Appendix B

Engineer's Opinion of Probable Cost

CITY OF CHEYENNE MPO

CONVERSE AVENUE & DELL RANGE BOULEVARD 35% DESIGN

ENGINEER'S ESTIMATE (35%)

ITEM NO.	ITEM	UNIT	QUANTITY FOR ESTIMATE	BIDDING	
				UNIT PRICE	ITEM COST (QUANT. X UNIT PRICE)
100.00000	MOBILIZATION	LS	1	$ 275,000.00	$ 275,000.00
100.00000	FORCE ACCOUNT WORK	$$	1	$ 50,000.00	$ 50,000.00
100.00000	CONTRACT BOND	LS	1	$ 20,000.00	$ 20,000.00
100.00000	CONTRACTOR TESTING	LS	1	$ 25,000.00	$ 25,000.00
1050.01000	TEMPORARY TRAFFIC CONTROL	LS	1	$ 20,000.00	$ 20,000.00
1335.01000	CONSTRUCTION STAKING	LS	1	$ 25,000.00	$ 25,000.00
1563.01000	EROSION CONTROL AND STORMWATER MANAGEMENT	LS	6	$ 15,000.00	$ 90,000.00
2050.01000	REMOVAL OF TRAFFIC SIGNALS	EA	3	$ 1,500.00	$ 4,500.00
2050.02000	REMOVAL OF INLETS	EA	7	$ 1,000.00	$ 7,000.00
2075.02000	REMOVAL OF ASPHALT SURFACING	SY	500	$ 4.00	$ 2,000.00
2075.03000	REMOVAL OF CONCRETE SURFACING	SY	20000	$ 5.50	$ 110,000.00
2075.04000	REMOVAL OF CURB AND GUTTER	LF	5250	$ 3.75	$ 19,687.50
2210.05000	IMPORTED BORROW EXCAVATION	CY	400	$ 28.00	$ 11,200.00
2210.02000	UNCLASSIFIED EXCAVATION	CY	400	$ 30.00	$ 12,000.00
2231.01000	CRUSHED BASE	TON	9500	$ 30.00	$ 285,000.00
2280.02000	TOPSOIL BORROW	CY	1500	$ 12.00	$ 18,000.00
2512.03100	PLANT MIX BITUMINOUS PAVEMENT, GRADING A	TON	5000	$ 90.00	$ 450,000.00
2570.02000	ADJUST SEWER MANHOLE	EA	5	$ 500.00	$ 2,500.00
2725.01118	STORM SEWER MAIN, RCP, 18"	LF	275	$ 70.00	$ 19,250.00
2725.01124	STORM SEWER MAIN, RCP, 24"	LF	80	$ 85.00	$ 6,800.00
2725.01136	STORM SEWER MAIN, RCP, 36"	LF	100	$ 200.00	$ 20,000.00
2725.01148	STORM SEWER MAIN, RCP, 48"	LF	2020	$ 300.00	$ 606,000.00
2725.01510	8 'x 5' CONCRETE BOX CULVERT	LF	520	$ 900.00	$ 468,000.00
2725.01511	8 'x 5' CONCRETE BOX CULVERT BEND SECTION	EA	4	$ 10,000.00	$ 40,000.00
2725.01512	8' X 6' CONCRETE BOX CULVERT BEND SECTION	EA	1	$ 12,500.00	$ 12,500.00
2725.01513	8' x 5' TO 8' x 6' CONCRETE BOX CULVERT REDUCER	EA	1	$ 12,500.00	$ 12,500.00
2725.02250	FLAT TOP MANHOLE, 6-10; DEEP, 60" DIA.	EA	1	$ 7,000.00	$ 7,000.00
2725.03250	CONICAL MANHOLE, 6-10; DEEP, 96" DIA.	EA	2	$ 8,500.00	$ 17,000.00
2725.03500	8' x 14' REINFORCED CONCRETE JUNCTION BOX	EA	2	$ 17,500.00	$ 35,000.00
2725.03600	18" x 48" RCP TEE SECTION	EA	2	$ 5,000.00	$ 10,000.00
2725.04180	FLARED END SECTION, RCP, 18" DIA.	EA	1	$ 1,200.00	$ 1,200.00
2725.04240	FLARED END SECTION, RCP, 24" DIA.	EA	1	$ 1,750.00	$ 1,750.00
2725.06100	TYPE "A" INLET	EA	10	$ 3,750.00	$ 37,500.00
2725.06500	WYDOT TYPE "B" INLET	EA	2	$ 4,000.00	$ 8,000.00
2725.06500	WYDOT TYPE "C" INLET	EA	2	$ 4,250.00	$ 8,500.00
2725.06500	WYDOT TYPE "D" INLET	EA	4	$ 3,800.00	$ 15,200.00
2805.02000	SIGN PANELS	SF	500	$ 30.00	$ 15,000.00
2805.03000	SIGN POST, SQ TUBULAR STL	EA	12	$ 650.00	$ 7,800.00
2815.00000	PERMANENT STRIPING (THERMOPLASTIC)	LS	1	$ 15,000.00	$ 15,000.00
2900.01000	LANDSCAPING	SF	3750	$ 7.50	$ 28,125.00
2900.02000	SEEDING	SF	2500	$ 1.50	$ 3,750.00
2900.04000	SODDING	SF	3750	$ 3.50	$ 13,125.00
3330.01050	CURB AND GUTTER TYPE "A" (24 in)	LF	5800	$ 22.00	$ 127,600.00
3340.01000	CURB TURN FILLET	SF	3600	$ 12.00	$ 43,200.00
3340.02000	CONCRETE VALLEY GUTTER (8 in)	SF	575	$ 10.00	$ 5,750.00
3340.03000	CONCRETE SIDEWALK (4 in)	SF	38500	$ 6.00	$ 231,000.00
3340.07000	DETECTABLE WARNING PLATE	EA	14	$ 300.00	$ 4,200.00
4040.01200	DRILLED CAISSON	LF	60	$ 250.00	$ 15,000.00
4040.07500	TRAFFIC SIGNAL LIGHT POLE STEEL (40' MAST ARM)	EA	3	$ 15,000.00	$ 45,000.00

SUBTOTAL	$	3,307,637.50
CONTINGENCY (40%)	$	1,323,055.00
ENGINEERING (20%)	$	264,611.00
TOTAL	$	4,895,303.50

Appendix C

Technical Memoranda

A. Dell Range – Converse Avenue Intersection Alternatives Analysis Tech Memo
B. Drainage Design Tech Memo
C. Preliminary Environmental Consideration Tech Memo

Memo

Date:	Friday, January 13, 2017
Project:	Dell Range-Converse Intersection and 35% Design Plan
To:	Brandon Gebhart
From:	John Seyer
Subject:	Dell Range-Converse Intersection Alternatives Analysis Tech Memo

This technical memorandum documents the process of developing and evaluating alternatives for improvements to the Dell Range Boulevard & Converse Avenue intersection, as well as selection of the preferred alternative.

I. Existing Conditions

The Dell Range-Converse intersection is located in the northeast portion of the city of Cheyenne. This intersection connects two major routes in the city. Dell Range Boulevard is a four-lane major arterial that connects from Yellowstone Road on the west to the developing eastern portions of the city. Dell Range also provides connectivity to the most intensive retail development in Cheyenne, which includes the Frontier Mall. Converse Avenue is a four-lane minor arterial that provides connectivity from Lincolnway on the south, which provides access to downtown Cheyenne, to the developing northern portion of the city. The confluence of these two roadways creates this major intersection, which is known for being the most congested and highest crash occurrence intersection in the city, possibly even the state.

The current configuration of the intersection includes an exclusive left-turn lane and exclusive right-turn lane in each direction, except for the northbound approach that includes two exclusive left-turn lanes. Also, the eastbound right-turn lane is channelized. The intersection is signalized, with split phasing for the northbound and southbound approaches and a flashing yellow arrow for the eastbound left-turn and westbound left-turn movements. This signal operates in coordination along Dell Range Boulevard, with the coordinated corridor limits extending from College Drive on the east to Powderhouse Road on the west.

Existing traffic volumes for the AM, Midday and PM peak hours were gathered by the City earlier this year and provided to HDR for use in this project. The City also provided existing signal timing parameters for this intersection. These traffic volumes, the intersection geometrics and the traffic signal timing parameters were loaded into the project's traffic operations analysis model. The model was run and the results yielded LOS E, LOS C and LOS C for the AM, Midday and PM peak hours, respectively.

Crash statistics from 2006 to 2015 show a safety concern for this intersection. Within the past 10 years, there have been a total of 264 crashes at the Dell Range Boulevard and Converse Avenue intersection.

During this time, approximately 147 people were injured, making this intersection one of the most dangerous intersections in the state of Wyoming. From 2006 to 2015, rear end collisions have increased approximately 20%. On average, 67% of all crashes that occurred at the Dell Range - Converse intersection within the past 10 years had reported property damage. In addition to rear end collisions, T-Bone/right angle crashes have doubled between 2014 and 2015. This could attribute to why over 90% of all crashes in this intersection occurred when vehicles were traveling in the East – West direction.

II. Alternatives Development and Analysis

The development of alternatives was based on the steering committee's understanding of the intersection's deficiencies and the project's needs. Below is a description of this process.

Identification of Deficiencies. In order to establish the current conditions of the Dell Range – Converse intersection, a model of the existing configuration was developed. The results concluded that the existing intersection with current traffic volumes functions at a LOS E in the AM, which is considered poor and a LOS C during the MD and PM peaks. If the intersection stays in its current configuration, it is projected that the level of service will only get worse due to increased traffic volumes. In addition to a continuance of poor level of service, the safety conditions of this intersection will also decrease. The Dell Range – Converse intersection is already considered one of the most dangerous intersections in the state, as mentioned in the safety discussion above, and if no improvements are made to the intersection, this intersection very well could become the most dangerous intersection in the state.

Alternatives Development. The alternatives that were analyzed for this intersection originated from HDR's proposal and were refined and finalized by the Steering Committee. The citizens of Cheyenne have been open to unique ideas that will maximize capacity and enhance safety at the Dell Range – Converse intersection. Currently, there are three alternative designs in place around the City of Cheyenne: the Vandehei corridor (the City's first experiment with a traffic calming corridor), the multi-lane roundabout at the Converse-Pershing-19th intersection, and the diverging diamond interchange (DDI) at I-25 & College Drive. With these in mind as well as the conversations with City staff and citizens, HDR has developed seven alternative designs for the Dell Range-Converse intersection.

The list of alternatives is as follows:

1. No-Build
2. Dual Left-Turn Lanes
3. Modern Roundabout
4. Continuous Flow Intersection – Full
5. Continuous Flow Intersection – Modified
6. ThruTurn Intersection – Signals
7. ThruTurn Intersection – Roundabouts

Below are a brief description and a figure that illustrates each alternative.

No-Build. The option to not make any significant improvements provides a benchmark against which all other alternatives can be measured. The No-Build represents the conditions of the intersection in the future without major improvements, although some minor improvements or other previously committed improvements can be made. For this project, it was assumed that widening of the north leg would occur such that the split phasing will be eliminated and right-turn arrows will be added that will indicate to drivers that right turns are protected during the green time of the corresponding left-turn (i.e. the northbound right-turn movement would be given a green arrow simultaneously with the westbound left-turn movement).

Dual Left-Turn Lanes. The first build alternative includes improving on the No-Build by adding a second left-turn lane to the eastbound, southbound and westbound approaches. The projected westbound left-turn volumes indicate that dual lefts may be warranted, and providing a second southbound left-turn lane is simple geometrically since the northbound approach leg already has dual lefts; both receiving legs of these turn movements already have two lanes. The eastbound left-turn movement is not as simple, given that the north leg has only one receiving lane. The traffic volumes for this movement are fairly low, so consideration was given to keeping this movement as a single left-turn lane.

Modern Roundabout. The modern roundabout was conceived as a viable option given the city's familiarity with roundabouts, the large percentages of left turns on some legs, and the fact that the crash history indicates that the conflict between thru movements and the opposing left-turn movements experience a persistence of crashes. This would be a multi-lane roundabout, possibly with three approach lanes from the south.

Continuous Flow Intersection – Full. A continuous flow intersection (CFI) provides left-turn movements that are removed from the intersection for the benefit of reducing conflict points at the primary intersection and increasing the intersection's capacity. The left turns occur upstream of the primary intersection so that they can turn onto the approaching cross street at the same time as the opposing through movements. This alternative provides five two-phase signalized intersections that control traffic as it passes through the "intersection complex."

Continuous Flow Intersection – Modified. The differences between the CFI-Modified alternative and the CFI-Full intersection are represented in the number of displaced left-turn movements. Based on volumes and crash history, the northbound left turns and the westbound left turns are the two movements that need additional capacity and conflict point mitigation. The traffic volumes at the other two left-turn movements are far less impactful to capacity and safety. In addition, modifying the CFI in this manner takes advantage of available right-of-way without impacting existing businesses.

ThruTurn Intersection – Signals. The ThruTurn intersection offers similar intersection capacity benefits as the CFI in that left turns do not occur at the primary intersection. The difference is that traffic wishing to make a left turn must make a different maneuver at the intersection and make a turn at a downstream intersection before reaching its final destination. As an example,

to make a northbound left turn, traffic would proceed north through the intersection along Converse Avenue to the Masonway intersection where this traffic would make a u-turn, followed by a right-turn onto westbound Dell Range Boulevard. The "outlier" intersections would have minor geometric changes made to them to accommodate the u-turn movement, and those intersections would be signalized.

ThruTurn Intersection – Roundabouts. This iteration of the ThruTurn intersection would provide modern roundabouts at the outlier intersections instead of traffic signals. This alternative would facilitate the u-turn movements effectively without introducing three new traffic signals.

Alternatives Analysis. The seven alternatives were evaluated against the evaluation criteria that were listed in the (memo). The criteria were established based on the values that the steering committee expressed to the design team and what the public shared at the first public open house. These criteria included:

1. Safety
2. Ease of Use
3. Congestion/Queuing
4. Business Access
5. Drainage
6. Land Acquisition

Initially, the alternatives were analyzed using the criteria of improved safety, ease of use, and reduction of congestion and queuing. The results of this analysis were presented to the steering committee to refine the alternatives down to three final alternatives. The congestion/queuing criterion was analyzed quantitatively using operations analysis software, as described below. The safety criterion was based on how effectively each alternative would reduce the overall number of conflict points. As such, this criterion was evaluated initially quantitatively, although some results were tweaked qualitatively. The ease of use criterion was evaluated qualitatively based on the complexity of the intersection, with consideration given to out-of-direction travel and how well pedestrians and bicyclists could maneuver through the intersection. Below is a description of how the alternatives were evaluated against these three criteria.

Safety. As noted above, this criterion was evaluated initially based on the number of conflict points within the intersection for each alternative. Given that some alternatives involve just the Dell Range-Converse intersection, while others involve the Mountain Road, Masonway and Grandview Avenue intersections, it's important that we include all four intersections in each alternative. Given these considerations, below are the total numbers of conflict points for each alternative:

- No-Build = 59
- Dual Left-Turn Lanes = 59
- Modern Roundabouts = 35
- CFI – Full = 44

- CFI – Modified = 54
- ThruTurn – Signals = 38
- ThruTurn – Roundabouts = 28

Ease of Use. The Ease of Use criterion was evaluated with a qualitative approach. This approach considered the complexity of the intersection for all modes of travel, including vehicular traffic and pedestrian and bicycle traffic.

Congestion/Queuing. The Synchro/SimTraffic software suite was used to analyze the operations for all of the alternatives, except for the modern roundabout alternatives; the modern roundabouts were analyzed using Rodel. Models for the AM peak, MD peak, and PM peak, using projected 2040 volumes, were developed for all alternatives. The future-year volumes were based on ADTs from the Dell Range Corridor Study and the estimated Section 20 development patterns.

The primary focus of the analysis was the functionality of the Dell Range Boulevard and Converse Avenue intersection (DR-C). Currently, it is a signalized, four-legged intersection. Dell Range Boulevard has two through lanes and one left-turn lane in the EB and WB directions. There is a designated right-turn lane in the WB direction onto NB Converse Ave. The SB leg has two through lanes, a designated right-turn lane, and one left-turn lane. The NB leg has one through lane, a designated right-turn lane, and two left-turn lanes onto WB Dell Range. Currently, the intersection functions as a LOS E during the AM peak and a LOS C during the MD and PM peak with an average delay of 39.9 seconds.

- No-Build:
  The No-Build model was built using the existing intersection configuration and the 2040 volumes. In order to improve the functionality of the intersection, the signal timing was optimized for each peak hour. This adjustment improved the intersection's function during the AM peak from an LOS E to an LOS C. However, the LOS during the MD and PM peak declined to an LOS D. The average delay for the no-build model is approximately 35.6 seconds. Therefore, in order to see LOS improvement for all peak periods, the intersection's configuration will need to be altered.

- Dual Left-Turn Lanes:
  Due to the large amount of left turns in all directions, there is considerable delay due to the limited amount of left turn storage. A second left turn lane was added to SB Converse Ave, WB Dell Range Blvd, and EB Dell Range Blvd. The EB and WB directions have fewer left turns than that of the NB and SB directions. However, the through traffic along Dell Range Blvd is almost five times more than the through traffic along Converse Ave. Therefore, the left turn storage length for WB Dell Range Blvd was increased from 90 feet to 150 feet. This will assist in alleviating the through traffic delay as well as the left turn delay. After finalizing the

configuration and optimizing the signal timing, the intersection functioned as an LOS C for all peak periods with an average delay of 29.4 seconds.

- Modern Roundabout:
  The roundabout model configuration consists of two circulating lanes throughout the entire roundabout. In the EB direction, there will be three approach lanes: one left-through lane, one designated through only lane, and one designated right turn only lane. The designated right turn only lane will be a bypass lane to SB Converse Ave. In the NB direction, there will be three approach lanes: one designated left turn only lane, one left-through lane, and one right-through turn lane. There will be three circulating lanes in the south-east quadrant to accommodate the three NB approach lanes and all legs will have two exit lanes. The LOS for the roundabout during all peak periods is an LOS A with an average delay of 5.6 seconds.

- Continuous Flow Intersection (Full):
  The CFI model configuration eliminates all left turns that occur at the Dell Range-Converse intersection. All left turns will occur ahead of the DR-C intersection. There will be a signalized intersection where the left turns will occur and cross over the opposing traffic lanes in order to bypass the main intersection. This bypass will provide storage for the left turns and allow for more green time to be dedicated to the through traffic. The left turns will access their target street at a connection point that will be placed after the main intersection. Once the timing was optimized and coordinated for all four legs, the CFI performed at a LOS C for all peak periods with an average delay of 29.6 seconds.

- Continuous Flow Intersection (Modified):
  The modified CFI model configuration is very similar to that of the full CFI model configuration. However, instead of eliminating left turns at the intersection for all four legs of the intersection, only two legs have left turns that occur ahead of the intersection. For the modified model configuration, the WB and NB left turns will bypass the main intersection. The WB left turn movement exceeds 300 left turns during the AM peak and the NB left turn movement exceeds 300 left turns during the PM peak; both movements have between 700 – 900 left turns during all three peaks. Once the timing was optimized and coordinated, the modified CFI performed at an LOS C for all peak periods with an average delay of 26.3 seconds.

- ThruTurn Intersection (Signals):
  The signalized ThruTurn model has a similar approach to the CFI model; eliminate the left turns at the Dell Range-Converse intersection. However, instead of the left turns bypassing the DR-C intersection, left turns will be prohibited at the intersection. Therefore, vehicles wanting to turn left onto Converse Ave from Dell Range Blvd, or vise versa, will have to travel through the intersection and use either the Dell Range-Mountain intersection, Dell Range-Grandview intersection, or the Converse-Masonway intersection to make a U-turn.

Vehicles will be able to turn right at the DR-C intersection once they have completed the U-turn. This ThruTurn model uses signals at all four of the intersections. Once all of the timing was optimized and coordinated, the model performed at an LOS B for the AM and MD peaks and an LOS C for the PM peak with an average delay of 16.4 seconds.

- ThruTurn Intersection (Roundabouts):
  The roundabout thruturn model has the same configuration as the signalized thruturn model, but will be using roundabouts instead of signals at the three intersections of Dell Range-Mountain, Dell Range-Grandview, and Converse-Masonway. Due to the use of two different modeling programs, Rodel and Syncro, for this alternative, the delays for both modeling programs had to be accounted for in the overall delay results. Once the delay was calculated correctly, the alternative performed at an LOS B for all peak periods with an average delay of 14.0 seconds.

Based solely on the results from the models, the modern roundabout performed the best in terms of LOS and delay. The ThruTurn models performed the second best, with the modified CFI coming in third best overall. The worst results came from the No-Build model. This solidifies the fact that the Dell Range-Converse intersection needs an alternative intersection design to alleviate current and future delay. See Table 1 for the LOS and delay results for all seven alternatives.

Table 1: Dell Range Boulevard and Converse Avenue Intersection Alternatives Analysis

Alternative	AM Peak		MD Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
No-Build Revision	C	27.1	D	37.8	D	42.0
Dual Left Turns	C	26.2	C	32.3	C	29.6
Modern Roundabout	A	3.3	A	7.6	A	5.9
CFI - Full	C	31.1	C	29.8	C	27.9
CFI - Modified	C	22.1	C	26.0	C	30.8
ThruTurn - Signals	B	10.9	B	13.7	C	24.5
ThruTurn - Roundabouts	B	11.1	B	12.8	B	18.1

III. Recommendations

The analysis methodology, the resulting output, the public input and recommendations from the design team were presented to the Steering Committee and the MPO Technical Committee. The preferred intersection alternative from this entire process was the Modified Continuous Flow Intersection. Given that funding for this project did not make the sixth-penny ballot initiative in May, 2017, and that the funding source for this project is uncertain in the foreseeable future, the short term improvements to the existing intersection should be incorporated until the preferred alternative can be funded.

At this time, it is recommended that the improvements derived for Current Intersection with Short Term Improvements alternative be constructed to improve safety and functionality until a funding source for the preferred alternative become available. The recommended improvements were incorporated into the 35% design and the Engineer's Opinion of Probable Costs and include;

- Restriping the north leg to shift the southbound left-turn lane to the east
- Eliminate the split phasing for the north-south approaches
- Optimize the signal timing, including adding right-turn overlaps for the northbound right turn, the southbound right turn, and the westbound right turn
- Add supplemental left-turn heads for the eastbound and the westbound approaches
- Increase the curb-and-gutter radius in the northwest and northeast corner to better accommodate truck traffic

Safety improvements will be realized inherently when the overall corridor improvements identified in this study and previous studies are completed. Improved connectivity and dedicated pedestrian and bicycle facilities will provide improved safety conditions when compared to existing conditions such as the creation of a grade separated Greenway crossing at Dry Creek, west of the Converse Avenue and Dell Range Boulevard intersection. Additionally, future analysis of a grade separated crossing along Converse Avenue between Dell Range and Point Bluff is recommended based on comments received during the public meeting process. Additionally, some improvement to traffic operations and a general increase in intersection safety will be realized by completing the Current Intersection with Short Term Improvements alternative.

