



Monthly Report from CDPHE to the North Front Range Transportation and Air Quality Planning Council

August 2, 2018

The Air Quality Control Commission:

- The Commission elected Commissioner Butler as Chair, Commissioner Grobe as Vice Chair, and Commissioner Toor as Secretary for 2018-2019.
- The Commission adopted Reasonably Available Control Technology (RACT) requirements to reduce nitrogen oxide (NO_x) emissions from combustion equipment. The rules apply to engines, turbines, boilers, glass melters, and shale kilns that existed in the ozone nonattainment area and were major sources of emissions as of June 2016.
- The Commission scheduled a hearing on October 18, 2018, to consider revising Regulation Number 3 to increase the fees for permit applications, permit processing, and emissions. This rule change responds to a statutory change raising the caps for these fees.
- During the August 16 meeting, the Division will propose a new Regulation 20 adopting greenhouse gas (GHG) and criteria pollutant standards for light duty and medium duty motor vehicles. The vehicle standards would maintain the status quo in the event that EPA relaxes the federal GHG standards. The Division will also propose revisions to Regulation 7 adopting RACT requirements to reduce volatile organic compound (VOC) emissions from major source breweries and wood furniture manufacturing facilities. The Division will ask the Commission to schedule rulemaking hearings on these proposals in November 2018.

The Air Pollution Control Division:

- EPA concurred with Colorado's technical demonstration that ozone exceedances measured at the National Renewable Energy Laboratory (NREL) monitor on September 2 and 4, 2017, should be excluded from the ozone dataset because the values were influenced by wildfire smoke (see attached letter). After exclusion of these two exceedances, Colorado believes it qualifies for a one-year extension of the deadline to attain the 2008 National Ambient Air Quality Standard (NAAQS) of 75 parts per billion (ppb). Colorado



has requested an extension of the deadline from July 20, 2018 to July 20, 2019, and anticipates that EPA will grant it later this year. Ozone harms human health regardless of its source and the Division continues to work aggressively to reduce emissions and improve ozone concentrations.

- Ozone monitors in the nonattainment area have recorded several exceedances of the national ozone standards (see attached table). As of July 31, five monitors have recorded fourth maximum daily ozone values above 75 ppb, including a fourth maximum value of 83 ppb at Chatfield State Park. An additional eight monitors have recorded fourth maximum values above the 2015 NAAQS of 70 ppb. EPA uses the ozone concentration on the fourth highest day to determine attainment. Ozone values depend on meteorology, transport, and emissions. Several of the exceedances occurred between July 6-18, 2018, when temperatures were high and conditions were conducive to ozone formation. The Division will evaluate whether any of these values were influenced by wildfire smoke or other exceptional events, but given the number of exceedances, it is unlikely that Colorado will qualify for another one-year extension of its deadline to attain the 75 ppb standard. This raises the possibility that the Denver Metro/North Front Range area may be reclassified as a “serious” ozone nonattainment area in approximately January 2020.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Ref: 8P-AR

JUL 11 2018

Garry Kaufman, Director
Air Pollution Control Division
Colorado Department of Public Health
and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Dear Mr. Kaufman:

This letter responds to the Colorado Department of Public Health and Environment's (CDPHE) June 4, 2018 submittal requesting that the U.S. Environmental Protection Agency (EPA) concur with the CDPHE request to exclude ozone data influenced by wildfire exceptional events in September 2017. The CDPHE determined that regional wildfire smoke events caused exceedances of the 2008 ozone National Ambient Air Quality Standard (NAAQS) at several monitors in the Denver ozone nonattainment area on September 2 and 4, 2017, and also had impacts on data from monitors that were lower than the ozone NAAQS.

After careful consideration of the information provided by the CDPHE, the EPA concurs, based on the weight of evidence, that the state has made the demonstrations referred to in 40 CFR 50.14(a)(2), (b)(1) and (b)(4). In addition, the state has met the schedule and procedural requirements in section 50.14(c) with respect to the same information. Therefore, the EPA agrees with the CDPHE that the exceedances at the National Renewable Energy Laboratory (NREL) monitor on September 2 and 4, 2017, meet the criteria for an exceptional event in the Exceptional Events Rule (EER). The basis for our concurrence is set forth in the enclosed technical support document. My staff has entered or shortly will enter "concurrence flags" for these data into the EPA's Air Quality System data repository.

In 2016, the EPA revised the EER in sections 50.14 and 51.930 of 40 CFR parts 50 and 51. See "Treatment of Data Influenced by Exceptional Events," 81 FR 68216 (Oct. 3, 2016). The 2016 rule revisions at 40 CFR 50.14(a)(1)(i) limit the applicability of the EER to NAAQS exceedances or violations that have relevance to specific regulatory determinations by the EPA, or otherwise as approved by the EPA administrator on a case-by-case basis. The 8-hour ozone concentrations measured at the Aurora East, Chatfield, Highland Reservoir, La Casa, Rocky Flats North, and Welch monitors on September 2, and at the Aspen Park, Aurora East, CAMP, Chatfield, Highland Reservoir, La Casa, Rocky Flats North and Welch monitors on September 4, do not currently have regulatory significance and therefore have not been reviewed. The EPA will retain the CDPHE demonstration for future consideration should any of the data on which the EPA is not acting become significant for a future regulatory action.

The EPA's concurrence is a preliminary step in the regulatory process for actions that may rely on the dataset containing the event-influenced data and does not constitute final agency action. If the EPA takes a regulatory action that is affected by exclusion of the 2008 ozone NAAQS data for the September 2 and 4, 2017 events at the NREL monitor, the EPA intends to publish notice of its proposed action in the Federal Register. This concurrence letter and accompanying technical support document will be included in the record as part of the technical basis for that proposal. When the EPA issues that regulatory action, it will be a final agency action subject to judicial review.

If you have any questions or wish to discuss this matter further, you may contact Monica Morales, Air Program Director, at (303) 312-6936.

Sincerely,



Martin Hestmark
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Enclosure

***** DRAFT DATA *****

2018 8-Hour Ozone (Updated through July 31, 2018)

AQS Number	Site Name	1st Max 8-Hour (ppb)	Date 1st Max 8-Hour	2nd Max 8-Hour (ppb)	Date 2nd Max 8-Hour	3rd Max 8-Hour (ppb)	Date 3rd Max 8-Hour	4th Max 8-Hour (ppb)	Date 4th Max 8-Hour	5th Max 8-Hour (ppb)	Date 5th Max 8-Hour
08-001-3001	Welby	73	07/06	70	07/18	69	07/10	68	07/31	67	07/14
08-005-0002	Highland	88	07/06	77	06/06	77	07/16	77	07/17	76	07/14
08-005-0006	Aurora East	76	07/18	72	07/31	71	07/12	70	07/14	69	07/19
08-013-0014	Boulder Reservoir	89	07/10	79	06/13	77	07/09	75	07/11	75	07/14
08-019-0006	Mines Peak (non-regulatory)	89	06/11	79	06/12	77	07/09	76	07/10	74	07/13
08-031-0002	CAMP	79	07/06	74	07/16	72	07/14	71	07/18	70	07/10
08-031-0026	La Casa	78	07/16	76	07/06	73	07/17	72	07/18	71	06/06
08-035-0004	Chatfield State Park	88	07/06	87	06/06	86	07/16	83	07/14	78	07/17
08-041-0013	Colo. Spgs. - USAF Academy	76	04/17	74	07/06	73	07/14	72	06/12	70	05/25
08-041-0016	Manitou Springs	78	07/06	76	04/17	73	06/12	72	07/14	72	07/18
08-045-0012	Rifle - Health	70	06/19	66	06/02	66	06/12	65	05/27	64	06/01
08-059-0005	Welch	78	07/06	77	07/16	72	07/14	71	07/10	70	07/17
08-059-0006	Rocky Flats - N	86	06/13	81	07/10	81	07/14	79	07/18	78	07/06
08-059-0011	NREL	79	07/06	78	07/10	76	07/14	75	07/18	74	07/17
08-059-0013	Aspen Park	74	06/06	73	07/16	71	07/14	70	07/11	69	04/17
08-069-0011	Fort Collins - West	88	07/07	86	07/06	83	07/10	81	06/13	80	07/14
08-069-1004	Fort Collins - CSU	79	07/06	73	07/07	72	05/17	72	07/10	70	06/13
08-077-0020	Palisade - Water	78	06/11	69	06/19	68	06/02	66	06/12	65	06/25
08-081-0003	Elk Springs	73	06/11	64	05/27	64	07/31	63	06/01	63	06/12
08-083-0006	Cortez	67	04/08	64	05/24	63	06/11	63	07/11	62	05/20
08-085-0005	Paradox	77	06/11	68	06/19	66	07/31	65	06/02	65	06/24
08-123-0009	Greeley - Weld Tower	77	05/26	74	06/13	73	06/02	72	07/16	72	07/18
08-051-9991	EPA - Gothic CASTNET	88	06/11	69	05/27	69	06/24	67	04/26	67	06/02
08-067-1004	USFS - Shamrock (thru 3/31)	53	02/27	53	03/01	53	03/04	53	03/05	53	03/25
08-067-7001	SUIT - Ignacio	67	05/24	67	07/21	66	04/26	65	04/25	64	04/17
08-067-7003	SUIT - Bondad	68	04/26	67	05/24	66	07/21	65	04/25	63	04/17
08-069-0007	NPS - Rocky Mtn. NP	91	06/11	75	07/10	73	06/12	73	07/09	72	06/13
08-083-0101	NPS - Mesa Verde NP	72	07/21	70	05/24	68	04/18	68	07/27	67	06/24
08-103-0005	BLM - Meeker	71	06/11	63	06/25	62	05/27	62	06/12	62	07/11
08-103-0006	BLM - Rangely	72	06/11	68	06/25	68	07/11	66	06/12	66	07/18

NOTE: Values above the level of the 70 ppb 8-hour standard are highlighted in yellow, above the 75 ppb standard in orange.

NOTE: Data influenced by natural event values, if any, are included.

The 8-hour ozone standard is written such that attainment is met if the 3-year average of the 4th max. value from each of the 3 years is less than or equal to 70 ppb.

This table provides information on the 4th max. values for 2016 and 2017, the current 4th max. value for 2018, the current 3-year average, and the max. possible level for 2018 in order to remain in attainment of the ozone standard. Based on the current values, projected max. possible levels for 2019 are also included.

