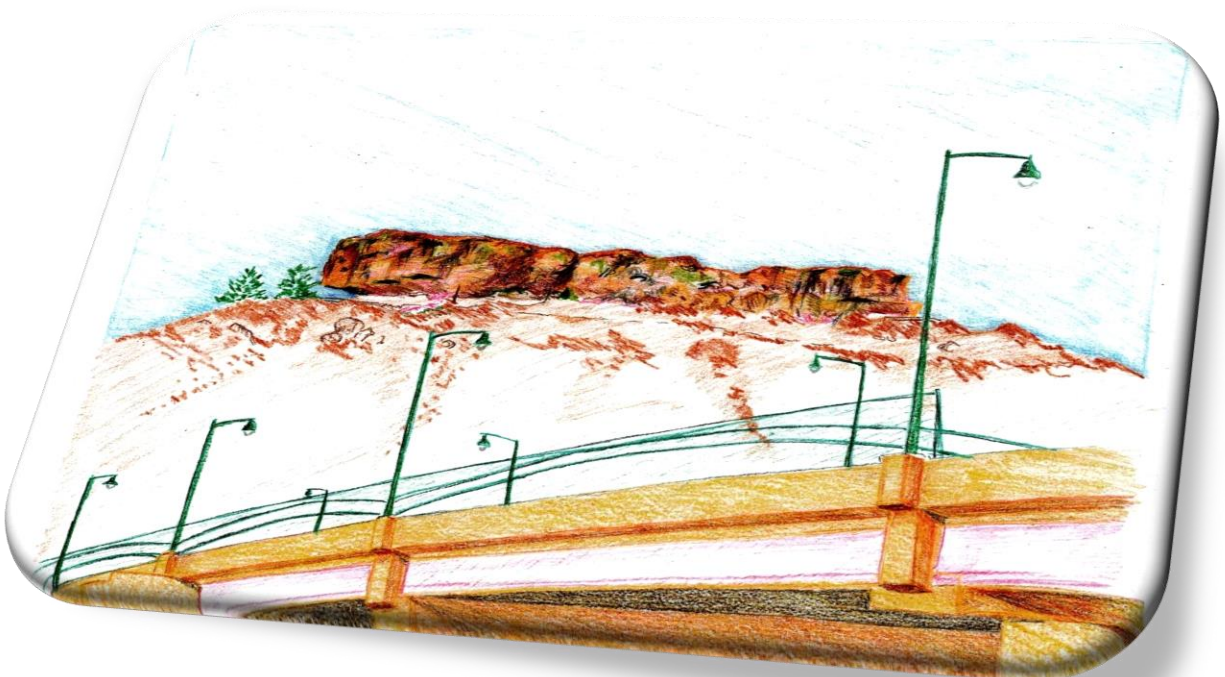
The Public Works Department operates under the CAN DO philosophy  
- We are committed to doing the job right with a positive attitude  
while staying dedicated to meeting the needs of our Town values  
and continually searching for opportunities to improve.