APPENDIX

EXISTING TRAFFIC COUNTS

Study Name 1601827
Start Date 4/19/16
Start Time 7:00 AM
Site Code 16026

Type Road
lassification All

	CONVERSE AVE Southbound				DELL RANGE BLVD Westbound				CONVERSE AVE Northbound				DELL RANGE BLVD Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:00 AM	32	52	11	0	63	118	12	0	19	22	17	0	6	31	18	0	401
7:15 AM	31	78	7	0	97	110	21	0	36	29	33	0	2	41	24	0	509
7:30 AM	25	62	15	0	95	122	34	0	31	36	27	0	4	55	31	0	537
7:45 AM	30	65	11	0	99	156	19	0	59	46	21	0	1	58	31	0	596
8:00 AM	22	54	9	0	60	112	20	0	50	44	19	0	8	42	33	0	473
8:15 AM	18	50	13	0	45	120	22	0	38	31	20	0	7	61	21	0	446
8:30 AM	32	39	16	0	41	113	38	0	52	30	20	0	10	68	34	0	493
8:45 AM	27	36	15	0	36	126	26	0	53	23	23	0	6	73	30	0	474
	108	259	42	0	351	500	94	0	176	155	100	0	15	196	119	0	
11:00 AM	40	36	23	0	40	179	24	0	69	35	24	0	9	142	62	0	683
11:15 AM	35	38	15	0	32	170	37	0	83	50	57	0	4	164	58	0	743
11:30 AM	38	34	26	0	30	186	23	0	84	57	48	0	13	213	63	0	815
11:45 AM	39	55	14	0	40	210	33	0	80	39	37	0	11	179	96	0	833
12:00 PM	37	47	17	0	28	216	39	0	79	56	59	0	18	186	88	0	870
12:15 PM	43	55	42	0	53	240	33	0	72	41	43	0	10	205	100	0	937
12:30 PM	41	56	30	0	62	272	37	0	90	51	40	0	19	216	87	0	1001
12:45 PM	41	65	15	0	56	215	28	0	85	38	21	0	15	177	92	0	848
	162	223	104	0	199	943	137	0	326	186	163	0	62	784	367	0	
3:00 PM	38	50	5	0	28	130	20	0	71	42	35	0	14	210	80	0	723
3:15 PM	41	47	9	0	22	142	31	0	75	43	39	0	13	185	82	0	729
3:30 PM	40	45	13	0	35	172	31	0	92	63	33	0	14	221	83	0	842
3:45 PM	46	56	14	0	36	203	33	0	89	45	38	0	12	206	78	0	856
4:00 PM	50	47	15	0	33	161	36	0	82	51	47	0	17	207	83	0	829
4:15 PM	44	47	19	0	32	170	18	0	88	56	38	0	16	211	78	0	817
4:30 PM	38	63	12	0	36	160	34	0	80	60	51	0	10	256	82	0	882
4:45 PM	34	49	27	0	37	171	35	0	84	53	43	0	14	224	81	0	852
5:00 PM	43	49	12	0	31	147	41	0	90	69	45	0	16	228	114	0	885
5:15 PM	47	49	20	0	32	154	24	0	71	71	64	0	17	221	88	0	858
5:30 PM	46	40	20	0	50	179	21	0	74	86	59	0	18	217	80	0	890
5:45 PM	27	38	8	0	38	177	29	0	83	62	57	0	15	193	21	0	748
	170	187	79	0	150	651	121	0	319	279	211	0	65	890	363	0	

Study Name 1601930
Start Date 4/19/2016
Start Time 7:00 AM
Site Code 16026

Type Road
lassification Lights

	MOUNTAIN RD Southbound				DELL RANGE BLVD Westbound				MOUNTAIN RD Northbound				DELL RANGE BLVD Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:00 AM	3	0	33	0	0	179	2	0	0	0	0	0	11	75	0	0	303
7:15 AM	5	0	40	0	0	200	2	0	0	0	0	0	15	87	0	0	349
7:30 AM	0	0	41	0	0	223	4	0	0	0	0	0	14	104	0	0	386
7:45 AM	0	0	43	0	0	243	7	0	0	0	0	0	7	100	0	0	400
8:00 AM	0	0	26	0	0	173	9	0	0	0	0	0	7	80	0	0	295
8:15 AM	3	0	32	0	0	160	7	0	0	0	0	0	11	92	0	0	305
8:30 AM	5	0	27	0	0	181	3	0	0	0	0	0	14	109	0	0	339
8:45 AM	1	0	19	0	0	179	1	0	0	0	0	0	9	103	0	0	312
	8	0	157	0	0	845	15	0	0	0	0	0	47	366	0	0	
11:00 AM	3	0	29	0	0	231	8	0	0	0	0	0	19	181	0	0	471
11:15 AM	1	0	17	0	0	233	10	0	0	0	0	0	23	242	0	0	526
11:30 AM	4	0	20	0	0	221	9	0	0	0	0	0	28	267	0	0	549
11:45 AM	3	0	15	0	0	270	5	0	0	0	0	0	24	248	0	0	565
12:00 PM	0	0	16	0	0	273	6	0	0	0	0	0	36	260	0	0	591
12:15 PM	2	0	38	0	0	294	7	0	0	0	0	0	24	290	0	0	655
12:30 PM	3	0	34	0	0	359	8	0	0	0	0	0	15	280	0	0	699
12:45 PM	0	0	35	0	0	277	3	0	0	0	0	0	14	246	0	0	575
	5	0	123	0	0	1203	24	0	0	0	0	0	89	1076	0	0	
3:00 PM	3	0	17	0	0	169	5	0	0	0	0	0	24	249	0	0	467
3:15 PM	4	0	16	0	0	201	3	0	0	0	0	0	25	232	0	0	481
3:30 PM	3	0	31	0	0	224	11	0	0	0	0	0	32	267	0	0	568
3:45 PM	2	0	24	0	0	258	9	0	0	0	0	0	34	258	0	0	585
4:00 PM	4	0	23	0	0	224	1	0	0	0	0	0	30	279	0	0	561
4:15 PM	1	0	17	0	0	234	10	0	0	0	0	0	25	266	0	0	553
4:30 PM	2	0	28	0	0	212	6	0	0	0	0	0	38	313	0	0	599
4:45 PM	1	0	28	0	0	229	7	0	0	0	0	0	39	274	0	0	578
5:00 PM	1	0	28	0	0	207	5	0	0	0	0	0	40	309	0	0	590
5:15 PM	8	0	19	0	0	195	7	0	0	0	0	0	42	300	0	1	572
5:30 PM	1	0	32	0	0	242	9	0	0	0	0	0	35	311	0	0	630
5:45 PM	4	0	37	0	0	236	11	0	0	0	0	0	36	235	0	0	559
	11	0	107	0	0	873	28	0	0	0	0	0	156	1194	0	1	2291

Study Name 1601929
Start Date 4/20/16
Start Time 7:00 AM
Site Code 16026

Type Road
lassification Lights

	GRANDVIEW AVE Southbound				DELL RANGE BLVD Westbound				GRANDVIEW AVE Northbound				DELL RANGE BLVD Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:00 AM	2	0	1	0	0	175	2	0	0	0	0	0	4	62	0	0	246
7:15 AM	1	0	0	0	0	178	4	0	0	0	0	0	4	80	0	0	267
7:30 AM	1	0	3	0	0	198	8	0	0	0	0	0	2	81	0	0	293
7:45 AM	2	0	3	0	0	240	7	0	0	0	0	0	9	100	0	0	361
8:00 AM	1	0	6	0	0	166	6	0	0	0	0	0	6	103	0	0	288
8:15 AM	2	0	5	0	0	172	9	0	0	0	0	0	2	99	0	0	289
8:30 AM	3	0	6	0	0	189	7	0	0	0	0	0	9	108	0	0	322
8:45 AM	2	0	11	0	0	196	10	0	0	0	0	0	9	121	0	0	349
	8	0	20	0	0	767	29	0	0	0	0	0	26	410	0	0	
11:00 AM	7	0	12	0	0	265	14	0	0	0	0	0	8	220	0	0	526
11:15 AM	1	0	16	0	0	281	16	0	0	0	0	0	10	270	0	0	594
11:30 AM	5	0	17	0	0	270	17	0	0	0	0	0	14	262	0	0	585
11:45 AM	5	0	23	0	0	259	15	0	0	0	0	0	12	288	0	0	602
12:00 PM	4	0	22	1	0	288	13	0	0	0	0	0	14	255	0	0	597
12:15 PM	4	0	22	0	0	283	23	0	0	0	0	0	11	266	0	0	609
12:30 PM	3	0	20	0	0	355	14	0	0	0	0	0	17	273	0	0	682
12:45 PM	2	0	10	0	0	304	15	0	0	0	0	0	13	269	0	0	613
	13	0	74	1	0	1230	65	0	0	0	0	0	55	1063	0	0	
3:00 PM	7	0	15	0	0	243	13	0	0	0	0	0	7	308	0	0	593
3:15 PM	5	0	8	0	0	246	11	0	0	0	0	0	9	291	0	0	570
3:30 PM	5	0	13	0	0	250	13	0	0	0	0	0	6	283	0	0	570
3:45 PM	5	0	15	0	0	274	17	0	0	0	0	0	11	243	0	0	565
4:00 PM	4	0	14	0	0	254	15	0	0	0	0	0	18	328	0	0	633
4:15 PM	12	0	16	0	0	242	18	0	0	0	0	0	24	317	0	0	629
4:30 PM	2	0	19	0	0	235	22	0	0	0	0	0	12	308	0	0	598
4:45 PM	3	0	17	0	0	294	15	0	0	0	0	0	11	321	0	0	661
5:00 PM	6	0	23	0	0	293	17	0	0	0	0	0	7	344	0	0	690
5:15 PM	4	0	14	0	0	324	19	0	0	0	0	0	14	355	0	0	730
5:30 PM	6	0	16	0	0	281	29	0	0	0	0	0	6	344	0	0	682
5:45 PM	4	0	10	0	0	275	18	0	0	0	0	0	12	282	0	0	601
	19	0	70	0	0	1192	80	0	0	0	0	0	38	1364	0	0	2521

Study Name 1601931
Start Date 4/19/2016
Start Time 7:00 AM
Site Code 16026

Type Road
lassification Lights

	CONVERSE AVE Southbound				MASONWAY Westbound				CONVERSE AVE Northbound				MASONWAY Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:00 AM	0	79	3	0	0	0	0	0	11	22	0	0	4	0	17	0	136
7:15 AM	0	109	13	0	0	0	0	0	11	31	0	0	5	0	15	0	184
7:30 AM	0	90	9	0	0	0	0	0	24	40	0	0	5	0	23	0	191
7:45 AM	0	88	17	0	0	0	0	0	27	36	0	0	8	0	19	0	195
8:00 AM	0	67	7	0	0	0	0	0	16	41	0	0	6	0	12	0	149
8:15 AM	0	63	13	0	0	0	0	0	22	48	0	0	3	0	23	0	172
8:30 AM	0	62	19	0	0	0	0	0	24	44	0	0	7	0	23	0	179
8:45 AM	0	51	11	0	0	0	0	0	35	21	0	0	16	0	27	0	161
	0	354	46	0	0	0	0	0	78	148	0	0	24	0	69	0	
11:00 AM	0	46	13	0	0	0	0	0	31	35	0	0	14	0	38	0	177
11:15 AM	0	34	23	0	0	0	0	0	35	48	0	0	14	0	47	0	201
11:30 AM	0	45	14	0	0	0	0	0	39	45	0	1	12	0	51	0	207
11:45 AM	0	67	18	0	0	0	0	0	29	64	0	0	17	0	32	0	227
12:00 PM	0	46	20	0	0	0	0	0	42	79	0	0	24	0	53	0	264
12:15 PM	0	98	22	0	0	0	0	0	39	51	0	0	21	0	44	0	275
12:30 PM	0	82	20	0	0	0	0	0	56	53	0	0	19	0	56	0	286
12:45 PM	0	62	26	0	0	0	0	0	40	41	0	0	21	0	53	0	243
	0	288	88	0	0	0	0	0	177	224	0	0	85	0	206	0	
3:00 PM	0	41	19	0	0	0	0	0	21	56	0	0	21	0	48	0	206
3:15 PM	0	43	20	0	0	0	0	0	36	51	0	1	16	0	47	0	214
3:30 PM	0	34	26	0	0	0	0	0	43	63	0	0	24	0	51	0	241
3:45 PM	0	51	26	0	0	0	0	0	38	58	0	0	24	0	57	0	254
4:00 PM	0	38	29	0	0	0	0	0	37	66	0	0	30	0	67	0	267
4:15 PM	0	48	30	0	0	0	0	0	30	64	0	0	27	0	55	0	254
4:30 PM	0	49	21	0	0	0	0	0	35	67	0	0	32	0	57	0	261
4:45 PM	0	53	23	0	0	0	0	0	34	70	0	0	30	0	52	0	262
5:00 PM	0	50	24	0	0	0	0	0	47	87	0	0	32	0	45	0	285
5:15 PM	0	64	27	0	0	0	0	0	28	88	0	0	21	0	48	0	276
5:30 PM	0	50	28	0	0	0	0	0	21	76	0	1	22	0	46	0	244
5:45 PM	0	43	17	0	0	0	0	0	24	74	0	0	23	0	31	0	212
	0	216	95	0	0	0	0	0	144	312	0	0	115	0	202	0	1044

Study Name 1601932
Start Date 4/19/2016
Start Time 7:00 AM
Site Code 16026

Type Road
lassification Lights

	POINT BLUFF Southbound				CONVERSE AVE Westbound				POINT BLUFF Northbound				CONVERSE AVE Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:00 AM	35	1	4	0	0	17	7	0	0	1	0	0	1	50	1	0	117
7:15 AM	31	0	5	0	2	25	9	0	0	0	0	0	2	85	0	0	159
7:30 AM	40	0	7	0	1	25	18	0	0	0	0	0	5	61	1	0	158
7:45 AM	19	3	3	0	0	30	15	0	0	0	0	0	5	82	4	0	161
8:00 AM	15	0	5	0	0	23	21	0	0	0	0	0	9	50	0	0	123
8:15 AM	22	0	3	0	1	22	26	0	0	0	1	0	10	54	0	0	139
8:30 AM	25	0	11	0	0	35	30	0	0	0	1	0	7	55	0	0	164
8:45 AM	22	0	2	0	0	61	40	0	0	0	0	0	4	39	0	0	168
	105	3	20	0	3	103	63	0	0	0	0	0	21	278	5	0	
11:00 AM	19	0	4	0	0	33	15	0	0	0	2	0	5	36	0	0	114
11:15 AM	9	0	5	0	3	45	13	0	0	0	0	0	4	48	1	0	128
11:30 AM	16	0	7	0	1	43	11	0	0	0	0	0	4	40	0	0	122
11:45 AM	27	0	5	0	1	44	30	0	0	0	0	0	5	61	0	0	173
12:00 PM	18	0	5	0	1	53	42	0	0	0	3	0	14	41	1	0	178
12:15 PM	44	0	6	0	0	55	21	0	0	0	0	0	6	79	0	0	211
12:30 PM	38	0	10	0	0	47	26	0	0	0	0	0	3	62	0	0	186
12:45 PM	24	0	2	0	1	44	18	0	0	0	0	0	6	60	0	0	155
	127	0	26	0	2	199	119	0	0	0	3	0	28	243	1	0	
3:00 PM	14	0	1	0	1	46	24	0	0	0	3	0	6	48	0	0	143
3:15 PM	16	1	2	0	3	41	20	0	3	0	1	0	5	42	1	0	135
3:30 PM	13	0	5	0	7	57	24	0	0	0	0	0	6	44	1	0	157
3:45 PM	28	0	3	0	4	55	20	0	0	0	0	0	2	38	1	0	151
4:00 PM	17	0	7	0	5	60	28	0	1	1	1	0	3	41	3	0	167
4:15 PM	25	0	2	0	6	56	27	0	0	0	0	0	8	47	2	0	173
4:30 PM	18	0	2	0	2	56	26	0	0	1	0	0	3	41	1	0	150
4:45 PM	24	2	2	0	3	72	25	0	0	1	1	0	6	42	1	0	179
5:00 PM	16	1	5	0	2	80	38	0	1	0	1	0	8	53	0	0	205
5:15 PM	15	0	4	0	2	74	33	0	0	1	0	0	3	47	0	0	179
5:30 PM	17	1	1	0	1	66	30	0	0	0	0	0	6	63	0	0	185
5:45 PM	21	0	5	0	2	61	35	0	1	0	0	0	5	40	0	0	170
	72	4	12	0	8	292	126	0	1	2	2	0	23	205	1	0	

Study Name 1601933
Start Date 4/19/2016
Start Time 7:00 AM
Site Code 16026

Type Road
lassification Lights

	OGDEN RD Southbound				CONVERSE AVE Westbound				OGDEN RD Northbound				CONVERSE AVE Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:00 AM	3	0	6	0	0	18	2	0	0	0	0	0	0	47	0	0	76
7:15 AM	5	0	7	0	0	27	5	0	0	0	0	0	5	80	0	0	129
7:30 AM	7	0	9	0	0	31	3	0	0	0	0	0	7	60	0	0	117
7:45 AM	12	0	18	0	0	32	1	0	0	0	0	0	4	79	0	0	146
8:00 AM	12	0	9	0	0	24	1	0	0	0	0	0	6	44	0	0	96
8:15 AM	13	0	18	0	0	23	3	0	0	0	0	0	5	48	0	0	110
8:30 AM	8	0	12	0	0	34	1	0	0	0	0	0	4	45	0	0	104
8:45 AM	3	0	11	0	0	25	1	0	0	0	0	0	5	39	0	0	84
	36	0	43	0	0	114	10	0	0	0	0	0	22	263	0	0	
11:00 AM	3	0	3	0	0	31	3	0	0	0	0	0	1	41	0	0	82
11:15 AM	1	0	5	0	0	36	4	0	0	0	0	0	6	47	1	0	100
11:30 AM	2	0	5	0	0	44	3	0	0	0	0	0	10	41	0	0	105
11:45 AM	8	0	5	0	0	41	4	0	0	0	0	0	8	58	0	0	124
12:00 PM	5	0	8	0	0	52	5	0	0	0	0	0	17	45	0	0	132
12:15 PM	32	0	26	0	0	58	1	0	0	0	0	0	7	53	0	0	177
12:30 PM	7	0	10	0	0	53	2	0	0	0	0	0	4	60	0	0	136
12:45 PM	4	0	5	0	0	42	3	0	0	0	0	0	5	60	0	0	119
	52	0	49	0	0	204	12	0	0	0	0	0	36	216	0	0	
3:00 PM	3	0	3	0	0	46	2	0	0	0	0	0	6	49	0	0	109
3:15 PM	1	0	5	0	0	43	4	0	0	0	0	0	3	50	0	0	106
3:30 PM	5	0	6	0	0	58	2	0	0	0	0	0	3	45	0	0	119
3:45 PM	5	0	5	0	0	51	7	0	0	0	0	0	5	41	0	0	114
4:00 PM	2	0	3	0	0	60	6	0	0	0	0	0	7	47	0	0	125
4:15 PM	3	0	5	0	0	51	4	0	0	0	0	0	6	57	0	0	126
4:30 PM	3	0	2	0	0	59	3	0	0	0	0	0	10	46	0	0	123
4:45 PM	4	0	4	0	0	60	6	0	0	0	0	0	8	50	0	0	132
5:00 PM	5	0	4	0	0	80	8	0	0	0	0	0	12	60	0	0	169
5:15 PM	4	0	2	0	0	69	8	0	0	0	0	0	9	75	0	0	167
5:30 PM	3	0	2	0	0	65	3	0	0	0	0	0	7	61	0	0	141
5:45 PM	3	0	7	0	0	62	2	0	0	0	0	0	6	42	0	0	122
	16	0	12	0	0	274	25	0	0	0	0	0	36	246	0	0	

CRASH DATA

Intersection	M.P	Date - Time	Report Number	Num Injured	Num Killed	Lighting Cond	Road Cond	Intersection Type	Collision Type	Roadway Junction	First Harmful Event	Human Factor Drv 1	Human Factor Drv 2	Activity Prior Drv 1	Activity Prior Drv 2	Direction Veh 1	Direction Veh 2	Type Veh 1	Type Veh 2
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/13/2006 0:00	600312	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/23/2006 0:00	601574	2 Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Straight Ahead	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/9/2006 0:00	602350	No Injuries	No Fatalities	Darkness Lighted	Snow	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Slowing	Stopped in Traffic	South	South	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/28/2006 0:00	604105	1 Injury	1 Fatality	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Heavy Truck GT 26000
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/2/2006 0:00	604039	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	Failed to Yield ROW	Turning Left	Straight Ahead	West	East	Passenger Van	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/15/2006 0:00	604515	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Other	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/12/2006 0:00	607041	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	Unknown	Straight Ahead	Stopped in Traffic	Unknown	Unknown	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/21/2006 0:00	606741	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	No Improper Driving	No Improper Driving	Slowing	Stopped in Traffic	West	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/4/2006 0:00	607107	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Unknown	Unknown	Stopped in Traffic	Turning Right	North	North	Passenger	Heavy Truck GT 26000
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/7/2006 0:00	607832	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/24/2006 0:00	608248	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger Van	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/5/2006 0:00	609066	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/23/2006 0:00	610134	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Unknown	Failed to Yield ROW	Straight Ahead	Turning Left	East	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/20/2006 0:00	611778	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	Unknown	Straight Ahead	Turning Left	East	North	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/27/2006 0:00	612368	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	MC GT 150 cc
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/2/2006 0:00	612847	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Disregarded Traffic Signs	Failed to Yield ROW	Straight Ahead	Turning Left	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/16/2006 0:00	613615	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Turning Left	East	South	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/30/2006 0:00	614423	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/30/2006 0:00	614391	6 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/31/2006 0:00	614392	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Unknown	Intersection Related	Utility Pole or Light Support	Unknown	Null value	Straight Ahead	Null value	West	Null value	Passenger	Null value
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/2/2006 0:00	614437	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Direction not Specified	Intersection	Motor Vehicle in Transport on Roadway	Disregarded Traffic Signs	No Improper Driving	Straight Ahead	Straight Ahead	West	South	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/5/2006 0:00	614961	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/12/2006 0:00	614927	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Direction not Specified	Intersection Related	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Stopped in Traffic	West	South	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/15/2006 0:00	614966	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Straight Ahead	West	West	MC GT 150 cc	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/24/2006 0:00	615504	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/26/2006 0:00	616092	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/28/2006 0:00	616154	No Injuries	No Fatalities	Dusk	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/30/2006 0:00	616119	1 Injury	No Fatalities	Dawn	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/29/2006 0:00	617965	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/1/2006 0:00	618175	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Turning Left	Straight Ahead	East	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/2/2006 0:00	618216	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/6/2006 0:00	618282	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	Southwest	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/15/2006 0:00	620473	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	Unknown	Stopped in Traffic	Straight Ahead	West	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/25/2006 0:00	619618	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/30/2006 0:00	620147	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	Disregarded Traffic Signs	Turning Left	Straight Ahead	Southwest	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/2/2006 0:00	620197	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Legacy - Starting in traffic	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/2/2006 0:00	620201	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/17/2006 0:00	621312	1 Injury	No Fatalities	Darkness Lighted	Snow	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/18/2006 0:00	621383	1 Injury	No Fatalities	Daylight	Ice or Frost	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Stopped in Traffic	North	North	Passenger Van	Passenger
		Total Crashes (2006) => 39															**Total Single-Car Crashes (2006) => 1**		
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/2/2007 0:00	700180	No Injuries	No Fatalities	Darkness Lighted	Snow	Four Way Intersection	Unknown	Intersection Related	Utility Pole or Light Support	Unknown	Null value	Turning Right	Null value	West	Null value	Passenger	Null value
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/4/2007 0:00	700183	3 Injuries	No Fatalities	Darkness Lighted	Wet	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	Failed to Yield ROW	Straight Ahead	Turning Left	East	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/17/2007 0:00	701229	No Injuries	No Fatalities	Dawn	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger Van	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/23/2007 0:00	701290	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/26/2007 0:00	701823	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/26/2007 0:00	703732	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Disregarded Traffic Signs	Unknown	Turning Left	Straight Ahead	East	West	Passenger	Unknown
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/4/2007 0:00	704473	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Turning Left	Straight Ahead	East	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/6/2007 0:00	704524	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Turning Left	Turning Left	North	North	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/10/2007 0:00	704573	2 Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/3/2007 0:00	705926	3 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/2/2007 0:00	707743	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/9/2007 0:00	707861	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/19/2007 0:00	707995	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	Unknown	Turning Left	Straight Ahead	West	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/25/2007 0:00	708658	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger Van	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/1/2007 0:00	709460	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/11/2007 0:00	709622	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/18/2007 0:00	710385	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/22/2007 0:00	710426	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/1/2007 0:00	711066	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	East	West	Passenger	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/30/2007 0:00	712878	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Stopped in Traffic	Straight Ahead	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/30/2007 0:00	712881	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	No Improper Driving	Unknown	Stopped in Traffic	Straight Ahead	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/11/2007 0:00	713531	4 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/30/2007 0:00	715277	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger Van	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/12/2007 0:00	715486	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Turning Left	Straight Ahead	East	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/17/2007 0:00	715885	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/24/2007 0:00	716543	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	North	North	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/27/2007 0:00	716621	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Other	Intersection	Motor Vehicle in Transport on Roadway	Disregarded Traffic Signs	No Improper Driving	Straight Ahead	Turning Left	East	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/7/2007 0:00	716276	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Slowing	Slowing	West	West	Passenger Van	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/15/2007 0:00	717319	3 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Slowing	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/9/2007 0:00	719325	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	Unknown	Straight Ahead	Stopped in Traffic	West	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/24/2007 0:00	720445	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	Unknown	Stopped in Traffic	Straight Ahead	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/27/2007 0:00	720750	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/1/2007 0:00	721031	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/26/2007 0:00	723753	No Injuries	No Fatalities	Daylight	Slush	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Backing	West	West	Pickup	Passenger Van
		Total Crashes (2007) => 34																	
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/3/2008 0:00	200805721	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Straight Ahead	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/22/2008 0:00	200806799	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Head On Front to Front	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/23/2008 0:00	200806918	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Straight Ahead	West	West	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/26/2008 0:00	200806858	4 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Negotiating a Curve	West	East	SUV	Light Truck
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/11/2008 0:00	200808394	4 Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/15/2008 0:00	200811641	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/3/2008 0:00	200812800	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Other Improper Action	Failed to Yield ROW	Turning Left	Straight Ahead	West	South	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/28/2008 0:00	200814549	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	East	South	Passenger	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/2/2008 0:00	200816134	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Unknown	Unknown	Straight Ahead	Straight Ahead	East	South	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/8/2008 0:00	200816288	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/12/2008 0:00	200818147	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/20/2008 0:00	200818647	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Turning Left	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/23/2008 0:00	200818858	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Keep Proper Lane	No Improper Driving	Turning Right	Stopped in Traffic	East	North	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/3/2008 0:00	200819608	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/24/2008 0:00	200819369	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/17/2008 0:00	200820607	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	Unknown	Straight Ahead	Straight Ahead	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/20/2008 0:00	200820517	No Injuries	No Fatalities	Darkness Lighted	Wet	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/21/2008 0:00	200820603	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Turning Left	Straight Ahead	West	West	Passenger Van	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/24/2008 0:00	200823084	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection Related	Motor Vehicle in Transport on Roadway	Null value	Null value	Turning Left	Turning Right	Null value	Null value	Null value	Null value
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/21/2008 0:00	200821929	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Slowing	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/16/2008 0:00	200822261	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Other Improper Action	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/18/2008 0:00	200822250	1 Injury	No Fatalities	Darkness Lighted	Wet	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Pickup	SUV
		Total Crashes (2008) => 22																	
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/16/2009 0:00	200902165	2 Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection Related	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	Northeast	West	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/21/2009 0:00	200902371	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/23/2009 0:00	200900724	2 Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	East	North	Passenger	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/27/2009 0:00	200902758	2 Injuries	No Fatalities	Daylight	Snow	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Slowing	Stopped in Traffic	South	South	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/17/2009 0:00	200902019	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	No Improper Driving	Turning Left	Straight Ahead	East	West	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/28/2009 0:00	200904152	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Sideswipe Same Direction Passing	Intersection	Motor Vehicle in Transport on Roadway	Failed to Keep Proper Lane	No Improper Driving	Straight Ahead	Turning Left	North	North	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/10/2009 0:00	200906138	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	Following too Close	Straight Ahead	Straight Ahead	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/11/2009 0:00	200906140	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/13/2009 0:00	200906188	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Heavy Truck GT 26000	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/28/2009 0:00	200906662	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/11/2009 0:00	200908633	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Make UTurn	Straight Ahead	Southwest	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/20/2009 0:00	200907623	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	East	Southeast	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/22/2009 0:00	200908028	1 Injury	No Fatalities	Daylight	Wet	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Straight Ahead	West	East	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/23/2009 0:00	200907832	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	West	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/27/2009 0:00	200907839	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Not a Collision with 2 Vehicles in Transport	Intersection	Other Non-Collision MC Loss of Control	Improper Turn or No Signal	Null value	Turning Right	Null value	West	Null value	MC GT 150 cc	Null value
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/28/2009 0:00	200908035	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	Following too Close	Straight Ahead	Straight Ahead	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/3/2009 0:00	200909477	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Unknown	Straight Ahead	East	South	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/20/2009 0:00	200910361	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Head On Front to Front	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Null value	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/24/2009 0:00	200910925	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Unknown	No Improper Driving	Straight Ahead	Slowing	West	West	Passenger Van	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/30/2009 0:00	200911143	4 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Turning Left	Slowing	West	West	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/22/2009 0:00	200912523	No Injuries	No Fatalities	Daylight	Dry	T Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Slowing	West	West	SUV	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/31/2009 0:00	200913178	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Parked	Slowing	East	East	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/8/2009 0:00	200912748	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	East	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/3/2009 0:00	200919530	No Injuries	No Fatalities	Darkness Lighted	Ice or Frost	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	No Improper Driving	Erratic or Reckless or Careless or Aggressive	Backing	Straight Ahead	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/3/2009 0:00	200919533	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Stopped in Traffic	Straight Ahead	Null value	South	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/8/2009 0:00	200919627	1 Injury	No Fatalities	Daylight	Ice or Frost	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	Southwest	East	Pickup	Passenger