AQS #	Site Name	2016	2017	2018 (thru 7/31)	2016 - 2018	2018	2019
		4 th Maximum 8-Hour Average Value (ppb)	4 th Maximum 8-Hour Average Value (ppb)	4 th Maximum 8-Hour Average Value (ppb)	3-Year Average 4 th Maximum Value (ppb)	Highest Allowable 4th Maximum 8-Hour Average Value (ppb)	Highest Allowable 4th Maximum 8-Hour Average Value (ppb)
08-001-3001	Welby	66	68	68	67	78	76
08-005-0002	Highland	72	72	77	73	68	63
08-005-0006	Aurora East	66	69	70	68	77	73
08-013-0014	Boulder Reservoir	---	73	75	---	---	64
08-019-0006	Mines Peak (non-regulatory)	65	70	76	70	77	66
08-031-0002	CAMP	70	67	71	69	75	74
08-031-0026	La Casa	69	68	72	69	75	72
08-035-0004	Chatfield State Park	78	74	83	78	60	55
08-041-0013	Colo. Spgs. - USAF Academy	69	69	72	70	74	71
08-041-0016	Manitou Springs	66	70	72	69	76	70
08-045-0012	Rifle - Health	60	59	65	61	93	88
08-059-0005	Welch	75	75	71	73	62	66
08-059-0006	Rocky Flats - N	79	75	79	77	58	58
08-059-0011	NREL *	83	74	75	77	55	63
08-059-0013	Aspen Park	73	68	70	70	71	74
08-069-0011	Fort Collins - West	76	75	81	77	61	56
08-069-1004	Fort Collins - CSU	70	66	72	69	76	74
08-077-0020	Palisade - Water	63	64	66	64	85	82
08-081-0003	Elk Springs	59	63	63	61	90	86
08-083-0006	Cortez	64	59	63	62	89	90
08-085-0005	Paradox	62	58	65	61	92	89
08-123-0009	Greeley - Weld Tower	67	72	72	70	73	68
08-051-9991	EPA - Gothic CASTNET	62	66	67	65	84	79
08-067-1004	USFS - Shamrock (thru 3/31)	65	66	53	61	81	93
08-067-7001	SUIT - Ignacio	71	69	65	68	72	78
08-067-7003	SUIT - Bondad	72	69	65	68	71	78
08-069-0007	NPS - Rocky Mtn. NP	69	67	73	69	76	72
08-083-0101	NPS - Mesa Verde NP	66	66	68	66	80	78
08-103-0005	BLM - Meeker	59	59	62	60	94	91
08-103-0006	BLM - Rangely	61	64	66	63	87	82

NOTE: Values above the 3-year average 4th maximum 8-hour standard of 70 ppb are highlighted in red, above the 75 ppb standard in orange.

NOTE: Data includes values that may be influenced by natural events.

* **NOTE:** Wildfire influence exceptional events concurred by EPA for NREL for 9/2/17 and 9/4/17. NREL 4th max value of 76 ppb removed.

Updated: 03/20/18

Additional from 0.62% Sales
Tax Increase

City	Current HUTF Distributions for FY 2017 (inc. FASTER revenue)	First Year	20-year Total	Distribution	% Increase	Counties
AGUILAR	\$23,276	\$29,645	\$838,346	0.019%	127.36%	Las Animas
AKRON	\$68,042	\$78,194	\$2,211,291	0.051%	114.92%	Washington
ALAMOSA	\$269,914	\$308,124	\$8,713,655	0.201%	114.16%	Alamosa
ALMA	\$12,826	\$12,036	\$340,369	0.008%	93.84%	Park
ANTONITO	\$51,606	\$48,422	\$1,369,358	0.032%	93.83%	Conejos
ARRIBA	\$14,354	\$16,250	\$459,541	0.011%	113.21%	Lincoln
ARVADA	\$4,155,245	\$4,539,851	\$128,385,551	2.961%	109.26%	Adams, Jefferson
ASPEN	\$249,587	\$295,110	\$8,345,612	0.192%	118.24%	
AULT	\$52,249	\$53,813	\$1,521,803	0.035%	102.99%	
AURORA	\$11,972,837	\$12,263,083	\$346,796,089	7.997%	102.42%	ARAPAHOE, Douglas, Adams
AVON	\$196,558	\$216,792	\$6,130,812	0.141%	110.29%	EAGLE
BASALT	\$125,892	\$137,128	\$3,877,930	0.089%	108.92%	
BAYFIELD	\$84,592	\$87,809	\$2,483,224	0.057%	103.80%	La Plata
BENNETT	\$70,698	\$79,777	\$2,256,075	0.052%	112.84%	ARAPAHOE, Adams
BERTHOUD	\$231,779	\$234,938	\$6,643,966	0.153%	101.36%	Loveland
BETHUNE	\$10,083	\$12,857	\$363,588	0.008%	127.51%	Kit Carson
BLACK HAWK	\$14,114	\$16,009	\$452,721	0.010%	113.42%	
BLANCA	\$49,454	\$54,710	\$1,547,191	0.036%	110.63%	
BLUE RIVER	\$36,609	\$48,591	\$1,374,128	0.032%	132.73%	
BONANZA	\$37	\$5,339	\$150,986	0.003%	14429.79%	
BOONE	\$11,830	\$14,049	\$397,294	0.009%	118.76%	
BOULDER	\$2,567,425	\$2,884,347	\$81,568,403	1.881%	112.34%	
BOW MAR	\$34,367	\$39,325	\$1,112,091	0.026%	114.43%	ARAPAHOE, Jefferson
BRANSON	\$6,004	\$7,026	\$198,686	0.005%	117.02%	Las Animas
BRECKENRIDGE	\$243,012	\$300,482	\$8,497,544	0.196%	123.65%	Summit
BRIGHTON	\$1,066,306	\$1,025,045	\$28,987,933	0.668%	96.13%	Adams
BROOKSIDE	\$9,009	\$10,836	\$306,426	0.007%	120.27%	Fremont
BROOMFIELD	\$2,131,030	\$2,115,417	\$59,823,333	1.380%	99.27%	
BRUSH	\$146,131	\$171,727	\$4,856,381	0.112%	117.52%	Morgan
BUENA VISTA	\$122,335	\$137,349	\$3,884,198	0.090%	112.27%	
BURLINGTON	\$127,978	\$147,119	\$4,160,467	0.096%	114.96%	Kit Carson
CALHAN	\$31,269	\$36,088	\$1,020,554	0.024%	115.41%	El Paso
CAMPO	\$9,770	\$11,926	\$337,254	0.008%	122.06%	Baca
CANON CITY	\$588,657	\$704,582	\$19,925,355	0.459%	119.69%	Fremont
CARBONDALE	\$181,635	\$189,445	\$5,357,433	0.124%	104.30%	Garfield
CASTLE PINES NORTH	\$292,163	\$322,933	\$9,132,433	0.211%	110.53%	Douglas
CASTLE ROCK	\$1,812,076	\$1,756,298	\$49,667,547	1.145%	96.92%	Douglas
CEDAREDEGE	\$82,332	\$98,047	\$2,772,738	0.064%	119.09%	Delta
CENTENNIAL	\$5,590,424	\$5,819,722	\$164,579,882	3.795%	104.10%	ARAPAHOE
CENTER	\$65,616	\$77,136	\$2,181,370	0.050%	117.56%	Rio Grande
CENTRAL CITY	\$51,646	\$58,788	\$1,662,500	0.038%	113.83%	Gilpin
CHERAW	\$8,857	\$10,034	\$283,759	0.007%	113.29%	Otero
CHERRY HILLS VILLAGE	\$245,848	\$288,208	\$8,150,434	0.188%	117.23%	ARAPAHOE
CHEYENNE WELLS	\$43,521	\$51,828	\$1,465,666	0.034%	119.09%	Cheyenne
COAL CREEK	\$17,032	\$17,899	\$506,177	0.012%	105.09%	Fremont
COKEDALE	\$5,021	\$5,998	\$169,632	0.004%	119.47%	Las Animas
COLLBRAN	\$12,231	\$14,411	\$407,543	0.009%	117.82%	Mesa
COLORADO SPRINGS	\$18,221,161	\$20,113,258	\$568,796,541	13.117%	110.38%	El Paso
COLUMBINE VALLEY	\$45,423	\$51,409	\$1,453,840	0.034%	113.18%	ARAPAHOE
COMMERCE CITY	\$1,730,467	\$1,752,742	\$49,566,982	1.143%	101.29%	Adams
CORTEZ	\$262,171	\$309,015	\$8,738,845	0.202%	117.87%	Montezuma
CRAIG	\$311,037	\$382,631	\$10,820,675	0.250%	123.02%	Moffat
CRAWFORD	\$17,493	\$17,990	\$508,739	0.012%	102.84%	Delta
CREEDE	\$20,869	\$24,116	\$681,999	0.016%	115.56%	Mineral
CRESTED BUTTE	\$51,456	\$59,312	\$1,677,322	0.039%	115.27%	Gunnison
CRESTONE	\$15,993	\$13,417	\$379,436	0.009%	83.89%	

Updated: 03/20/18

Additional from 0.62% Sales
Tax Increase

City	Current HUTF Distributions for FY 2017 (inc. FASTER revenue)	First Year	20-year Total	Distribution	% Increase	Counties
CRIPPLE CREEK	\$53,384	\$59,305	\$1,677,125	0.039%	111.09%	Teller
CROOK	\$9,306	\$10,745	\$303,864	0.007%	115.46%	Logan
CROWLEY	\$9,018	\$10,751	\$304,022	0.007%	119.21%	Crowley
DACONO	\$156,008	\$194,873	\$5,510,942	0.127%	124.91%	
DE BEQUE	\$20,343	\$23,333	\$659,843	0.015%	114.70%	Mesa
DEER TRAIL	\$33,032	\$37,121	\$1,049,765	0.024%	112.38%	ARAPAHOE
DEL NORTE	\$58,849	\$72,212	\$2,042,132	0.047%	122.71%	Rio Grande
DELTA	\$322,980	\$375,185	\$10,610,123	0.245%	116.16%	Delta
DENVER	\$29,302,547	\$29,911,313	\$845,882,407	19.507%	102.08%	Denver
DILLON	\$63,448	\$116,381	\$3,291,214	0.076%	183.43%	Summit
DINOSAUR	\$17,572	\$20,775	\$587,504	0.014%	118.23%	Moffat
DOLORES	\$30,214	\$36,209	\$1,023,983	0.024%	119.84%	Montezuma
DOVE CREEK	\$31,164	\$35,476	\$1,003,247	0.023%	113.84%	Dolores
DURANGO	\$528,830	\$581,424	\$16,442,472	0.379%	109.95%	La Plata
EADS	\$29,145	\$34,620	\$979,042	0.023%	118.79%	Kiowa
EAGLE	\$224,831	\$248,362	\$7,023,599	0.162%	110.47%	Eagle
EATON	\$155,936	\$187,107	\$5,291,323	0.122%	119.99%	
ECKLEY	\$16,995	\$20,075	\$567,714	0.013%	118.12%	
EDGEWATER	\$120,101	\$125,676	\$3,554,080	0.082%	104.64%	Jefferson
ELIZABETH	\$55,422	\$62,214	\$1,759,398	0.041%	112.26%	Elbert
EMPIRE	\$11,797	\$14,141	\$399,896	0.009%	119.87%	Clear Creek
ENGLEWOOD	\$1,013,137	\$1,082,423	\$30,610,577	0.706%	106.84%	ARAPAHOE
ERIE	\$689,970	\$740,268	\$20,934,556	0.483%	107.29%	
ESTES PARK	\$280,816	\$313,639	\$8,869,608	0.205%	111.69%	Loveland
EVANS	\$527,154	\$627,565	\$17,747,336	0.409%	119.05%	
FAIRPLAY	\$32,087	\$36,425	\$1,030,094	0.024%	113.52%	Park
FEDERAL HEIGHTS	\$269,280	\$263,985	\$7,465,400	0.172%	98.03%	Adams
FIRESTONE	\$376,055	\$414,760	\$11,729,271	0.270%	110.29%	
FLAGLER	\$36,934	\$43,167	\$1,220,738	0.028%	116.87%	Kit Carson
FLEMING	\$19,402	\$22,587	\$638,753	0.015%	116.42%	Logan
FLORENCE	\$126,036	\$149,944	\$4,240,375	0.098%	118.97%	Fremont
FORT COLLINS	\$4,681,820	\$5,226,518	\$147,804,256	3.408%	111.63%	Larimer
FORT LUPTON	\$250,007	\$327,782	\$9,269,582	0.214%	131.11%	
FORT MORGAN	\$342,188	\$374,587	\$10,593,211	0.244%	109.47%	Morgan
FOUNTAIN	\$716,620	\$766,674	\$21,681,285	0.500%	106.98%	El Paso
FOWLER	\$39,333	\$46,989	\$1,328,833	0.031%	119.46%	Otero
FOXFIELD	\$40,047	\$46,173	\$1,305,771	0.030%	115.30%	ARAPAHOE
FRASER	\$46,836	\$54,511	\$1,541,553	0.036%	116.39%	Grand
FREDERICK	\$416,405	\$445,893	\$12,609,719	0.291%	107.08%	
FRISCO	\$110,369	\$129,289	\$3,656,261	0.084%	117.14%	Summit
FRUITA	\$394,658	\$440,701	\$12,462,872	0.287%	111.67%	Mesa
GARDEN CITY	\$7,321	\$7,384	\$208,818	0.005%	100.86%	
GENOA	\$10,638	\$11,555	\$326,768	0.008%	108.62%	Lincoln
GEORGETOWN	\$49,106	\$55,326	\$1,564,615	0.036%	112.67%	Clear Creek
GILCREST	\$41,248	\$39,960	\$1,130,068	0.026%	96.88%	
GLENDALE	\$78,513	\$71,518	\$2,022,500	0.047%	91.09%	ARAPAHOE
GLENWOOD SPRINGS	\$297,101	\$334,167	\$9,450,134	0.218%	112.48%	Garfield
GOLDEN	\$540,625	\$614,852	\$17,387,808	0.401%	113.73%	Jefferson
GRANADA	\$23,544	\$30,393	\$859,515	0.020%	129.09%	Prowers
GRANBY	\$62,723	\$70,021	\$1,980,161	0.046%	111.63%	Grand
GRAND JUNCTION	\$2,311,192	\$2,684,977	\$75,930,285	1.751%	116.17%	Mesa
GRAND LAKE	\$30,771	\$35,182	\$994,929	0.023%	114.33%	Grand
GREELEY	\$2,702,842	\$3,202,579	\$90,567,905	2.089%	118.49%	Weld
GREEN MOUNTAIN FALLS	\$29,166	\$32,114	\$908,162	0.021%	110.11%	El Paso, Teller
GREENWOOD VILLAGE	\$545,687	\$633,174	\$17,905,970	0.413%	116.03%	ARAPAHOE
GROVER	\$12,450	\$12,288	\$347,504	0.008%	98.70%	