# PUBLIC WORKS DEPARTMENT

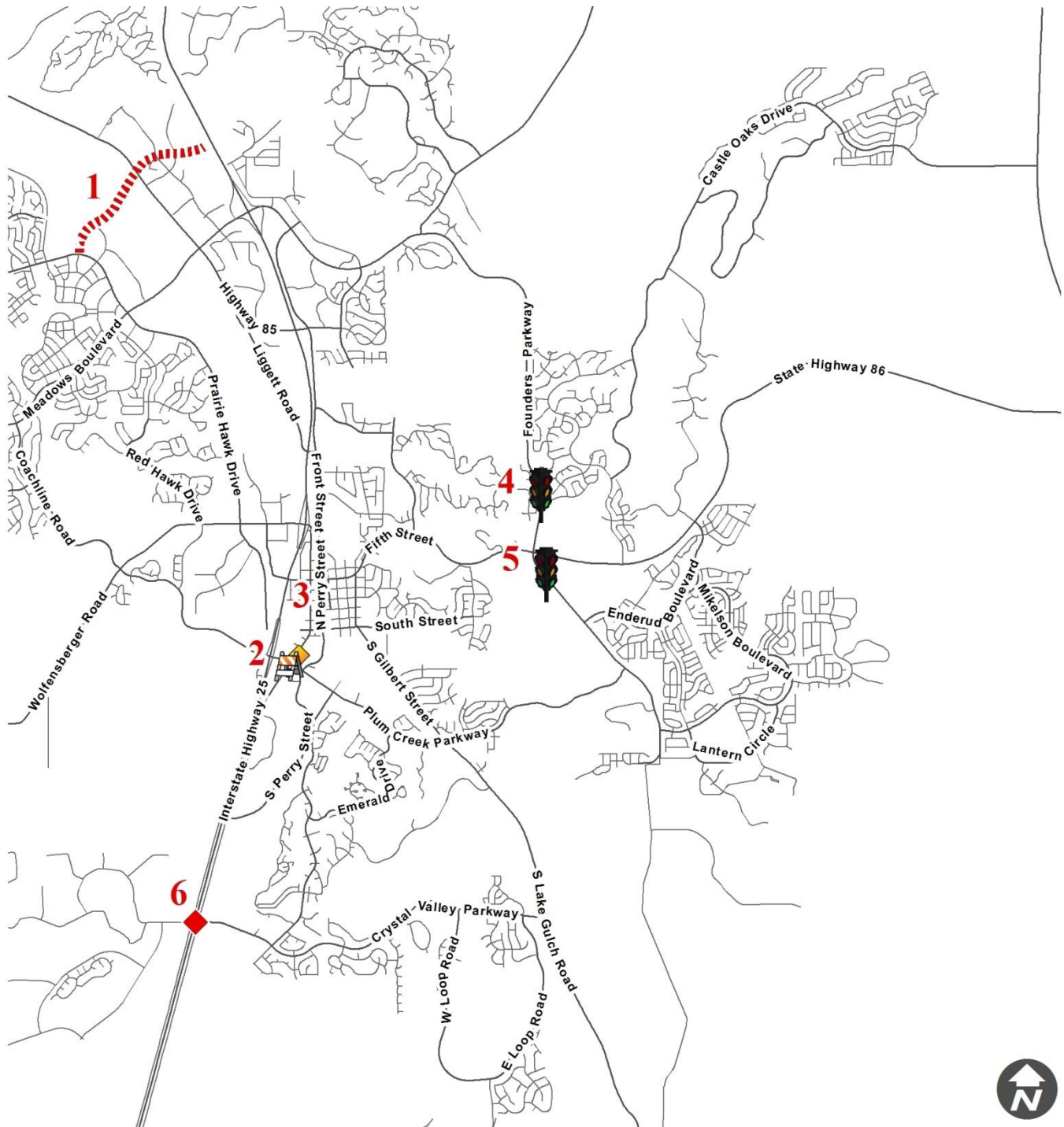


***Our Mission: To provide  
outstanding service, safety  
and support for  
transportation infrastructure  
and maintenance.***

## MONTHLY REPORT – AUGUST 2016



# CAPITAL PROJECTS



1. North Meadows Drive Extension Project
2. Plum Creek Pkwy Intersection Improvements
3. Downtown Alley Rehabilitation
4. Traffic Signal at Black Pine Drive/Copper Cloud Drive
5. Traffic Signal at Ridge Road/King Soopers Entrance
6. Crystal Valley Parkway/Dawson Ridge/I-25 Interchange

1. **North Meadows Drive Extension Project** - The Town's **#1** transportation project!! All major items on the North Meadows Extension to US85 and I-25 were completed this month allowing the roadway to open on **SEPTEMBER 1, 2016**.



2. **Plum Creek Parkway Intersection Improvements at Wilcox & Perry to I-25** – *This improvement project will consist of the following components:*

- Remove the dip at the intersection of Wilcox Street and Plum Creek Parkway (located on the east side of Wilcox Street).
- Reconfigure the above intersection to have two northbound left turn lanes from Wilcox Street to Plum Creek Parkway. In addition, the eastbound approach will have a free right turn lane onto southbound Wilcox and the westbound approach will have a dedicated right turn lane onto northbound Wilcox.
- Add a southbound free right turn lane from Perry Street to Plum Creek Parkway.
- Add a westbound right turn lane from Plum Creek Parkway to northbound I-25.
- Through the Pavement Maintenance Program, concrete restoration will occur on Plum Creek Parkway from Wilcox Street to the Douglas County Fairgrounds entrance.

**Phase:** Construction - Work within the I-25 right-of-way commenced in August and work is complete on the south side of the roadway with the exception of final paving and signal work. The work on the north side will commence September 6<sup>th</sup>. The concrete panel replacement project was increased due to additional deterioration of the concrete within this corridor. The concrete panel replacements between Wilcox and the fairgrounds were completed in August. Crews have begun grinding the concrete panels to smoothen the road surface. The total project time has been increased from 70 days to 122 days for unforeseen changes in work and also for the expanded concrete panel replacement work.