Intersection	M.P	Date - Time	Report Number	Num Injured	Num Killed	Lighting Cond	Road Cond	Intersection Type	Collision Type	Roadway Junction	First Harmful Event	Human Factor Drv 1	Human Factor Drv 2	Activity Prior Drv 1	Activity Prior Drv 2	Direction Veh 1	Direction Veh 2	Type Veh 1	Type Veh 2
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/10/2009 0:00	200919834	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Right	Straight Ahead	Northwest	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/14/2009 0:00	200919880	No Injuries	No Fatalities	Darkness Lighted	Ice or Frost	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Negotiating a Curve	Straight Ahead	West	East	Passenger	Passenger
	Total Crashes (2009) => 28																		
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/15/2010 0:00	201002177	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	West	South	Null value	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/28/2010 0:00	201000944	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Null value	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/20/2010 0:00	201002096	No Injuries	No Fatalities	Daylight	Snow	Four Way Intersection	Sideswipe Same Direction Passing	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Slowing	East	East	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/20/2010 0:00	201003317	No Injuries	No Fatalities	Darkness Lighted	Snow	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Unknown	Straight Ahead	West	West	Unknown	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/6/2010 0:00	201002715	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Turning Left	Slowing	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/10/2010 0:00	201003923	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/20/2010 0:00	201003820	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Straight Ahead	West	East	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/3/2010 0:00	201003839	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Sideswipe Same Direction Passing	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Straight Ahead	South	South	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/6/2010 0:00	201004894	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/22/2010 0:00	201005979	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Sideswipe Same Direction Passing	Intersection Related	Motor Vehicle in Transport on Roadway	Other Improper Action	No Improper Driving	Backing	Straight Ahead	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/14/2010 0:00	201006713	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	Following too Close	Slowing	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/14/2010 0:00	201006708	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/18/2010 0:00	201006768	No Injuries	No Fatalities	Dusk	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Changing Lanes	Stopped in Traffic	East	East	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/19/2010 0:00	201006891	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/1/2010 0:00	201007918	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/8/2010 0:00	201007415	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	East	West	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/11/2010 0:00	201008023	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Turning Left	East	West	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/24/2010 0:00	201008224	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Right	Straight Ahead	South	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/8/2010 0:00	201008949	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection Related	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Slowing	Northwest	South	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/17/2010 0:00	201009672	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/19/2010 0:00	201011245	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	MC GT 150 cc	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/27/2010 0:00	201012927	2 Injuries	No Fatalities	Dusk	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Null value	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/29/2010 0:00	201013255	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/1/2010 0:00	201013895	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Backing	Straight Ahead	West	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/22/2010 0:00	201019548	3 Injuries	No Fatalities	Darkness Lighted	Wet	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Speeding	Failed to Yield ROW	Entering a Traffic Lane	Turning Left	East	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/13/2010 0:00	201015952	No Injuries	No Fatalities	Darkness Lighted	Ice or Frost	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Pickup	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/13/2010 0:00	201015984	1 Injury	No Fatalities	Dawn	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Stopped in Traffic	Straight Ahead	North	West	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/19/2010 0:00	201016078	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Other Improper Action	No Improper Driving	Straight Ahead	Straight Ahead	North	West	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/19/2010 0:00	201016793	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/27/2010 0:00	201017416	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	No Improper Driving	Following too Close	Slowing	Straight Ahead	West	West	Heavy Truck GT 26000	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/4/2010 0:00	201017753	No Injuries	No Fatalities	Darkness Lighted	Dry	Y Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Slowing	Slowing	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/14/2010 0:00	201018737	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/15/2010 0:00	201018739	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/18/2010 0:00	201019048	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	Unknown	West	Heavy Truck GT 26000	Passenger
	Total Crashes (2010) => 34																		
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/2/2011 0:00	201100015	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Entering a Traffic Lane	Straight Ahead	West	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/15/2011 0:00	201101260	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Slowing	Turning Left	East	North	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/18/2011 0:00	201101915	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	Unknown	East	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/19/2011 0:00	201101191	No Injuries	No Fatalities	Daylight	Ice or Frost	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Straight Ahead	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/27/2011 0:00	201101674	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/11/2011 0:00	201102923	2 Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Straight Ahead	East	West	Passenger	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/17/2011 0:00	201102729	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Leaving a Traffic Lane or Parking	Straight Ahead	North	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/19/2011 0:00	201103887	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Unknown	Straight Ahead	West	West	Unknown	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/26/2011 0:00	201103850	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Turning Right	Stopped in Traffic	West	West	SUV	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/27/2011 0:00	201103688	No Injuries	No Fatalities	Darkness Lighted	Wet	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection Related	Motor Vehicle in Transport on Roadway	Failed to Keep Proper Lane	No Improper Driving	Turning Left	Stopped in Traffic	West	South	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/10/2011 0:00	201103975	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Turning Left	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/26/2011 0:00	201105886	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Slowing	Stopped in Traffic	East	East	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/5/2011 0:00	201106802	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Other Improper Action	No Improper Driving	Overtaking or Passing	Stopped in Traffic	East	East	SUV	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/21/2011 0:00	201108168	1 Injury	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	West	West	SUV	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/2/2011 0:00	201109223	2 Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Head On Front to Front	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/24/2011 0:00	201110052	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Speeding	No Improper Driving	Straight Ahead	Slowing	North	North	Heavy Truck GT 26000	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/26/2011 0:00	201110132	4 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Slowing	North	North	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/27/2011 0:00	201110243	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	Southwest	East	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/12/2011 0:00	201110803	5 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	MC GT 150 cc	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/3/2011 0:00	201111879	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Other Improper Action	No Improper Driving	Straight Ahead	Straight Ahead	East	East	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/6/2011 0:00	201112489	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	West	South	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/16/2011 0:00	201112682	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Negotiating a Curve	Stopped in Traffic	East	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/27/2011 0:00	201113987	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Negotiating a Curve	Straight Ahead	Northeast	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/28/2011 0:00	201113175	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Sideswipe Same Direction Passing	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/23/2011 0:00	201114397	3 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Not a Collision with 2 Vehicles in Transport	Intersection Related	Guardrail Face	Erratic or Reckless or Careless or Aggressive	Null value	Straight Ahead	Null value	North	Null value	Passenger	Null value
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/1/2011 0:00	201114617	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Changing Lanes	Straight Ahead	East	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/11/2011 0:00	201115238	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	North	North	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/17/2011 0:00	201115596	2 Injuries	No Fatalities	Darkness Unlighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/11/2011 0:00	201117564	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	SUV	Passenger
	Total Crashes (2011) => 29																		
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/5/2012 0:00	201200085	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	Northeast	West	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/13/2012 0:00	201200593	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Unknown	Stopped in Traffic	North	North	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/27/2012 0:00	201200931	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Sideswipe Same Direction Passing	Intersection	Motor Vehicle in Transport on Roadway	Failed to Keep Proper Lane	Failed to Keep Proper Lane	Turning Right	Overtaking or Passing	West	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/10/2012 0:00	201201679	No Injuries	No Fatalities	Darkness Lighted	Ice or Frost	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Negotiating a Curve	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/28/2012 0:00	201202910	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	No Improper Driving	Following too Close	Straight Ahead	Straight Ahead	North	North	Heavy Truck GT 26000	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/25/2012 0:00	201205161	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/30/2012 0:00	201206641	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	No Improper Driving	Following too Close	Straight Ahead	Turning Left	West	West	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/9/2012 0:00	201208865	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/13/2012 0:00	201207044	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/4/2012 0:00	201208954	1 Injury	No Fatalities	Unknown	Sand on Dry Pavement	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Changing Lanes	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/20/2012 0:00	201212621	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Disregarded Traffic Signs	No Improper Driving	Straight Ahead	Turning Left	West	North	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/8/2012 0:00	201212957	3 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Straight Ahead	East	West	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/31/2012 0:00	201214543	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Other Improper Action	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/5/2012 0:00	201216050	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	South	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/13/2012 0:00	201214838	1 Injury	No Fatalities	Dusk	Dry	Four Way Intersection	Head On Front to Front	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Negotiating a Curve	Straight Ahead	East	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/20/2012 0:00	201215201	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/21/2012 0:00	201215680	2 Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/27/2012 0:00	201217162	No Injuries	No Fatalities	Daylight	Ice or Frost	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	East	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/28/2012 0:00	201217318	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Entering a Traffic Lane	Stopped in Traffic	East	East	Pickup	SUV
	Total Crashes (2012) => 19																		
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/26/2013 0:00	201303534	1 Injury	No Fatalities	Darkness Lighted	Snow	Four Way Intersection	Not a Collision with 2 Vehicles in Transport	Intersection Related	Raised Median or Curb	Drove too Fast for Conditions	Null value	Straight Ahead	Null value	East	Null value	Passenger	Null value
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/20/2013 0:00	201305879	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Entering a Traffic Lane	Stopped in Traffic	East	East	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/25/2013 0:00	201305784	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Head On Front to Front	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/6/2013 0:00	201305997	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	No Improper Driving	Straight Ahead	Turning Left	East	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/8/2013 0:00	201306002	1 Injury	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Straight Ahead	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/21/2013 0:00	201306461	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	East	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/28/2013 0:00	201308261	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Stopped in Traffic	Northwest	Northwest	Null value	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/1/2013 0:00	201306881	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Entering a Traffic Lane	Stopped in Traffic	East	West	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/30/2013 0:00	201308265	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	West	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/1/2013 0:00	201308259	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Slowing	East	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/26/2013 0:00	201309379	No Injuries	No Fatalities	Darkness Lighted	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Straight Ahead	East	East	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/5/2013 0:00	201309854	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	East	West	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/8/2013 0:00	201315023	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	Erratic or Reckless or Careless or Aggressive	Straight Ahead	Turning Left	South	East	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/4/2013 0:00	201315966	No Injuries	No Fatalities	Darkness Lighted	Ice or Frost	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Backing	Stopped in Traffic	East	East	Passenger	Passenger
	Total Crashes (2013) => 14																		
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/5/2014 0:00	201400204	2 Injuries	No Fatalities	Darkness Lighted	Ice or Frost	T Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Turning Left	Straight Ahead	West	East	Heavy Truck GT 26000	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	1/7/2014 0:00	201400203	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/1/2014 0:00	201401445	No Injuries	No Fatalities	Daylight	Snow	T Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Straight Ahead	West	West	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/5/2014 0:00	201401792	No Injuries	No Fatalities	Daylight	Ice or Frost	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Turning Left	Stopped in Traffic	South	South	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/24/2014 0:00	201403907	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Sideswipe Opposite Direction Meeting	Intersection Related	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Turning Right	Turning Left	North	South	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/2/2014 0:00	201405896	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	East	West	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/14/2014 0:00	201406439	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Sideswipe Same Direction Passing	Intersection Related	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	East	East	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/17/2014 0:00	201406445	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	West	East	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/10/2014 0:00	201407806	No Injuries	No Fatalities	Daylight	Dry	T Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Avoiding MV	Avoiding MV	Straight Ahead	Straight Ahead	South	South	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/22/2014 0:00	201408059	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear to Front Normally Backing	Intersection Related	Motor Vehicle in Transport on Roadway	Improper Backing	No Improper Driving	Turning Left	Other	North	South	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/13/2014 0:00	201409089	No Injuries	No Fatalities	Daylight	Water Standing or Running	Four Way Intersection	Sideswipe Same Direction Passing	Intersection	Motor Vehicle in Transport on Roadway	Failed to Keep Proper Lane	No Improper Driving	Straight Ahead	Straight Ahead	Unknown	South	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	7/29/2014 0:00	201409703	1 Injury	No Fatalities	Daylight	Wet	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Entering a Traffic Lane	Straight Ahead	East	South	SUV	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/7/2014 0:00	201410441	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger Van	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/9/2014 0:00	201411775	No Injuries	No Fatalities	Daylight	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Turning Left	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/12/2014 0:00	201411880	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Head On Front to Front	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Unknown	Straight Ahead	West	East	Unknown	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/27/2014 0:00	201414470	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	MC GT 150 cc	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/31/2014 0:00	201414266	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	Unknown	Straight Ahead	Stopped in Traffic	North	Unknown	Null value	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/6/2014 0:00	201416462	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	East	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/11/2014 0:00	201416676	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Same Direction Front to Side	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Slowing	Straight Ahead	West	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/31/2014 0:00	201417947	No Injuries	No Fatalities	Daylight	Ice or Frost	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Turning Left	Turning Left	West	West	Pickup	Passenger
	Total Crashes (2014) => 20																		

Intersection	M.P	Date - Time	Report Number	Num Injured	Num Killed	Lighting Cond	Road Cond	Intersection Type	Collision Type	Roadway Junction	First Harmful Event	Human Factor Drv 1	Human Factor Drv 2	Activity Prior Drv 1	Activity Prior Drv 2	Direction Veh 1	Direction Veh 2	Type Veh 1	Type Veh 2
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/1/2015 0:00	201501313	1 Injury	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Sideswipe Opposite Direction Meeting	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	East	West	SUV	MC GT 150 cc
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	2/23/2015 0:00	201502302	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Negotiating a Curve	Straight Ahead	South	East	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/11/2015 0:00	201503222	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Stopped in Traffic	Stopped in Traffic	West	West	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	3/25/2015 0:00	201503462	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Changing Lanes	Straight Ahead	North	East	Passenger	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/14/2015 0:00	201504184	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Turning Left	South	North	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/28/2015 0:00	201504723	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	West	South	SUV	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	4/30/2015 0:00	201504818	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	East	West	Heavy Truck GT 26000	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	5/14/2015 0:00	201505369	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Turning Left	Stopped in Traffic	West	West	Pickup	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/13/2015 0:00	201506696	2 Injuries	No Fatalities	Dawn	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	South	East	Null value	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/13/2015 0:00	201506701	No Injuries	No Fatalities	Daylight	Dry	T Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Ran Red Light	No Improper Driving	Straight Ahead	Straight Ahead	West	South	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/14/2015 0:00	201506700	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	SUV	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	6/27/2015 0:00	201507255	No Injuries	No Fatalities	Daylight	Dry	T Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Improper Turn or No Signal	No Improper Driving	Straight Ahead	Straight Ahead	East	West	Passenger	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/11/2015 0:00	201509513	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Turning Left	Stopped in Traffic	North	North	SUV	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	8/21/2015 0:00	201510220	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection	Motor Vehicle in Transport on Roadway	No Improper Driving	No Improper Driving	Straight Ahead	Straight Ahead	North	North	Null value	SUV
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/1/2015 0:00	201510523	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Improper Backing	No Improper Driving	Turning Left	Stopped in Traffic	Unknown	West	MC GT 150 cc	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/22/2015 0:00	201511633	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Negotiating a Curve	Stopped in Traffic	North	North	Passenger	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/26/2015 0:00	201511725	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Slowing	Straight Ahead	Northwest	West	SUV	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	9/26/2015 0:00	201511727	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	10/25/2015 0:00	201513173	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Angle Right Front to Side includes Broadside	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Negotiating a Curve	Straight Ahead	East	West	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/3/2015 0:00	201513492	2 Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Erratic or Reckless or Careless or Aggressive	No Improper Driving	Backing	Stopped in Traffic	East	East	SUV	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/6/2015 0:00	201513596	No Injuries	No Fatalities	Daylight	Dry	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Stopped in Traffic	West	West	Pickup	Pickup
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/16/2015 0:00	201514453	1 Injury	No Fatalities	Darkness Lighted	Wet	Four Way Intersection	Rear End Front to Rear	Intersection Related	Motor Vehicle in Transport on Roadway	Following too Close	No Improper Driving	Straight Ahead	Slowing	East	East	Null value	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	11/23/2015 0:00	201514653	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Straight Ahead	Straight Ahead	South	East	Pickup	Passenger
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/2/2015 0:00	201515619	No Injuries	No Fatalities	Darkness Lighted	Dry	Four Way Intersection	Angle Front to Side Opposing Direction	Intersection	Motor Vehicle in Transport on Roadway	Failed to Yield ROW	No Improper Driving	Turning Left	Straight Ahead	East	West	SUV	Passenger Van
Cheyenne - DELL RANGE BLVD at CONVERSE AVE	N/A	12/17/2015 0:00	201516528	No Injuries	No Fatalities	Daylight	Ice or Frost	Four Way Intersection	Angle Same Direction Front to Side	Intersection Related	Motor Vehicle in Transport on Roadway	Drove too Fast for Conditions	No Improper Driving	Straight Ahead	Stopped in Traffic	North	North	SUV	SUV

Total Crashes (2015) => 25

LEVEL OF SERVICE CALCULATION SHEETS

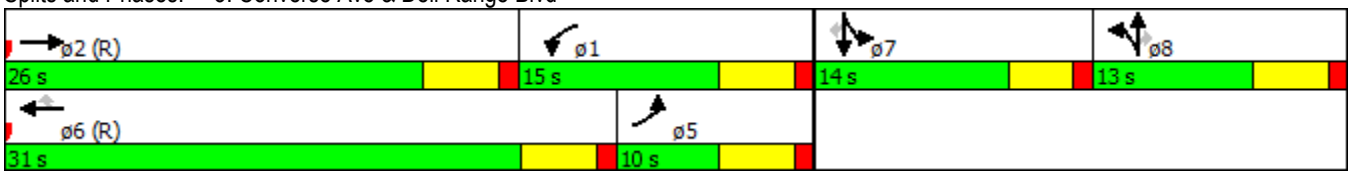
EXISTING

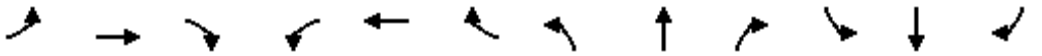
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	196	119	351	500	94	176	155	100	108	259	42
Future Volume (vph)	15	196	119	351	500	94	176	155	100	108	259	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	80		60	200		200	80		80
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			334			176			255			266
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			605	
Travel Time (s)		21.1			11.0			5.8			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	213	129	382	543	102	191	168	109	117	282	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	213	129	382	543	102	191	168	109	117	282	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			Free			6			8			7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	8	8	8	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	19.9		9.9	19.9	19.9	21.9	21.9	21.9	9.2	9.2	9.2
Total Split (s)	10.0	26.0		15.0	31.0	31.0	13.0	13.0	13.0	14.0	14.0	14.0
Total Split (%)	14.7%	38.2%		22.1%	45.6%	45.6%	19.1%	19.1%	19.1%	20.6%	20.6%	20.6%
Maximum Green (s)	5.1	21.1		10.1	26.1	26.1	8.1	8.1	8.1	9.8	9.8	9.8
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	3.9	3.9	3.9	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9		4.9	4.9	4.9	4.9	4.9	4.9	4.2	4.2	4.2
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0			
Flash Dont Walk (s)		10.0			10.0	10.0	12.0	12.0	12.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	5.1	21.2	68.0	10.1	34.2	34.2	8.3	8.3	8.3	9.6	9.6	9.6
Actuated g/C Ratio	0.08	0.31	1.00	0.15	0.50	0.50	0.12	0.12	0.12	0.14	0.14	0.14
v/c Ratio	0.12	0.19	0.08	1.46	0.31	0.12	0.46	0.75	0.26	0.47	0.57	0.10
Control Delay	31.6	17.8	0.1	253.2	11.3	0.8	31.9	51.6	1.5	33.6	32.1	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	17.8	0.1	253.2	11.3	0.8	31.9	51.6	1.5	33.6	32.1	0.5
LOS	C	B	A	F	B	A	C	D	A	C	C	A
Approach Delay		12.0			100.2			31.9			29.2	
Approach LOS		B			F			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 68			
Actuated Cycle Length: 68			
Offset: 53 (78%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.46			
Intersection Signal Delay: 58.8		Intersection LOS: E	
Intersection Capacity Utilization 54.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Converse Ave & Dell Range Blvd



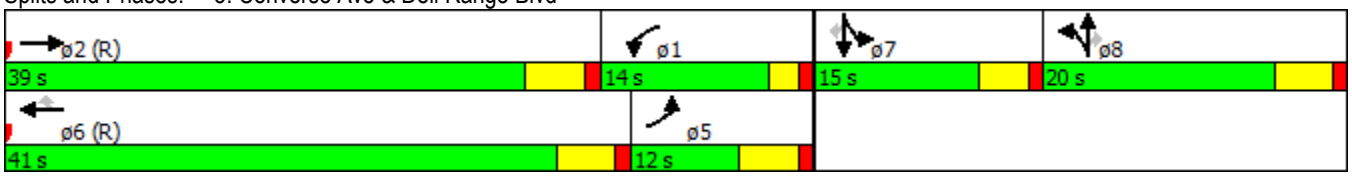


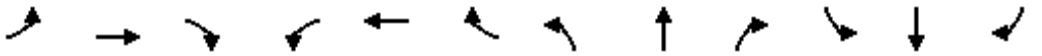
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	784	367	199	943	137	326	186	163	162	223	104
Future Volume (vph)	62	784	367	199	943	137	326	186	163	162	223	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	80		60	200		200	80		80
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			255			136			177			145
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			605	
Travel Time (s)		21.1			11.0			5.8			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	852	399	216	1025	149	354	202	177	176	242	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	852	399	216	1025	149	354	202	177	176	242	113
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			Free			6			8			7
Detector Phase	5	2		1	6	6	8	8	8	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	20.9		9.9	20.9	20.9	19.9	19.9	19.9	9.2	9.2	9.2
Total Split (s)	12.0	39.0		14.0	41.0	41.0	20.0	20.0	20.0	15.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.6%	44.3%		15.9%	46.6%	46.6%	22.7%	22.7%	22.7%	17.0%	17.0%	17.0%
Maximum Green (s)	7.1	34.1		11.0	36.1	36.1	15.1	15.1	15.1	10.8	10.8	10.8
Yellow Time (s)	3.9	3.9		2.0	3.9	3.9	3.9	3.9	3.9	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9		3.0	4.9	4.9	4.9	4.9	4.9	4.2	4.2	4.2
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0			
Flash Dont Walk (s)		10.0			10.0	10.0	10.0	10.0	10.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	6.8	35.7	88.0	11.0	40.1	40.1	13.7	13.7	13.7	10.6	10.6	10.6
Actuated g/C Ratio	0.08	0.41	1.00	0.12	0.46	0.46	0.16	0.16	0.16	0.12	0.12	0.12
v/c Ratio	0.49	0.59	0.25	0.98	0.64	0.19	0.66	0.70	0.45	0.83	0.57	0.36
Control Delay	51.7	23.0	0.4	96.2	21.9	4.5	41.3	48.4	9.3	68.6	42.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	23.0	0.4	96.2	21.9	4.5	41.3	48.4	9.3	68.6	42.1	6.8
LOS	D	C	A	F	C	A	D	D	A	E	D	A
Approach Delay		17.6			31.6			35.5			43.4	
Approach LOS		B			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 88			
Actuated Cycle Length: 88			
Offset: 6 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 66.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Converse Ave & Dell Range Blvd



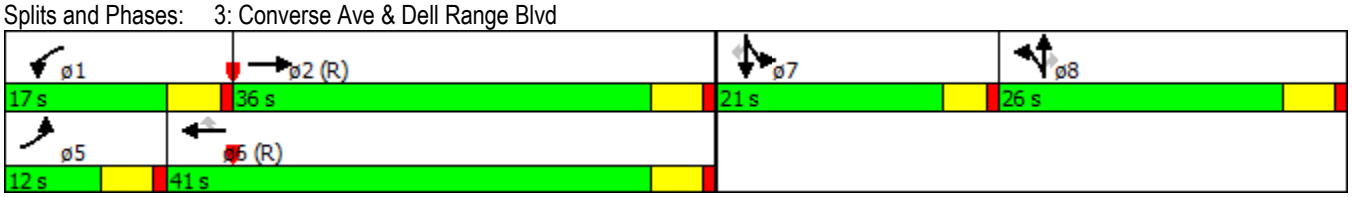


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	890	363	150	651	121	319	279	211	170	187	79
Future Volume (vph)	65	890	363	150	651	121	319	279	211	170	187	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	80		60	200		200	80		80
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			227			120			229			181
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			605	
Travel Time (s)		21.1			11.0			5.8			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	967	395	163	708	132	347	303	229	185	203	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	967	395	163	708	132	347	303	229	185	203	86
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			Free			6			8			7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	8	8	8	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	20.9		9.9	20.9	20.9	20.9	20.9	20.9	20.2	20.2	20.2
Total Split (s)	12.0	36.0		17.0	41.0	41.0	26.0	26.0	26.0	21.0	21.0	21.0
Total Split (%)	12.0%	36.0%		17.0%	41.0%	41.0%	26.0%	26.0%	26.0%	21.0%	21.0%	21.0%
Maximum Green (s)	7.1	31.1		12.1	36.1	36.1	21.1	21.1	21.1	16.8	16.8	16.8
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	3.9	3.9	3.9	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9		4.9	4.9	4.9	4.9	4.9	4.9	4.2	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0	0	0	0
Act Effct Green (s)	7.0	35.0	100.0	11.8	41.9	41.9	19.7	19.7	19.7	14.7	14.7	14.7
Actuated g/C Ratio	0.07	0.35	1.00	0.12	0.42	0.42	0.20	0.20	0.20	0.15	0.15	0.15
v/c Ratio	0.57	0.78	0.25	0.78	0.48	0.18	0.51	0.83	0.46	0.71	0.39	0.22
Control Delay	63.7	35.8	0.4	68.7	24.3	5.8	38.5	57.9	7.9	56.0	40.3	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	35.8	0.4	68.7	24.3	5.8	38.5	57.9	7.9	56.0	40.3	1.3
LOS	E	D	A	E	C	A	D	E	A	E	D	A
Approach Delay		27.4			29.1			37.2			39.4	
Approach LOS		C			C			D			D	

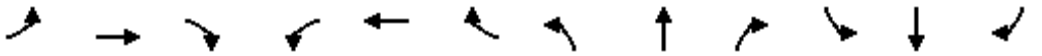
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 48 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 31.6		Intersection LOS: C	
Intersection Capacity Utilization 72.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Converse Ave & Dell Range Blvd