Updated: 03/20/18

Additional from 0.62% Sales
Tax Increase

City	Current HUTF Distributions for FY 2017 (inc. FASTER revenue)	First Year	20-year Total	Distribution	% Increase	Counties
MINTURN	\$39,022	\$45,518	\$1,287,243	0.030%	116.65%	
MOFFAT	\$15,797	\$15,752	\$445,467	0.010%	99.72%	
MONTE VISTA	\$145,400	\$173,228	\$4,898,839	0.113%	119.14%	Rio Grande
MONTROSE	\$739,188	\$839,120	\$23,730,040	0.547%	113.52%	Montrose
MONUMENT	\$227,765	\$227,625	\$6,437,159	0.148%	99.94%	El Paso
MORRISON	\$11,238	\$12,529	\$354,324	0.008%	111.49%	Jefferson
MOUNTAIN VIEW	\$11,944	\$13,236	\$374,311	0.009%	110.82%	Jefferson
MOUNTAIN VILLAGE	\$64,477	\$68,305	\$1,931,633	0.045%	105.94%	
MT CRESTED BUTTE	\$47,574	\$51,368	\$1,452,657	0.033%	107.97%	Gunnison
NATURITA	\$20,656	\$24,962	\$705,928	0.016%	120.85%	Montrose
NEDERLAND	\$55,214	\$61,742	\$1,746,034	0.040%	111.82%	
NEW CASTLE	\$133,269	\$148,740	\$4,206,315	0.097%	111.61%	Garfield
NORTHGLENN	\$1,039,857	\$1,135,237	\$32,104,154	0.740%	109.17%	Adams
NORWOOD	\$17,876	\$23,308	\$659,134	0.015%	130.39%	
NUCLA	\$27,331	\$33,032	\$934,141	0.022%	120.86%	Montrose
NUNN	\$32,178	\$31,276	\$884,469	0.020%	97.20%	
OAK CREEK	\$29,479	\$33,888	\$958,346	0.022%	114.96%	Routt
OLATHE	\$50,990	\$59,631	\$1,686,350	0.039%	116.95%	Montrose
OLNEY SPRINGS	\$12,529	\$14,960	\$423,076	0.010%	119.41%	Crowley
OPHIR	\$7,023	\$7,910	\$223,680	0.005%	112.62%	
ORCHARD CITY	\$147,908	\$174,041	\$4,921,822	0.114%	117.67%	Delta
ORDWAY	\$37,379	\$45,281	\$1,280,541	0.030%	121.14%	Crowley
OTIS	\$21,583	\$25,602	\$724,022	0.017%	118.62%	Washington
OURAY	\$39,557	\$45,950	\$1,299,463	0.030%	116.16%	OURAY
OVID	\$12,471	\$15,451	\$436,952	0.010%	123.90%	Sedgwick
PAGOSA SPRINGS	\$74,508	\$85,338	\$2,413,329	0.056%	114.54%	Archuleta
PALISADE	\$69,952	\$78,913	\$2,231,633	0.051%	112.81%	Mesa
PALMER LAKE	\$99,642	\$108,252	\$3,061,345	0.071%	108.64%	El Paso
PAOLI	\$5,190	\$6,129	\$173,338	0.004%	118.10%	Phillips
PAONIA	\$48,465	\$56,624	\$1,601,317	0.037%	116.84%	Delta
PARACHUTE	\$42,810	\$46,154	\$1,305,219	0.030%	107.81%	Garfield
PARKER	\$1,444,859	\$1,502,906	\$42,501,714	0.980%	104.02%	Douglas
PEETZ	\$12,333	\$12,605	\$356,453	0.008%	102.20%	Logan
PIERCE	\$36,925	\$40,462	\$1,144,259	0.026%	109.58%	
PITKIN	\$8,358	\$10,389	\$293,811	0.007%	124.31%	Gunnison
PLATTEVILLE	\$142,898	\$132,140	\$3,736,879	0.086%	92.47%	
PONCHA SPRINGS	\$34,957	\$50,864	\$1,438,426	0.033%	145.51%	
PRITCHETT	\$8,332	\$10,175	\$287,740	0.007%	122.12%	Baca
PUEBLO	\$3,417,169	\$3,976,214	\$112,446,063	2.593%	116.36%	Pueblo
RAMAH	\$8,221	\$9,444	\$267,083	0.006%	114.88%	El Paso
RANGELY	\$85,250	\$107,643	\$3,044,118	0.070%	126.27%	Rio Blanco
RAYMER	\$9,230	\$11,342	\$320,736	0.007%	122.88%	
RED CLIFF	\$10,392	\$11,788	\$333,351	0.008%	113.43%	
RICO	\$14,469	\$15,489	\$438,017	0.010%	107.05%	Dolores
RIDGWAY	\$50,164	\$54,572	\$1,543,288	0.036%	108.79%	
RIFLE	\$298,938	\$338,164	\$9,563,157	0.221%	113.12%	Garfield
ROCKVALE	\$27,210	\$32,383	\$915,770	0.021%	119.01%	Fremont
ROCKY FORD	\$124,758	\$150,224	\$4,248,299	0.098%	120.41%	Otero
ROMEO	\$14,809	\$17,079	\$482,997	0.011%	115.33%	Conejos
RYE	\$5,378	\$6,701	\$189,501	0.004%	124.60%	
SAGUACHE	\$26,547	\$30,766	\$870,041	0.020%	115.89%	
SALIDA	\$212,547	\$245,515	\$6,943,100	0.160%	115.51%	Chaffee
SAN LUIS	\$26,296	\$30,227	\$854,824	0.020%	114.95%	
SANFORD	\$66,780	\$72,484	\$2,049,819	0.047%	108.54%	Conejos
SAWPIT	\$1,369	\$1,423	\$40,250	0.001%	103.96%	
SEDGWICK	\$13,028	\$15,354	\$434,193	0.010%	117.85%	Sedgwick

Updated: 03/20/18

Additional from 0.62% Sales
Tax Increase

City	Current HUTF Distributions for FY 2017 (inc. FASTER revenue)	First Year	20-year Total	Distribution	% Increase	Counties
SEIBERT	\$11,642	\$12,966	\$366,663	0.008%	111.37%	Kit Carson
SEVERANCE	\$128,110	\$136,788	\$3,868,311	0.089%	106.77%	
SHERIDAN	\$178,371	\$180,456	\$5,103,241	0.118%	101.17%	ARAPAHOE
SHERIDAN LAKE	\$6,110	\$7,029	\$198,765	0.005%	115.03%	Kiowa
SILT	\$103,829	\$112,931	\$3,193,645	0.074%	108.77%	Garfield
SILVER CLIFF	\$47,975	\$52,678	\$1,489,713	0.034%	109.80%	Custer
SILVER PLUME	\$9,287	\$10,494	\$296,768	0.007%	113.00%	Clear Creek
SILVERTHORNE	\$219,762	\$246,652	\$6,975,229	0.161%	112.24%	
SILVERTON	\$36,245	\$42,825	\$1,211,080	0.028%	118.15%	
SIMLA	\$25,818	\$29,894	\$845,402	0.019%	115.79%	Elbert
SNOWMASS VILLAGE	\$129,883	\$143,378	\$4,054,698	0.094%	110.39%	
SOUTH FORK	\$37,597	\$43,628	\$1,233,787	0.028%	116.04%	Rio Grande
SPRINGFIELD	\$65,254	\$81,442	\$2,303,144	0.053%	124.81%	Baca
STARKVILLE	\$3,398	\$4,114	\$116,334	0.003%	121.06%	Las Animas
STEAMBOAT SPRINGS	\$482,020	\$502,998	\$14,224,636	0.328%	104.35%	Routt
STERLING	\$355,631	\$417,562	\$11,808,509	0.272%	117.41%	Logan
STRATTON	\$31,537	\$39,559	\$1,118,714	0.026%	125.44%	Kit Carson
SUGAR CITY	\$15,102	\$17,888	\$505,862	0.012%	118.45%	Crowley
SUPERIOR	\$312,381	\$354,954	\$10,037,993	0.231%	113.63%	Jefferson, Boulder
SWINK	\$21,458	\$25,579	\$723,352	0.017%	119.20%	Otero
TELLURIDE	\$70,889	\$75,973	\$2,148,492	0.050%	107.17%	
THORNTON	\$3,938,157	\$3,931,117	\$111,170,726	2.564%	99.82%	Adams
TIMNATH	\$122,520	\$77,852	\$2,201,633	0.051%	63.54%	Larimer
TRINIDAD	\$314,658	\$380,916	\$10,772,186	0.248%	121.06%	Las animas
TWO BUTTES	\$10,358	\$11,783	\$333,233	0.008%	113.76%	Baca
VAIL	\$218,359	\$254,087	\$7,185,505	0.166%	116.36%	
VICTOR	\$18,939	\$20,793	\$588,017	0.014%	109.79%	Teller
VILAS	\$5,931	\$7,232	\$204,521	0.005%	121.94%	Baca
VONA	\$8,150	\$9,591	\$271,223	0.006%	117.68%	Kit Carson
WALDEN	\$30,429	\$35,812	\$1,012,748	0.023%	117.69%	Jackson
WALSENBURG	\$118,567	\$140,052	\$3,960,637	0.091%	118.12%	Huerfano
WALSH	\$30,057	\$36,618	\$1,035,534	0.024%	121.83%	Baca
WARD	\$8,834	\$10,048	\$284,153	0.007%	113.74%	
WELLINGTON	\$234,878	\$239,259	\$6,766,174	0.156%	101.87%	Larimer
WESTCLIFFE	\$29,674	\$38,515	\$1,089,187	0.025%	129.79%	Custer
WESTMINSTER	\$3,612,548	\$3,835,399	\$108,463,862	2.501%	106.17%	Adams, Jefferson
WHEAT RIDGE	\$1,062,422	\$1,184,066	\$33,485,023	0.772%	111.45%	jefferson
WIGGINS	\$35,556	\$39,698	\$1,122,656	0.026%	111.65%	Morgan
WILEY	\$15,299	\$17,796	\$503,260	0.012%	116.32%	Prowers
WILLIAMSBURG	\$35,025	\$39,878	\$1,127,742	0.026%	113.86%	Fremont
WINDSOR	\$821,110	\$842,153	\$23,815,822	0.549%	102.56%	Larimer
WINTER PARK	\$46,724	\$51,678	\$1,461,448	0.034%	110.60%	Grant
WOODLAND PARK	\$293,192	\$342,849	\$9,695,654	0.224%	116.94%	Teller
WRAY	\$87,593	\$101,157	\$2,860,688	0.066%	115.49%	Yuma
YAMPA	\$15,542	\$17,548	\$496,243	0.011%	112.90%	Routt
YUMA	\$130,778	\$149,824	\$4,236,985	0.098%	114.56%	Yuma
TOTAL	\$142,550,207	\$153,340,000	\$4,336,406,409	100.000%	166.44%	



