



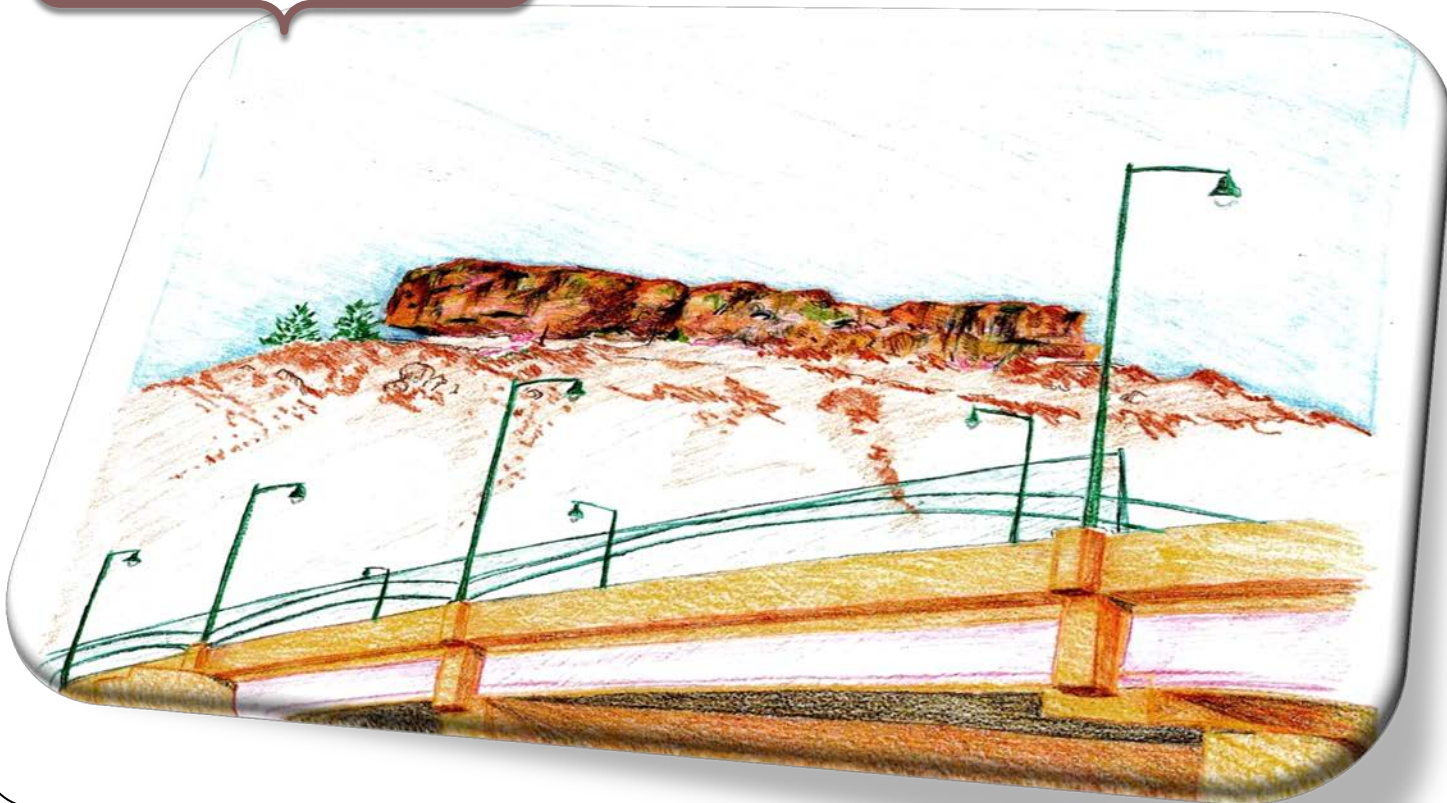
The Public Works Department operates under the CAN DO philosophy  
- We are committed to doing the job right with a positive attitude  
while staying dedicated to meeting the needs of our Town values  
and continually searching for new opportunities to improve.