LEVEL OF SERVICE CALCULATION SHEETS

2040 NO-BUILD

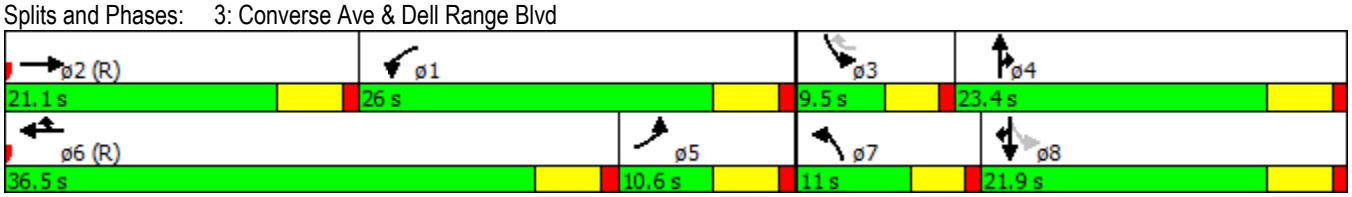


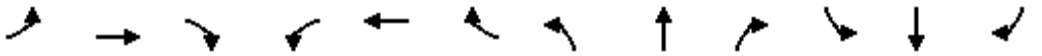
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	275	130	360	590	130	190	200	120	160	460	45
Future Volume (vph)	30	275	130	360	590	130	190	200	120	160	460	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	90		90	285		285	300		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.526		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1863	1583	980	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			284			141			217			217
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			605	
Travel Time (s)		21.1			11.0			5.8			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	299	141	391	641	141	207	217	130	174	500	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	299	141	391	641	141	207	217	130	174	500	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Free	Prot	NA	custom	Prot	NA	Prot	pm+pt	NA	Prot
Protected Phases	5	2		1	6	6	7	4	4	3	8	8
Permitted Phases			Free			3				8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	19.9		9.9	19.9	19.9	9.2	21.9	21.9	9.2	21.9	21.9
Total Split (s)	10.6	21.1		26.0	36.5	36.5	11.0	23.4	23.4	9.5	21.9	21.9
Total Split (%)	13.3%	26.4%		32.5%	45.6%	45.6%	13.8%	29.3%	29.3%	11.9%	27.4%	27.4%
Maximum Green (s)	5.7	16.2		21.1	31.6	31.6	6.8	18.5	18.5	5.3	17.0	17.0
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	3.2	3.9	3.9	3.2	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9		4.9	4.9	4.9	4.2	4.9	4.9	4.2	4.9	4.9
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		10.0			10.0	10.0		12.0	12.0		12.0	12.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	5.7	17.5	80.0	20.4	38.5	46.7	7.1	17.3	17.3	22.7	16.1	16.1
Actuated g/C Ratio	0.07	0.22	1.00	0.26	0.48	0.58	0.09	0.22	0.22	0.28	0.20	0.20
v/c Ratio	0.26	0.39	0.09	0.87	0.38	0.14	0.68	0.54	0.25	0.52	0.70	0.10
Control Delay	40.7	29.0	0.1	49.8	15.1	1.7	48.1	32.9	1.6	26.1	35.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	29.0	0.1	49.8	15.1	1.7	48.1	32.9	1.6	26.1	35.5	0.4
LOS	D	C	A	D	B	A	D	C	A	C	D	A
Approach Delay		21.2			25.1			31.2			30.9	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 27.1		Intersection LOS: C	
Intersection Capacity Utilization 62.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Converse Ave & Dell Range Blvd



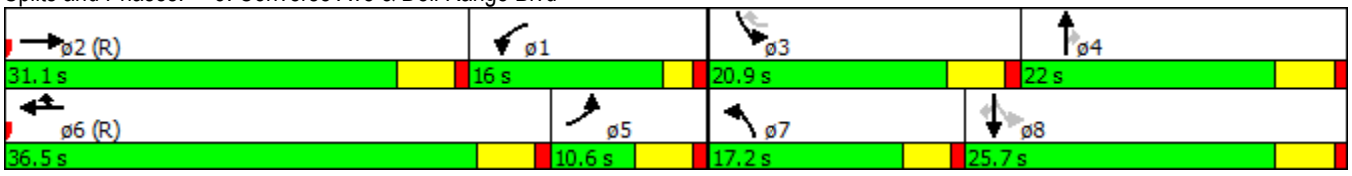


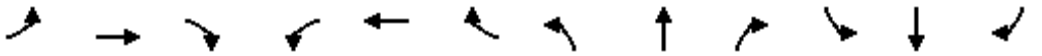
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	850	390	215	1050	190	350	300	190	210	420	110
Future Volume (vph)	85	850	390	215	1050	190	350	300	190	210	420	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	90		90	285		285	300		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.190		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1863	1583	354	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252			124			207			193
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			605	
Travel Time (s)		21.1			11.0			5.8			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	924	424	234	1141	207	380	326	207	228	457	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	924	424	234	1141	207	380	326	207	228	457	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Free	Prot	NA	custom	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6	6	7	4		3	8	
Permitted Phases			Free			3			4	8		8
Detector Phase	5	2		1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	20.9		9.9	20.9	20.9	9.2	19.9	19.9	20.9	19.9	19.9
Total Split (s)	10.6	31.1		16.0	36.5	36.5	17.2	22.0	22.0	20.9	25.7	25.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	11.8%	34.6%		17.8%	40.6%	40.6%	19.1%	24.4%	24.4%	23.2%	28.6%	28.6%
Maximum Green (s)	5.7	26.2		13.0	31.6	31.6	13.0	17.1	17.1	16.0	20.8	20.8
Yellow Time (s)	3.9	3.9		2.0	3.9	3.9	3.2	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9		3.0	4.9	4.9	4.2	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0			10.0	10.0		10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)		0			0	0		0	0	0	0	0
Act Effct Green (s)	5.7	26.2	90.0	13.0	31.6	47.6	12.7	17.1	17.1	37.0	21.1	21.1
Actuated g/C Ratio	0.06	0.29	1.00	0.14	0.35	0.53	0.14	0.19	0.19	0.41	0.23	0.23
v/c Ratio	0.82	0.90	0.27	0.92	0.92	0.23	0.79	0.93	0.44	0.57	0.55	0.23
Control Delay	91.2	43.4	0.4	78.8	41.0	3.2	50.1	70.1	8.1	23.9	33.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.2	43.4	0.4	78.8	41.0	3.2	50.1	70.1	8.1	23.9	33.4	1.8
LOS	F	D	A	E	D	A	D	E	A	C	C	A
Approach Delay		33.8			41.6			47.7			26.0	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 37.8		Intersection LOS: D	
Intersection Capacity Utilization 78.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Converse Ave & Dell Range Blvd



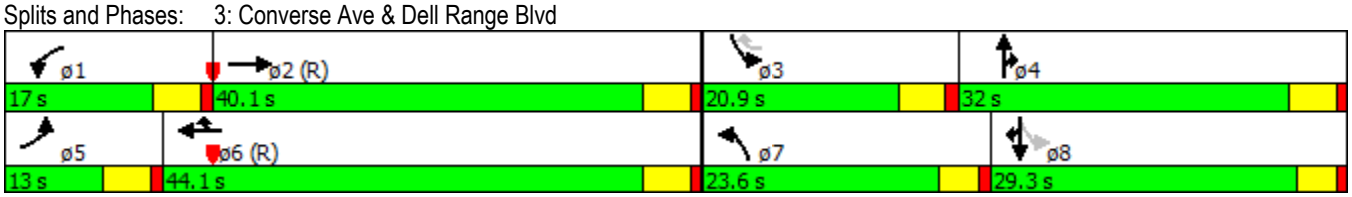


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	980	390	170	835	185	360	420	250	205	340	100
Future Volume (vph)	75	980	390	170	835	185	360	420	250	205	340	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	90		90	285		285	300		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1863	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.146		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1863	1583	272	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			133			214			116
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			605	
Travel Time (s)		21.1			11.0			5.8			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	1065	424	185	908	201	391	457	272	223	370	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1065	424	185	908	201	391	457	272	223	370	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Free	Prot	NA	custom	Prot	NA	Prot	pm+pt	NA	Prot
Protected Phases	5	2		1	6	6	7	4	4	3	8	8
Permitted Phases			Free			3				8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	20.9		9.9	20.9	20.9	20.2	20.9	20.9	20.9	20.2	20.2
Total Split (s)	13.0	40.1		17.0	44.1	44.1	23.6	32.0	32.0	20.9	29.3	29.3
Total Split (%)	11.8%	36.5%		15.5%	40.1%	40.1%	21.5%	29.1%	29.1%	19.0%	26.6%	26.6%
Maximum Green (s)	8.1	35.2		12.1	39.2	39.2	19.4	27.1	27.1	16.0	25.1	25.1
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	3.2	3.9	3.9	3.9	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9		4.9	4.9	4.9	4.2	4.9	4.9	4.9	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0	0	0	0
Act Effct Green (s)	7.8	35.2	110.0	12.1	41.8	62.7	17.1	27.1	27.1	42.7	27.4	27.4
Actuated g/C Ratio	0.07	0.32	1.00	0.11	0.38	0.57	0.16	0.25	0.25	0.39	0.25	0.25
v/c Ratio	0.66	0.94	0.27	0.95	0.68	0.21	0.73	1.00	0.49	0.69	0.42	0.23
Control Delay	74.0	52.8	0.4	103.3	32.3	5.1	52.7	83.8	12.1	37.1	37.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.0	52.8	0.4	103.3	32.3	5.1	52.7	83.8	12.1	37.1	37.0	7.0
LOS	E	D	A	F	C	A	D	F	B	D	D	A
Approach Delay		39.8			38.3			55.6			32.3	
Approach LOS		D			D			E			C	

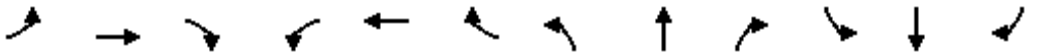
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 42.0		Intersection LOS: D	
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Converse Ave & Dell Range Blvd



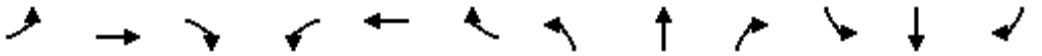
LEVEL OF SERVICE CALCULATION SHEETS

2040 BUILD ALTERNATIVES - **DUAL LEFT-TURN**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	275	130	360	590	130	190	200	120	160	460	45
Future Volume (vph)	30	275	130	360	590	130	190	200	120	160	460	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.4	4.0	5.0	5.6	5.6	5.0	5.6	5.6	5.0	5.4	5.4
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3335	3438	1538	3335	3438	1538	3335	1810	1538	3335	3438	1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3335	3438	1538	3335	3438	1538	3335	1810	1538	3335	3438	1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	299	141	391	641	141	207	217	130	174	500	49
RTOR Reduction (vph)	0	0	0	0	0	93	0	0	98	0	0	38
Lane Group Flow (vph)	33	299	141	391	641	48	207	217	32	174	500	11
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			Free			6			8			4
Actuated Green, G (s)	2.0	16.1	75.0	11.8	25.7	25.7	10.0	18.4	18.4	7.7	16.3	16.3
Effective Green, g (s)	2.0	16.1	75.0	11.8	25.7	25.7	10.0	18.4	18.4	7.7	16.3	16.3
Actuated g/C Ratio	0.03	0.21	1.00	0.16	0.34	0.34	0.13	0.25	0.25	0.10	0.22	0.22
Clearance Time (s)	5.0	5.4		5.0	5.6	5.6	5.0	5.6	5.6	5.0	5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	88	738	1538	524	1178	527	444	444	377	342	747	334
v/s Ratio Prot	0.01	0.09		c0.12	c0.19		c0.06	0.12		0.05	c0.15	
v/s Ratio Perm			c0.09			0.03			0.02			0.01
v/c Ratio	0.38	0.41	0.09	0.75	0.54	0.09	0.47	0.49	0.08	0.51	0.67	0.03
Uniform Delay, d1	35.9	25.3	0.0	30.2	19.9	16.7	30.0	24.3	21.8	31.9	26.9	23.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	1.7	0.1	5.7	1.8	0.3	0.8	0.8	0.1	1.2	2.3	0.0
Delay (s)	38.6	27.0	0.1	35.9	21.7	17.1	30.8	25.1	21.9	33.1	29.2	23.2
Level of Service	D	C	A	D	C	B	C	C	C	C	C	C
Approach Delay (s)		19.8			25.9			26.5			29.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



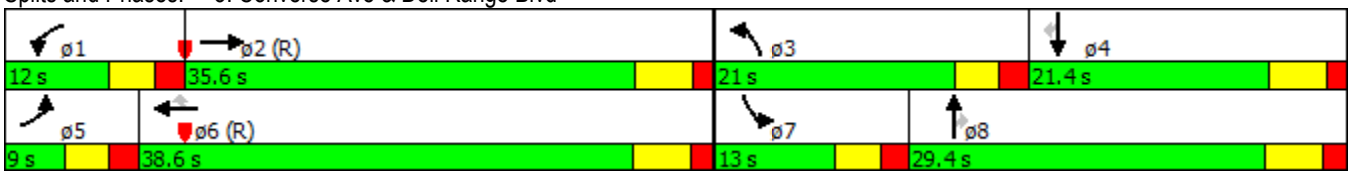
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	850	390	215	1050	190	350	300	190	210	420	110
Future Volume (vph)	85	850	390	215	1050	190	350	300	190	210	420	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	150		90	285		285	300		300
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3438	1538	3335	1810	1538	3335	3438	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	3438	1538	3335	3438	1538	3335	1810	1538	3335	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			281			213			153			213
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			401	
Travel Time (s)		21.1			11.0			5.8			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	92	924	424	234	1141	207	380	326	207	228	457	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	924	424	234	1141	207	380	326	207	228	457	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	

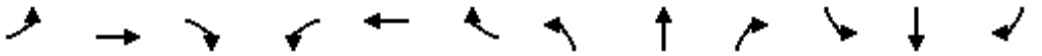
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			Free			6			8			4
Detector Phase	5	2		1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.4		10.0	21.6	21.6	21.0	21.6	21.6	9.0	21.4	21.4
Total Split (s)	9.0	35.6		12.0	38.6	38.6	21.0	29.4	29.4	13.0	21.4	21.4
Total Split (%)	10.0%	39.6%		13.3%	42.9%	42.9%	23.3%	32.7%	32.7%	14.4%	23.8%	23.8%
Maximum Green (s)	4.0	30.2		7.0	33.0	33.0	16.0	23.8	23.8	8.0	16.0	16.0
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	2.0	1.5		2.0	1.7	1.7	2.0	1.7	1.7	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.4		5.0	5.6	5.6	5.0	5.6	5.6	5.0	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0		0	0
Act Effct Green (s)	4.8	31.2	90.0	8.0	36.4	36.4	14.5	21.8	21.8	8.0	15.5	15.5
Actuated g/C Ratio	0.05	0.35	1.00	0.09	0.40	0.40	0.16	0.24	0.24	0.09	0.17	0.17
v/c Ratio	0.52	0.77	0.28	0.79	0.82	0.28	0.71	0.74	0.42	0.77	0.77	0.27
Control Delay	53.3	32.0	0.4	62.0	31.6	3.8	43.4	42.4	11.3	58.6	45.2	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	32.0	0.4	62.0	31.6	3.8	43.4	42.4	11.3	58.6	45.2	1.5
LOS	D	C	A	E	C	A	D	D	B	E	D	A
Approach Delay		24.1			32.4			35.8			42.5	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 32.3 Intersection LOS: C
Intersection Capacity Utilization 71.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Converse Ave & Dell Range Blvd



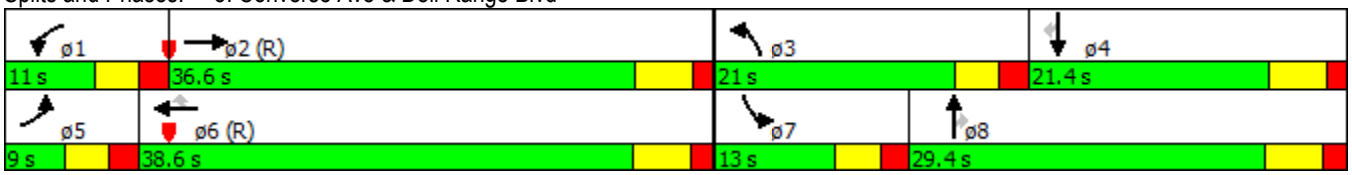


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	980	390	170	835	185	360	40	250	205	340	100
Future Volume (vph)	75	980	390	170	835	185	360	40	250	205	340	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		150	150		90	285		285	300		300
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3438	1538	3335	1810	1538	3335	3438	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	3438	1538	3335	3438	1538	3335	1810	1538	3335	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			281			213			153			213
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		1084			566			342			401	
Travel Time (s)		21.1			11.0			5.8			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	82	1065	424	185	908	201	391	43	272	223	370	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1065	424	185	908	201	391	43	272	223	370	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			Free			6			8			4
Detector Phase	5	2		1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.4		10.0	21.6	21.6	21.0	21.6	21.6	9.0	21.4	21.4
Total Split (s)	9.0	36.6		11.0	38.6	38.6	21.0	29.4	29.4	13.0	21.4	21.4
Total Split (%)	10.0%	40.7%		12.2%	42.9%	42.9%	23.3%	32.7%	32.7%	14.4%	23.8%	23.8%
Maximum Green (s)	4.0	31.2		6.0	33.0	33.0	16.0	23.8	23.8	8.0	16.0	16.0
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	2.0	1.5		2.0	1.7	1.7	2.0	1.7	1.7	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.4		5.0	5.6	5.6	5.0	5.6	5.6	5.0	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0		0	0
Act Effct Green (s)	5.0	32.9	90.0	7.3	37.1	37.1	14.6	20.8	20.8	8.0	14.4	14.4
Actuated g/C Ratio	0.06	0.37	1.00	0.08	0.41	0.41	0.16	0.23	0.23	0.09	0.16	0.16
v/c Ratio	0.44	0.85	0.28	0.69	0.64	0.27	0.72	0.10	0.58	0.75	0.68	0.26
Control Delay	49.6	34.8	0.4	55.5	25.1	3.5	43.8	26.2	17.9	57.3	42.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	34.8	0.4	55.5	25.1	3.5	43.8	26.2	17.9	57.3	42.0	1.5
LOS	D	C	A	E	C	A	D	C	B	E	D	A
Approach Delay		26.3			26.1			32.7			40.5	
Approach LOS		C			C			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 29.6		Intersection LOS: C	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Converse Ave & Dell Range Blvd



LEVEL OF SERVICE CALCULATION SHEETS

2040 BUILD ALTERNATIVES - **MODERN ROUNDABOUT**

Scheme Summary

Control Data

Control Data and Model Parameters

Dell Range-Converse Roundabout	2040 Synthetic Flow Profile (veh)
2040 Volumes	5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
AM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	Yes
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	Converse Ave SB	0	0	24.00	2	30.00	2	164.00	66.00	30.00
2	Dell Range Blvd EB	90	0	24.00	2	30.00	2	164.00	66.00	30.00
3	Converse Ave NB	180	0	36.00	3	45.00	3	164.00	66.00	30.00
4	Dell Range Blvd WB	270	0	24.00	2	30.00	2	164.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Converse Ave SB	250.00	33.00	2	30.00	2	24.00	2
2	Dell Range Blvd EB	250.00	33.00	2	30.00	2	24.00	2
3	Converse Ave NB	250.00	33.00	2	30.00	2	24.00	2
4	Dell Range Blvd WB	250.00	48.00	3	30.00	2	24.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Converse Ave SB	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
2	Dell Range Blvd EB	0	1.000	0	1.000	36.00	5377	0	24.00	3584	0
3	Converse Ave NB	0	1.000	0	1.000	20.00	5377	0	24.00	3584	0
4	Dell Range Blvd WB	0	1.000	0	1.000	36.00	3584	0	24.00	3584	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
2	Dell Range Blvd EB	Free	130	24	2	12	1	36	3

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
2	Dell Range Blvd EB	12	1	0	130	66.0003 6538	30	3	Converse Ave NB	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
2	Dell Range Blvd EB	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2040 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers	
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	Converse Ave SB	0	160	460	45	0	5.0	1.00
2	Dell Range Blvd EB	0	30	275	0	130	5.0	1.00
3	Converse Ave NB	0	190	200	120	0	5.0	1.00
4	Dell Range Blvd WB	0	360	590	130	0	5.0	1.00

2040 AM Peak Synthetic Flow Profile - Timeslice 5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	Converse Ave SB	0.750	1.125	0.750	0	30	60
2	Dell Range Blvd EB	0.750	1.125	0.750	0	30	60
3	Converse Ave NB	0.750	1.125	0.750	0	30	60
4	Dell Range Blvd WB	0.750	1.125	0.750	0	30	60

Operational Results

2040 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Converse Ave SB	None	665		1140		360	1551		0.4473	
2	Dell Range Blvd EB	Free	305	130	980	0	825	1641	1264	0.1920	0.1042
3	Converse Ave NB	None	510		465		950	2890		0.1814	
4	Dell Range Blvd WB	None	1080		420		555	1986		0.5627	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Converse Ave SB	None	5.09		5.09	3.17		A		A
2	Dell Range Blvd EB	Free	2.84	0.00	1.99	0.77	0.00	A	A	A
3	Converse Ave NB	None	3.36		3.36	1.46		A		A
4	Dell Range Blvd WB	None	5.51		5.51	5.36		A		A

2040 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Converse Ave SB	None	748		1281		405	1472		0.5148	
2	Dell Range Blvd EB	Free	343	146	1101	0	927	1573	1264	0.2191	0.1152
3	Converse Ave NB	None	573		523		1068	2841		0.2032	
4	Dell Range Blvd WB	None	1214		472		624	1960		0.6292	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Converse Ave SB	None	5.72		5.72	3.17		A		A
2	Dell Range Blvd EB	Free	3.00	0.00	2.10	0.77	0.00	A	A	A
3	Converse Ave NB	None	3.46		3.46	1.46		A		A
4	Dell Range Blvd WB	None	6.12		6.12	5.36		A		A

Approach Flow Profile

2040 AM Peak - Approach Flows (Veh / Hour)

Time Slice	Converse Ave SB	Dell Range Blvd EB	Converse Ave NB	Dell Range Blvd WB
0 - 5	44.77	29.28	34.33	72.71
5 - 10	50.11	32.78	38.43	81.37
10 - 15	54.83	35.87	42.05	89.05
15 - 20	58.66	38.37	44.99	95.27
20 - 25	61.37	40.14	47.06	99.66
25 - 30	62.76	41.06	48.14	101.93
30 - 35	62.76	41.06	48.14	101.93
35 - 40	61.37	40.14	47.06	99.66
40 - 45	58.66	38.37	44.99	95.27
45 - 50	54.83	35.87	42.05	89.05
50 - 55	50.11	32.78	38.43	81.37
55 - 60	44.77	29.28	34.33	72.71
Peak 15 min	62.30	40.75	47.78	101.18
Peak 60 min	55.42	36.25	42.50	90.00

Exit Flow Profile

2040 AM Peak - Exit Flows (Veh / Hour)

Time Slice	Converse Ave SB	Dell Range Blvd EB	Converse Ave NB	Dell Range Blvd WB
0 - 5	24.22	55.51	63.92	37.35
5 - 10	27.10	62.08	71.49	41.78
10 - 15	29.65	67.94	78.23	45.72
15 - 20	31.73	72.69	83.71	48.92
20 - 25	33.20	76.06	87.59	51.19
25 - 30	33.97	77.82	89.61	52.37
30 - 35	33.98	77.86	89.65	52.38
35 - 40	33.23	76.15	87.68	51.22
40 - 45	31.78	72.85	83.89	48.99
45 - 50	29.71	68.11	78.43	45.80
50 - 55	27.15	62.26	71.69	41.86
55 - 60	24.26	55.63	64.05	37.40
0-60	360	825	950	555
%Trucks	5.00	5.00	5.00	5.00

Global Results

Performance and Accidents

2040 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2560	130	2690
Capacity	veh/hr	8068	1264	9332
Average Delay	sec/veh	4.66	0.00	4.43
L.O.S. (Signal)	A – F	A	A	A
L.O.S. (Unsig)	A – F	A	A	A
Total Delay	veh.hrs	3.31	0.00	3.31

Scheme Summary

Control Data

Control Data and Model Parameters

Dell Range-Converse Roundabout	2040 Synthetic Flow Profile (veh)
2040 Volumes	5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
Off Peak	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	Yes
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	Converse Ave SB	0	0	24.00	2	30.00	2	164.00	66.00	30.00
2	Dell Range Blvd EB	90	0	24.00	2	30.00	2	164.00	66.00	30.00
3	Converse Ave NB	180	0	36.00	3	45.00	3	164.00	66.00	30.00
4	Dell Range Blvd WB	270	0	24.00	2	30.00	2	164.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Converse Ave SB	250.00	33.00	2	30.00	2	24.00	2
2	Dell Range Blvd EB	250.00	33.00	2	30.00	2	24.00	2
3	Converse Ave NB	250.00	33.00	2	30.00	2	24.00	2
4	Dell Range Blvd WB	250.00	48.00	3	30.00	2	24.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Converse Ave SB	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
2	Dell Range Blvd EB	0	1.000	0	1.000	36.00	5377	0	24.00	3584	0
3	Converse Ave NB	0	1.000	0	1.000	20.00	5377	0	24.00	3584	0
4	Dell Range Blvd WB	0	1.000	0	1.000	36.00	3584	0	24.00	3584	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
2	Dell Range Blvd EB	Free	390	24	2	12	1	36	3

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
2	Dell Range Blvd EB	12	1	0	130	66.00035904	30	3	Converse Ave NB	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
2	Dell Range Blvd EB	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2040 OFF Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers	
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	Converse Ave SB	0	210	420	110	0	5.0	1.00
2	Dell Range Blvd EB	0	85	850	0	390	5.0	1.00
3	Converse Ave NB	0	350	300	190	0	5.0	1.00
4	Dell Range Blvd WB	0	215	1050	190	0	5.0	1.00

2040 OFF Peak Synthetic Flow Profile - Timeslice 5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	Converse Ave SB	1.000	1.000	1.000	0	30	60
2	Dell Range Blvd EB	1.000	1.000	1.000	0	30	60
3	Converse Ave NB	1.000	1.000	1.000	0	30	60
4	Dell Range Blvd WB	1.000	1.000	1.000	0	30	60

Operational Results

2040 OFF Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Converse Ave SB	None	740		1615		575	1284		0.5920	
2	Dell Range Blvd EB	Free	935	390	845	0	1510	1717	1264	0.5529	0.3086
3	Converse Ave NB	None	840		1145		1025	2317		0.3684	
4	Dell Range Blvd WB	None	1455		735		1250	1832		0.8179	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Converse Ave SB	None	8.19		8.19	4.26		A		A
2	Dell Range Blvd EB	Free	4.55	0.00	3.21	3.02	0.00	A	A	A
3	Converse Ave NB	None	4.89		4.89	2.92		A		A
4	Dell Range Blvd WB	None	8.88		8.88	8.67		A		A

2040 OFF Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Converse Ave SB	None	740		1615		575	1284		0.5921	
2	Dell Range Blvd EB	Free	935	390	845	0	1510	1717	1264	0.5529	0.3086
3	Converse Ave NB	None	840		1145		1025	2317		0.3684	
4	Dell Range Blvd WB	None	1455		735		1250	1832		0.8181	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Converse Ave SB	None	8.23		8.23	4.26		A		A
2	Dell Range Blvd EB	Free	4.56	0.00	3.22	3.02	0.00	A	A	A
3	Converse Ave NB	None	4.90		4.90	2.92		A		A
4	Dell Range Blvd WB	None	8.95		8.95	8.68		A		A

Approach Flow Profile

2040 OFF Peak - Approach Flows (Veh / Hour)

Time Slice	Converse Ave SB	Dell Range Blvd EB	Converse Ave NB	Dell Range Blvd WB
0 - 5	61.67	110.42	70.00	121.25
5 - 10	61.67	110.42	70.00	121.25
10 - 15	61.67	110.42	70.00	121.25
15 - 20	61.67	110.42	70.00	121.25
20 - 25	61.67	110.42	70.00	121.25
25 - 30	61.67	110.42	70.00	121.25
30 - 35	61.67	110.42	70.00	121.25
35 - 40	61.67	110.42	70.00	121.25
40 - 45	61.67	110.42	70.00	121.25
45 - 50	61.67	110.42	70.00	121.25
50 - 55	61.67	110.42	70.00	121.25
55 - 60	61.67	110.42	70.00	121.25
Peak 15 min	61.67	110.42	70.00	121.25
Peak 60 min	61.67	110.42	70.00	121.25