CDOT'S LIST: TC Adopted July 2018

SB1/267 BALLOT



WHAT'S NOT INCLUDED?

Local shares of sales tax/ SB1 revenue (40% of total)

Most of the multimodal sales tax funds

WHAT REVENUE IS INCLUDED?

\$300M in SB18-1 of \$450M in CDOT SB18-1 funds over 2 years
\$1.7B in SB17-267 four full years of transfers (minus transit)
\$7B in CDOT 45% share of sales tax over 20 years—includes all reasonably expected revenue with expected growth over time
\$400M in one portion of the 15% share of sales tax dedicated to multimodal options—includes only small bonded portion (along with \$400M to match those funds)

SPECIFIC "HIGHWAY" PROJECTS

\$6.6B for projects across Colorado
Goal to complete in ten years
Includes projects that will utilize bond funds and projects paid for with pay-as-you-go (paygo) funds

STATEWIDE PROGRAMS

\$460M to statewide programs
Specific projects not yet selected
Rural focus for most statewide programs

GROWTH REVENUE

\$2B in sales tax growth revenue **dedicated to**
\$1.5B pavement improvement program
\$500M to future needs

SPECIFIC "MULTIMODAL BOND" PROJECTS

\$400M in sales tax funding
Larger projects expected to utilize bond proceeds
Matched by potential growth revenue **dedicated to**
\$1.5B to pavement/shoulders
\$500M to future need/projects

SPECIFIC PROJECTS INCLUDE:

107 projects in Denver & Front Range
South & Southeastern » Inter-Mountain & Western Slope » North & Northeastern

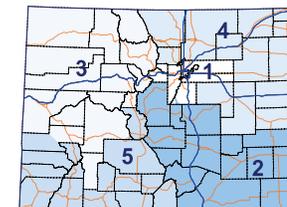
STATEWIDE PROGRAMS INCLUDE:

Fiber & Technology » **\$120M**
ADA Sidewalks & Bicycle/Pedestrian » **\$120M**
Safety Shoulders, Rest Area Restoration, Small Freight Projects & Truck Parking, Wildlife Crash Mitigation » **\$220 M**

PAVEMENT IMPROVEMENT PROGRAM

will include other shoulder/safety improvements along routes selected for paving

19 PROJECTS across the state and in every CDOT Region » Projects are at least \$10 million » Include at least 50/50 match » Makes up less than 1/3 of total multimodal revenue available





Weld County Mobility Committee

Meeting Notes - July 24, 2018

1:30 - 3:00 p.m.

Greeley Chamber of Commerce
902 7th Ave, Greeley, CO 80631

WCMC Members in Attendance:

Julie Glover, Greeley Center for Independence
Celeste Ewert, Envision
Steve Teets, WAND
Leiton Powell, GET
Vanessa Wilkins, Sunrise Community Health
Lori Chevrot, Citizen's Bus Improvement Committee
Janet Bedingfield, Senior Resource Services
Dori Baker, North Range Behavioral Health
Bill Cruise, Citizen's Bus Improvement Committee

NFRMPO Staff: Alex Gordon

1. **Introductions**
2. **Review of Agenda** - There were no changes to the agenda.
3. **Public Comment (Non-Agenda Items)** - Steve reiterated the need for transit service on US34 to help meet the community needs. The route could help improve accessibility and mobility for those living within Greeley and those trying to reach destinations outside of Greeley. The group should look at funding options and regional orientation.
4. **Approval of Meeting Notes (March)** - Janet moved to approve the minutes and Steve seconded the motion. It was approved unanimously.
5. **Discussion Items**

Senior Resource Services - Janet Bedingfield, Executive Director of Senior Resource Services (SRS), provided background information on the organization. SRS serves adults over aged 60 with free rides regardless of income. Rides depend on volunteer availability, but more than 9,000 rides were provided in 2017. SRS serves all transportation needs, not just medical needs. SRS is able to provide van rides with paid SRS drivers for non-medical trips. Within the past year, SRS was able to remove all members from its waiting list for service. Janet explained the organization is setting up a pool of drivers who can be called on for urgent need rides. Currently there are five such drivers. As of the meeting, SRS has 125 active volunteers but needs to reach 300 to meet the entire County's needs. These drivers serve 276 clients. Janet recommended having seniors sign up before their ride is needed to ensure they are in the system and can be serviced. for SRS includes reaching out and building partnerships, especially with senior centers and faith-based communities. SRS can provide administrative oversight and insurance, which would cut down on the responsibilities of these other organizations. Volunteers who track their mileage are eligible for \$0.30/mile reimbursement. Grants from the NFRMPO, Northern Colorado Medical Center (NMC), and UHealth help fund the programs.

SRS has teamed up with the Community Foundation, Catholic Charities, the Weld County Area Agency on Aging (AAA), and United Way of Weld County to form the Weld Senior Services Task Force. These different agencies will work together to help older adults navigate the different social services and other programs that are available in Weld County.

Julie asked how someone volunteers. Janet responded the program is available to anyone over 18 who can pass a background and driver check and who owns an insured car. There are no age maximums, but SRS monitors drivers for safety and ability.

Steve asked if SRS provides additional service to veterans. Janet said SRS provides connections to the shuttle from Greeley Mall to the VA Clinic in Loveland and can provide service to the clinic if riders cannot make the connection at the Greeley Mall.

WCMC Membership - Alex asked for suggestions of new members to ensure enough people are at the table. Suggestions for new members included the Workforce Center, medical facilities, and possibly a member from the Alzheimer's Association.

2045 RTE - Alex stated work continues on the RTE and will hopefully be brought to the next meeting with recommendations.

GET - Leiton reported the online applications for paratransit is available. Next steps include adding features for online renewals. The new larger Gillig buses will roll out this weekend for the Arts Picnic and full time on Monday. GET applied for a grant for the Regional Route (Poudre Express). District 6 and UNC start school in August so GET will be doing outreach with students and faculty. GET currently has a survey regarding service in West Greeley through early August.

6. Committee Member Reports

Janet stated 170 cyclists participated in the Ride n Revel event raising more than \$35,000.

Celeste stated the fastest growing cohort is the 0-3 year old/early intervention program members.

Dori stated Frontier House's Employment Specialist has helped increase employment for members of Frontier House. Frontier House bought a house for a residential program which will be called Pioneer House.

Steve stated WAND recently had Veyo attend a meeting. Veyo provided some information and Steve highlighted Medicaid and Medicare provide different services which can be frustrating. Veyo suggested working with Medicare funding to improve the process.

7. Adjournment - 2:59 p.m.

Next Regular Meeting: July 24, 2018



COLORADO

Department of
Transportation

**North Front Range Metropolitan Planning Organization
RoadX Update
August 2, 2018**

FY 2016-2017 \$1.44 Billion Budget

CDOT RESPONSIBILITIES

ADMINISTERS
\$208
 MILLION
 EACH YEAR IN FEDERAL
GRANTS



3,454

 BRIDGES

CDOT
 MAINTAINS & OPERATES
23,000
 TOTAL
 LANE MILES
 OF HIGHWAY



**DIVISION OF
 TRANSIT
 AND RAIL**
 ADMINISTERS FED/STATE
 GRANTS AND OPERATES
 BUSTANG



6.1 MILLION
 MILES
 PLOWED
 OF SNOW PER YEAR



35 MOUNTAIN
 PASSES
 OPEN YEAR-ROUND



**AIRPORT
 PLANNING**
 INTERFACE WITH FAA



Source: Colorado Department of Transportation, 2014

OUR CHALLENGE : CONTINUED GROWTH



1991



3.3 million



27.7 billion
vehicles miles traveled



\$125.70
spent per person

2015



5.4 million



50.5 billion
vehicle miles traveled

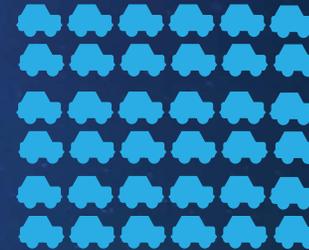


\$68.94
spent per person

2040



7.8 million



72.3 billion
vehicle miles traveled



\$41.16
spent per person

All dollar figures
adjusted for inflation



RoadX VISION: Crash-free, Injury-free, Delay-free and Technologically-transformed travel in Colorado.

RoadX MISSION: Team with public and industry partners to make Colorado one of the most technologically advanced transportation systems in the nation, and a leader in safety and reliability.

Colorado Is Open For Business - Colorado invites partners to join us in accelerating the adoption and deployment of technological solutions.



> WHY ARE WE LOOKING TO TECHNOLOGY?

SAFETY

80% reduction in crashes per NHTSA estimates



MOBILITY

40 to 400% increase in capacity





5 LEVELS OF DRIVING AUTOMATION



Human driver



Automated system

		Steering and acceleration/ deceleration	Monitoring of driving environment	Fallback when automation fails	Automated system is in control
Human driver monitors the road	0 NO AUTOMATION				N/A
	1 DRIVER ASSISTANCE				SOME DRIVING MODES
	2 PARTIAL AUTOMATION				SOME DRIVING MODES
Automated driving system monitors the road	3 CONDITIONAL AUTOMATION				SOME DRIVING MODES
	4 HIGH AUTOMATION				SOME DRIVING MODES
	5 FULL AUTOMATION				

Highly Automated Vehicles (HAVs)

> NHTSA'S AV GUIDANCE AND ODD

The document identifies **Operational Design Domain (ODD)** as the critical definition of where (such as what roadway types, roadway speeds, etc.) and when (under what conditions, such as day/night, normal or work zone, etc.) an HAV is designed to operate. The importance of communicating the ODD of an HAV to the consumer as part of broader product education is highlighted.