# PUBLIC WORKS DEPARTMENT

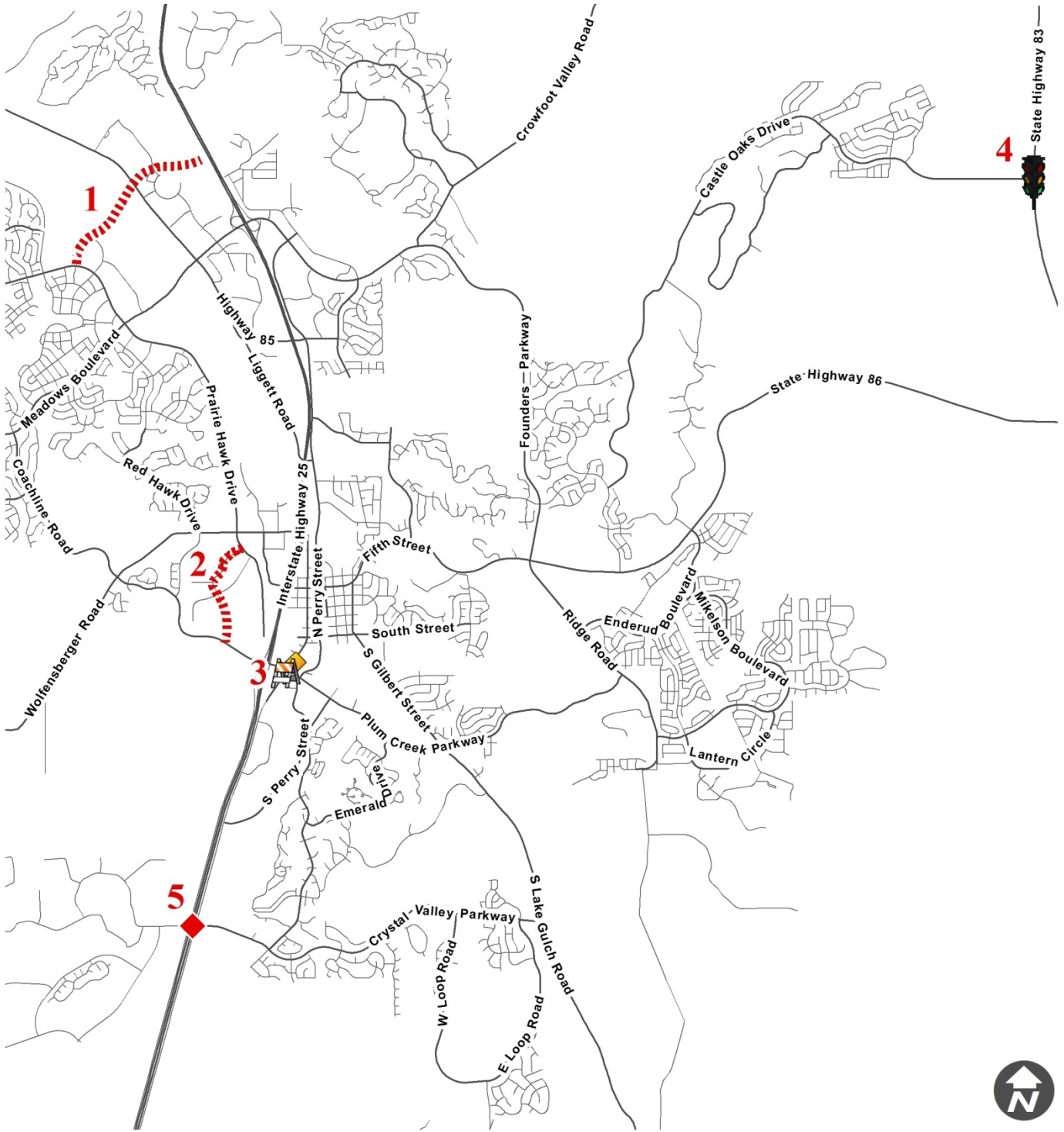
## *Monthly Report – September 2015*

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

**“CAN DO”**



# CAPITAL PROJECTS



PUBLIC WORKS DEPARTMENT



1. North Meadows Drive Extension Project
2. Prairie Hawk Extension – Industrial Tributary Trail & Drainage Way Improvements
3. Plum Creek Pkwy Intersection Improvements at Wilcox & Perry
4. Traffic Signal at Castle Oaks Drive/SH 83
5. CVDR/I-25 Interchange

**#1**

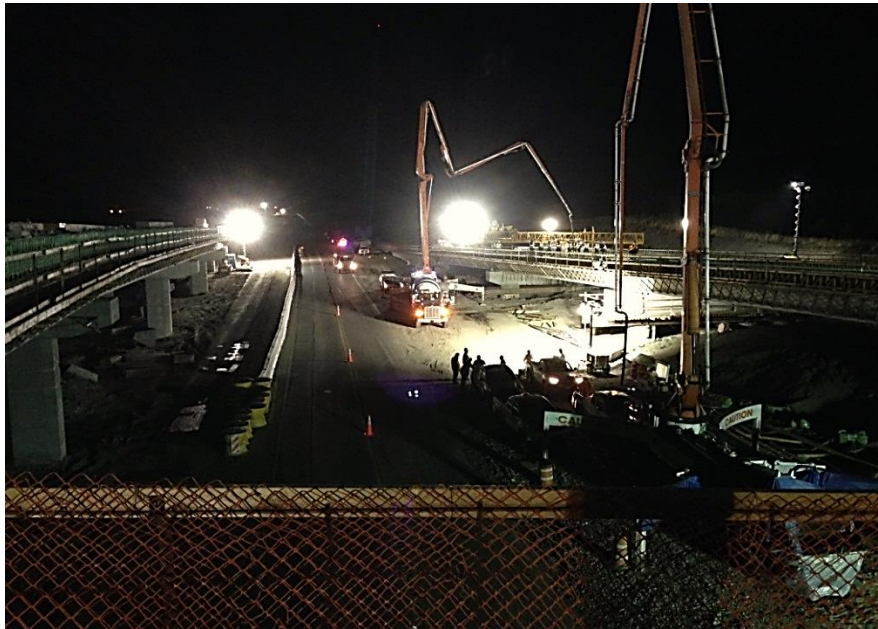
1. **North Meadows Drive Extension Project** - The Town's transportation project!! The following is a summary of the construction activities that took place during the month of September:

- Excavation of I-25 on and off ramps and roadway
- I-25 cast-in-place and precast panel wall construction
- US 85 bridge deck rebar placement
- US 85 overhang installation
- US 85 block wall construction for future trail
- US85 on-and-off ramp deck completion
- US 85 on-and-off ramp roadway construction
- Grading for US 85 bridge construction and detention ponds
- Storm sewer improvements along US 85 future on and off ramps

Traffic impacts to the traveling public:

- Flaggers will be present from 7am to 5pm, Monday through Friday along US 85; please be prepared to stop.
- Castlegate Drive North from US 85 to Castlegate Drive West is closed and will remain closed until the summer 2016.
- Traffic alignment lane shifts are present in the current configuration on US 85; please use caution and follow the posted speed limits.
- The new Phase 2 traffic configuration on I-25 has no shoulders and narrower lanes; please use caution and follow the posted speed limits.

**Phase: Construction Budget: 2015 - \$34.6M Construction Completion Date: June 2016.**



Concrete Placement of the Northbound US85 On Ramp (night work)

2. **Prairie Hawk Extension, Industrial Tributary Trail & Drainage Way Improvements** – This is a joint project with the Parks Department, Public Works Department, and the Utilities Stormwater Division. This project will include: a trail between East Plum Creek and Prairie Hawk Drive Extension along Industrial Tributary, Prairie Hawk Drive Extension between Wolfensberger Road and Plum Creek Parkway, and stream stabilization along Industrial Tributary between Prairie Hawk Drive and Atchison Way. **Phase: Design – The**

Town's consultant, Olsson and Associates, has submitted 90% plans of the combined roadway drainage and lower tributary drainage plans, in addition to completion of the GESC plans. The Town will make final comments to complete the stormwater design. The Town will compile roadway and drainage plans to complete the design phase. **Budget:** The overall Public Works budget for this project was \$500,000. Balance from 2014 has been carried over to finalize design and right-of-way acquisition. Construction year has not been established.



**3. Plum Creek Parkway Intersection Improvements at Wilcox & Perry** – 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 and a new dedicated right turn lane on Plum Creek Parkway for westbound traffic turning onto Wilcox Street.
- Add a southbound right turn lane from Perry Street to Plum Creek Parkway.
- Add a westbound right turn lane from Plum Creek Parkway to northbound I-25.

**Phase:** Design - Staff has retained Hartwig and Associates to prepare the design to be completed by the end of 2015 with construction planned to follow in 2016. Hartwig is working on 60% complete plans for mid-October. **Budget:** \$345,000

**4. State Highway 83 and Castle Oaks Drive Intersection Signalization** – This project installed a new traffic signal at this intersection. In 2014, an engineering study was completed showing the need for a traffic signal at this intersection and the design was completed late in 2014. **Phase:** Construction Closeout – The signal went into operation on August 17. Since then there have been only a few calls concerning the wait for a green light coming from Castle Oaks Drive. CDOT made timing adjustments until the contractor could get the vehicle detection system installed and working properly which was completed in September. We are in the final stages of closing out the project. **Construction Completion:** September 2015.



**5. Crystal Valley Parkway/Dawson Ridge/I-25 (CVDR) Interchange – Environmental Assessment Update** Through coordination with the Colorado Department of Transportation (CDOT) and the Federal Highways Administration (FHWA), Public Works will be determining if the CVDR interchange may be constructed in phases. The 2004 Environmental Assessment will be reevaluated as necessary if CDOT and FHWA determine a phased interchange is feasible. **Phase:** Planning – Public Works staff met with CDOT in July to discuss potential phasing of the CVDR interchange. The Town will present CDOT information pertaining to the levels of service anticipated in various phased conditions. The Town seeks CDOT's endorsement of a phased interchange in order to advance a plan to FHWA. Provided FHWA is receptive to a phased condition, the Town will reevaluate the Environmental Assessment, as needed. A meeting with CDOT and FHWA is scheduled for November 5. **Budget:** \$250,000 (Development Escrow Account)