**Budget:** Capital Fund: \$3,050,000;  
Pavement Maintenance Fund: \$553,850;  
Utilities Department: \$59,000 **Projected Construction Completion: October 2016**





**Downtown Alley Rehabilitation** – The Town has been awarded two grants to improve accessibility in certain public alleys within the downtown area. Public Works and Development Services have received direction from Town Council and will plan for the reconstruction of four alley segments. Three of the alleys are located from 1<sup>st</sup> Street to Briscoe Street between Wilcox & East Plum Creek; one alley is located north of 7th Street between Wilcox & Perry. **Phase: Project is complete and within budget! Budget:** Grants: \$202,000; Public Works: \$115,000; Utilities Department: \$71,835 - Total: \$389,442

**4& 5. Intersection Signalization Projects** - This project will complete 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** – Muller Engineering has been working with various stakeholders in revising the signal plan at Founders Parkway at Black Pine and Copper Cloud. The new design will locate the northeast corner pole in the center median with the median having both more concrete added to it as well as an impact attenuator to protect the pole from being hit. The arm itself will be reduced from 55' to 40' in order to stay within IREA clearance requirements. The new design is set to be constructed once the approval from stakeholders, including CDOT, has been obtained. An updated construction schedule will then be completed and an estimated completion date shared with the residents in the area. The contractor has installed the signal pole and heads at the Ridge Road and King Soopers location. Installation of the cabinet and power meter is scheduled to commence the week of September 12<sup>th</sup>. **Budget: \$480,000 Projected Construction Completion: Fall 2016.**

**6. Crystal Valley Parkway/Dawson Ridge/I-25 (CVDR) Interchange – Environmental Assessment Update** - An update of the CVDR Interchange Environmental Assessment (EA) will be necessary as part of the approval process to construct the interchange. The present EA was completed in 2004. Based on discussions with CDOT, all sections of the 2004 EA must be updated as necessary to meet current Federal requirements. **Phase: Planning** - The EA update for a phased interchange is presently on hold. FHWA representatives stated interchange phasing is not consistent with AASHTO policy and is not receptive to phasing the construction of the interchange. The Town may advance the project with acquisitions of right-of-way needed for the project. Public Works is also analyzing other improvement concepts that would provide alternate routes for the Heckendorf/Crystal Valley Ranch community. Public Works has received information from CDOT and the Public Utilities Commission to assist in planning the improvement projects for the interchange area. **Budget: \$250,000 (Development Escrow Account); Capital Fund: \$1,500,000**

#### **Traffic Signal System Upgrades**

**Phase 1** – The three main components of the Phase 1 project are a central communications upgrade, a central software upgrade that manages the signal system, and individual intersection traffic signal controller upgrades. **Phase: Phase 1 Budget: \$700,000 Construction Completion: Complete**

**Phase 2** - Components included as part of Phase 2 of this project include battery back-up systems at all Town signals, upgraded vehicle detection systems that can bring video feeds back to the traffic operations center and a communication links to the CDOT signals in Town. The five 332 cabinets and twenty two UPS battery backup systems have been purchased and sent to the contractor to be bench tested. Per scheduling, staff is looking at early to mid-September to install the 332 cabinets, and universal power supply battery backup systems. Once all the battery backup units have been installed, the vendor will ship the batteries to be placed in them. Staff has also been evaluating two video detection systems for use in bringing back video detection feeds from the field. This will be useful in evaluating the video detection systems prior to purchasing. **Phase 2 Budget: \$400,000 Construction Completion: Winter 2016**

## **ENGINEERING DIVISION**

**6<sup>th</sup> Street Alley Retaining Wall and Pavement Failure** - In June 2015, the retaining wall supporting the alley (north of 6<sup>th</sup> Street and between Wilcox and Jerry streets) failed. With the alley further deteriorating in the past 13 months; the Town has escalated the efforts to repair the failed wall section. The wall is under construction. Due to unsecure soil in the wall excavation area, additional shoring was implemented to secure the area for safe construction of the wall. Additional time is needed due to the time required for the necessary shoring. **Budget:** Design and Construction Contract: \$198,325 (Emergency Funds will be used for the project). **Projected Construction Completion:** September 2016

**2016 Pavement Maintenance Program (PMP)** - The 2016 Curb, Gutter, and Sidewalk Project, the Asphalt Patching, Overlay and Reconstruction Project, the Slurry Seal Project and the Mikelson Boulevard Reconstruction Project are all substantially complete. Staff is in the process of documenting punch list items for the contractors to address and complete prior to accepting the projects into the one year warranty period.