Exit Flow Profile

2040 OFF Peak - Exit Flows (Veh / Hour)

Time Slice	Converse Ave SB	Dell Range Blvd EB	Converse Ave NB	Dell Range Blvd WB
0 - 5	47.91	125.82	85.41	104.16
5 - 10	47.91	125.82	85.41	104.16
10 - 15	47.92	125.83	85.41	104.17
15 - 20	47.92	125.83	85.42	104.17
20 - 25	47.92	125.83	85.42	104.17
25 - 30	47.92	125.83	85.42	104.17
30 - 35	47.92	125.83	85.42	104.17
35 - 40	47.92	125.83	85.42	104.17
40 - 45	47.92	125.83	85.42	104.17
45 - 50	47.92	125.83	85.42	104.17
50 - 55	47.92	125.83	85.42	104.17
55 - 60	47.92	125.83	85.42	104.17
0-60	575	1510	1025	1250
%Trucks	5.00	5.00	5.00	5.00

Global Results

Performance and Accidents

2040 OFF Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	3970	390	4360
Capacity	veh/hr	7150	1264	8414
Average Delay	sec/veh	6.89	0.00	6.27
L.O.S. (Signal)	A – F	A	A	A
L.O.S. (Unsig)	A – F	A	A	A
Total Delay	veh.hrs	7.59	0.00	7.59

Scheme Summary

Control Data

Control Data and Model Parameters

Dell Range-Converse Roundabout	2040 Synthetic Flow Profile (veh)
2040 Volumes	5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
PM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	Yes
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	Converse Ave SB	0	0	24.00	2	30.00	2	164.00	66.00	30.00
2	Dell Range Blvd EB	90	0	24.00	2	30.00	2	164.00	66.00	30.00
3	Converse Ave NB	180	0	36.00	3	45.00	3	164.00	66.00	30.00
4	Dell Range Blvd WB	270	0	24.00	2	30.00	2	164.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Converse Ave SB	250.00	33.00	2	30.00	2	24.00	2
2	Dell Range Blvd EB	250.00	33.00	2	30.00	2	24.00	2
3	Converse Ave NB	250.00	33.00	2	30.00	2	24.00	2
4	Dell Range Blvd WB	250.00	48.00	3	30.00	2	24.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Converse Ave SB	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
2	Dell Range Blvd EB	0	1.000	0	1.000	36.00	5377	0	24.00	3584	0
3	Converse Ave NB	0	1.000	0	1.000	20.00	5377	0	24.00	3584	0
4	Dell Range Blvd WB	0	1.000	0	1.000	36.00	3584	0	24.00	3584	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
2	Dell Range Blvd EB	Free	390	24	2	12	1	36	3

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
2	Dell Range Blvd EB	12	1	0	130	66.0003 3792	30	3	Converse Ave NB	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
2	Dell Range Blvd EB	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2040 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers	
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	Converse Ave SB	0	20	340	100	0	5.0	1.00
2	Dell Range Blvd EB	0	75	980	0	390	5.0	1.00
3	Converse Ave NB	0	360	420	250	0	5.0	1.00
4	Dell Range Blvd WB	0	170	835	185	0	5.0	1.00

2040 PM Peak Synthetic Flow Profile - Timeslice 5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	Converse Ave SB	0.750	1.125	0.750	0	30	60
2	Dell Range Blvd EB	0.750	1.125	0.750	0	30	60
3	Converse Ave NB	0.750	1.125	0.750	0	30	60
4	Dell Range Blvd WB	0.750	1.125	0.750	0	30	60

Operational Results

2040 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Converse Ave SB	None	460		1365		680	1425		0.3378	
2	Dell Range Blvd EB	Free	1055	390	530	0	1295	1894	1264	0.5750	0.3127
3	Converse Ave NB	None	1030		1075		900	2376		0.4534	
4	Dell Range Blvd WB	None	1190		855		1250	1773		0.7006	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Converse Ave SB	None	4.56		4.56	1.96		A		A
2	Dell Range Blvd EB	Free	4.30	0.00	3.14	4.23	0.00	A	A	A
3	Converse Ave NB	None	6.25		6.25	5.81		A		A
4	Dell Range Blvd WB	None	6.89		6.89	8.07		A		A

2040 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Converse Ave SB	None	517		1533		764	1330		0.3930	
2	Dell Range Blvd EB	Free	1186	438	596	0	1455	1857	1264	0.6461	0.3457
3	Converse Ave NB	None	1158		1208		1011	2264		0.5204	
4	Dell Range Blvd WB	None	1338		961		1405	1721		0.7946	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Converse Ave SB	None	5.06		5.06	1.96		A		A
2	Dell Range Blvd EB	Free	4.87	0.00	3.55	4.23	0.00	A	A	A
3	Converse Ave NB	None	6.99		6.99	5.81		A		A
4	Dell Range Blvd WB	None	8.35		8.35	8.07		A		A

Approach Flow Profile

2040 PM Peak - Approach Flows (Veh / Hour)

Time Slice	Converse Ave SB	Dell Range Blvd EB	Converse Ave NB	Dell Range Blvd WB
0 - 5	30.97	97.28	69.34	80.11
5 - 10	34.66	108.88	77.61	89.66
10 - 15	37.93	119.14	84.92	98.12
15 - 20	40.58	127.47	90.86	104.98
20 - 25	42.45	133.35	95.05	109.81
25 - 30	43.42	136.38	97.21	112.32
30 - 35	43.42	136.38	97.21	112.32
35 - 40	42.45	133.35	95.05	109.81
40 - 45	40.58	127.47	90.86	104.98
45 - 50	37.93	119.14	84.92	98.12
50 - 55	34.66	108.88	77.61	89.66
55 - 60	30.97	97.28	69.34	80.11
Peak 15 min	43.09	135.37	96.49	111.48
Peak 60 min	38.33	120.42	85.83	99.17

Exit Flow Profile

2040 PM Peak - Exit Flows (Veh / Hour)

Time Slice	Converse Ave SB	Dell Range Blvd EB	Converse Ave NB	Dell Range Blvd WB
0 - 5	45.74	87.11	60.57	84.10
5 - 10	51.15	97.39	67.76	94.06
10 - 15	55.97	106.56	74.14	102.93
15 - 20	59.88	114.00	79.32	110.13
20 - 25	62.66	119.28	82.99	115.24
25 - 30	64.12	122.08	84.90	117.91
30 - 35	64.17	122.19	84.94	117.97
35 - 40	62.77	119.54	83.07	115.38
40 - 45	60.08	114.47	79.46	110.39
45 - 50	56.19	107.06	74.29	103.21
50 - 55	51.35	97.83	67.89	94.33
55 - 60	45.88	87.38	60.65	84.28
0-60	680	1295	900	1250
%Trucks	5.00	5.00	5.00	5.00

Global Results

Performance and Accidents

2040 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	3735	390	4125
Capacity	veh/hr	7467	1264	8731
Average Delay	sec/veh	5.70	0.00	5.16
L.O.S. (Signal)	A – F	A	A	A
L.O.S. (Unsig)	A – F	A	A	A
Total Delay	veh.hrs	5.91	0.00	5.91

LEVEL OF SERVICE CALCULATION SHEETS

2040 BUILD ALTERNATIVES - **FULL CONTINUOUS FLOW**

CFI_Full Delay Calculations

HDR Engineering, Inc.

7/23/2017

Ancillary Intersections

From outside in

	Int. 1		Int 2		Int 3	
	vol	delay	vol	delay	vol	delay
EBL	30	31.2	30	28.9	30	15.0
EBT	275	11.7	275	14.7	0	0.0
EBR	130	0.1	130	0.1	0	0.0
WBL	360	16.9	360	54.5	360	8.0
WBT	590	13.5	590	5.0	0	0.0
WBR	130	0.1	130	0.1	0	0.0
NBL	190	28.3	190	20.5	190	5.0
NBT	200	14.1	200	15.0	0	0.0
NBR	120	0.1	120	0.1	0	0.0
SBL	160	18.4	160	23.3	160	14.7
SBT	460	14.1	460	8.0	0	0.0
SBR	45	0.0	45	0.0	0	0.0

Composite Intersection

	vol	delay
EBL	30	75.1
EBT	275	26.4
EBR	130	0.2
WBL	360	79.4
WBT	590	18.5
WBR	130	0.2
NBL	190	53.8
NBT	200	29.1
NBR	120	0.2
SBL	160	56.4
SBT	460	22.1
SBR	45	0.0

Tot	31.3

CFI_Full Delay Calculations

HDR Engineering, Inc.

7/23/2017

Ancillary Intersections

From outside in

	Int. 1		Int 2		Int 3	
	vol	delay	vol	delay	vol	delay
EBL	85	28.5	85	45.5	85	5.8
EBT	850	16.5	850	20.1	0	0.0
EBR	390	0.4	390	0.4	0	0.0
WBL	215	17.6	215	41.8	215	8.4
WBT	1050	19.2	1050	11.6	0	0.0
WBR	190	0.2	190	0.2	0	0.0
NBL	350	15.6	350	19.6	350	11.6
NBT	300	15.0	300	5.8	0	0.0
NBR	190	0.2	190	0.2	0	0.0
SBL	210	18.7	210	23.0	210	20.1
SBT	420	13.1	420	8.4	0	0.0
SBR	110	0.1	110	0.1	0	0.0

Composite Intersection

	vol	delay
EBL	85	79.8
EBT	850	36.6
EBR	390	0.8
WBL	215	67.8
WBT	1050	30.8
WBR	190	0.4
NBL	350	46.8
NBT	300	20.8
NBR	190	0.4
SBL	210	61.8
SBT	420	21.5
SBR	110	0.2
Tot		29.8

CFI_Full Delay Calculations

HDR Engineering, Inc.

7/23/2017

Ancillary Intersections

From outside in

	Int. 1		Int 2		Int 3	
	vol	delay	vol	delay	vol	delay
EBL	75	26.7	75	46.9	75	5.7
EBT	980	17.0	980	16.6	0	0.0
EBR	390	0.4	390	0.4	0	0.0
WBL	170	20.3	170	43.3	170	11.1
WBT	835	15.5	835	9.9	0	0.0
WBR	185	0.2	185	0.2	0	0.0
NBL	360	13.5	360	19.8	360	9.9
NBT	420	19.3	420	5.7	0	0.0
NBR	250	0.2	250	0.2	0	0.0
SBL	205	21.5	205	24.4	205	16.6
SBT	340	13.3	340	11.1	0	0.0
SBR	100	0.1	100	0.1	0	0.0

Composite Intersection

	vol	delay
EBL	75	79.3
EBT	980	33.6
EBR	390	0.8
WBL	170	74.7
WBT	835	25.4
WBR	185	0.4
NBL	360	43.2
NBT	420	25.0
NBR	250	0.4
SBL	205	62.5
SBT	340	24.4
SBR	100	0.2

Tot	27.9

LEVEL OF SERVICE CALCULATION SHEETS

2040 BUILD ALTERNATIVES - **MODIFIED CONTINUOUS FLOW**

CFI_Modified Delay Calculations

HDR Engineering, Inc.

7/23/2017

Ancillary Intersections

From outside in

	Int. 1		Int 2		Int 3	
	vol	delay	vol	delay	vol	delay
EBL	30	11.5	0	0.0	0	0.0
EBT	580	13.0	275	1.7	0	0.0
EBR	130	0.5	130	0.1	0	0.0
WBL	360	25.4	360	0.4	360	14.2
WBT	590	24.0	0	0.0	0	0.0
WBR	130	1.5	0	0.0	0	0.0
NBL	190	14.7	190	28.0	190	0.0
NBT	400	19.2	0	0.0	0	0.0
NBR	120	1.0	120	0.1	0	0.0
SBL	160	14.3	0	0.0	160	1.7
SBT	460	17.3	460	14.2	0	0.0
SBR	45	0.2	0	0.0	0	0.0

Composite Intersection

	vol	delay
EBL	30	11.5
EBT	580	14.7
EBR	130	0.6
WBL	360	40.0
WBT	590	24.0
WBR	130	1.5
NBL	190	42.7
NBT	400	19.2
NBR	120	1.1
SBL	160	16.0
SBT	460	31.5
SBR	45	0.2

Tot	22.1

CFI_Modified Delay Calculations

HDR Engineering, Inc.

7/23/2017

Ancillary Intersections

From outside in

	Int. 1		Int 2		Int 3	
	vol	delay	vol	delay	vol	delay
EBL	85	14.4	0	0.0	0	0.0
EBT	1785	17.2	850	3.5	0	0.0
EBR	390	0.8	390	0.4	0	0.0
WBL	215	21.7	215	0.2	215	19.8
WBT	1050	32.8	0	0.0	0	0.0
WBR	190	3.8	0	0.0	0	0.0
NBL	350	15.6	350	24.9	350	0.0
NBT	600	31.9	0	0.0	0	0.0
NBR	190	0.9	190	0.2	0	0.0
SBL	210	49.1	0	0.0	210	3.5
SBT	420	22.4	420	19.8	0	0.0
SBR	110	2.9	0	0.0	0	0.0

Composite Intersection

	vol	delay
EBL	85	14.4
EBT	1785	20.7
EBR	390	1.2
WBL	215	41.7
WBT	1050	32.8
WBR	190	3.8
NBL	350	40.5
NBT	600	31.9
NBR	190	1.1
SBL	210	52.6
SBT	420	42.2
SBR	110	2.9

Tot	26.0

CFI_Modified Delay Calculations

HDR Engineering, Inc.

7/23/2017

Ancillary Intersections

From outside in

	Int. 1		Int 2		Int 3	
	vol	delay	vol	delay	vol	delay
EBL	75	18.0	0	0.0	0	0.0
EBT	2035	26.3	980	3.6	0	0.0
EBR	390	0.8	390	0.4	0	0.0
WBL	170	27.2	170	2.2	170	27.3
WBT	835	29.0	0	0.0	0	0.0
WBR	185	4.3	0	0.0	0	0.0
NBL	360	19.0	360	12.7	360	0.0
NBT	840	46.6	0	0.0	0	0.0
NBR	250	0.9	250	0.2	0	0.0
SBL	205	59.6	0	0.0	205	3.6
SBT	340	21.2	340	27.3	0	0.0
SBR	100	3.9	0	0.0	0	0.0

Composite Intersection

	vol	delay
EBL	75	18.0
EBT	2035	29.9
EBR	390	1.2
WBL	170	56.7
WBT	835	29.0
WBR	185	4.3
NBL	360	31.7
NBT	840	46.6
NBR	250	1.1
SBL	205	63.2
SBT	340	48.5
SBR	100	3.9
Tot		30.8

LEVEL OF SERVICE CALCULATION SHEETS

2040 BUILD ALTERNATIVES - **THRU-TURN WITH SIGNALIZED INTERSECTIONS**

Through-Turn Intersection Delay Calculations - Signal

System Delay - All Ints				
	w/o EDTT		with EDTT	
	vol	delay	vol	delay
1	3430	8.9	3430	23.5
2	1305	11.5	1115	11.2
3	1820	16.9	1300	13.0
4	1690	8.5	1660	8.5
5	0	0.0	0	0.0
Tot		11.0		16.5

Through-Turn Intersection Delay Calculations - Signal

System Delay - All Ints				
	w/o EDTT		with EDTT	
	vol	delay	vol	delay
1	5220	11.3	5220	25.8
2	1880	21.8	1530	18.7
3	3390	21.3	2965	17.9
4	2810	11.7	2725	11.3
5	0	0.0	0	0.0
Tot		15.4		19.9

Through-Turn Intersection Delay Calculations - Signal

System Delay - All Ints				
	w/o EDTT		with EDTT	
	vol	delay	vol	delay
1	5120	21.0	5120	36.3
2	1935	16.1	1745	15.3
3	3255	15.1	2735	13.9
4	2730	6.1	2700	5.9
5	0	0.0	0	0.0
Tot		15.7		21.7

LEVEL OF SERVICE CALCULATION SHEETS

2040 BUILD ALTERNATIVES - **THRU-TURN WITH ROUNDABOUTS**

Through-Turn Intersection Delay Calculations - Roundabouts

System Delay - All Ints				
	w/o EDTT		with EDTT	
	vol	delay	vol	delay
1	3430	8.9	3430	19.9
2	1305	3.5	1115	3.3
3	1820	5.5	1300	5.1
4	1690	3.0	1660	3.0
5	0	0.0	0	0.0
Tot		6.0		11.1

Through-Turn Intersection Delay Calculations - Roundabouts

System Delay - All Ints				
	w/o EDTT		with EDTT	
	vol	delay	vol	delay
1	5220	11.3	5220	20.9
2	1880	4.5	1530	4.5
3	3390	10.8	2965	10.3
4	2810	4.5	2725	4.5
5	0	0.0	0	0.0
Tot		8.8		12.8

Through-Turn Intersection Delay Calculations - Roundabouts

System Delay - All Ints				
	w/o EDTT		with EDTT	
	vol	delay	vol	delay
1	5120	21.0	5120	34.3
2	1935	5.5	1745	5.4
3	3255	8.6	2735	8.4
4	2730	5.2	2700	5.2
5	0	0.0	0	0.0
Tot		12.3		18.1

Memo

Date: Thursday, June 08, 2017

Project: Cheyenne MPO – Converse and Del Range Intersection

To: Cheyenne MPO

From: HDR

Subject: Drainage Design

The drainage study location consists of the Converse Avenue corridor between Ogden Road and the Dry Creek Bridge north of Del Range Boulevard in northcentral Cheyenne, Wyoming. The intersection of Converse Avenue and Del Range Boulevard was evaluated for intersection options as part of the overall study. Since the No Build Alternative emerged as the preferred option, drainage improvements are not included for the intersection.

The scope of the project includes reconstruction of the Converse Avenue roadway and utility improvements. The original storm sewer through this area was installed in 1992 (based on City GIS data). Converse Avenue was reconstructed more recently from Odgen Road to the north.

There is an existing roadside drainage channel paralleling Converse Avenue on the west side of the roadway with several culvert crossings at intersecting streets. The existing roadway has a curb on the east side, but the west side is able to shed runoff directly into the channel. Design flows for the roadside drainage ditch were provided by the City with the intent to convert it to a subsurface system when this section of Converse Avenue is reconstructed and widened. These design flows are shown in Table 1.

Table 1. Peak Runoff at selected concentration points along the Converse Avenue roadside ditch.

Location	Peak Discharge (cfs)				
	5-Year	10-Year	25-Year	50-Year	100-Year
Converse Avenue at Dry Creek	54	89	157	251	380
Converse Avenue at Point Bluff	44	78	154	249	376
Converse Avenue at Ogden Road	16	47	104	182	280

At Point Bluff and continuing south, the roadside ditch is intercepted by an 8’x6’ concrete box culvert which discharges directly into Dry Creek. The majority of drainage infrastructure required with the project will be installed between Ogden Road and Point Bluff. The project study location is shown in Figure 1.

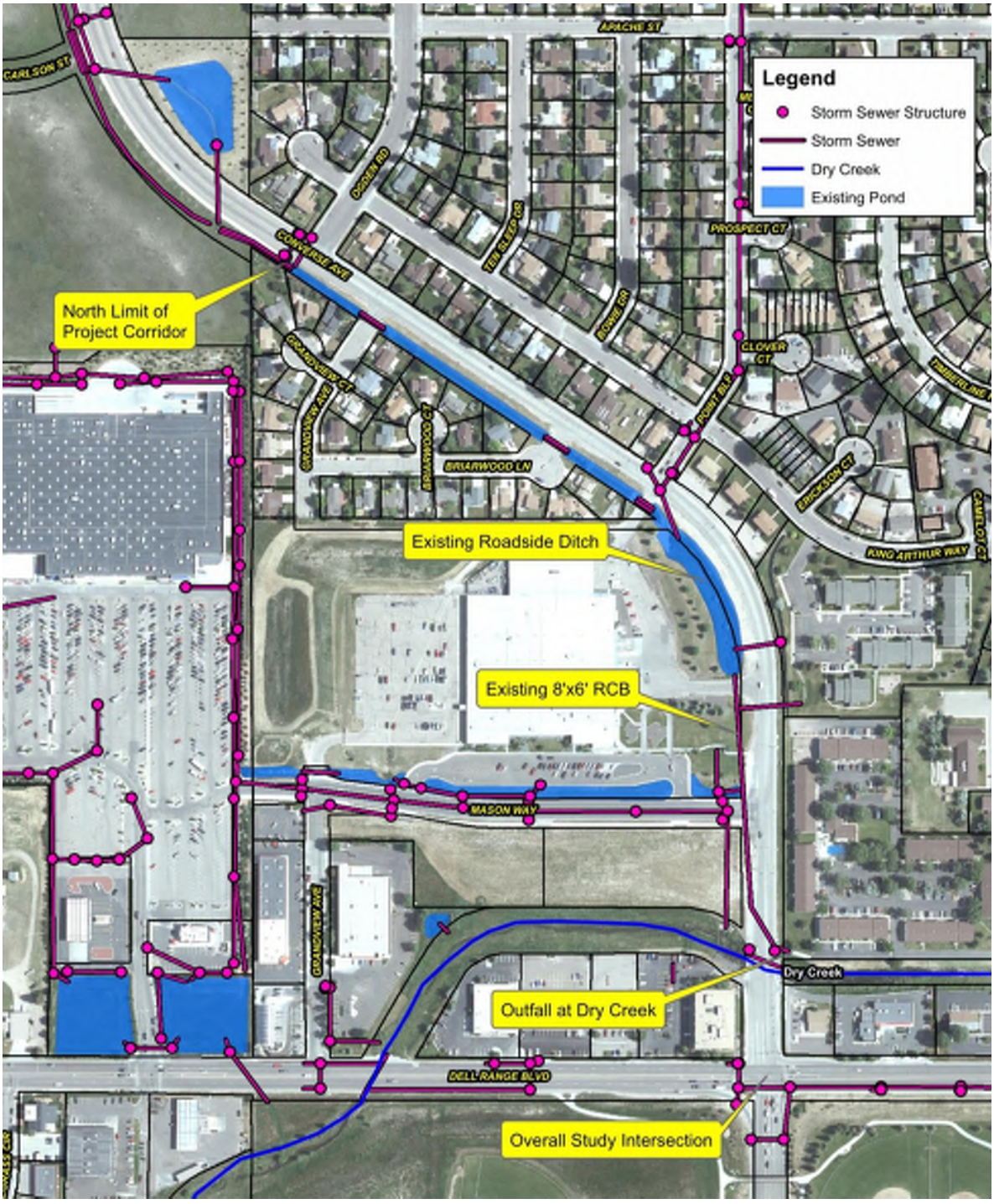


Figure 1. Project Study Location.

The existing roadway section south of Odgen Road is shown in Figure 2 and includes the following:

- 3 lanes
- Curb & gutter on the east side
- Asphalt shoulder on the west side
- Drainage ditch on the west side

Figure 2. Existing roadway section for Converse Avenue (facing north).

The proposed roadway section for Converse Avenue between Odgen Road and the Dry Creek Bridge is shown in Figure 3 and includes the following:

- Curb & gutter on both sides
- 3 x 12 foot lanes with 10 foot outside bike lanes on both sides
- Varying boulevards with sidewalk on both sides
- Existing drainage ditch will be converted to a subsurface system

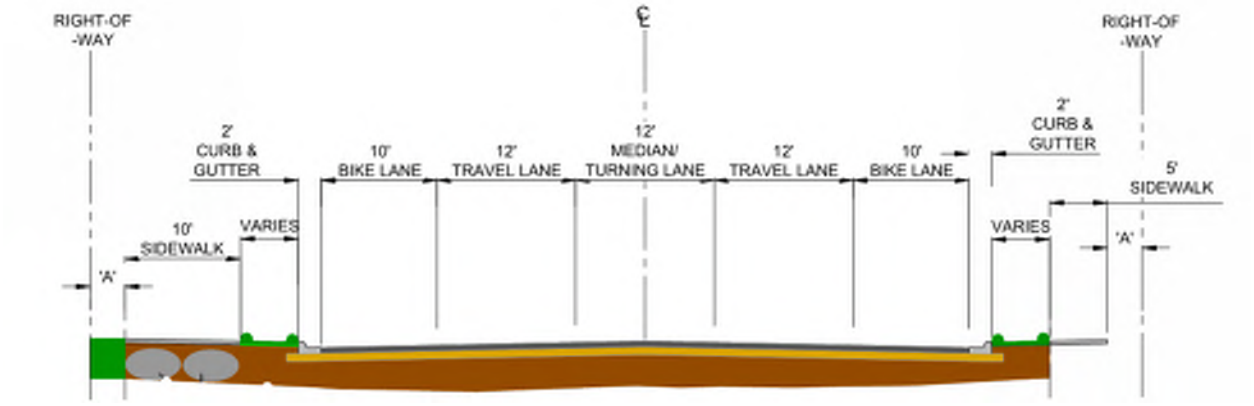


Figure 3. Proposed roadway section for Converse Avenue (facing north).

The existing 8'x6' box culvert on the south end of the corridor appears to have excess capacity for the design flows. However, when using the FEMA regulatory 100-year water surface elevation in Dry Creek as the tailwater condition, the existing box culvert is at full capacity. For the preliminary design of the subsurface drainage system, it was assumed that the 100-year event is coincident with the regulatory 100-year event in Dry Creek. This downstream tailwater elevation was assumed to be 6032.5 based on the 2007 FEMA Flood Insurance Study. Excerpts from the Flood Insurance Study are included in Appendix A.

Using the design flows provided by the City for the 100-year event, the following pipe sizes are recommended for replacing the existing drainage channel:

- 8'x5' Concrete Box Culvert: connect to the existing 8'x6' Box Culvert and extend north to the Point Bluff intersection
- Dual 48" Reinforced Concrete Pipe: from the Point Bluff intersection and extending north to the Ogden Road intersection; the dual 48" trunk line should be connected to the 6 inlets on the north side of the intersection and the existing dual 36" RCP Arch pipes that continue north.

Figure 4 shows the design profile of the layout that was analyzed with Autodesk Storm and Sanitary. The Hydraulic Grade Line (HGL) is generally contained below the ground surface with some potential for surcharging at the Dry Creek outfall and at the north end where the flow needs to transition from the channel to the pipe conveyance. Detailed plan and profile layouts for the storm sewer are included in Appendix B.