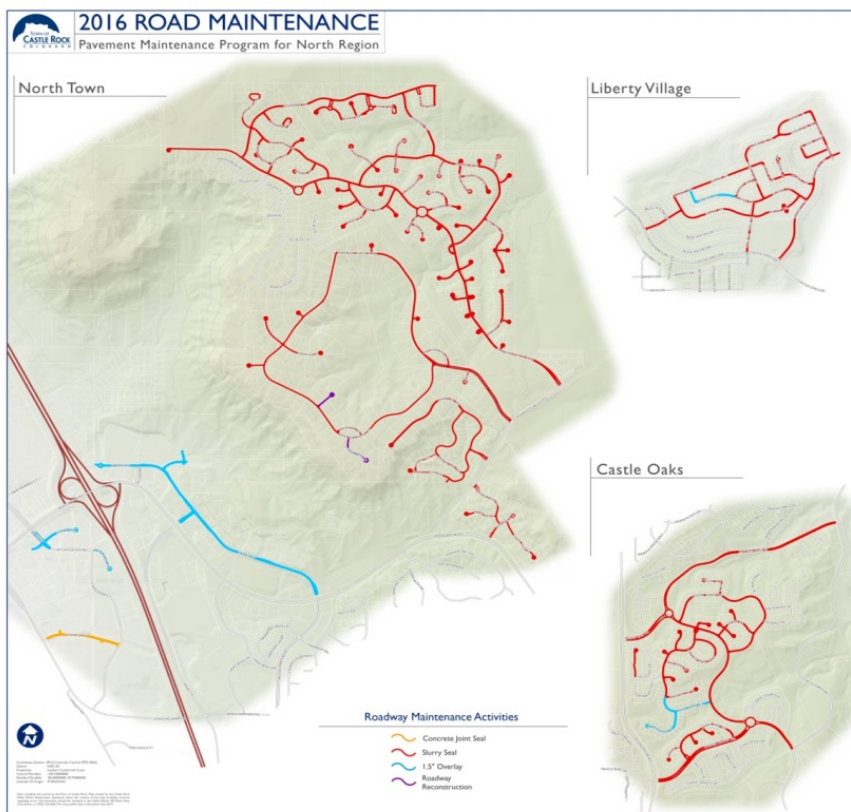
**Traffic Signal System Upgrades (Phase 1)** – This project is the first step in implementing the system improvements that were initially identified as part of the October 2013 Signal System Evaluation study. The three main components of the Phase 1 project are a central communications upgrade, a central software upgrade that manages the signal system, and individual intersection traffic signal controller upgrades. **Phase:** Design – Major steps have been taken over the last month toward completing the three components for Phase 1 of the traffic signal system upgrade project. Apex

Design, who is the design firm for the project, completed site visits to confirm existing communication as well as obtain critical information in order to finalize the Town's new fiber optic communication system. Town staff reviewed a draft set of design plans during September and provided comments to the design engineer. Final plans of the fiber optic design are slated to be unveiled in early October. In addition, the department will be releasing a request for proposal for its central signal system software in mid-October. A decision on the central system software will be made and a purchase order in place to the awarded vendor by the end of the year. The schedule is to have all components of Phase 1 complete by the end of 2015 but installation of some of the items will carry over into 2016. **Budget: \$700,000 Construction Completion: End of 2015/Early 2016**

## ENGINEERING DIVISION

**2015 Pavement Maintenance Program (PMP)** - All major construction activity has been completed for the 2015 PMP. The contractor for the 2015 Curb, Gutter, and Sidewalk project is scheduled to return to Town the first week in October to complete miscellaneous concrete repair throughout Town. These repairs consist of resident's request related to sidewalk trip hazards, deteriorating pavement, and concrete repairs for the Utilities Department.

**2016 Pavement Maintenance Program (PMP)** - The PMP team has begun working on the field reconnaissance for the 2016 PMP. This consists of the North PMP area, and primary streets including; Mikelson Boulevard between Enderud Boulevard and Sovereign Street, 5<sup>th</sup> Street from Ridge Road to Wilcox, Park Street from Wilcox to Wolfensberger Road, Perry Street from 5<sup>th</sup> to Plum Creek Boulevard, and Plum Creek Parkway from Wilcox to Fairgrounds Drive. The purpose of the field reconnaissance is to quantify curb, gutter, and sidewalk as well as pavement areas which are in need of repair prior to the application of the final maintenance surface treatments such as slurry seal, asphalt overlay, or pavement reconstruction.



The PMP map indicates the proposed scheduled treatments for streets within the North PMP area. Treatments may change due to current evaluation taking place and/or actual bid pricing received that may require some modifications.

## **2015 Facilities Parking Lot Improvement Program**

All major construction activity has been completed for the 2015 Facilities Parking Lot Improvements Program. Staff is in the process of walking the parking lots with the contractor to develop punch-list items for the contractor to address prior to accepting into warranty.



## **2016 Facilities Parking Lot Improvement Program**

The PMP team has begun working on the field reconnaissance for the 2016 Facilities Parking Lot Improvements Program. This consists of the parking lots at the Founders Village Fire Station, Crowfoot Valley Fire Station, Butterfield Park, and the Coachline Trailhead parking lot. Facilities may change pending budget approval.