		Steering and acceleration/ deceleration	Monitoring of driving environment	Fallback when automation fails	Automated system is in control
3	CONDITIONAL AUTOMATION				SOME DRIVING MODES
4	HIGH AUTOMATION				SOME DRIVING MODES

CONNECTED ROAD CLASSIFICATION SYSTEM

Level
1

Unpaved and/or non-striped roads designed to a minimum level of standard of safety and mobility

Level
2

Paved roads designed to AASHTO's standards with MUTCD signage. There is not Intelligent Transportation System (ITS) equipment or infrastructure to collect connected vehicle data (Dedicated Short Range Radio). Access to cellular data service may be available

Level
3

There is Intelligent Transportation System (ITS) equipment operated by a Traffic Operation Center (TOC) and/or, one way electronic data share between DOT/Vehicle/User and/or, mixed use lanes





CONNECTED ROAD CLASSIFICATION SYSTEM

Level
4

Roadway or specific lane(s) has adaptive ITS equipment (i.e. smart signals hold for vehicles, highway lighting that turn on for vehicles, etc.) with Traffic Operations Center override only, and/or two way data share between DOT/Vehicle/User, and/or lanes designated for vehicle levels 3 & 4 only

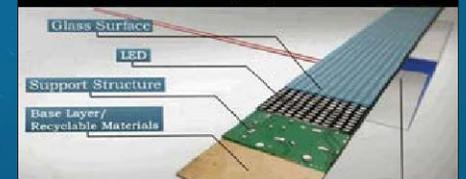


Level
5

(Advance Guide-way System) roadway or specific lane(s) designed for vehicle level 4 only with additional features that may include inductive charging, advance/enhanced data sharing, etc. Additionally, no roadside signs are needed as all roadway information is direct to vehicles' on-board systems

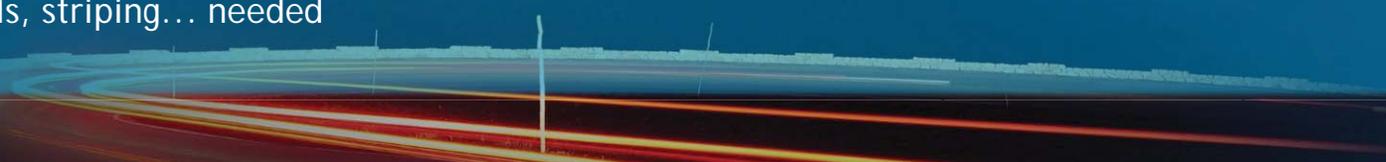


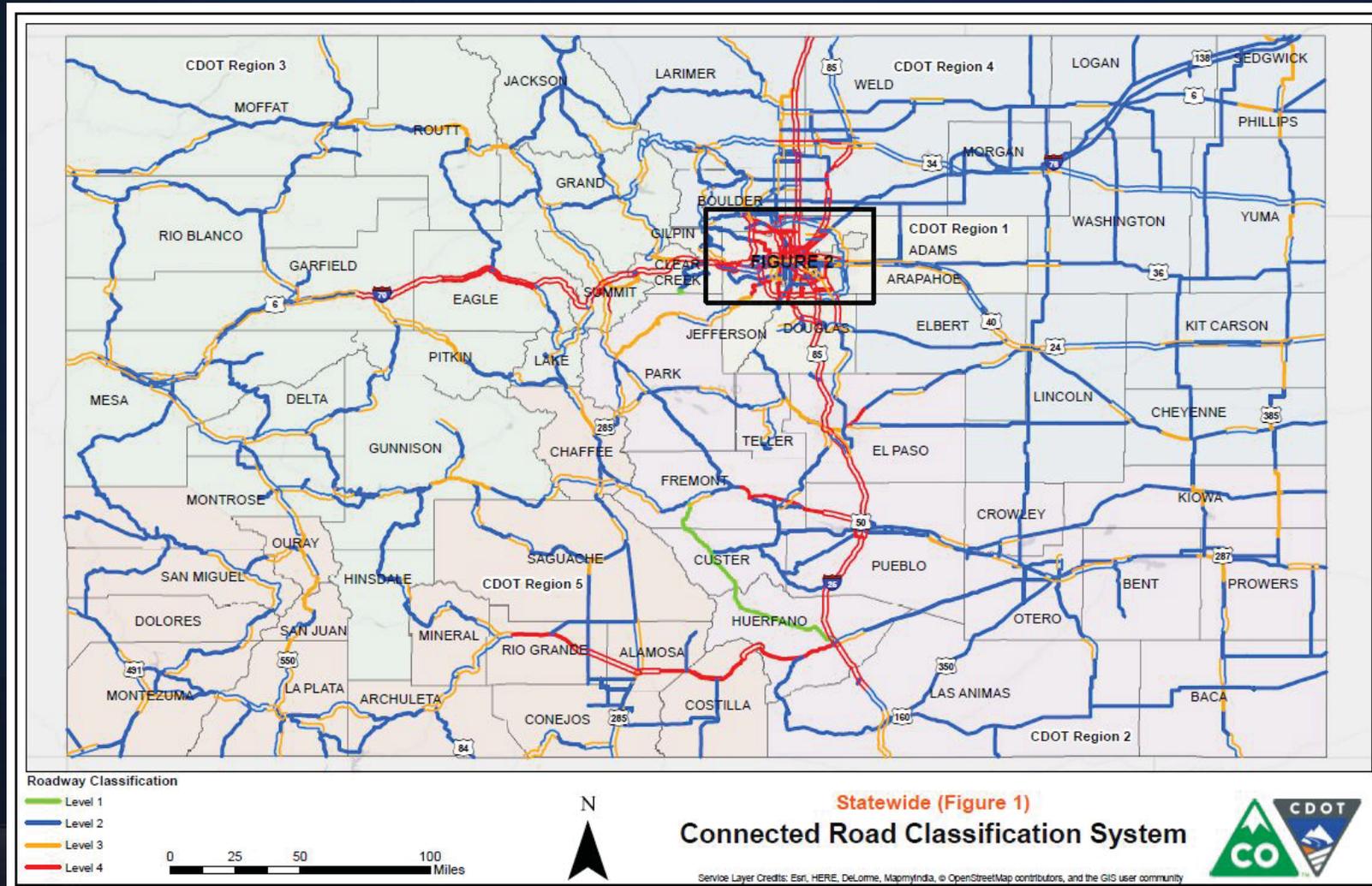
Could **solar roadways** power our future?



Level
6

All roadway elements designed for only vehicle level 5 systems - no signs, signals, striping... needed



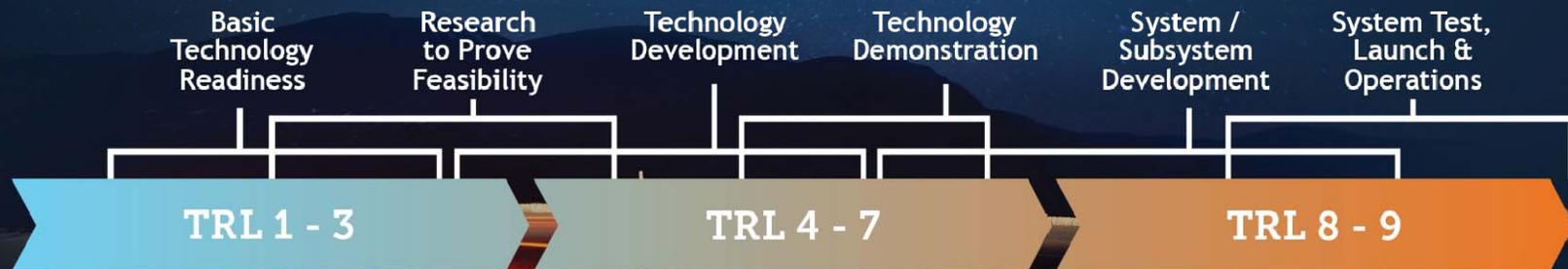


ROAD X PROJECT CLASS (RPC)

Identifying Projects Based on Technology Readiness and Risk



TECHNOLOGY READINESS LEVELS (TRL)





CONNECTION



TIMING : STARTING WINTER 2017



ROADX
ACCELERATING TECHNOLOGY



V2V



VEHICLE-TO-VEHICLE (V2V)

The three biggest problems facing our nation's roadways...

SAFETY



5.6 million crashes
32,719 deaths

MOBILITY



6.9 billion hours in traffic

ENVIRONMENT



3.1 billion gallons wasted

"The safety benefit of V2V is undeniable. It will save lives, and everybody knows that. A delay in rolling out V2V will cost lives, and that's a tragedy."

- Harry Lightsey, General Motors

Panasonic

V2X Deployment Program



CONNECTION



TIMING : STARTING WINTER 2017



ROAD X
ACCELERATING TECHNOLOGY

CDOT AND PANASONIC V2X DATA ECOSYSTEM



V2V

V2I Data

V2I Data

I2V Data

I2V Data



RSU



RSU

Contextual
Data
Sources

Input Sources

CDOT-Panasonic
V2X Data Ecosystem



DATA

DATA

Existing Traffic
Management
Platform

Output Sources

Internet of Things,
Open Source Data
Platform, &
Everything Else



TRANSPORT



TIMING : SUMMER / FALL 2018



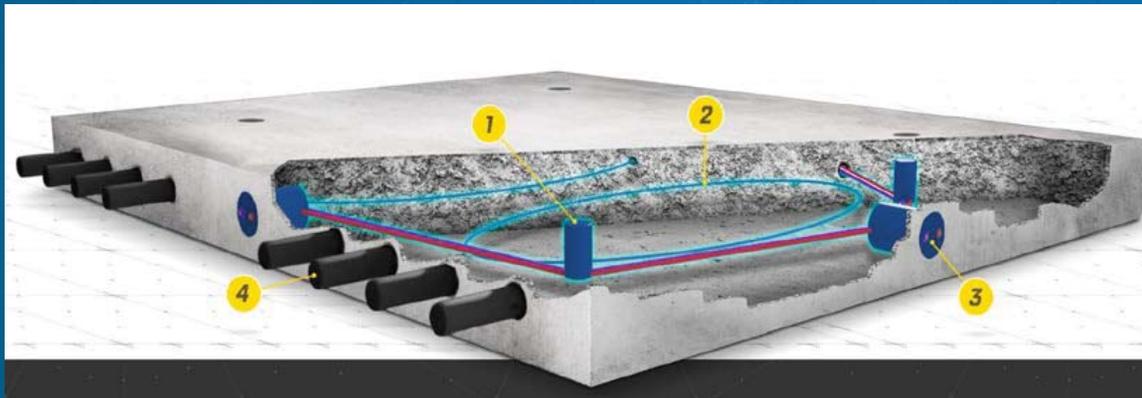
ROADX
ACCELERATING TECHNOLOGY



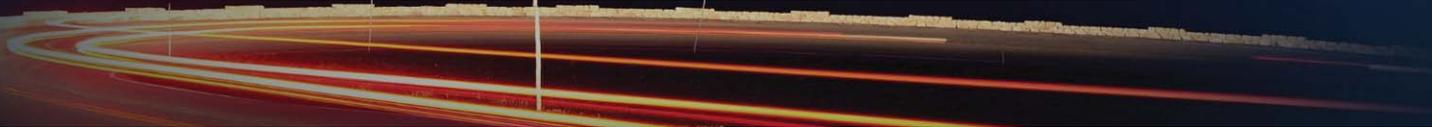
SMART 285 PAVEMENT

Turning existing roadways into a smart, digitally connected network that and can provide weather, pavement conditions and relay possible safety concerns to the responding agencies.