The 2016 Concrete Pavement Restoration project is scheduled to start in early September. Work will commence on Front Street from Founders Parkway south past Milestone to the existing asphalt on Front Street.

**2017 Pavement Maintenance Program (PMP)** - Staff is working on developing the proposed 2017 PMP budget for the south PMP area and scheduled primary streets. Determining which streets will receive surface treatments, overlays or reconstructs to maintain the programs Overall Condition Index (OCI) average goal of 70 on secondary streets and 75 on primary streets.

The PMP team continues to work on condition rating of streets within the east PMP area and the primary street network. Staff is anticipating this to be completed by September. Condition rating is the evaluation of asphalt or concrete pavement; this applies a score which is utilized by the Town's pavement management software to help determine the proper pavement treatment along with staff recommendations.

**2016 Facilities Parking Lot Improvement Program** – The construction contract with PLM Asphalt & Concrete, Inc. has been approved and work commenced on August 29. This contract will see needed improvements to eight (8) Town facility parking lots as follows:

- Founders Village Fire Station will receive asphalt patching, a full asphalt seal coat, and concrete pavement joint sealing.
- Crowfoot Valley Fire Station will receive asphalt patching, a full asphalt seal coat, concrete repairs, and concrete pavement joint sealing.
- Butterfield Park will receive asphalt patching, a full asphalt seal coat, concrete repair, and concrete pavement joint sealing.
- Coachline Trail Head Parking lot will receive a full asphalt seal coat.
- Matney Park Parking lot will receive asphalt patching, and a full asphalt seal coat.
- Meadows Water Treatment Plant will receive concrete repairs, asphalt patching, and a full asphalt overlay.
- Diamond Ridge Pump Station will receive a full asphalt seal coat.
- Police Station Parking lot will receive a full asphalt seal coat.

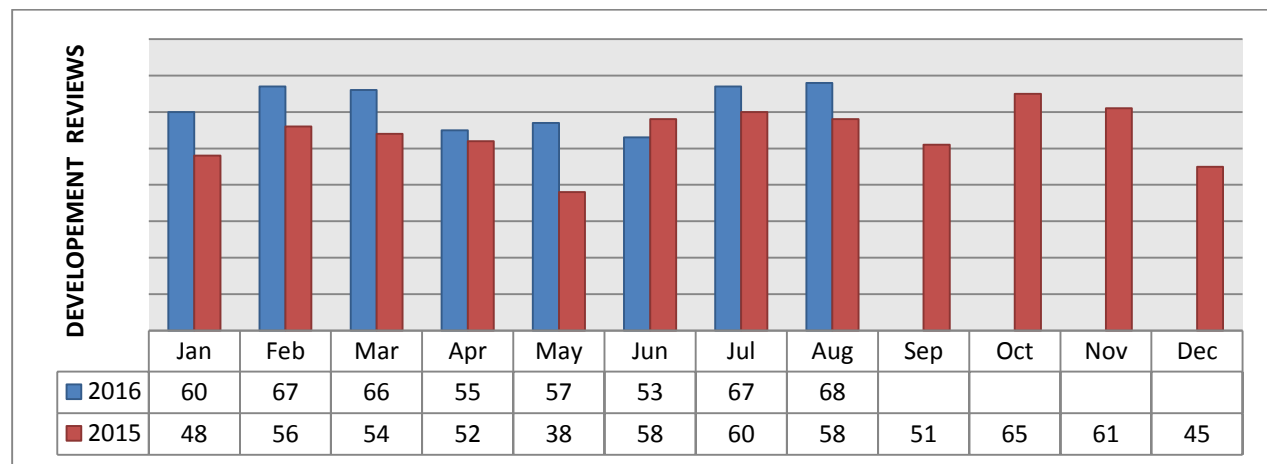
**2016 Bridge Maintenance Program** - The work on the Castle Oaks Drive Bridge over Cherry Creek - Approach Slab Leveling Project has been completed. This work was done during the night to reduce traffic impacts to the traveling public.