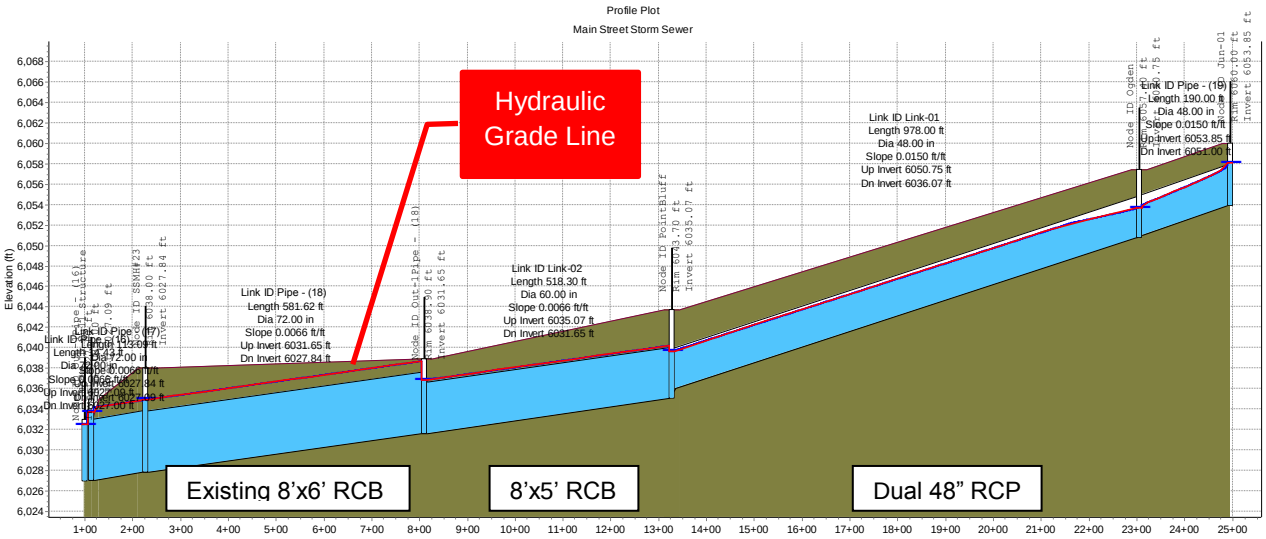


Figure 4. Design profile for storm sewer trunline (replacing existing drainage ditch).

Appendix A – FEMA Flood Insurance Study Excerpts

Appendix B – Drainage Plan and Profile Layouts

Appendix A

FEMA Flood Insurance Study Excerpts

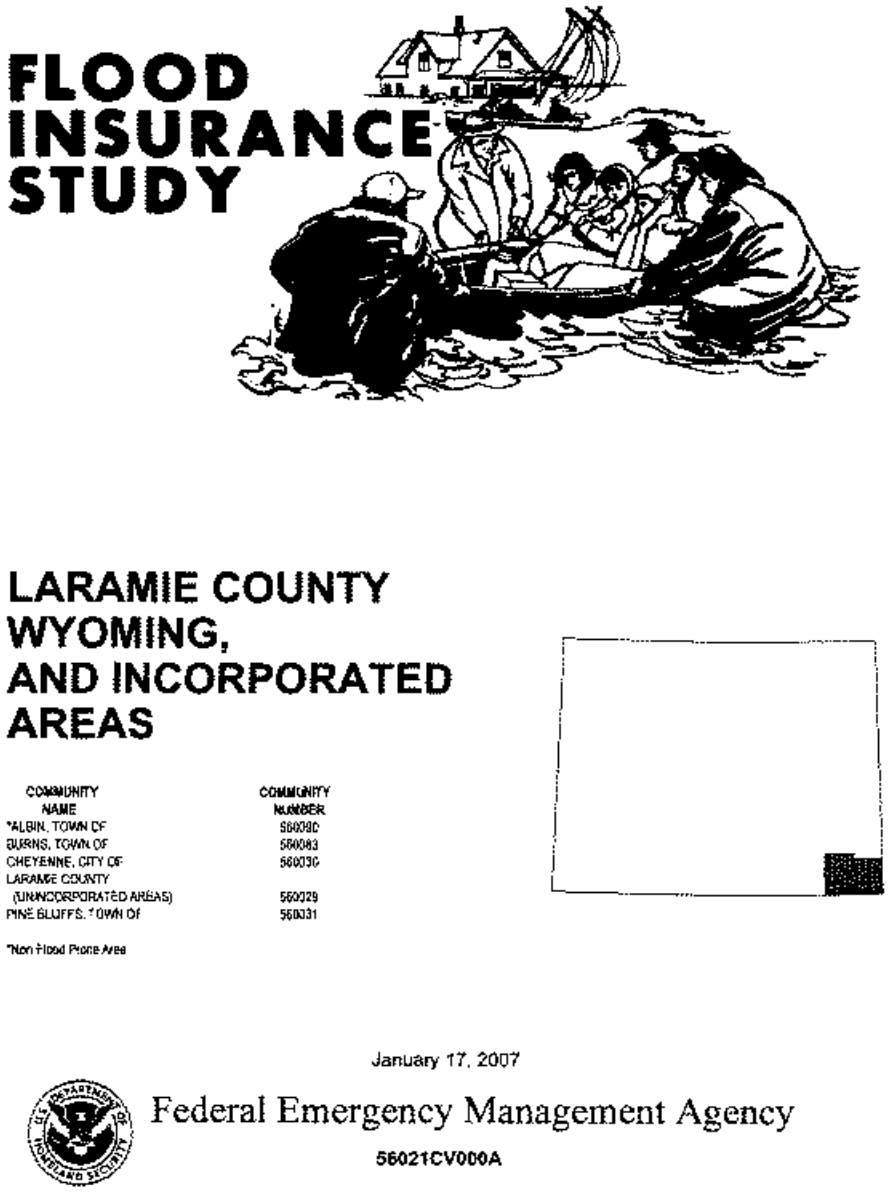


Figure A1. 2007 FEMA Flood Insurance Study for Laramie County.

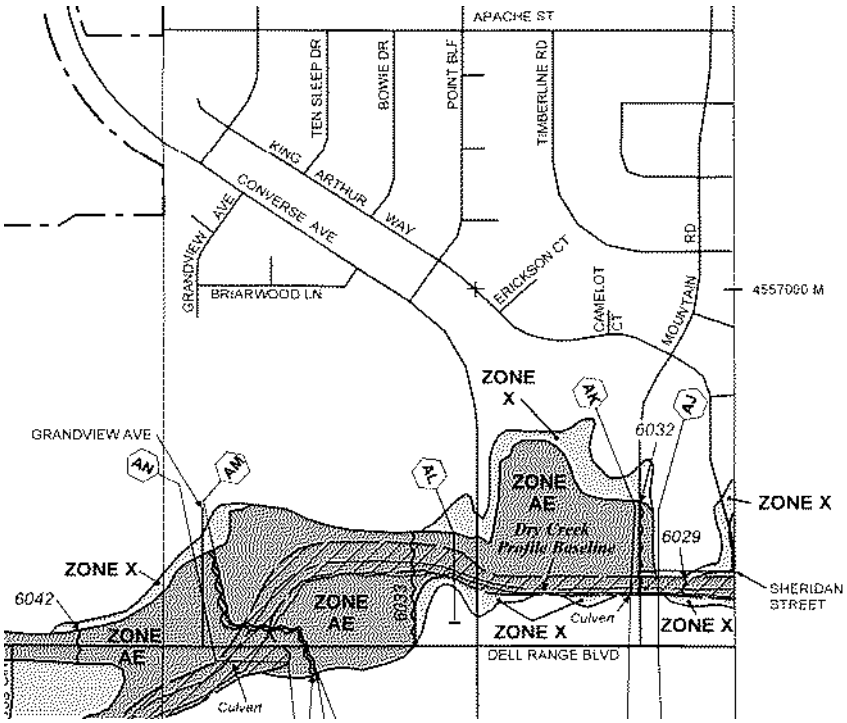


Figure A2. FEMA Flood Insurance Rate Map from the 2007 Flood Insurance Study.

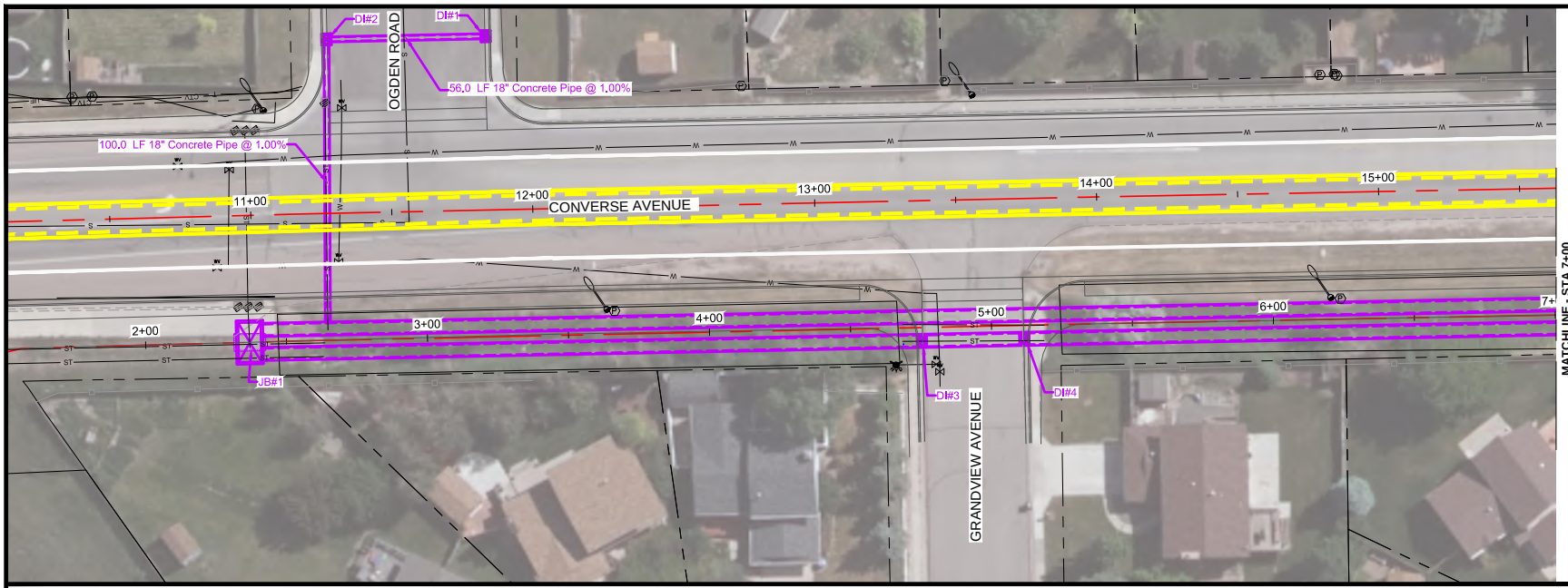
FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 1988)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Dry Creek (Continued)								
AA	25,830	85	460	6.0	6,004.5	6,004.5	6,004.9	0.4
AB	25,940	85	611	4.5	6,006.3	6,006.3	6,006.7	0.4
AC	26,700	62	314	8.8	6,011.1	6,011.1	6,012.0	0.9
AD	26,810	62	466	5.9	6,013.7	6,013.7	6,014.6	0.9
AE	27,470	35	202	13.7	6,016.5	6,016.5	6,016.6	0.1
AF	28,310	60	291	8.7	6,020.6	6,020.6	6,021.3	0.7
AG	29,035	56	223	11.3	6,024.9	6,024.9	6,024.9	0.0
AH	29,120	62	452	5.6	6,027.3	6,027.3	6,027.3	0.0
AI	29,490	53	219	11.5	6,028.2	6,028.2	6,028.2	0.0
AJ	29,925	63	324	7.0	6,029.2	6,029.2	6,030.2	1.0
AK	30,030	63	502	4.5	6,032.1	6,032.1	6,033.1	1.0
AL	30,740	100	393	5.8	6,032.5	6,032.5	6,033.4	0.9
AM	31,640	77	255	8.9	6,034.9	6,034.9	6,034.9	0.0
AN	31,805	278	1,946	1.2	6,041.8	6,041.8	6,041.8	0.0
AO	32,595	110	397	5.4	6,041.6	6,041.6	6,041.6	0.0
AP	34,155	83	227	9.5	6,046.2	6,046.2	6,046.2	0.0
AQ	34,370	97	243	10.1	6,057.0	6,057.0	6,057.0	0.0
AR	35,030	76	312	7.8	6,059.1	6,059.1	6,059.9	0.8
AS	35,110	69	232	10.5	6,066.0	6,066.0	6,066.0	0.0
AT	35,475	112	373	6.5	6,067.9	6,067.9	6,068.1	0.2
AU	36,960	50	193	10.8	6,071.6	6,071.6	6,071.6	0.0
AV	38,200	79	240	8.7	6,077.3	6,077.3	6,077.6	0.3
AW	38,590	90	1,339	2.0	6,087.2	6,087.2	6,087.2	0.0
AX	39,480	100	1,113	2.4	6,087.3	6,087.3	6,087.3	0.0
AY	40,850	129	930	2.9	6,093.9	6,093.9	6,094.0	0.1
AZ	41,160	150	243	8.9	6,095.6	6,095.6	6,096.1	0.5

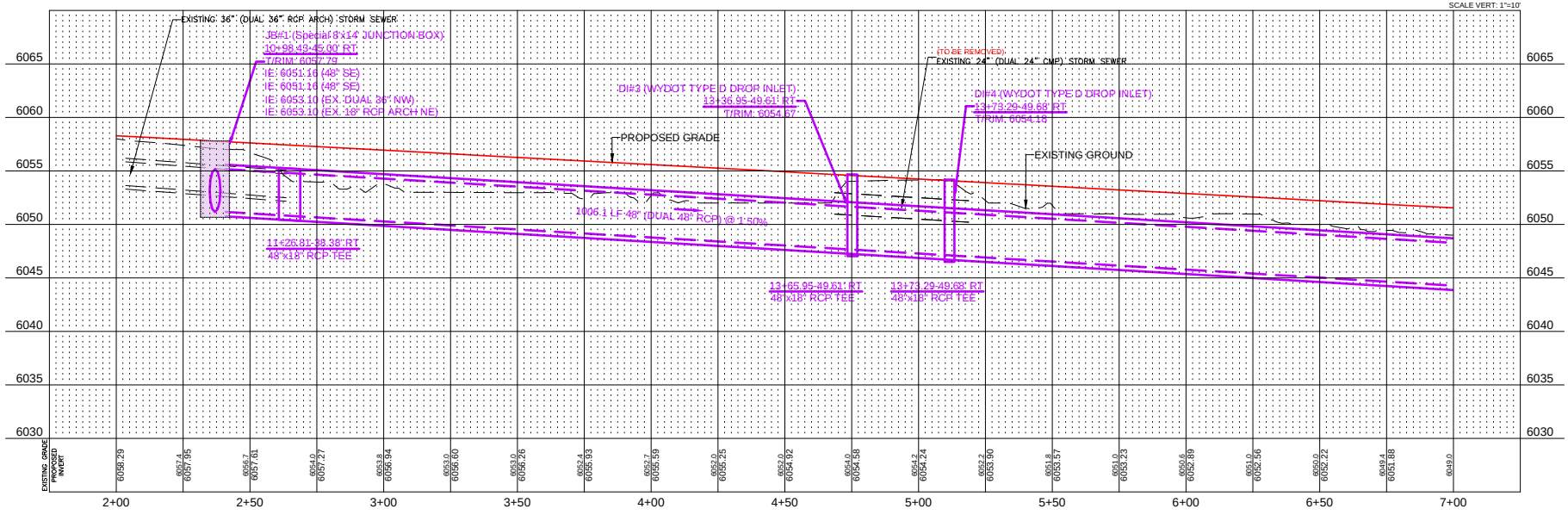
[1] Feet above confluence with Crow Creek.

Figure A3. FEMA Base Flood Elevations from the 2007 Flood Insurance Study.

Appendix B

Drainage Plan and Profile Layouts





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1720 Carey Ave.
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Cheyenne, WY 82001

Prepared For:

Prepared By:

Scale:

Designed By: T.MATTSON	Drawn By: J.OAKLEY
Design Date: 6/7/2017	Print Date: 6/7/2017
Internal Job No: 10038796	
Surveyed By: N.FRASER	Survey Date: 8/2016

Revisions:

CHEYENNE MPO
CONVERSE & DELL RANGE INTERSECTION

LARAMIE COUNTY, WYOMING

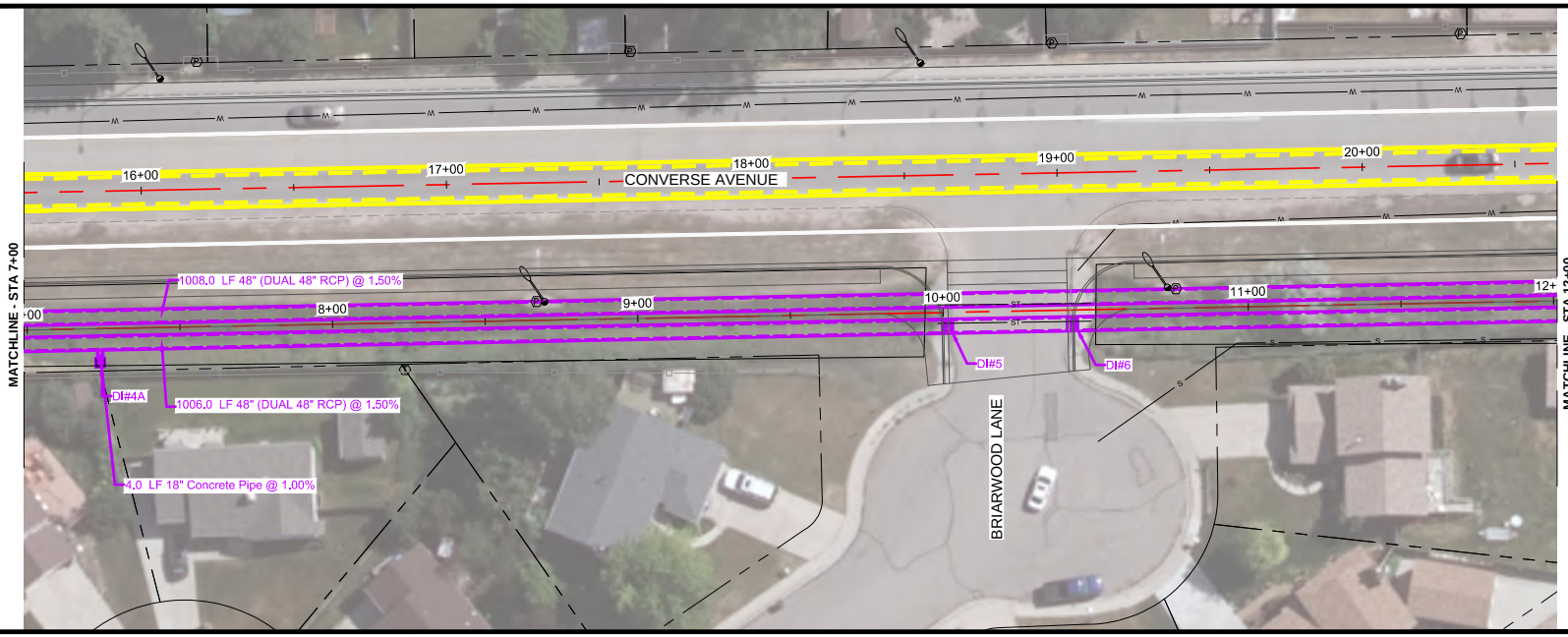
Project No: 10038796

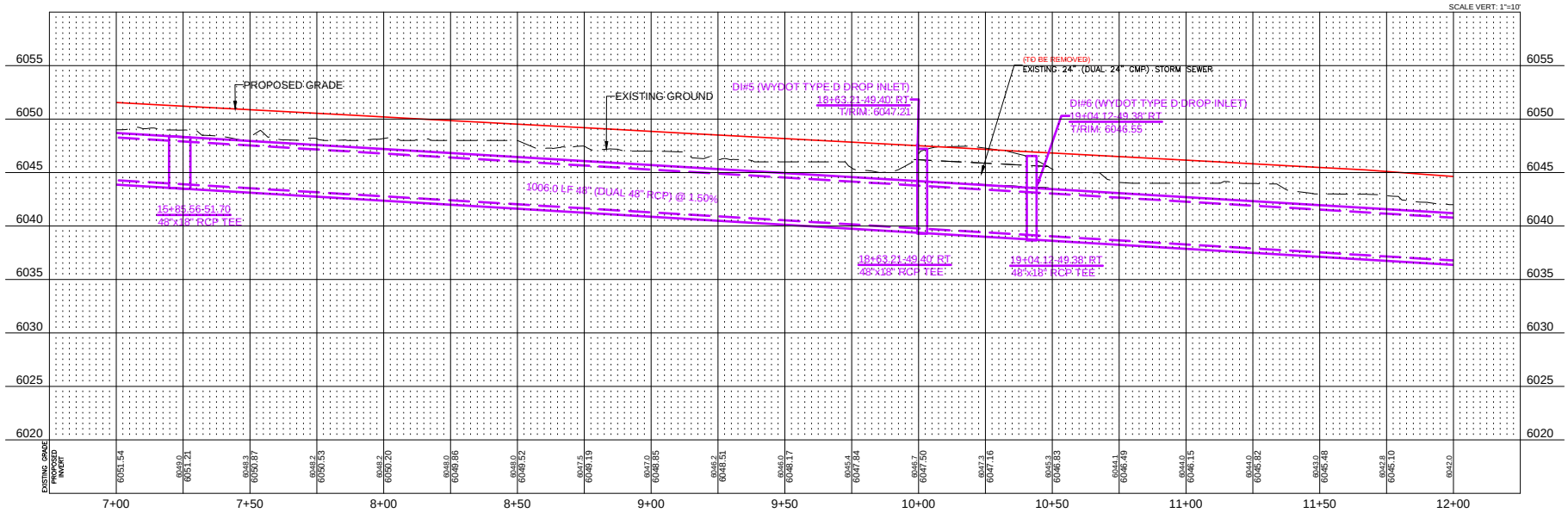
Sheet Title:

STORM SEWER PLAN AND PROFILE

Sheet:

I.1





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10038796	
Surveyed By:	Survey Date:
N.FRASER	8/2016

Revisions:

CHEYENNE MPO
CONVERSE & DELL RANGE INTERSECTION

LARAMIE COUNTY, WYOMING

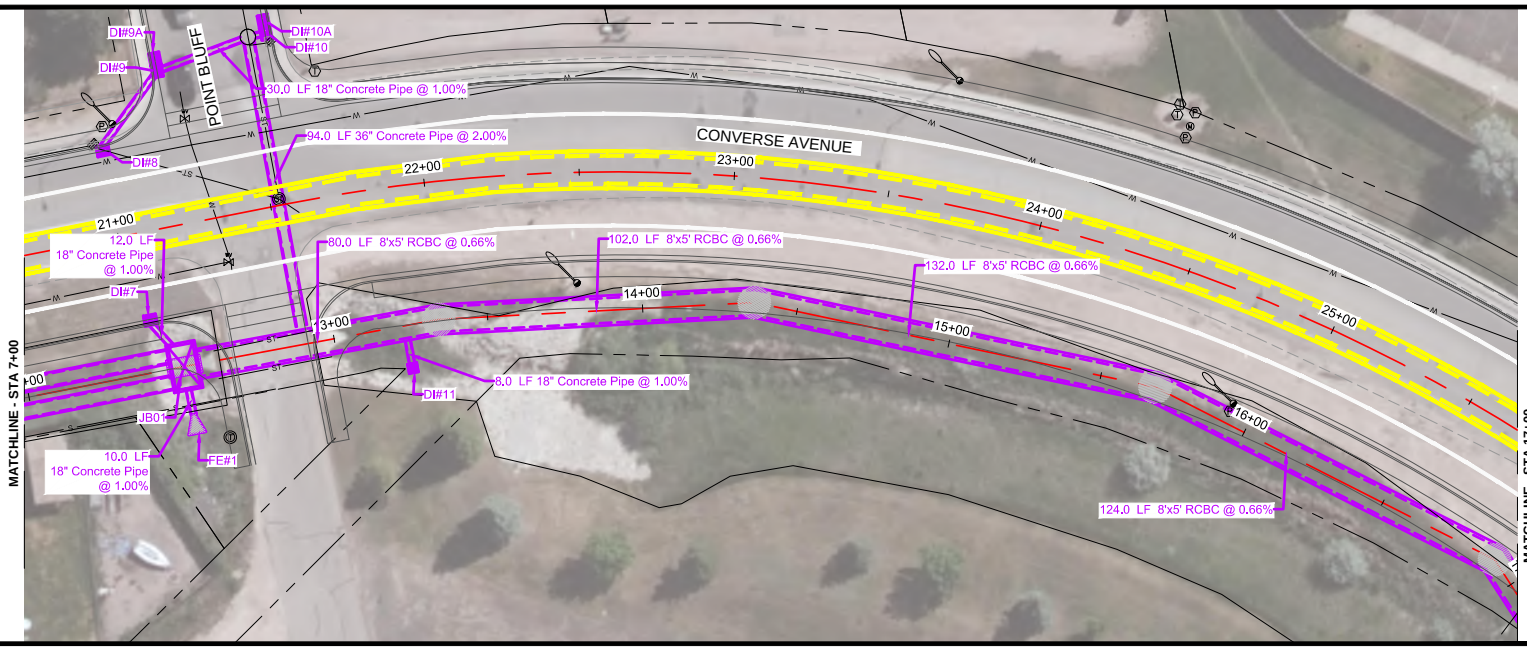
Project No: 10038796

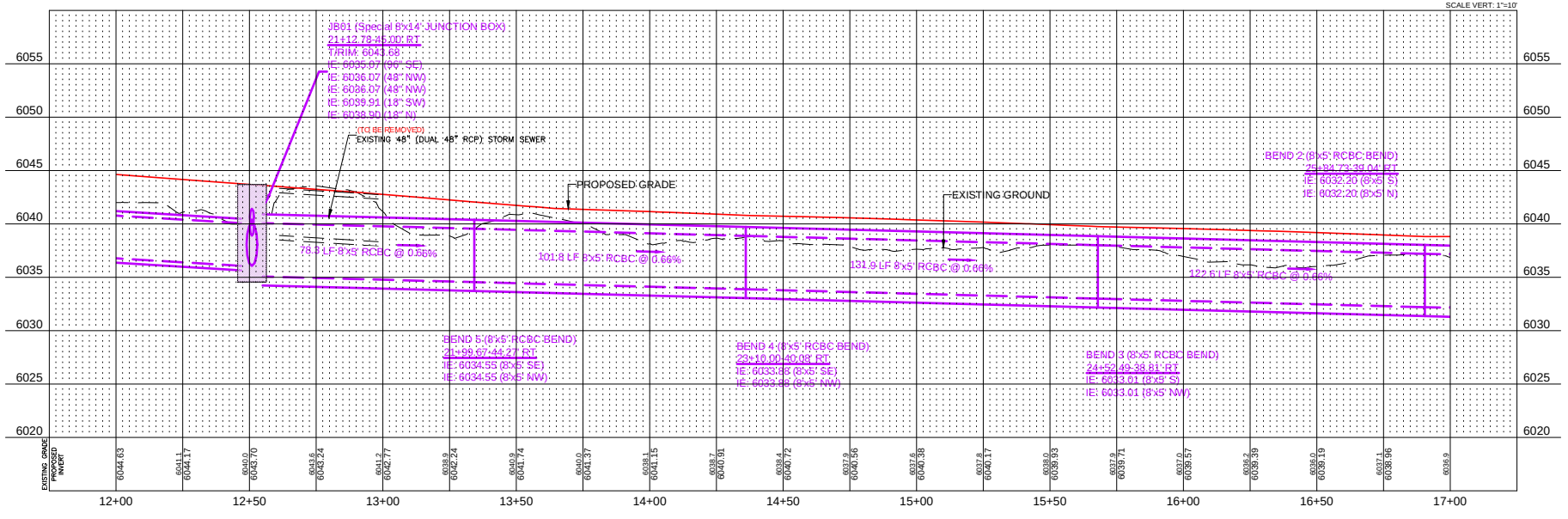
Sheet Title:

STORM SEWER PLAN AND PROFILE

Sheet:

I.2





Prepared For:

Prepared By:

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Scale:

Designed By:	Drawn By:
T.MATTSON	J.OAKLEY
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Surveyed By:	Survey Date:
N.FRASER	8/2016

Revisions:

CHEYENNE MPO
CONVERSE & DELL RANGE INTERSECTION
LARAMIE COUNTY, WYOMING

Project No: 10038796

Sheet Title:

STORM SEWER PLAN AND PROFILE

Sheet:

I.3

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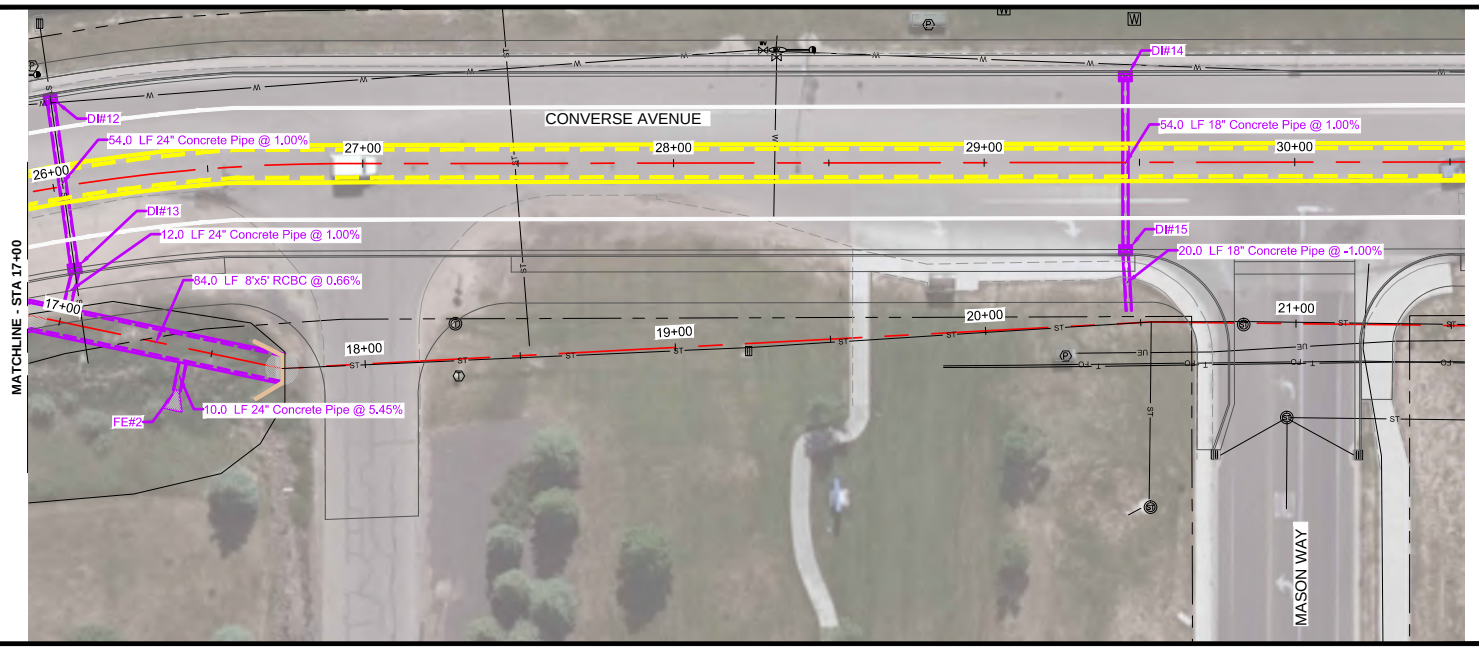

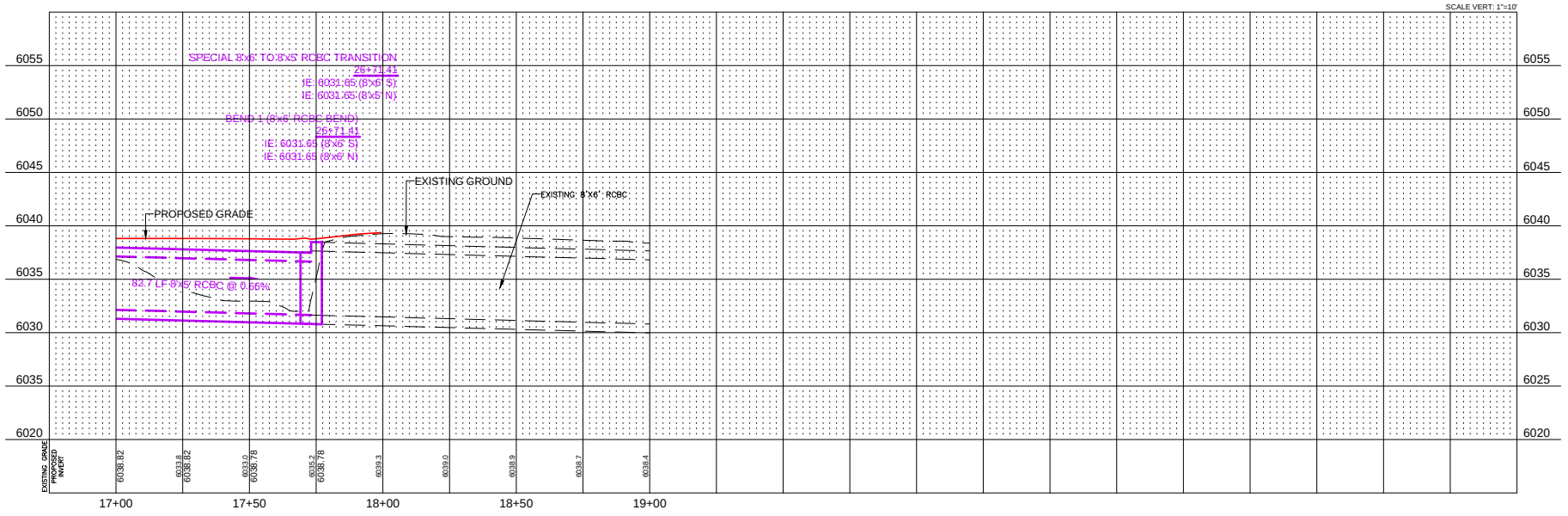

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1720 Carey Ave.
Suite 612
Cheyenne, WY 82001

Prepared For:

Prepared By:

Scale:

Designed By: T.MATTSON	Drawn By: J.OAKLEY
Design Date: 6/7/2017	Print Date: 6/7/2017
Internal Job No: 10038796	
Surveyed By: N.FRASER	Survey Date: 8/2016

Revisions:

CHEYENNE MPO
CONVERSE & DELL RANGE INTERSECTION

LARAMIE COUNTY, WYOMING

Project No: 10038796

Sheet Title:

STORM SEWER PLAN AND PROFILE

Sheet:

I.4

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PLOT DATE: 6/7/2017 10:46 AM Oakley, Juliana

Memo

Date:	June 2017
Project:	Dell Range-Converse Intersection and 35% Design Plan
To:	Cheyenne MPO
From:	HDR
Subject:	Preliminary Environmental Considerations Memo – 35% Design

1 Introduction

This technical memorandum provides brief methods and results of an environmental screening to identify any major obstacles that would need to be addressed in environmental documentation required for the project. This technical memorandum also provides a place of initiation for the National Environmental Policy Act (NEPA) process and documentation. The purpose of this environmental screening is to provide a review of existing databases, a synthesis of input from regulatory agencies, desktop evaluations, recommendations for detailed studies, and potential mitigation needs.

2 Project Background

The City of Cheyenne (the City) and the Cheyenne Metropolitan Planning Organization (MPO) are initiating a study to review alternatives to improve safety at the intersection of Converse Avenue and Dell Range Boulevard. This intersection is experiencing high crash rates and degrading capacity, particularly as development has grown along Dell Range Boulevard and areas to the north. The goal of this project is to increase safety for motorists and pedestrians, while improving mobility through the intersection.

The alternatives that were analyzed for this intersection are described in the Dell Range-Converse Intersection Alternatives Analysis Tech Memo (HDR 2017). The seven alternative designs for the Dell Range-Converse intersection considered are:

1. No-Build
2. Dual Left-Turn Lanes
3. Modern Roundabout
4. Continuous Flow Intersection – Full
5. Continuous Flow Intersection – Modified
6. ThruTurn Intersection – Signals
7. ThruTurn Intersection – Roundabouts

The general footprint for each of these alternatives was used to identify any major issues associated with each alternative and summarized for each resource.

3 Environmental Resources

Environmental resources present were analyzed for the project. This screening does not evaluate the following resources because no adverse, long-term impacts as a result of the project are anticipated: air quality, energy, environmental justice, public facilities, visual impacts, and water quality. The study area is shown in Figure 1.

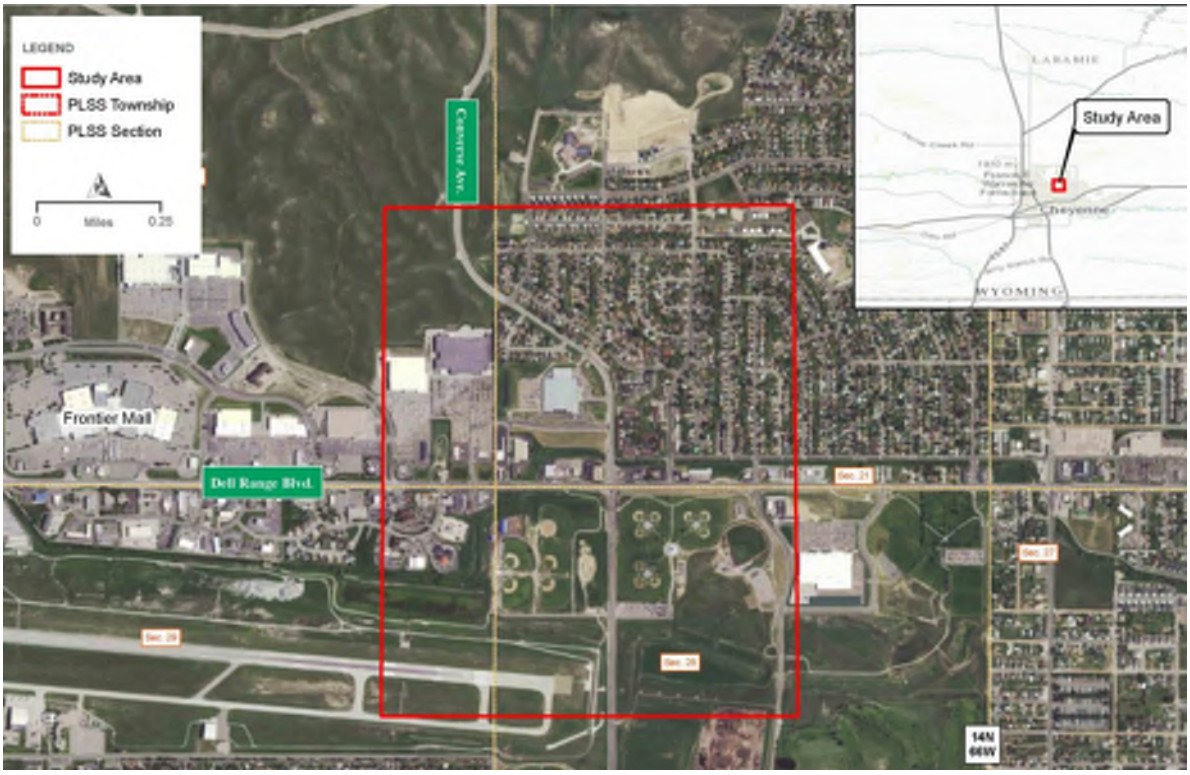

Figure 1. Study Area

3.1 Land Use

3.1.1 Existing Conditions

The land use in the Study Area is primarily urban, with businesses and recreational sports fields. Relevant land use plans for the area include the Parks and Recreation Master Plan, the 2016 Dell Range Corridor Study, and the 2012 Cheyenne Area On-Street Bicycle Plan and Greenway Plan Update.

3.1.2 Impacts of Alternatives

Alternatives 1-7 would be consistent with land use plans for the area.

3.2 Section 4(f) and 6(f)

3.2.1 Existing Conditions

Section 4(f) requires that the USDOT determine whether a proposed project would adversely affect a Section 4(f) resource. If a program or project would affect a Section 4(f) resource, all feasible and prudent ways of avoiding this impact must be evaluated. However, if FHWA

determines that the use of the 4(f) property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) would have a *de minimis* impact, evaluation of feasible and prudent avoidance alternatives would not be required.

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965 was established to protect Federal investments and maintain high-quality recreation resources (NPS 2008). The National Park Service administers Section 6(f), which protects parks and recreation areas that were acquired, developed, or rehabilitated, even in part, with the use of any Federal land and water grant funds. All Federal agencies must comply with Section 6(f) (16 USC 4601-4 to -11 et seq., as amended).

Section 6(f) states that no lands that have been paid for in part or in entirety by Federal land and water grants can be converted to non-park or non-recreation uses without the approval of the National Park Service or Wyoming State Parks Office. This approval would be granted only if the action is in compliance with the state recreation plan and an area of equal fair market value and usefulness is substituted for the land being removed from park and/or recreation use (16 USC 4601 4 to 11 et seq., as amended).

Section 4(f) and 6(f) properties in the Study Area include:

- Cheyenne Junior League Baseball Complex
- Dutcher Baseball Complex
- Greenway and Shared Use Paths

3.2.2 Impacts of Alternatives

Alternative 1 would not impact Section 4(f) or 6(f) properties. Alternatives 2-7 would impact Section 4(f) properties and would require additional coordination. It is anticipated that a *de minimis* determination would be needed, meaning that all measures were considered to avoid, minimize, mitigate, and enhance the Section 4(f) properties and the project would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f). The official with jurisdiction, the City of Cheyenne Parks and Recreation Department, would need to concur to be a *de minimis* finding.

Additional coordination would need to occur with the Wyoming State Parks Office for impacts to Section 6(f) properties.

3.3 Farmland

3.3.1 Existing Conditions

No prime or unique farmland soils were identified in or near the study area using the soil survey data for Campbell County. NRCS confirmed that there are no prime or unique soils within the area and no further action was needed regarding the Farmland Protection Policy Act (NRCS 2016).

3.3.2 Impacts of Alternatives

No impacts to prime or unique farmland.

3.4 Floodplains

3.4.1 Existing Conditions

Designated floodplain is present within the western and northern portions of the Study Area.

3.4.2 Impacts of Alternatives

A scoping response from FEMA Region 8 Center of the Denver Federal Center was received noting that the project is located in the special Flood Hazard Area and that portions also include floodway (FEMA 2016). Additional coordination would occur with the local floodplain administrator to determine the extent of impacts after further design.

3.5 Wetlands and Other Waters of the U.S.

3.5.1 Existing Conditions

The Study Area includes Dry Creek and adjacent wetlands as well as potential wetlands in the Dry Creek flood control channel.

3.5.2 Impacts of Alternatives

The project may have the potential to affect jurisdictional aquatic resources (waters of the U.S.) which would require a permit under Section 404 of the Clean Water Act. This project would typically fall under a Nationwide Permit for linear transportation projects (NWP 14) if losses of waters of the U.S. are less than 0.5 acre. The U.S. Army Corps of Engineers recommended an aquatic resources inventory to assist in additional discussion on the aquatic resources present in the Study Area (USACE 2016).

3.6 Cultural Resources

3.6.1 Existing Conditions

Section 106 of the National Historic Preservation Act directs federal agencies to take into account the effects of their undertakings on historic properties. In addition, consideration of historic and cultural resources is required pursuant to NEPA. Through coordination with the Wyoming State Historic Preservation Office, they determined that the area of disturbance has a low probability of containing historic properties and not further identification efforts are warranted (SHPO 2016).

3.6.2 Impacts of Alternatives

No impacts are anticipated. In the case of inadvertent finds during construction, work in the area will be halted immediately, the federal agency and SHPO staff be contacted, and the materials be evaluated by an archaeologist or historian meeting the Secretary of the Interior's Professional qualification Standards (48 FR 22716, Sept. 1983).

3.7 Wildlife

3.7.1 Existing Conditions

The Study Area is urban with commercial businesses in the vicinity of the project. The WY Game and Fish commented that they have no terrestrial wildlife or aquatic concerns pertaining to this project (WYGFD 2016).

3.7.2 Impacts of Alternatives

No impacts are anticipated.

3.8 Threatened and Endangered Species

3.8.1 Existing Conditions

Federal threatened and endangered species are regulated by Section 7(c) of the Endangered Species Act of 1973 (16 USC 1531 et seq.). USFWS maintains a list of species determined to be threatened or endangered. According to the Information for Planning and Consultation (IPaC) website, the following species are listed as threatened or endangered and would potentially be present in the Study Area (IPaC 2017):

- Least Tern
- Piping Plover
- Whooping Crane
- Pallid Sturgeon
- Colorado Butterfly Plant
- Western Prairie Fringed Orchid
- Preble's Meadow Jumping Mouse

The Study Area is primarily existing roadways and manicured park areas. Dry Creek and potential wetlands are present in the Study Area.

3.8.2 Impacts of Alternatives

No Effects to threatened or endangered species are anticipated. The US Fish and Wildlife Service stated that based on the project description and location, this project is in compliance with the Endangered Species Act of 1973. Additional coordination should occur with this office if any new information indicates there may be effects to protected species and their habitats (USFWS 2016).

3.9 Noise

3.9.1 Existing Conditions

This project is anticipated to be a Type I project, depending on final determination of funding and based on the WYDOT Noise Analysis and Abatement Policy guidance (WYDOT 2011). For this project area, the majority of the activity categories directly adjacent to the proposed construction are primarily F and G. There are also few receptors that are E^3 (restaurants). Residences occur beyond these businesses to the east and may also be considered.

The Activity Leq(h) for Category E^3 is 72 and Activities F and G have no Leq(h). The Activity Leq(h) for B^3 is 67.

3.9.2 Impacts of Alternatives

A noise impact analysis has not been completed. This would need to be completed during preliminary design for the project. It is anticipated that construction period noise impacts would be temporary and of limited duration and therefore have minimal to no impacts to the area.

4 Agency Scoping

Preliminary agency scoping letters were sent to agencies on October 12, 2016 to the following agencies:

- US Army Corps of Engineers
- US Fish and Wildlife Service
- Federal Emergency Management Agency
- Natural Resources Conservation Service
- WY Game and Fish Department
- WY State Historic Preservation Office
- WY Department of Environmental Quality
- Laramie County Public Works
- Laramie County Board of County Commissioners
- Laramie County Conservation District
- City of Cheyenne Engineer's Office
- WY Office of Homeland Security

Responses received are summarized below and noted in their respective resource sections in Section 3. Original responses are included in Attachment A.

Table 1. Agency responses received

Agency	Response
FEMA	Part of the project is located in the Special Flood Hazard Area, and portions also include floodway. Any alteration in the floodway, either size or depth of the Base Flood Elevation requires the application of 44CFR65.12. This would require a Conditional Letter of Map Revision if there is any increase in the base flood elevation. It is the responsibility of the City of Cheyenne to monitor development in their Special Flood Hazard Areas including floodways. Please contact the City Engineers office for further clarification.
NRCS	There are no soils which are Important Farmland located in the Study Area. We do not believe the work will adversely impact Prime Farmland and no further action with regard to FPPA is required.
US Army Corps of Engineers	The project may have the potential to affect jurisdictional aquatic resources (waters of the U.S.) which would require a permit under Section 404 of the Clean Water Act. This project would typically fall under a Nationwide Permit for linear transportation projects (NWP 14) if losses of waters of the U.S. are less than 0.5 acre. We recommend an aquatic resources inventory be completed.
USFWS	Based on the project description and location, this project is in compliance with the Endangered Species Act of 1973. Additional coordination should occur with this office if any new information indicates there may be effects to protected species and their habitats.
WGFD	We have no terrestrial wildlife or aquatic concerns pertaining to this project.
WY SHPO	The area of disturbance has a low probability of containing historic properties and not further identification efforts are warranted. In the case of inadvertent finds during construction, work in the area will be halted immediately, the federal agency and SHPO staff be contacted, and the materials be evaluated by an archaeologist or historian meeting the Secretary of the Interior's Professional qualification Standards.
LCCD	LCCD has no issues or permitting requirements for the project. We do have soils information for that area if you need it for your project.

5 Summary of Impacts

Table 2. Summary of Impacts

Resource	Summary of Impacts from the Alternatives
Land Use	Consistent with Land Use Plans
Section 4(f) and 6(f)	Alternatives 2-7 would impact Section 4(f) properties and would require additional coordination. It is anticipated that a *de minimis* determination would be needed, meaning that all measures were considered to avoid, minimize, mitigate, and enhance the Section 4(f) properties and the project would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f). The official with jurisdiction, the City of Cheyenne Parks and Recreation Department, would need to concur to be a *de minimis* finding. Additional coordination would need to occur with the Wyoming State Parks Office for impacts to Section 6(f) properties.
Farmland	No impacts are anticipated.
Floodplains	Designated floodplain is present and additional coordination with the local Floodplain Administrator would be needed.
Wetlands and Other Waters of the U.S.	Potential jurisdictional aquatic resources are present in the Study Area. An aquatic resources inventory would need to be completed to permit any impacts to jurisdictional aquatic resources.
Cultural Resources	The area has been disturbed it is unlikely that cultural resources are located in the area. No further identification effort is needed unless the project footprint changes.
Wildlife	No impacts are anticipated.
Threatened and Endangered Species	Multiple threatened or endangered species are potentially in the Study Area according to IPaC guidance. However, USFWS stated that the project is in compliance with the Endangered Species Act of 1973. Additional coordination should occur with this office if any new information indicates there may be effects to protected species and their habitats
Noise	Project is expected to be a Type I project according to WYDOT guidance and therefore would require a noise analysis before impacts can be determined.

6 Conclusions

The following work would need to be completed to further assess impacts of the projects on environmental resources in preliminary design for the project:

- Aquatic Resources Inventory – This field survey would need to be completed to permit impacts to jurisdictional waters of the U.S. with the U.S. Army Corps of Engineers.
- Noise Study – A noise study would need to be completed to analyze impacts of the alternatives on the residences and businesses in the area.
- Section 4(f) and 6(f) Resources Impact Analysis – Coordination would be needed with the City of Cheyenne Parks and Recreation if the preferred alternative would impact parks or recreation areas. Early coordination would be ideal to incorporate minimization efforts or if mitigation is required.
- Floodplain Coordination – Additional coordination with the local floodplain administrator would be needed to coordinate impacts to the floodplain or floodway.

7 References

Cheyenne MPO. Plan Cheyenne. Parks & Recreation Master Plan. Available online at http://www.cheyennecity.org/DocumentCenter/Home/View/1629.

Cheyenne MPO. Plan Cheyenne. 2016 Dell Range Corridor Study. Available on line at http://www.plancheyenne.org/dell-range-corridor-study/.

Cheyenne MPO. Plan Cheyenne. Cheyenne Area On-Street Bicycle Plan and Greenway Update. http://www.plancheyenne.org/cheyenne-area-on-street-bicycle-plan-and-greenway-plan-update/. Accessed 7/20/2016

Federal Emergency Management Agency (FEMA). Region 8 Center at the Denver Federal Center. Agency scoping response. Dated November 23, 2016.

Laramie County. WY Floodplain Interactive Map. Cheyenne/Laramie County Cooperative GIS. Program. https://maps.laramiecounty.com/floodplainmap/.

National Resources Conservation Service. Agency scoping response. Dated October 18, 2016.

State Historic Preservation Office (SHPO). Agency scoping response. Dated October 19, 2016.

US Army Corps of Engineers. Agency scoping response. Dated November 1, 2016.

US Fish and Wildlife Service. Agency scoping response. Dated October 19, 2016.

Wyoming Department of Transportation. 2011. Noise Analysis and Abatement Policy. Effective July 13, 2011. Available online at http://www.dot.state.wy.us/files/live/sites/wydot/files/shared/Environmental_Services/Documents/2011%20Noise%20Analysis%20and%20Abatement%20Policy.pdf

Wyoming Department of Transportation. Local Public Agency (LPA) Info. Available online at http://www.dot.state.wy.us/home/engineering_technical_programs/environmental_services/LPA.html. Accessed 7/20/2016

Wyoming Game and Fish Department. Agency scoping response. Dated October 19, 2016.

USDA

United States Department of Agriculture

NRCS
Natural Resources Conservation Service

Casper State Office

100 East B Street
Suite 3001
Box 33124
Casper, WY 82602

Voice 307.233.6750
Fax 855.415.3404

October 18, 2016

Brandon Gebhart, P.E.
HDR Project Manager
HDR Engineering, Inc.
1720 Carey Ave., Suite 612
Cheyenne, WY 82001-4429

Dear Mr. Gebhart:

The Natural Resources Conservation Service (NRCS) has reviewed the **Cheyenne Streets, Intersection of Converse Avenue and Dell Range Blvd., Laramie County, Wyoming-Agency Scoping Project** proposal dated 10/12/2016.

The Agriculture and Food Act of 1981, (Public Law 97-98) containing the Farmland Protection Policy Act (FPPA)—Subtitle I of Title XV, Section 1539-1549, is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency.

Please find enclosed an NRCS Soil Survey Map, soils reports and maps indicating areas of Important Farmlands and hydric soils. The Important Farmlands map has been enclosed for your aid in determining if an AD-1006 form, Farmland Impact Conversion Rating Form is needed for this project. Typically, this form is required on projects that convert farmlands into non-farmland uses, which have federal dollars attached to the project. Areas committed to or already in urban development are not subject to FPPA.

It appears that there are no soils which are Important Farmland located within the Project Area. As such, we do not believe the work will adversely impact Prime Farmland and no further action with regard to FPPA is required on your part. See the website link below for more information on the Farmland Protection Act, and a copy of the AD-1006 form, with instructions.

The NRCS Soil Survey Map identifies all soil map units in the project area. The soil reports provide selected soil properties, and interpretations, i.e. flooding hazard, limitations for roads, and dwellings, soil layers with USDA textures, and engineering classifications. The limitation ratings for the selected uses, i.e. roads and streets, range from not limited to very limited. Somewhat limited to very limited rating does not preclude the intended land use, however it does identify limitations for the use, which may require corrective measures, and increase costs, and require continued maintenance.