- 0.8 km segment to be constructed at US 285 - Red Hill Pass
- Immediate alerts to first responders if a vehicle leaves the roadway
- Future capabilities include inductive charging



- 1 Expansion ports for new features
- 2 Fiber Optic Sensing cable makes the road "touch sensitive"
- 3 Data and power connections at the edge
- 4 Contained within a prefab concrete slab compliant with standard pavement design specifications





TRANSPORT



TIMING : WINTER 2016



ROADX
ACCELERATING TECHNOLOGY

PHASE 1 - SMART TRUCK PARKING (PRE-PASS, CELLULAR AND DSRC)

Using detection and cloud-based software that understands and can report available parking spots to truckers, improving:

- Truckers wasted time and fuel
- Excess wear and tear on Colorado's roadways
- Excess pollution

The first phase of this project will integrate six existing parking facilities into the Smart Truck Parking System.





COMMUTING



TIMING : FALL 2017



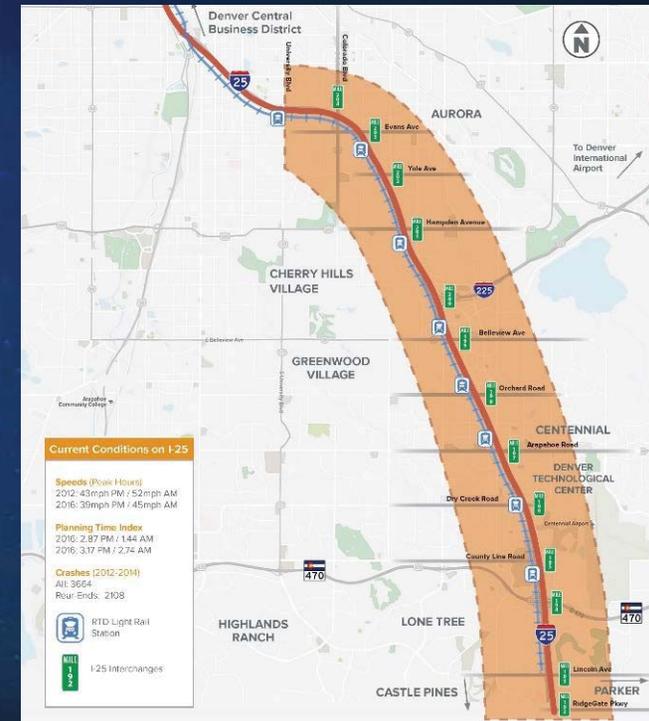
ROADX
ACCELERATING TECHNOLOGY

SMART 25 - RIDGEGATE TO UNIVERSITY

Colorado will be doing a significant software and traffic sensor upgrade to the aging traffic management and ramp metering systems on the highway. This hyper-smart system will help to better manage the flow with vehicles, which could have the result of effectively adding a new lane on I-25 at a fraction of the cost.

The anticipated results are:

- More reliable trips and travel times
- Fewer crashes
- Reduction in stop-and-go traffic
- More efficient flow of traffic without expanding the roadway





SMART POWERED LANES

CDOT is looking partner with interested parties to embed power sources into Colorado's roadways that can wirelessly charge electric batteries in freight trucks while they are driving. The Smart Powered Lanes project desires to deploy this technology in live traffic for the first time in the United States. An open forum for business owners and fleet operators will be held on June 7 - join us to learn more!



- 1 Power source embedded into the roadway wirelessly transfers energy to vehicles while in motion.
- 2 Roadside equipment efficiently connects to the utility grid and distributes power to the roadway.
- 3 Minimal power storage needed within the vehicle because the batteries receive power from the roadway on the go, allowing longer trips and less battery storage.





TRANSPORT



TIMING : SUMMER 2017



ROADX
ACCELERATING TECHNOLOGY

HYPERLOOP

Hyperloop is a new way to move people and freight using a custom electric motor to accelerate and decelerate levitated sleds through a low-pressure tube at speeds up to 700 mph.

- The Rocky Mountain Hyperloop team (CDOT, AECOM, Denver, Greeley and the Denver International Airport (DEN)) was selected as one of 10 worldwide winners.
- P3 between CDOT & HL1 underway to refine Initial application and define next steps
- Rocky Mountain Hyperloop Feasibility Study / Next Steps done July 1, 2018.



hyperloop | one



TRANSPORT



TIMING : SUMMER 2017



ROADX
ACCELERATING TECHNOLOGY



UNITED STATES

CHEYENNE - DENVER - PUEBLO

TEAM: **Rocky Mountain Hyperloop**

Colorado's population growth and emerging industry sectors would benefit immensely from a Hyperloop connection along the Front Range. A high-speed link would be beneficial for the state's tourism industry, link high value-added sectors such as biotechnology, technology and aerospace, and help alleviate intercity congestion.

- Denver - Greeley: 64km, 6 min
- Denver - Fort Collins: 129km, 9 min
- Denver - Vail: 121 km, 9 min
- Denver - Colorado Springs: 118 km, 9 min
- Colorado Springs - Pueblo: 65 km, 6 min
- Total Route Length: 580 km





COMMUTING



TIMING : 2018 FORWARD



ROADX
ACCELERATING TECHNOLOGY

ARRIVO

Arrivo is a new take on a regional transportation system that aims to be safe, fast and clean. The Arrivo system propels four models of vehicles through an enclosed, electromagnetic superhighway, using magnetic levitation to float the vehicles and an all-electric linear motor to push them forward at speeds up to 200 mph with zero emissions.

ARRIVO'S INVOLVEMENT IN COLORADO INCLUDES:

- Development of a full system test track adjacent to E-470
- The creation of 200+ jobs in the Denver metro area by 2020 along with a Arrivo Engineering and Technology Center
- Arrival at DEN in under 20 minutes from anywhere in the Denver metro area





COMMUTING



TIMING : FALL 2017 FORWARD



ROADX
ACCELERATING TECHNOLOGY

RAPID SPEED STUDY

State Rapid Speed Benefits and Opportunities Study

Funded by the state and shared during development with technologists.
Will address, among other issues:

- Which agency will oversee and regulate this new technology?
- What governance structure will apply?
- Which environmental approval processes will be applied?
- Determine what CDOT's and private partner's role in ownership, construction, operations, maintenance, and funding will be?
- While individual technologists may define specific beginning routes, how will this impact larger network and land use?





COMMUTING



TIMING : FALL 2017 FORWARD



ROADX
ACCELERATING TECHNOLOGY

RAPID SPEED STUDY

Technologists Feasibility Analysis

Funded by technologist and shared during development with the State Benefits and Opportunities Study. Will include:

- Technology assessment
- Routes and market assessment
- Operations Plan





SAFETY

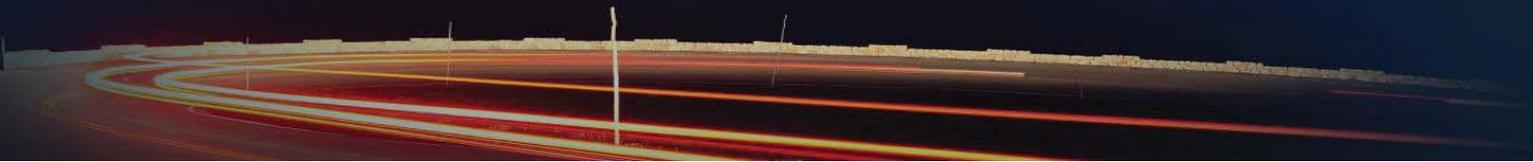


TIMING : SUMMER 2017

Autonomous Impact Protection Vehicle (AIPV)

To save lives, CDOT uses impact protection vehicles that act as a barrier to protect employees working on or near active roadways.

In August, CDOT and partners at Colas UK, Royal Truck & Equipment, and Kratos Defense placed in service a first-of-its kind Autonomous Impact Protection Vehicle (AIPV). By using self-driving technology, CDOT is able to take the driver out of harm's way while still effectively shielding roadside workers.





NEXT STEPS



People
Educate public



ROI
Invest now in
technology platforms



Privacy
Address security
issues



Technology & Planning
Plan and model
for rapid change



Regulation
Establish consistent policy
direction that supports
autonomous future

QUESTIONS?





COLORADO

Department of
Transportation



US 34 Planning and Environmental Linkages (PEL) Study NFRMPO Meeting

August 2018
Loveland Public Works

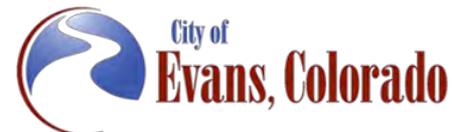


Agenda

- Welcome
- Schedule
- Recommendations
 - Alternatives
 - Near Term Improvements
 - Project Phasing
 - Risk Areas
- Access Control Plan Status
- Ongoing Activities & Next Steps