Street Operations & Maintenance Division began painting the following bridges:

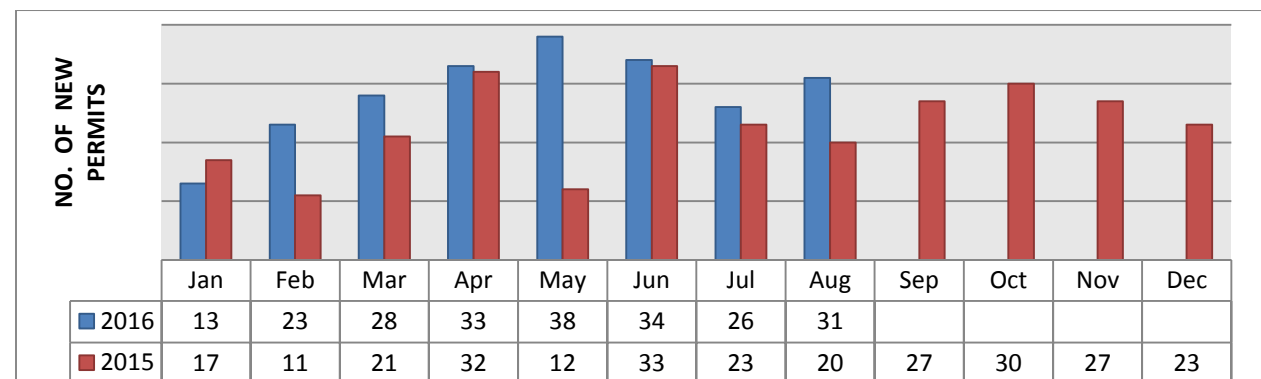
- Wilcox Bridge over Sellers Gulch
- Perry Street Bridge over Sellers Gulch
- Plum Creek Parkway Bridge over BNSF Railroad

## ***Development Review and Permitting***

**Development Review** - Included in the 68 submittals are 17 first time applications with two pre-applications. All reviews were completed on or before the due date assigned by the Development Services Project Manager.

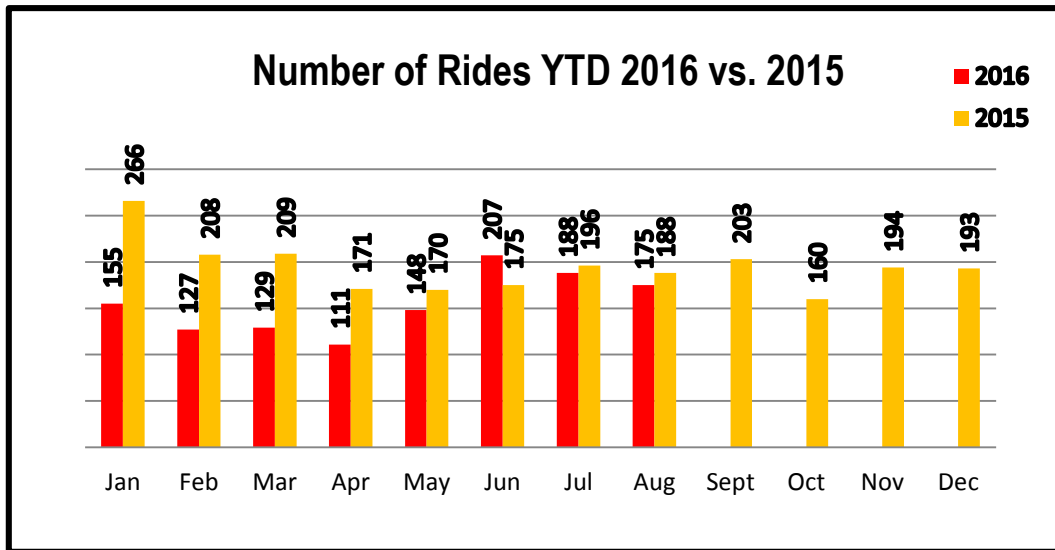


**Permitting** - Included in the 31 permits are: 4 - Commercial Developments (Burt commercial, Personal Warehouse early grading and infrastructure, Manatt Court infrastructure; Metzler F9, Lot 1B - commercial office on Barranca); 6 - Residential Developments (Terrain F1, Phase 1A; Terrain F1, Amendment 1; Wolfensberger apartments; Crystal Valley Ranch (CVR) F16; CVR drainage and sanitary sewer; and CVR F5A, Phase 3B); 2 - Town projects; and 19 permits for work within the public right-of-way (seven of which were necessary due to current development, and one was a pavement cut).