**Bridge Maintenance Program** – Street Operations and Maintenance Division has completed painting the bridge rails and concrete barriers on the Front Street Flyover bridge.

Staff has identified the following locations for the **2016 Bridge Improvement Program**;

### Bridge Repair

- Castle Oak Drive Bridge over Cherry Creek: Raise and level bridge approach slabs and expansion joints.

### Bride Surface Treatment

- Wilcox Bridge over Sellers Gulch: Apply new water proofing membrane and remove and replace the asphalt wearing surface.

### Bridge Painting

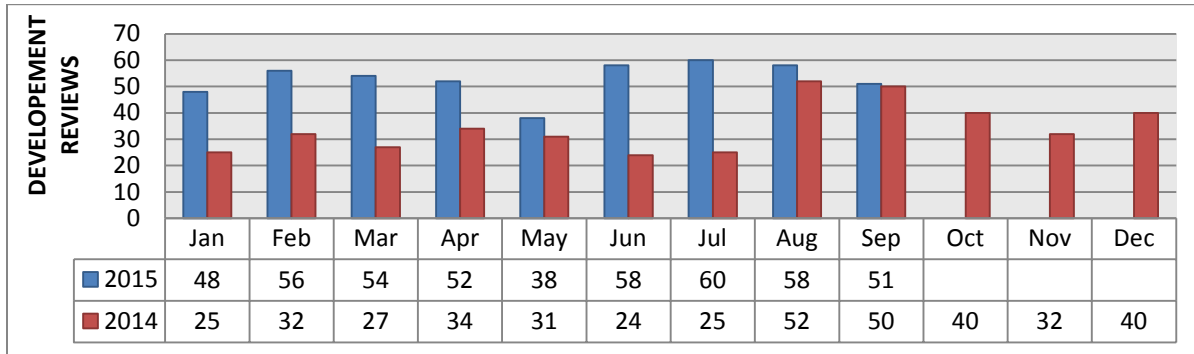
- Wilcox Bridge over Sellars Gulch
- Plum Creek Parkway Bridge over BNSF Railroad
- Perry Street Bridge over BNSF Railroad

Treatments and locations may change pending budget approval.

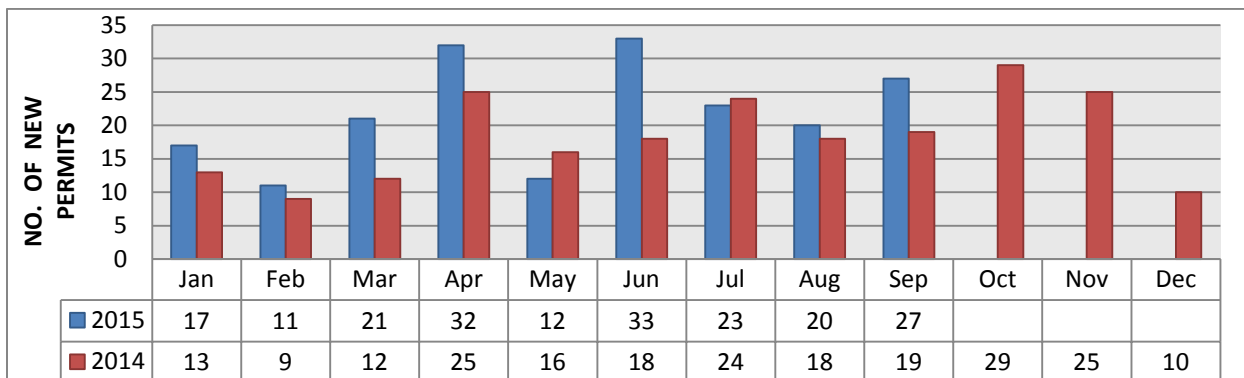
**2015 Community Development Block Grant** – The Town has been awarded a grant to improve accessibility in public alleys within the Downtown area. Depending on the cost of construction bids, Public Works is planning to reconstruct four alley segments. Three of the alleys are located from South Street to Briscoe Street between Wilcox & East Plum Creek; one alley is located north of 7th Street between Wilcox & Perry. The design services contract has been awarded to Bohannan Huston, Inc. (BHI). **Phase:** Design – Construction plans are 90% complete for southern alleys. Public Works shall advertise the project for bids in January 2016 and is planning to begin construction in spring 2016. **Budget:** 2015 Grant: \$152,000, Town: \$115,000; Total: \$267,000

## **Development Review and Permitting**

**Development Review** - Included in the 47 submittals are twelve first time applications with five pre-applications. All reviews were completed on or before the due date assigned by the Development Services Project Manager. The Town has a contract with Bohannan-Huston to assist with Development Reviews.