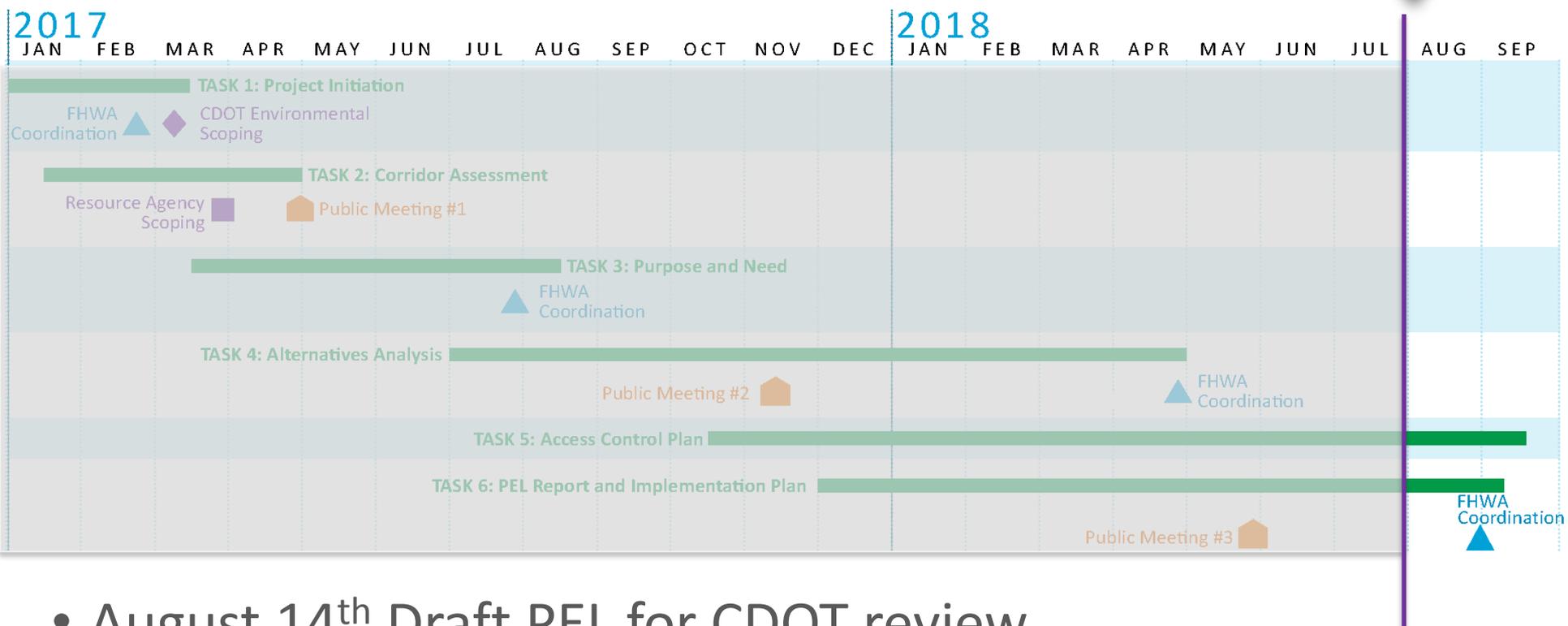
Partners





Schedule

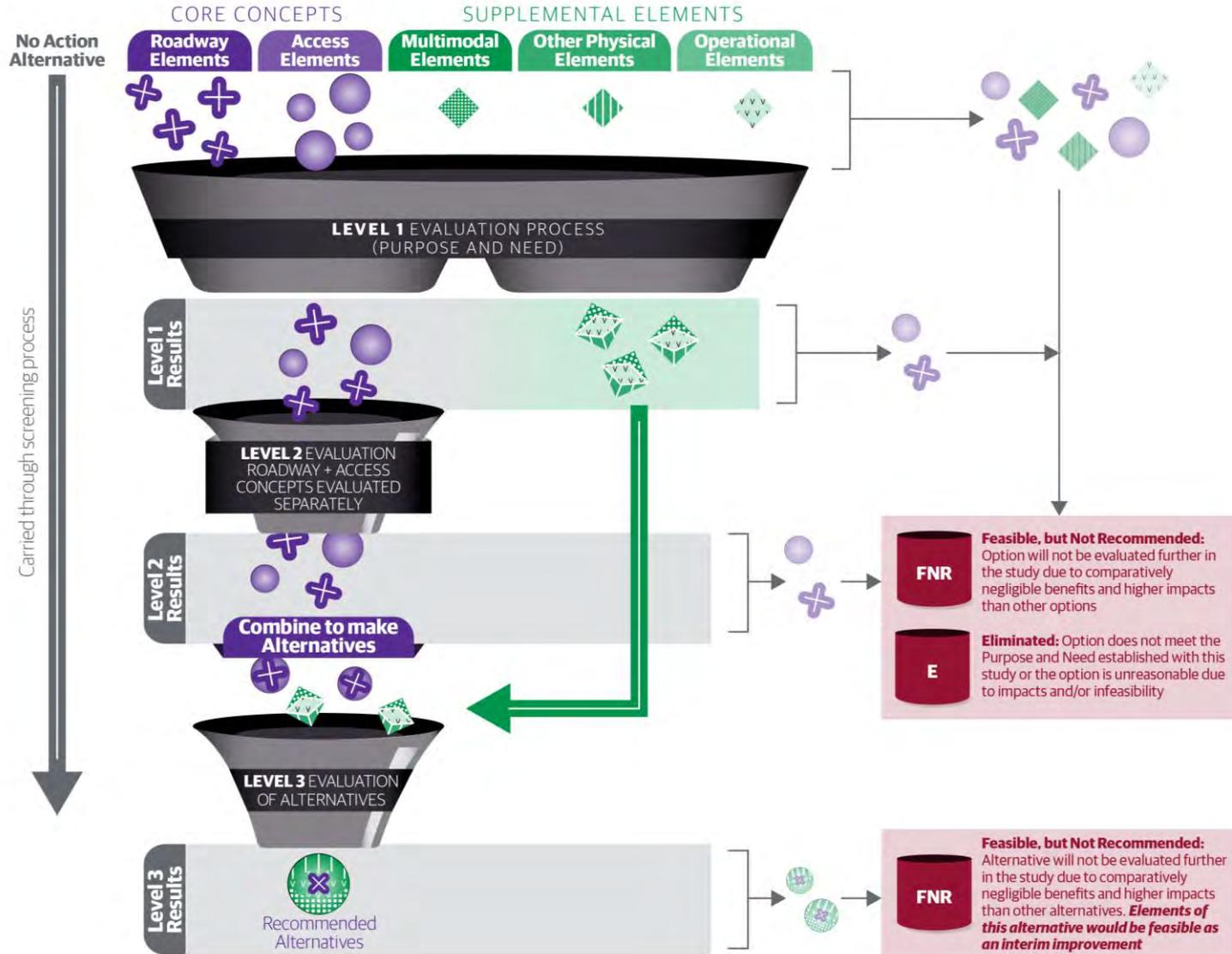
We are here



- August 14th Draft PEL for CDOT review



Alternative Development and Evaluation



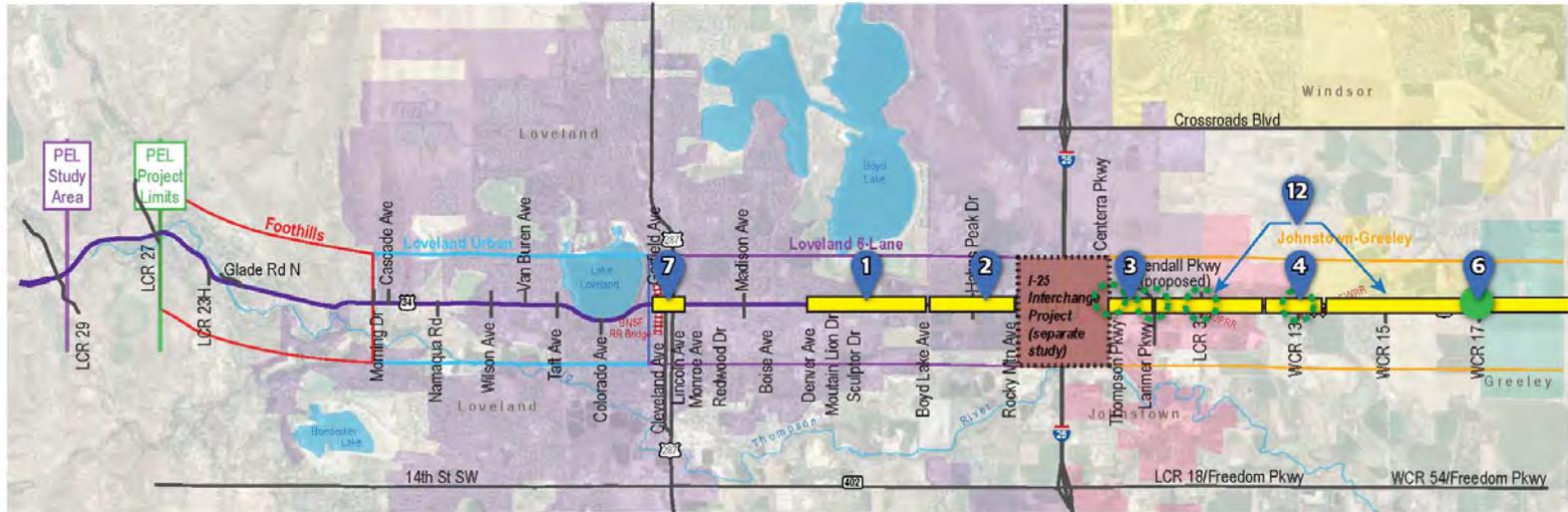


Near Term Improvements

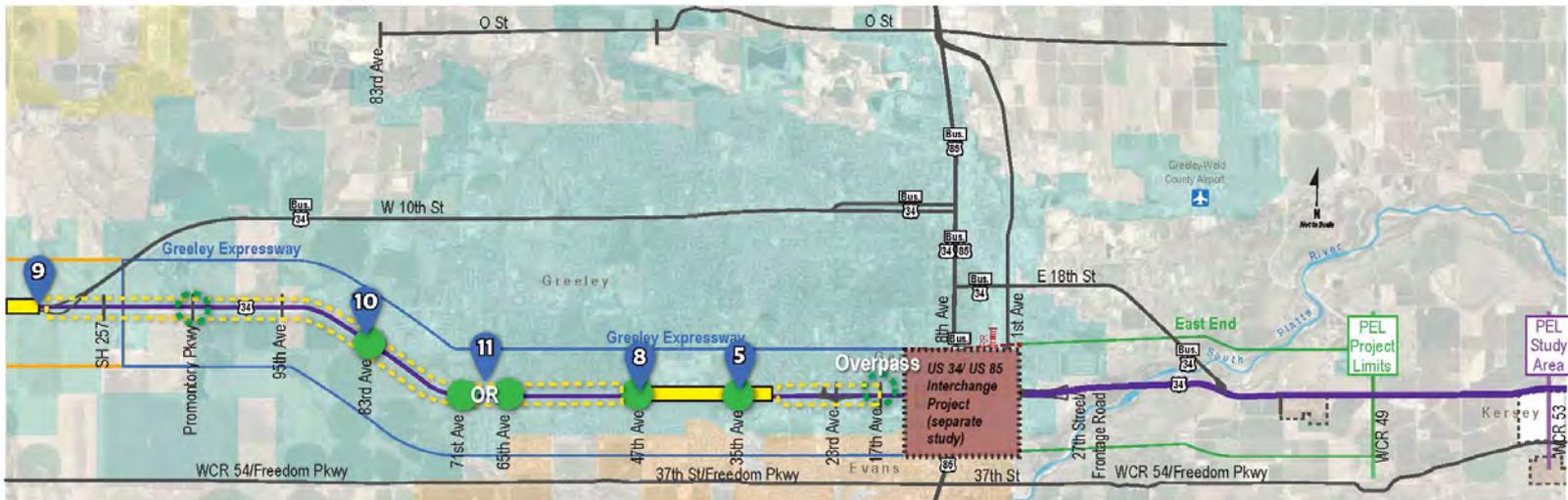
- Developed to address known problem areas
- Could be implemented quickly without lengthy planning or design
- Would have an immediate effect on improving the safety and operations in the corridor
- Some would be first steps toward the broader corridor vision
- 16 projects
 - Improvements to signal timing, intersections, cross streets, bike/ped, etc.



Project Phasing

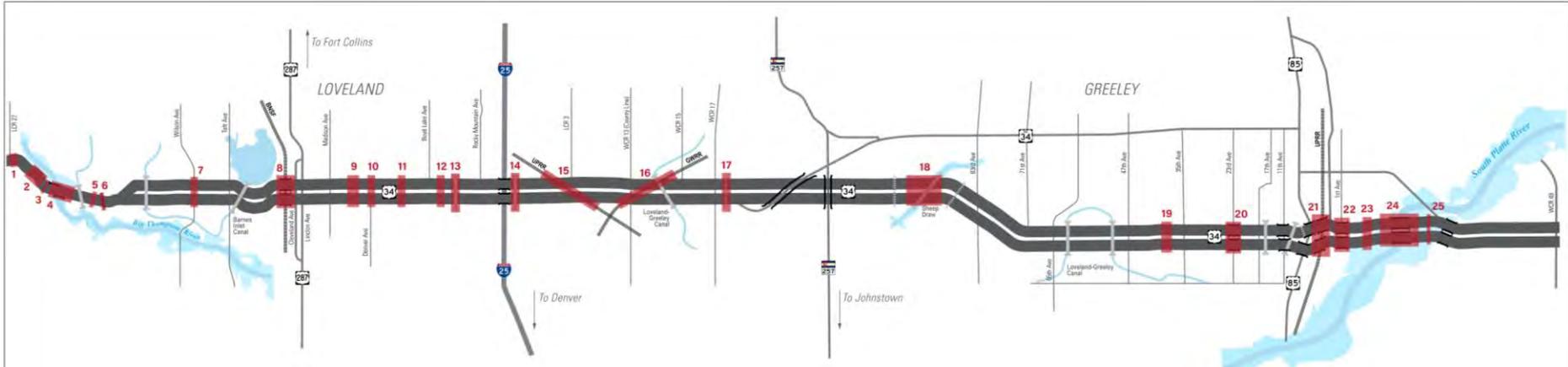


- Roadway Widening
- Interchanges
- 13 Additional Roadway Widening
- 14 Additional Interchanges