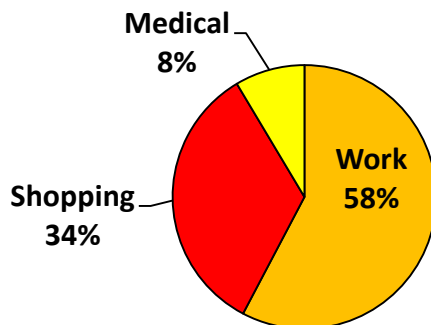


## TRANSPORTATION SERVICES

**Taxi Voucher** – For the month of August the Taxi Voucher Program funded 175 rides. This was about a 7% decrease over last August's total of 188 rides. The rides have decreased since last month due to the nice weather that had some of the riders choosing to walk or ride bikes to their destinations.

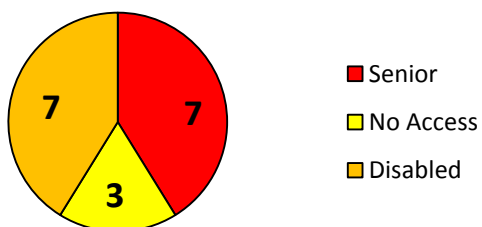


### Ride Destinations

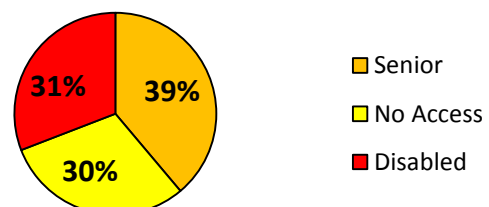


Rides are available for work, shopping or medical trips. Transportation services are provided for Castle Rock residents who are senior citizens, have a disability that prevents them from driving, or do not have access to a vehicle.

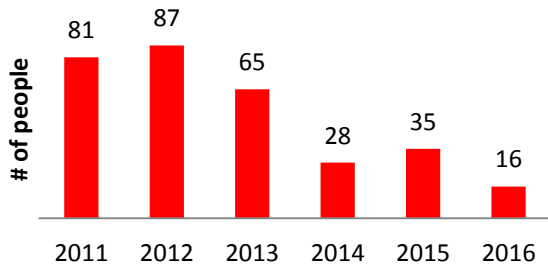
### Types of Riders



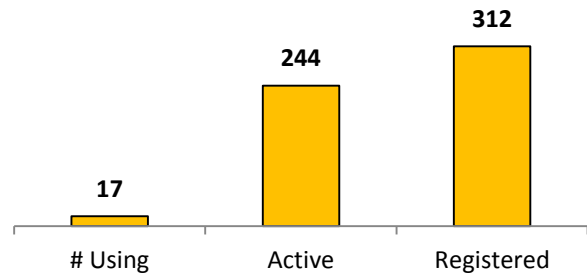
### Percentage of the Total Rides (175) in August by Each Rider Type



## Number of People Registering



## Number of riders Using the Service vs. Registered



We had one new registrant for the Taxi program this month. Since its inception, a total of 312 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 573 rides in the month of August which was a decrease of 14% from last month's rides of 663, the Senior Activity Center was closed for a week in August for its annual building maintenance. The volunteer driver program provides service Monday through Friday from 9 am to 3 pm.



## Town Trolley

The Trolley provided rides for six different events for the month of August, which included the Douglas County Fair Parade, the North Meadows Extension Sneak Peak Event, Starwood Land Ventures Home Tours, Movie Night in Founders, and a Senior Activity Center Event.

## Traffic Engineering & Operations

**Traffic Signal Operations and Maintenance** - For the month of August there were a total of fourteen non-routine traffic signal maintenance visits completed by either Town staff or the Town's signal maintenance contractor. The two major issues seen were power failures and vehicle detection problems. Over one weekend there were four intersections that lost power due to an energy surge. Part of our Phase 2 system upgrades currently underway is to install battery backup units on the remaining twenty-two signal cabinets in order to take preventative action against this kind of issue. The detection related issues ranged from the processor cards within the cabinet needing to be reset to replacing the video detection camera itself. The other portion of the Phase 2





system upgrades is to bring video detection feeds from the field back to the Service Center. This will allow us to troubleshoot problems quickly and accurately without having to visit the intersection. Once the battery back-up and video feeds have been installed, the number of trouble calls should decrease.

## **Street Signs and Pavement Marking Maintenance**

During the month of August, the Town's Signs & Markings crews assisted with the set-up of traffic control devices for the Douglas County Fair Parade. They also continued with the summer painting tasks of repainting crosswalks, stop bars and arrows town-wide.