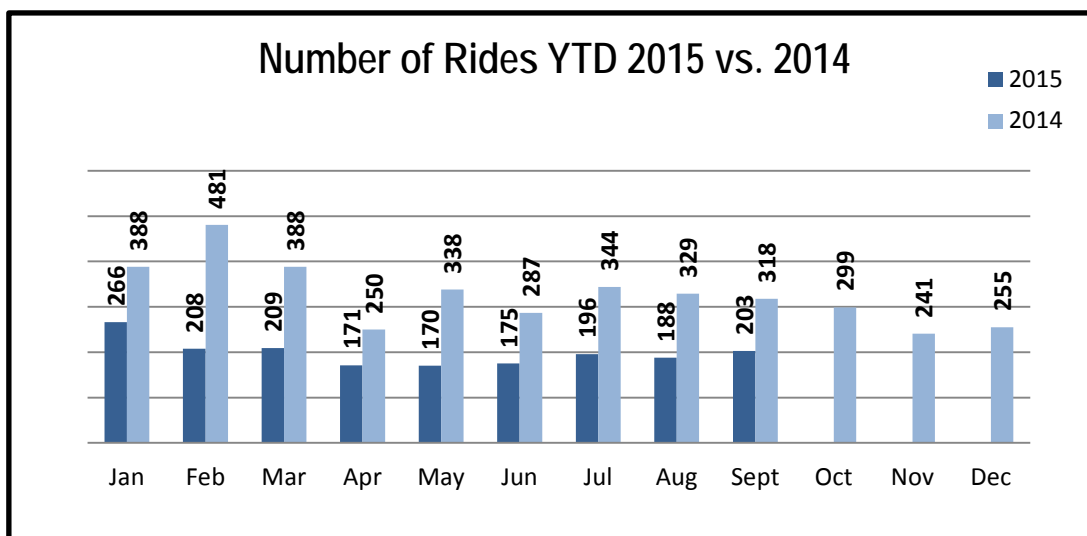


**Permitting** - Included in the 27 permits are: 4 - Residential Development (Maher Ranch F2 in Sapphire Pointe subdivision, Crystal Valley Ranch North Pond 512, Auburn Glen MF the SW corner of Wolfensberger Road and Red Hawk Drive, Castle Oaks F1 Trail); 1 - Commercial Developments (Promenade Block 2&3 early grading); and 22 permits for work within the public right-of-way, eight of which were necessary due to current development, and one of which required a pavement cut that was patched within 24 hours.

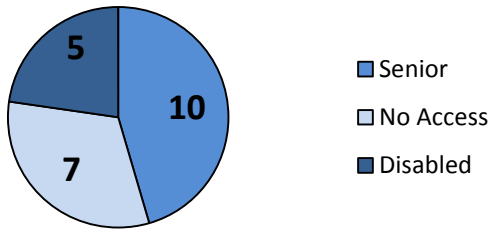


## TRANSPORTATION SERVICES

**Taxi Voucher** – For the month of September the Taxi Voucher Program funded 203 rides, this was about a 36% decrease over last September’s total of 318 rides. The rides have increased slightly since last month as we have registered two new riders this month that need help getting to and from work on a regular basis.

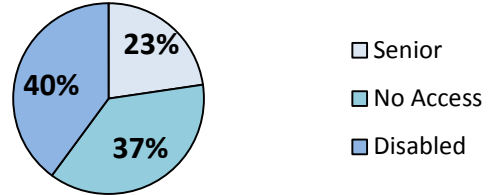


### Types of Riders

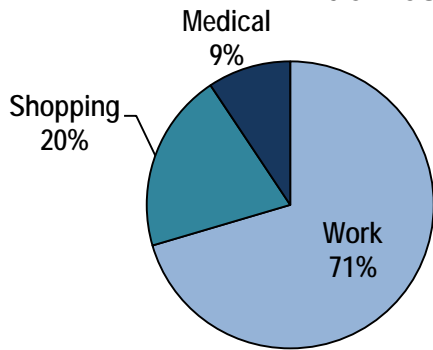


Transportation services are provided for Castle Rock residents who are senior citizens, have a disability that prevents them from driving, or do not have access to a vehicle. In September, there were 22 individuals who used the Town’s Taxi service.

### Percentage of the Total Rides (203) Rider Type



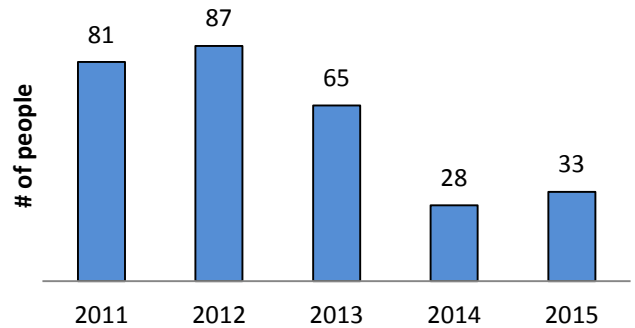
### Ride Destinations



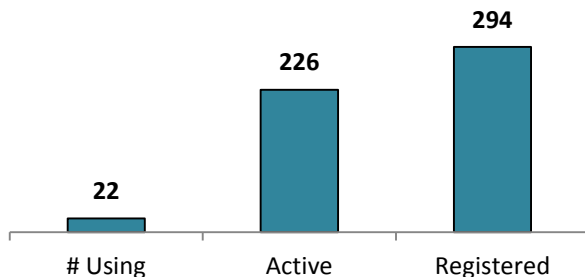
Rides are available for work, shopping or medical trips.