Risk Areas



PEL Risk Assessment Matrix - US 34

Risk Area	Threat	Assets in Threat Area	Location of Asset	Prioritization	Resilient Recommendations (includes social, economic, and environmental benefits)
1	Flood	Structures C-16-DD and C-16-AF, pavement, guardrail	Big Thompson River, MP 86.044, structures of the Big Thompson River and Buckingham Ditch	high	Ensure structure C-16-DD is built to withstand a 100-year flood event
3	Flood	Structure C-16-AE, pavement, guardrail	MP 86.931, structure over the Big Thompson River	high	Ensure structure is built to withstand a 100-year flood event, mitigate floodplain to channelize flow and prevent flooding on the north side of the highway
4	Flood	Structure C-16-AR, pavement	MP 87.651, structure over draw	moderate	Ensure structure is built to withstand a 100-year flood event
5	Utility Failure	Pavement	36" transmission water main just west of Langston Ln.	moderate	Work with utility company to replace existing waterline
15	Railroad Proximity	Guardrail, pavement	Railroad crossing just east of Lake Loveland	moderate	Elevate roadway
16	Railroad Proximity	C-17-D, pavement, guardrail, ITS device (ATR)	Structure over the Loveland-Greeley Canal, MP 99.21	moderate	Elevate roadway
17	Utility Failure	Pavement	Parallel water mains along 131st Ave.	moderate	Work with utility company to replace existing waterlines



Access Control Plan Status

- Conducted agency workshops and public open houses
- Draft plan will be distributed on August 6, 2018
- Comments due on August 27, 2018
- Next Steps:
 - Finalize Access Control Plan Report
 - Draft IGA with Legal Review
 - Finalize IGA
 - City of Loveland Council Adoption
 - Larimer County Commissioner Adoption
 - CDOT signs IGA



Ongoing Activities & Next Steps

- Access control plan
- PEL documentation
- Agency coordination



Thank you

NFRMPO Targets for PM2 and PM3

Planning Council Discussion



August 2, 2018

PM2 & PM3 Targets

Background



- MAP-21 established seven national goals for the Federal-aid Highway Program
 - Safety
 - Infrastructure Condition
 - Congestion Reduction
 - System Reliability
 - Freight Movement and Economic Vitality
 - Environmental Sustainability
 - Reduced Project Delivery Delays
- State DOTs and MPOs are required to set targets for the national performance measures, report performance, and integrate into planning documents



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PM2 & PM3

Timeline



		CDOT Target Deadline	NFRMPO Target Deadline
PM1	Highway Safety	August 31, 2017	February 27, 2018
PM2	Pavement and Bridge Condition	May 20, 2018	November 16, 2018
PM3	NHS Performance (system reliability)	May 20, 2018	November 16, 2018
	Freight Movement	May 20, 2018	November 16, 2018
	Congestion Mitigation and Air Quality	May 20, 2018	November 16, 2018

Performance Measure Chart

	PERFORMANCE MEASURE	STATEWIDE TARGET	NFRMPO REGION TARGET
	1 SAFETY		
	Number of Fatalities	610	
	Fatality rate per 100 million vehicle miles traveled	1.20	
	Number of serious injuries	3,350	Adopted State Targets
	Serious injury rate per 100 million vehicle miles traveled	6.790	
	Number of non-motorized fatalities and serious injuries	586	
	2 PAVEMENT CONDITION		
	Percent of pavement on interstate System in good condition	47%	
	Percent of pavement on interstate System in poor condition	1%	Potentially adopting State Targets
	Percent of pavement on non-interstate NHS in good condition	51%	
	Percent of pavement on non-Interstate NHS in poor condition	2%	
	3 BRIDGE CONDITION		
	Percentage of NHS bridges classified as in good condition	44%	Potentially adopting State Targets
	Percentage of NHS bridges classified as in poor condition	4%	
	4 RELIABILITY (System Reliability and Freight Movement)		
	Percent of person-miles traveled on Interstate system that are reliable	81%	
	Percent of person-miles traveled on non-Interstate NHS that are reliable	64%	Potentially adopting State Targets
	Truck travel time reliability index	1.5	
	5 AIR QUALITY (CMAQ)/ENVIRONMENTAL SUSTAINABILITY		
	VOC Reduction	105 kg/day	
	Particulate Matter (PM) Reduction	152 kg/day	Potentially adopting State Targets
	Carbon Monoxide (CO) Reduction	1,426 kg/day	
	Nitrogen Oxides (NOx) Reduction	105 kg/day	
	6 NFRMPO-SPECIFIC GOALS		
	Population and essential destinations within paratransit and demand response service area within the MPO boundary		At least 85%
	Non-motorized facilities per capita		Increase by at least 2%
	Fixed-route revenue hours per capita within service areas		Increase by 30%
	VMT growth per capita		Δ VMT \leq Δ in population

1 SAFETY			
	Number of Fatalities	610	
	Fatality rate per 100 million vehicle miles traveled	1.20	
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Percent of pavement on interstate System in poor condition 1% Potentially adopting State Targets			
Percent of pavement on non-interstate NHS in good condition 51%			
Percent of pavement on non-Interstate NHS in poor condition 2%			
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	Percentage of NHS bridges classified as in good condition	44%	Potentially adopting State Targets
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	VMT growth per capita		$\Delta VMT \leq \Delta$ in population

Adopted February 2018

	PERFORMANCE MEASURE	STATEWIDE TARGET	NFRMPO REGION TARGET
1 SAFETY			
	Number of Fatalities	610	
	Fatality rate per 100 million vehicle miles traveled	1.20	
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2 PAVEMENT CONDITION			
	Percent of pavement on interstate System in good condition	47%	
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3 BRIDGE CONDITION			
	Percentage of NHS bridges classified as in good condition	44%	Potentially adopting State Targets
	Percentage of NHS bridges classified as in poor condition	4%	
4 RELIABILITY (System Reliability and Freight Movement)			
	Percent of person-miles traveled on Interstate system that are reliable	81%	Potentially adopting State Targets
	Percent of person-miles traveled on non-Interstate NHS that are reliable	64%	
	Truck travel time reliability index	1.5	
5 AIR QUALITY (CMAQ)/ENVIRONMENTAL SUSTAINABILITY			
	VOC Reduction	105 kg/day	Potentially adopting State Targets
	Particulate Matter (PM) Reduction	152 kg/day	
	Carbon Monoxide (CO) Reduction	1,426 kg/day	
	Nitrogen Oxides (NOx) Reduction	105 kg/day	
	Population and essential destinations within paratransit and demand response service area within the MPO boundary		At least 85%
	Non-motorized facilities per capita		Increase by at least 2%
	Fixed-route revenue hours per capita within service areas		Increase by 30%
	VMT growth per capita		$\Delta VMT \leq \Delta$ in population

Today's Discussion

	PERFORMANCE MEASURE	STATEWIDE TARGET	NFRMPO REGION TARGET
1	SAFETY		
	Number of Fatalities	610	
	Fatality rate per 100 million vehicle miles traveled	1.20	
	Number of serious injuries	3,350	Adopted State Targets
	Serious injury rate per 100 million vehicle miles traveled	6.790	
	Number of non-motorized fatalities and serious injuries	586	
2	PAVEMENT CONDITION		
	Percent of pavement on interstate System in good condition	47%	
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3	BRIDGE CONDITION		
	Percentage of NHS bridges classified as in good condition	44%	Potentially adopting State Targets
	Percentage of NHS bridges classified as in poor condition	4%	
4	RELIABILITY (System Reliability and Freight Movement)		
	Percent of person-miles traveled on Interstate system that are reliable	81%	
	Percent of person-miles traveled on non-Interstate NHS that are reliable	64%	Potentially adopting State Targets
	Truck travel time reliability index	1.5	
5	AIR QUALITY (CMAQ)/ENVIRONMENTAL SUSTAINABILITY		
	VOC Reduction	105 kg/day	
	Particulate Matter (PM) Reduction	152 kg/day	Potentially adopting State Targets
	Carbon Monoxide (CO) Reduction	1,436 kg/day	
6	NFRMPO-SPECIFIC GOALS		
	Population and essential destinations within paratransit and demand response service area within the MPO boundary		At least 85%
	Non-motorized facilities per capita		Increase by at least 2%
	Fixed-route revenue hours per capita within service areas		Increase by 30%
	VMT growth per capita		Δ VMT \leq Δ in population

TAC Discussion Underway

PM2 – Pavement Condition



PERFORMANCE MEASURE	CDOT Target	TAC Recommendation
Percent of pavement on interstate System in good condition	47%	Adopt State Targets
Percent of pavement on interstate System in poor condition	1%	
Percent of pavement on non-Interstate NHS in good condition	51%	
Percent of pavement on non-Interstate NHS in poor condition	2%	

PM2 – Bridge Condition



PERFORMANCE MEASURE	CDOT Target	NFRMPO Benchmark	TAC Recommendation
Percentage of NHS bridges classified as in good condition	44%	50%	Adopt State Targets
Percentage of NHS bridges classified as in poor condition	4%	7%	

9

PM2 & PM3

PM3 – System Reliability



PERFORMANCE MEASURE	CDOT Target	NFRMPO Benchmark	TAC Recommendation
Percent of person-miles traveled on Interstate system that are reliable	81%	100%	Adopt State Targets
Percent of person-miles traveled on non-Interstate NHS system that are reliable	64%	79%	
Truck Travel Time Reliability Index	1.5	1.47	

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PM2 & PM3

PM3 – CMAQ



PERFORMANCE MEASURE	CDOT Target	NFRMPO Benchmark	TAC Recommendation
VOC Reduction	105 kg/day	3.58 kg/day	Adopt State Targets
Carbon Monoxide (CO) Reduction	1,426 kg/day	56.9 kg/day	
Nitrogen Oxides (NOx) Reduction	105 kg/day	0.13 kg/day	

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PM2 & PM3

Next Steps



- TAC Action – August 15
- Planning Council Action – September 6
- Goals, Objectives, Performance Measures, and Targets (GOPMT) Update
 - TAC providing comments on GOPMT for *2045 RTP*

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PM2 & PM3

Questions?



For more information:

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North Front Range MPO Area - Project Status Updates (31 July 2018)

<u>Roadway / Segment</u>	<u>Status</u>
SH14	
US287 to I-25 Surface Treatment	<i>Paving substantially complete.</i>
I-25	
Crossroads Blvd Interchange / Bridges	<i>Construction is substantially complete</i>
Design /Build	<i>Design is underway. Construction Sept 2018</i>
Fort Collins North Cable Rail	<i>Adding length to maximize project. Delaying ad</i>
Vine Drive Bridge	<i>Advertise Nov 2018. Construct Spring 2019</i>
US34	
Big Thompson Canyon Flood Repair	<i>Road is open. Some site work remains</i>
PEL Study	<i>Progressing</i>
34 Business Rt Overlay & Bridge Work (Flood)	<i>In Construction</i>
SH60	
WCR 40 Intersection Improvements	<i>In Design</i>
SH257 (Flood) – Little Thompson Structures	<i>Construction is underway</i>
Over the South Platte River	<i>Construction begins Sept 2018</i>
US85	
Eaton to Ault- Resurfacing	<i>Complete</i>
SH263	
US85 to Greeley Airport- Devolution	<i>IGA in process</i>
US287	
SH1 to LaPorte Bypass	<i>Construction continues</i>
Foothills Parkway Signal Upgrade	<i>Advertise for construction Summer 2018</i>
ADA Curb Ramp Program	
Greeley ADA Curb Ramps Phase 1	<i>In Design. Summer 2018 Advertisement</i>
Loveland ADA Curb Ramps Phase 1	<i>In Design. Summer 2018 Advertisement</i>