In addition, they also assisted with the change out of the school beacon clocks to the new clocks that can be remotely programmed from the Service Center. This will help to reduce the labor hours needed to program the clocks on an annual basis.

Finally, the crews spent some time in training to become certified as either traffic control technician or traffic control supervisors.



## **Transportation Planning**

**Neighborhood Traffic Calming Program (NTCP)** - NTCP inquiry updates:

- **Elk Run Drive:** The re-test for the street has been moved to September due to the status of the nearby home construction and associated traffic.
- **Saddleback Drive:** Town staff is currently preparing the ballot for homeowners along the streets with the proposed traffic calming devices (Saddleback Drive, Ridgetrail Drive and Black Pine Drive). It is expected that the ballot will be mailed in early September and returned by the end of the month. The proposed plan is to be a 3-year phased plan consisting of the previously identified improvements of speed cushions, center pedestrian medians, and the center median with mailbox pullout area. Should the plan be approved, the first year (2016) will include a speed cushion on Saddleback Drive and Black Pine Drive and a center pedestrian median on Ridgetrail Drive. Year two will include two speed cushions on Saddleback and two on Ridgetrail Drive. The final year of phasing would include one speed cushion on Saddleback and a center pedestrian median on Black Pine. The center median mailbox pullout area would require a budget amendment request due to the cost and constructability exceeding the annual \$25,000 Program budget. If the plan is not approved by the homeowners, then the project is closed and the streets are eligible for the program in one year.
- **Heritage Avenue:** Although the street does not qualify for the NTCP, Town staff from Public Works and the Police Department are working with the homeowner to address her concerns. The Police Department has installed a radar speed feedback sign on the street in an effort to reduce speeds along the street.



**Transportation  
Master Plan**

**Transportation Master Plan (TMP) Update** - Town staff has completed the revisions to the land use data for all three study years (2016, 2030, and 2040) and provided to the consultant, Felsburg, Holt, and Ullevig. In addition, staff has reviewed several existing transportation conditions maps and provided comments back to the consultant.

### Development Review

- Staff has reviewed and commented on the latest Canyons South development project submittal, their transportation impact analysis (TIA) and the draft Development Agreement. Staff has had several internal meetings with other departments and the Town Manager. It is expected that a larger group meeting with the Canyons South development team and Town staff will occur in September to finalize the remaining outstanding issues.
- Staff has reviewed and commented on the Pine Canyon TIA resubmittal.
- Three additional TIAs were received in August, with those reviews due in September.

### DRCOG Transportation Improvement Program (TIP) / CDOT FASTER Projects



- **Meadows Pkwy Reconstruction:** The design of the project has been awarded to Felsburg, Holt, and Ullevig. The contract will be completed in September and the Notice to Proceed will follow. Design is planned to be completed by December 2016.
- **Founders and Crowfoot Valley:** The Request for Proposal (RFP) was released in early August and due on September 1. Submittals will be reviewed and scored in September along with the contract award.
- **Founders and Allen Way:** The draft RFP was sent to CDOT for comments. The RFP will be advertised once approved by CDOT. A three week advertising period is required. Submittals are not expected to be received until October.



## *Fleet Services*

*“Keeping Castle Rock on the Move”*



Fleet Services Division was a little short-handed in the month of August with several people on vacation and Chris Selheim fulfilling his Army Reserve obligation. However, the Fleet Services team pulled together and were able to keep “Castle Rock on the Move”. The month’s total of service and parts was over \$58,000 which was very consistent with past months; **great job team!** Special thanks to Eric Dena for volunteering to work on his flex days. The Town’s technicians worked on over 125 of the Town’s vehicles. The Fleet team has also been providing support to the Parks Department while they look for a new small equipment technician for their department.

Angie Williams, Fleet Support Technician, continues to look for ways to improve the parts area and look for inventory that can be returned for credit.

Chris Selheim did a great job in leading the Public Works Department safety efforts and our Public Works Department was 100% compliant on all safety items after a CIRSA audit.



Fleet Services staff has also begun the big job of handling all the vehicle hail damage from the July 1<sup>st</sup> hail storm.

The Fleet Services Division was also able to put into service several new Ford F150 trucks, two for Development Services Department for their inspectors.



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

**Outcome:** Fleet Services team completed 73.8% of the work orders within 24-hours of opening repair requests or service requests. This number was just a little below our benchmark but still a good result.

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

**Outcome:** Town vehicles and equipment were available 97.4% 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 72.1% which is above our benchmark.