Two people registered for the Taxi program this month. Since its inception, a total of 294 people have registered for this program. Currently 68 of these past registrants are inactive or have dropped out of the program.

### Number of People Registering



### Number of Riders the Service vs. Registered







**Senior Center Shuttle** - The Senior Center provided 662 rides in the month of September which was an increase of 26% from last month's rides of 527. The volunteer driver program provides service Monday through Friday from 9 am to 3 pm.

**Town Trolley** – The Trolley had yet another busy month providing rides for a variety of events during the month of September. The events included the Downtown Merchant's Association's Movie Night, The Highlands Ranch Historical Society Tour of Town, the Chamber of Commerce's Artfest, a Chamber of Commerce Visitor's tour, and the Town of Castle Rock Planning Commission Tour of Town.



## **Traffic Engineering & Operations**

**Traffic Signal Operations and Maintenance** - The following provides a summary of the activities during the month of September with regard to the operation and maintenance of the traffic signal system.

- During the month of September there were fifteen non-routine traffic signal maintenance visits completed by either the Town staff or the Town's signal maintenance contractor. This did not meet the goal of 13 or fewer non-routine visits per month. Most of the requests were associated with resetting the controller or clock because of the controller going into flash. Some technicians experienced multiple visits to the same intersection which consisted of reinstallation of equipment as well as a loss in power. Others consisted of the replacement of burned out signal light LED's. Staff is also looking at tracking certain performance measures to determine if the need exists or will exist in the near future to hire an in house traffic signal technician.
- Traffic Engineering also met with the Fire Department as well as other emergency services to discuss the advantages and disadvantages of replacing nighttime flash operations with normal signal operations. As the Town has continued to grow, the number of late night emergency calls has increased. Based on the Fire Department's performance standards and practices, the current nighttime flash operation is making it more difficult to stay within their response time goals since their safety policies require a responding fire vehicle to stop at red lights, both solid and flashing. Staff is evaluating the best course of action regarding late night signal operations without increasing delay for the traveling public or compromising safety.

**Signs and Pavement Marking Maintenance** - In the month of August the Signs and Markings crew spent over 46 hours painting 281 symbols. They also spent part of the month completing routine maintenance on the school beacons by replacing batteries in need of replacement. With regard to special events the crew spent 62 hours in setting out traffic control devices for use at various special events.



# Transportation Planning

## Neighborhood Traffic Calming Program (NTCP)

An update on the NTCP is as follows:

- Dinosaur Street in the Meadows neighborhood – a speed and volume study was conducted in September. It was determined that the street does not meet the minimum criteria to qualify for the program.
- Turnstone Avenue in the Founders neighborhood - a speed and volume study was conducted in September. It was determined that the street does not meet the minimum criteria to qualify for the program.
- Pueblo Alta Way in the Cobblestone Ranch area – the point of contact (POC) did return a support petition; however, of the five signatures on the petition one was the POC. Staff informed the POC that five homeowners in addition to the POC need to sign the petition. The POC will collect another homeowner signature and provide it to staff so a speed and volume study can be scheduled.
- The Saddleback Drive traffic calming project concluded Phase 1 of the program. A follow up speed and volume study was conducted to determine if the street qualifies to move into the second phase or if the remedies in Phase 1 resolved the issue.
- Staff also met with a couple of homeowners along Rock Creek Drive in the Meadows regarding speeding concerns along the street. The program and process was explained to the homeowners and an initial support petition and brochures were provided. The petition has not been returned to the Town as of September 30<sup>th</sup>. If staff receives the petition then a speed and volume study will be scheduled.



## **Policy Revisions**

The NTCP policy amendment has been scheduled for October 20 with Town Council. At this meeting Council will be asked to approve the amended program.

## Comprehensive Plan Update

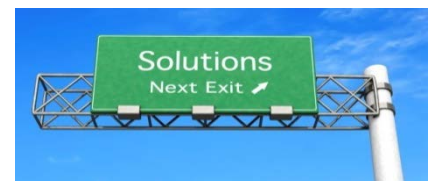
On September 14, Public Works staff presented the current draft of the Comprehensive Plan update to the Public Works Commission for review and input. Comments were documented and sent to Development Services for inclusion in the update.