The NRCS Soil Survey is a general planning tool and does not eliminate the need for an onsite investigation. If you have any questions concerning the soils or interpretations for this project please contact me at (307) 233-6784 or email, james.bauchert@wy.usda.gov.

NRCS - Farmland Protection Policy Act Website:
http://www.nrcs.usda.gov/programs/fppa/

Sincerely,

JAMES BAUCHERT
State Soil Scientist

Enclosures:

Custom Soil Resource Report for Riverton Area, Wyoming: Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency Scoping

Cc: Astrid Martinez – State Conservationist

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Laramie County, Wyoming, Western Part

Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency Scoping

October 18, 2016

Preface

Soil surveys contain information that affacts land use planning in survay areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys ara designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use ragulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are usad in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil qualify assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Servica Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS Stata Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint affort of the United States Department of Agriculture and othar Federal agencies, Stata agancias including the Agricultural Experiment Stations, and local agencies. The Natural Resourcas Consarvation Sarvica (NRCS) has leadership for the Federal part of tha National Cooparative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disabilify, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or bacause all or a part of an individual's income is darivad from any public assistanca program. (Not all prohibited bases apply to all programs.) Persons with disabilitias who raquire alternative means

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Contents

How Soil Surveys Are Made

Soil surveys ere made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscepe and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource ereas (MLRAs). MLRAs are geographically associated land resource units that shere common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils end miscellaneous areas in the survey area and relating their position to specific segments of the lendform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mepping, this model enebles the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one enother as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class hes a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similer soils in the seme taxonomic class in other areas so that they could confirm data end assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and lendform segments on the map provides sufficient information for the development of resource plens. If intensive use of small areas is plenned, onsite investigation is needed to define end locate the soils and miscelleneous arees.

Soil scientists make many field observations in the process of producing e soil mep. The frequency of observation is dependent upon several fectors, including scele of mapping, intensity of mapping, design of map units, complexity of the landscepe, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties ere made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, end other components. Properties of aach soil fypically vary from one point to enother across the landscepe.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in differant uses and under different levels of managemant. Some interpretations are modifiad to fit local conditions, and some new interpratations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field exparience of specialists. For example, data on crop yields under definad levels of menegement ere assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of eccuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located end identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presanted are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Laramie County, Wyoming, Western Part
Survey Area Data: Version 8, Sep 22, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 10, 2013—Aug 14, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Lsramie County, Wyoming, Western Part (WY721)			
Map Unit Symbol	Map Unit Nsme	Acres in AOI	Percent of AOI
145	Merden silty clay loam, 0 to 3 percent slopes	20.7	3.5%
162	Poposhia-Trimad complex, 3 to 15 percent slopes	45.4	7.6%
184	Urban land-Ascalon complex, 0 to 6 percent slopes	4.6	0.8%
188	Urban land-Poposhia complex, 0 to 6 percent slopes	370.9	62.2%
189	Urban land-Poposhia-Trimad complex, 3 to 15 percent slopes	154.7	25.9%
Totals for Area of Interest		596.3	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and thay have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class raraly, if ever, can be mepped without including areas of other taxonomic classes. Consequently, every mep unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some cheracteristics of eech. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially

where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intansive use of small areas is planned, however, onsite invastigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit nama in tha map unit descriptions. Each dascription includas ganeral facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alika make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one serias can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 parcent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscallanaous areas. Thase map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscallaneous areas in such an intricate pattern or in such small areas that they cannot be shown separataly on the maps. The pattern and proportion of the soils or miscellanaous araas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar intarpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mappad araa ara not uniform. An araa can be made up of only ona of tha major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Bata soils, 0 to 2 percent slopes, is an example.

Soma surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Laramie County, Wyoming, Western Part

145—Merden silty clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3j6c
Elevation: 5,000 to 6,500 feet
Mean annual precipitation: 15 to 17 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 115 days
Farmland classification: Not prime farmland

Map Unit Composition

Merden and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merden

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from igneous, metamorphic and sedimentary rock

Typical profila

A1 - 0 to 12 inches: silty clay loam
A2 - 12 to 24 inches: silty clay loam
Cg - 24 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: Frequant
Frequency of ponding: None
Calcium carbonate, maximum in profile: 8 percant
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Slightly salina to moderately salina (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: SALINE SUBIRRIGATED (15-17SP) (R067XY242WY)
Hydric soil rating: Yes

Minor Components

Somewhat poorly drained soils
Percent of map unit: 10 percent
Landform: Draws, swales
Hydric soil reting: Yes

162—Poposhia-Trimad complex, 3 to 15 percent slopes

Map Unit Setting
National map unit symbol: 3j6x
Elevation: 6,500 to 7,500 feet
Mean annual precipitation: 15 to 17 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 115 days
Farmland classification: Not prime farmland

Map Unit Composition
Poposhia and similar soils: 50 percent
Trimad and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Poposhia

Setting
Landform: Alluvial fans, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone, siltstone and shale

Typical profile
H1 - 0 to 7 inches: silt loam
H2 - 7 to 25 inchas: silt loam
H3 - 25 to 60 inches: silt loam

Properties and qualities
Slope: 3 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequancy of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: LOAMY (15-17SP) (R067XY222WY)
Hydric soil rating: No

Description of Trimad

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Gravelly alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 3 inches: loam
H2 - 3 to 10 inches: gravelly loam
H3 - 10 to 34 inches: very gravelly loam
H4 - 34 to 60 inches: very gravelly sandy loam

Properties and qualities

Slope: 6 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 35 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 *mmhos/cm*)
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: LOAMY (15-17SP) (R067XY222WY)
Hydric soil rating: No

Minor Components

Piezon

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

184—Urban land-Ascalon complex, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 3j7m
Elevation: 5,000 to 6,500 feet
Mean annual precipitation: 15 to 17 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 115 to 125 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 65 percent
Ascalon and similar soils: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ascalon

Setting

Landform: Alluvial fans, fen remnants
Down-slope shape: Lineer
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 24 inches: sandy clay loam
H3 - 24 to 60 inches: loam

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Altvan
Percent of map unit: 5 percent
Hydric soil rating: No

Wages
Percent of map unit: 5 percent
Hydric soil rating: No

188—Urban land-Poposhia complex, 0 to 6 percent slopes

Map Unit Setting
National map unit symbol: 3j7r
Elevation: 6,500 to 7,500 feet
Mean annual precipitation: 15 to 17 inches
Mean annual air temperature: 41 to 45 dagrees F
Frost-free period: 90 to 115 days
Farmland classification: Not prime farmland

Map Unit Composition
Urban land: 65 percent
Poposhia and similar soils: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Poposhia

Setting
Landform: Alluvial fans, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone, siltstone and shale

Typical profile
H1 - 0 to 6 inches: silt loam
H2 - 6 to 60 inches: silt loam

Properties and qualities
Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inchas
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: Nona
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 *mmhos/cm*)
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Blazon

Percent of map unit: 5 percent
Hydric soil rating: No

Piezon

Percent of map unit: 5 percent
Hydric soil rating: No

189—Urban land-Poposhia-Trimad complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 3j7s
Elevation: 6,500 to 7,500 feet
Mean annual precipitation: 15 to 17 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 115 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 60 percent
Poposhia and similar soils: 15 percent
Trimad and similar soils: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Poposhia

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium derived from sandstone, siltstone and shale

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 *mmhos/cm*)
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Trimad

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Gravelly alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 3 inches: loam
H2 - 3 to 10 inches: grevelly loam
H3 - 10 to 34 inches: very gravelly loam
H4 - 34 to 60 inches: very grevelly sandy loem

Properties and qualities

Slope: 6 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 35 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Piezon

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

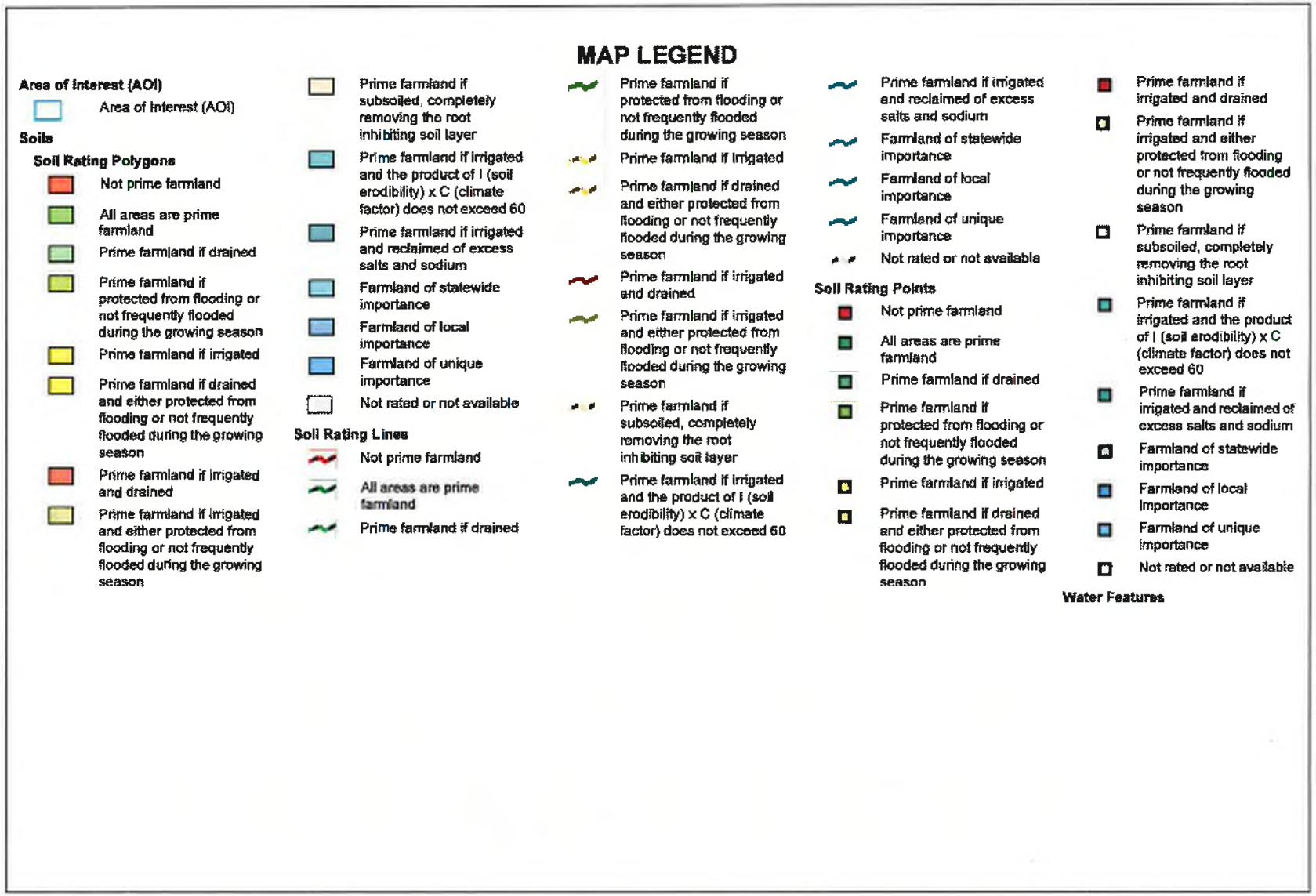
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification (Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency Scoping)

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Map—Farmland Classification (Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency ...


MAP LEGEND
Area of Interest (AOI)
Area of Interest (AOI)
Soils
Soil Rating Polygons
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of local importance
Farmland of unique importance
Not rated or not available
Soil Rating Lines
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of local importance
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of local importance
Farmland of unique importance
Not rated or not available
Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Laramie County, Wyoming, Western Part
Survey Area Data: Version 8, Sep 22, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 10, 2013—Aug 14, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification (Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency Scoping)

Farmland Classification— Summary by Map Unit — Laramie County, Wyoming, Western Part (WY721)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
145	Merden silty clay loam, 0 to 3 percent slopes	Not prime farmland	20.7	3.5%
162	Poposhia-Trimad complex, 3 to 15 percent slopes	Not prime farmland	45.4	7.6%
184	Urban land-Ascalon complex, 0 to 6 percent slopes	Not prime farmland	4.6	0.8%
188	Urban land-Poposhia complex, 0 to 6 percent slopes	Not prime farmland	370.9	62.2%
189	Urban land-Poposhia-Trimad complex, 3 to 15 percent slopes	Not prime farmland	154.7	25.9%
Totals for Area of Interest			**596.3**	**100.0%**

Rating Options—Farmland Classification (Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency Scoping)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretiva information as well as basic soil properties and qualities. A dascription of each raport (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Prime and other Important Farmlands (Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency Scoping)

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of tha Nation's food supply.

Prime farmland is of major importanca in maeting tha Nation's short- and long-range needs for food and fiber. Bacause tha supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of govarnmant, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or othar land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moistura from

precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkelinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importence, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate locel egencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Report—Prime and other Important Farmlands (Cheyenne Streets, Converse Ave and Dell Range Blvd-Agency Scoping)

Prime and other Important Farmlands--Laramie County, Wyoming, Western Part		
Map Symbol	**Map Unit Name**	**Farmland Classification**
145	Merden silty clay loam, 0 to 3 percent slopes	Not prime farmland
162	Poposhia-Trimad complex, 3 to 15 percent slopes	Not prime farmland
184	Urban land-Ascalon complex, 0 to 6 percent slopes	Not prime farmland

Prime and other Important Farmlands–Laramie County, Wyoming, Western Part		
Map Symbol	**Map Unit Name**	**Farmland Classification**
188	Urban land-Poposhia complex, 0 to 6 percent slopes	Not prime farmland
189	Urban land-Poposhia-Trimad complex, 3 to 15 percent slopes	Not prime farmland

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA OISTRICT
WYOMING REGULATORY OFFICE
2232 OELL RANGE BOULEVARD, SUITE 210
CHEYENNE WY 82009-4942

REPLY TO
ATTENTION OF

November 1, 2016

Wyoming Regulatory Office

Brandon Gebhart
HDR
1720 Carey Avenue, Suite 612
Cheyenne, Wyoming 82001

Dear Mr. Gebhart:

This letter is in response to a request for comment we received from your office on October 17, 2016, concerning a study examining drainage and roadway improvements for the intersection of Converse Avenue and Dell Range Boulevard in Cheyenne Wyoming.

The U.S. Army Corps of Engineers (Corps) regulates the placement of dredged and fill material into wetlands and other waters of the United States as authorized by Section 404 of the Clean Water Act (33 U.S.C. 1344). The term "waters of the United States" has been broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as streams, reservoirs, lakes and adjacent wetlands. The Corps regulations are published in the *Code of Federal Regulations* as 33 CFR Parts 320 through 332. Information on Section 404 program requirements in Wyoming can be obtained from our website http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Wyoming.aspx.

Based on the preliminary information provided, the Cheyenne Metropolitan Planning Organization, in coordination with the Federal Highway Administration and the Wyoming Department of Transportation, seeks to study potential environmental impacts associated with operational and safety improvements for the intersection of Converse Avenue and Dell Range Boulevard in Cheyenne. The study area identified in Figure 1 appears to include Dry Creek and adjacent wetlands as well as potential wetlands in the Dry Creek flood control channel. There is not enough specific information to determine whether or not the project will impact wetlands or other waters of the U.S. The project *may* have the potential to affect jurisdictional aquatic resources (waters of the U.S.) which would require a Department of the Army permit under Section 404 of the Clean Water Act. These types of projects generally fall under a Nationwide Permit 14 for Linear Transportation Projects if losses of waters of U.S. are less than 0.5 acres. We recommend that an aquatic resources inventory, which includes a wetland delineation, be conducted to guide planning efforts to avoid and minimize impacts to aquatic resources to the maximum extent practicable. When more information is available regarding the project and potential waters of the U.S, you or the proponent may submit a pre-construction notification for a nationwide permit or an application for a standard permit when a final plan is available.

Please contact us should you have additional questions regarding aquatic resources or compliance with Section 404 of the Clean Water Act (33 U.S.C. 1344). You may contact me at (307) 772-2300 or paige.m.wolken@usace.army.mil concerning future project review and reference file number NWO-2016-02159. Thank you for your interest in cooperating with requirements of the U.S. Army Corps of Engineers' regulatory program.

Sincerely,

Paige M. Wolken
Project Manager
Wyoming Regulatory Office

pc

RECEIVED OCT 14 2016

U.S. FISH AND WILDLIFE SERVICE

Based on the information provided, you may consider this project to be in compliance with the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq.* The project should be reanalyzed by our office if any new information indicates there may be effects to protected species or their habitats.

Date: 10/19/16 Signature: [signature]

FOR Field Supervisor
U.S. Fish and Wildlife Service - Wyoming ES Office
5353 Yellowstone Road, Suite 308A
Cheyenne, WY 82009
Phone: (307) 772-2374
Fax: (307) 772-2358

WY17CPA0007

October 12, 2016

Mr. Tyler Abbott
Field Supervisor Wyoming Field Office
US Fish and Wildlife Service
5353 Yellowstone, Ste 308A
Cheyenne, WY 82009

RE: Cheyenne Streets, Intersection of Converse Avenue and Dell Range Blvd., Laramie County, Wyoming – Agency Scoping

Dear Mr. Abbott,

The Cheyenne Metropolitan Planning Organization (MPO), in coordination with the Federal Highway Administration (FHWA) and the Wyoming Department of Transportation (WYDOT), is initiating scoping to study the potential environmental impacts associated with operational and safety improvements for the intersection of Converse Avenue and Dell Range Boulevard in Cheyenne, Wyoming. Information received as part of this project scoping will be used to prepare an environmental review document to identify areas of concern that would need to be addressed or further evaluated in the next phase of the project. HDR Engineering, Inc. (HDR) has been hired by the Cheyenne MPO to conduct scoping and early data collection.

The purpose of the project is to study the existing intersection of Converse Avenue and Dell Range Avenue and determine safety improvements as well as drainage and roadway improvements for a portion of Converse Avenue. Figure 1, attached, displays the Study Area where potential improvements would occur.

HDR, on behalf of the Cheyenne MPO, is seeking information from federal, state, and local resource agencies concerning potential effects from the project. We are requesting information from your agency on the resource(s) under your jurisdiction in the study area that could be affected by the project, identify the issues that you feel require analysis in the environmental document, and determine if any permits and approvals are required from your agency for project construction.

In order for the project's environmental documentation to move forward, we are requesting a response by November 7, 2016. Please contact Brandon Gebhart, HDR Project Manager, by phone at (307) 757-9002 or by email at Brandon.Gebhart@hdrinc.com with any questions or comments regarding this request.

Sincerely,
HDR

Brandon Gebhart

Brandon Gebhart, P.E.
HDR Project Manager

hdrinc.com

1720 Carey Avenue, Suite 612, Cheyenne, WY 82001-4429
(307) 778-9500

Attachment: Figure 1. Project Location

cc: Tom Mason, Director, Cheyenne MPO
Nancy Olson, Transportation Planner II, Cheyenne MPO
Jessica Brisbois, HDR

1720 Carey Avenue, Suite 612, Cheyenne, WY 82001-4429
(307) 778-9500

WYOMING GAME AND FISH DEPARTMENT

5400 Bishop Blvd. Cheyenne, WY 82006

Phone: (307) 777-4600 Fax: (307) 777-4699

wgfd.wyo.gov

October 19, 2016

WER 13872.00
HDR Inc.
Cheyenne Streets
Intersection of Converse Avenue
and Dell Range Boulevard
Agency Scoping
Laramie County

Brandon Gebhart
HDR Project Manager
1720 Carey Avenue, Suite 612
Cheyenne, WY 82001

Dear Mr. Gebhart:

The staff of the Wyoming Game and Fish Department (WGFD) has reviewed the Agency Scoping for the Cheyenne Streets-Intersection of Converse Avenue and Dell Range Boulevard project. We offer the following comments for your consideration. We have no terrestrial wildlife or aquatic concerns pertaining to this project.

Thank you for the opportunity to comment. If you have any questions or concerns, please contact Amanda Withroder, Staff Biologist, at (307) 473-3436.

Sincerely,

Mary Flanderka
Habitat Protection Supervisor

MF/aw/ns

cc: USFWS
Martin Hicks, WGFD, Laramie Region
Corey Class, WGFD, Laramie Region
Bobby Compton, WGFD, Laramie Region
Chris Wichmann, Wyoming Department of Agriculture, Cheyenne

ARTS. PARKS. HISTORY.
Wyoming State Parks & Cultural Resources

State Historic Preservation Office
2301 Central Ave., Barrett Bldg. 3rd Floor
Cheyenne, WY 82002
307-777-7697
FAX: 307-777-6421
http://wyoshpo.state.wy.us

October 19, 2016

Brandon Gebhart, P.E.
HDR Project Manager
1720 Carey Avenue, Suite 612
Cheyenne, WY 82001-4429

Re: Cheyenne Streets, Intersection of Converse Avenue and Dell Range (SHPO File # 1016ECK006)

Dear Mr. Gebhart:

Thank you for consulting with the Wyoming State Historic Preservation Office (SHPO) regarding the above referenced undertaking. Following 36 CFR Part 800, we find that the proposed undertaking is in an area of previous disturbance and has a low probability of containing historic properties, as defined in 36 CFR § 800.16(l)(1). No further identification efforts are warranted.

There is a possibility that buried prehistoric or historic materials may be discovered during the undertaking and we recommend the Federal Highway Administration and/or Wyoming Department of Transportation incorporate the following stipulation in the project permit:

> If any cultural materials are discovered during construction, work in the area should halt immediately, the federal agency and SHPO staff be contacted, and the materials be evaluated by an archaeologist or historian meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983).

Please refer to SHPO project #1016ECK006 on any future correspondence regarding this undertaking. If you have any questions, please contact Beth King at 307-777-6179.

Sincerely,

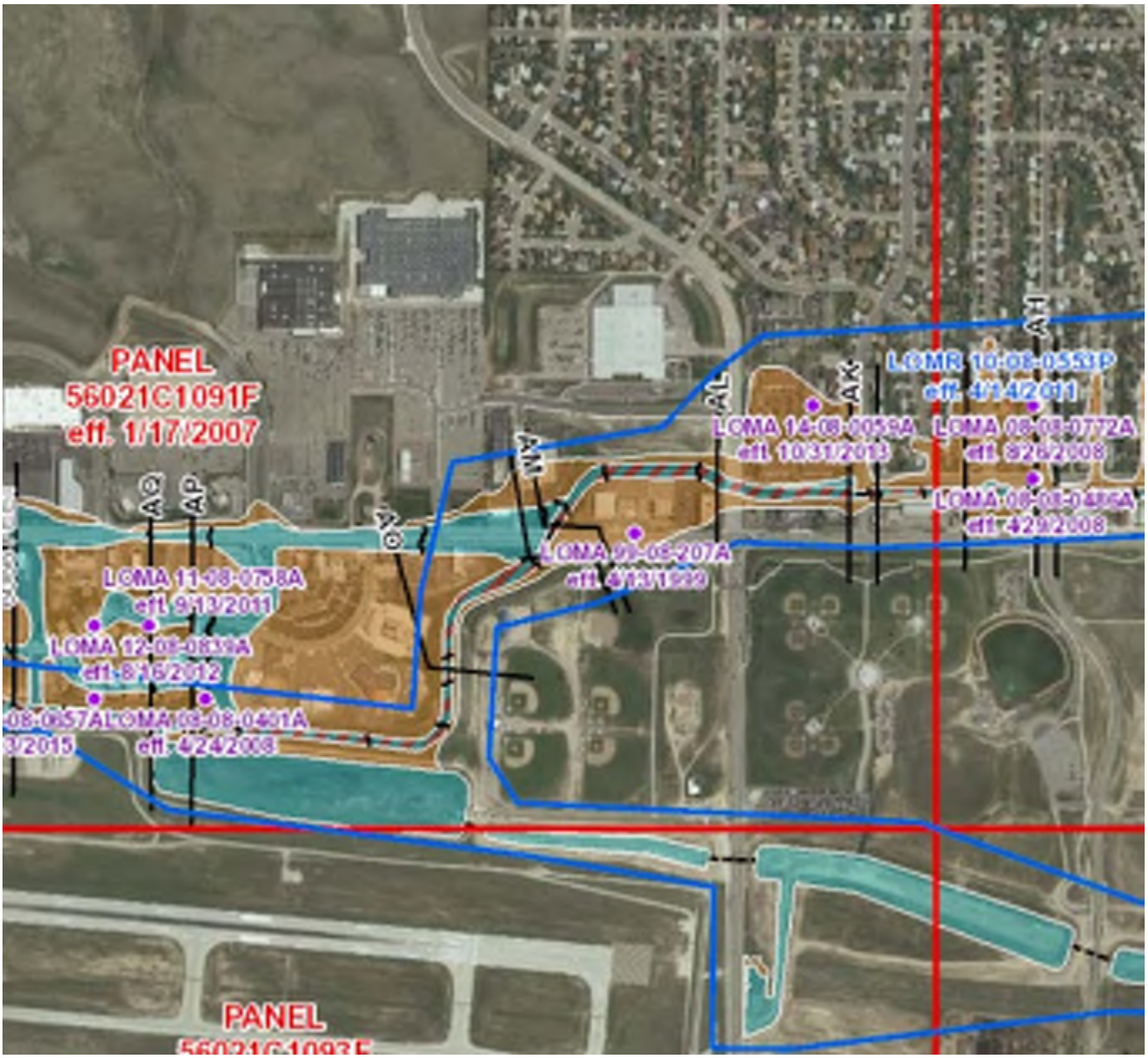
Elizabeth C. King

Elizabeth C. King

From: Herrera, Diana B [mailto:Diana.Herrera@fema.dhs.gov]
Sent: Wednesday, November 23, 2016 12:24 PM
To: Gebhart, Brandon
Subject: Cheyenne Streets-Converse Avenue and Dell Range Blvd

Brandon:

My apologies for the late respond. Your correspondence came in while I was on deployment. But, I did want to respond to this project. It appears that part of your project is located not only in the Special Flood Hazard Area, but portions also include floodway. Any alteration in the floodway, either size or depth of the Base Flood Elevation requires the application of 44CFR65.12. This would require a Conditional Letter of Map Revision if there is any increase in the base flood elevation.



It is the responsibility of the City of Cheyenne to monitor development in their Special Flood Hazard Areas including floodways. Please contact the City Engineers office for further clarification.

Should you have any questions, please feel free to contact me.

Diana B. Herrera, CFM
Sr. Regional Insurance Specialist
FEMA Region 8
Denver Federal Center
PO Box 25267
Denver, CO 80225-0267
303-235-4988 Office
720-480-8338 Cell
Diana.herrera@fema.dhs.gov

From: Jim Cochran [mailto:jcochran@lccdnet.org]
Sent: Tuesday, October 18, 2016 9:29 AM
To: Gebhart, Brandon
Subject: Intersection Study

Brandon, Laramie County Conservation District has no issues or permitting requirements for a project at the intersection of Conserse Avenue and Dell Range. We do have soils information for that area if you need it for your project.

Thanks

Jim Cochran
District Manager
Laramie County Conservation District