*Fleet Technicians using new mobile lifts to work on Vac truck.  
This truck weighs 80,000 pounds!*



# **Street Operations & Maintenance Division**

During the month of **August**, the Streets Division performed work in nine maintenance operations functions.

- Asphalt and Concrete Pothole Patching
- Asphalt Repair & Replace
- Bridge Maintenance
- Street Sweeping
- Road Shoulder Maintenance
- Gravel Road Maintenance
- Equipment Maintenance
- Employee Training
- Special Operations

## **Asphalt and Concrete Pot Hole Patching Operations**

During the month of August the Streets Operations & Maintenance Division performed pothole patching on the following asphalt roadways; Mikelson Boulevard, Third Street, Mapleton Court, Castlegate Drive, Cascade Avenue, Hampstead Avenue, Millwagon Trail, Willow Run Lane, Tanglevine Drive, and Halfmoon Drive. On the concrete roadways, staff repaired potholes on Coachline Drive, Foothills Drive, Cherokee Drive, and Meadows Boulevard. On Halfmoon Drive, staff also sealed the bottoms of the potholes with crackseal in an effort to stop the groundwater from deteriorating the repairs. In addition to those repairs, the staff also repaired concrete trip hazards on the sidewalks on Halfmoon Drive. Altogether, staff completed 3,211 pothole repairs. It is also important to note that 368 of those potholes were on our requested list. Additionally, 2,386 of those potholes were on asphalt roadways and 825 of those potholes were on concrete roadways.



## **Asphalt Repair & Replace**

During the month of August, the staff was able to complete five street coring operations in an effort to assist the Public Works Engineering Division, with a project on Skyward Way.

## **Bridge Maintenance**

During the month of August the staff continued working on our annual bridge maintenance activities painting the Perry Street Bridge over Seller's Gulch and the Oman Road Bridge. These operations will help to maintain and extend the life of these structures as well as help to keep our community bright and vibrant.

## **Street Sweeping**

During the month of August the staff completed two of our AM sweeping operations in the downtown area, one of which was just in time for the annual Douglas County Fair & Parade. At other times during the month, staff performed street sweeping operations after the potholing operations, a traffic accident, and a heavy rain storm that washed debris out on to the roadways. In total, the crews removed 23 yards of materials from our roadways, helping to keep our storm water systems and the air we breathe a little cleaner.





### **Road Shoulder Maintenance**

Staff was able to complete our annual springtime mowing and trimming operations. Staff completed the final 15.4 edge line miles of our 80.4 edge line mowing network. These operations were on the following roadways: West Plum Creek Parkway, Prairie Hawk Drive, Coachline Drive, Atchison Way, Topeka Way, Auburn Drive, Factory Shop Boulevard, Brookside Circle, South I-25 Frontage Road, South Perry Street, Liggett Road, and South Highway 85. To put this number into perspective, we are now at 50% of our annual service goal of mowing and trimming the Town twice a year.

Staff also completed repairs to our gravel road shoulders where the dirt had become pushed or washed away from the edge of the asphalt or concrete. These operations were completed on the following roadways: Lewis Street, Atchison Way, Prairie Hawk Drive, Wolfensberger Road, Mitchell Street, and Gilbert Street. These operations make it safer for our traveling public that may veer off the road to recover and get back onto the road.



### **Gravel Road Maintenance**

During the month of August the staff performed blading operations on Castle Oaks Drive between the north end and south end of Autumn Sage Street.

### **Equipment Maintenance**

Equipment maintenance was performed to keep our operations going smoothly, and to prepare for the winter months ahead. The staff performed minor maintenance on a few small

pieces of equipment like weed eaters and our zero turn mower, and performed some very extensive fabrication repairs to our slide-in liquid de-icing tank. The frame on the de-icing tank had to be redesigned and rebuilt to fit into the back of one of our newer dump trucks.



### **Employee Training**

Two of the Streets' staff, completed the Traffic Control Technician (TCT) course through the American Traffic Safety Services Association (ATSSA). This course will help us to have safer work environment out in the field during our daily operations.

### **Special Operations**

Staff assisted with making two special events a success. The staff worked on preparations and teardown of the Parade festivities and set up and teardown for the "Sneak Peek" celebration of the North Meadows Extension.

### **Looking Ahead**

During the month of September, the Streets Operation & Maintenance Division crews will continue the asphalt and pothole repair operations, road shoulder maintenance operations, bridge maintenance operations, gravel road maintenance operations, and will begin our crack sealing operations in the west Meadows area.