## Development Review Projects

- Staff has met with the developer and their consultant regarding the Promenade development and increased traffic projections and impacts with the proposed King Soopers. A revised traffic impact letter that addresses staff's concerns will be provided as part of the second resubmittal.
- The Canyons South housing project has submitted for annexation and zoning. Public Works is currently reviewing the traffic impact study and identifying what public improvements are needed and should be included in the Development Agreement.
- Staff is also reviewing traffic impact studies for mixed use projects in the downtown.
- 

## Douglas County Transit Demand Study

This is a County led study that is evaluating the transit needs throughout Douglas County and includes Castle Rock. Draft recommendations are currently being developed by the project team and they should be available soon for review and comment. The feedback period is expected to go until October 23<sup>rd</sup>. Additional public input sessions are planned in October, including a virtual Town Hall meeting. Final recommendations are planned to be presented in December 2015.





# Fleet Services

*“Keeping Castle Rock on the Move”*



The Fleet Services Division had a challenging month with several of our staff on vacation for part of September 2015. The Fleet Services team was still able to meet most of the critical performance benchmarks with a short staff. The Fleet Services team billed out just over \$52,000 of labor and parts for the month and technicians worked on 84 Town vehicles or equipment and completed 95 work orders.



Fleet Services technicians Eric Dena and Chris Selheim were able to attend advanced training for the Ford 6.7L Diesel engines. All of the Fleet Service technicians were also enrolled in Ford factory training available through the internet.

Fleet Services Manager, Paul Colell, represented the Town at the annual Rocky Mountain Fleet Managers Association (RMFMA) conference in Glendale AZ.



**Objective/Benchmark:** Complete at least 80% of our work orders within 24-hours of coming to shop.

**Outcome:** Fleet team completed 79.5% of the work orders within 24-hours of opening repair requests or service requests. This was slightly below our benchmark.

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

**Outcome:** Town vehicles and equipment were available 97.9% of the time. This demonstrates a very low percentage of downtime and shows how well we are keeping Castle Rock on the move.

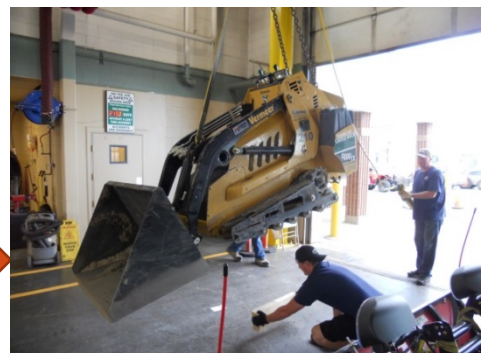
**Objective/Benchmark:** Technician productivity percentage of 70% (APWA standard)

**Outcome:** Technician productivity was 68.4%. Productivity was a little below our benchmark mainly due to technician time off in the month of September



← Fleet Technician Chris Selheim working on a sander insert for a plow truck.

Using the overhead crane to install new track on a Utilities Department unit. →



## STREET OPERATIONS & MAINTENANCE DIVISION

In the month of September the Street Operations & Maintenance Division performed seven (7) specific operations:

- Asphalt repairs
- Crack sealing
- Bridge maintenance
- Street sweeping
- Concrete pothole repairs
- Equipment maintenance
- Road shoulder maintenance



During the month of September, the staff was able to repair the asphalt joint on Crowfoot Valley Road. This was a major repair that was at the transition point from concrete roadway to asphalt roadway. The bump and dip were removed to make the transition smoother for the driving public.

The crack seal machine was fired back up and staff was able to perform operations in the Sapphire Point and Diamond Ridge subdivisions in preparation for the 2016 PMP work. Staff was also able to get to a few of the Priority 1 streets (Ridge Road and 5<sup>th</sup> Street from Ridge Road down to 6<sup>th</sup> Street).



*Staff completed the painting on the Front Street Flyover painting all the metal rails as well as painting the inside concrete walls. Additionally, staff came in at night and cleaned all of the expansion joints on seven bridges throughout the town.*

Staff completed one downtown AM street sweeping operation.



Staff was able to repair two large potholes on the Wolfensberger Bridge over Plum Creek.

The Streets Operations crew was able to perform equipment maintenance in preparation for this upcoming winter's activities. The crew started to mount the plows and sanders to each of the heavy duty dump trucks, as well as starting to install the snow blower controls in the loaders.

The crew was able to repair the heavily eroded drainage ditch on Wolfensberger next to the cemetery. The crew removed a large amount of debris from the ditch line to improve the flow of the storm water away from the roadway edge line, and installed a lot of recycled asphalt with a top coat binder. Additionally, the crew was able to address some of the same concerns on the Territorial Road. The drainage ditch was full of wash down materials and overgrown vegetation that was pushing the storm water out onto the roadway.



During the month of October the Division will:

- Continue our fall crack seal program (on the Priority 1 roads)
- Continue to perform equipment maintenance on our snow plowing equipment
- Begin our Fall mowing and sweeping operations