

MEMORANDUM

DEPARTMENT OF TRANSPORTATION

Chief Engineer's Office

4201 E. Arkansas Ave., Room 262
Denver, CO 80222
(303) 757-9204
(303) 757-9656 - FAX



Date: April 9, 2013

To: Colorado Transportation Commission

From: Timothy J. Harris, Chief Engineer

Subject: RAMP Workshop Topics

This month's workshop on the Responsible Acceleration of Maintenance and Partnership program (RAMP) will update you on RAMP implementation.

First, attached is a list of surface treatment projects planned for Fiscal Years 2014 and 2015, sorted by Region (note there are only 5 Regions!!). The list shows projects included in the "baseline" program as well as additional projects to be funded as part of RAMP. I should point out that there is some over-programming included in the baseline as well as the RAMP allocation in order to ensure progress towards reduction of our cash balance. All future STIP and budget actions are subject to fiscal constraint in the STIP and your approval so adjustments will be made as needed.

Notable elements of the proposed RAMP Surface Treatment projects:

- All are matches with recommendations from our Pavement Management program.
- 7 of the 11 recommended projects are on the Interstate system.
- 9 of the 11 projects are greater than \$10 million. Projects of this size are relatively rare in the "baseline" program as they consume so much of the traditional funding distribution.

Second, also attached is a PowerPoint presentation describing proposed additional projects in some of the other smaller Asset Management categories (Rockfall, ITS, Road Equipment, etc.). If some of it looks familiar, I'd mention that some of the information has previously been shared with the Asset Management Committee.

Finally, we will discuss the concept of using RAMP Asset Management funds designated for Bridges on preventive maintenance activities such as joint replacement, waterproofing membranes, or sealing bare decks as well as bridge replacements.

I look forward to the discussions this month and continued progress in this important and exciting program. RAMP IT UP!!

MEMORANDUM

DEPARTMENT OF TRANSPORTATION

Chief Engineer's Office

4201 E. Arkansas Ave., Room 262
Denver, CO 80222
(303) 757-9204
(303) 757-9656 - FAX



Date: April 9, 2013

To: Colorado Transportation Commission

From: Timothy J. Harris, Chief Engineer

Subject: RAMP Workshop Topics

This month's workshop on the Responsible Acceleration of Maintenance and Partnership program (RAMP) will update you on RAMP implementation.

First, attached is a list of surface treatment projects planned for Fiscal Years 2014 and 2015, sorted by Region (note there are only 5 Regions!!). The list shows projects included in the "baseline" program as well as additional projects to be funded as part of RAMP. I should point out that there is some over-programming included in the baseline as well as the RAMP allocation in order to ensure progress towards reduction of our cash balance. All future STIP and budget actions are subject to fiscal constraint in the STIP and your approval so adjustments will be made as needed.

Notable elements of the proposed RAMP Surface Treatment projects:

- All are matches with recommendations from our Pavement Management program.
- 7 of the 11 recommended projects are on the Interstate system.
- 9 of the 11 projects are greater than \$10 million. Projects of this size are relatively rare in the "baseline" program as they consume so much of the traditional funding distribution.

Second, also attached is a PowerPoint presentation describing proposed additional projects in some of the other smaller Asset Management categories (Rockfall, ITS, Road Equipment, etc.). If some of it looks familiar, I'd mention that some of the information has previously been shared with the Asset Management Committee.

Finally, we will discuss the concept of using RAMP Asset Management funds designated for Bridges on preventive maintenance activities such as joint replacement, waterproofing membranes, or sealing bare decks as well as bridge replacements.

I look forward to the discussions this month and continued progress in this important and exciting program. RAMP IT UP!!

Statewide Surface Treatment Projects for FY2014* - All baseline and RAMP projects

4/9/2013

Shading used to show highway segments grouped into one project									
FY	Region	Highway	BMP	EMP	Description	Estimate	Treatment Type	Tier	
2014	1	103	0.0	11.5	Jct I-70 - Jct SH 5	\$5,000,000	Minimum of HMA Mill and Fill	Other - Low Volume	
2014	1	I-70	213.5	217	EJMT Resurfacing	\$2,500,000	SMA Mill and Fill	Interstate	
2014	1	67.0	117.3	124	Rampart Range	\$2,500,000	Thin HMA overlay and patching	Other - Low Volume	
2014	1	119	5.7	6.3	Black Hawk	\$1,000,000	HMA overlay	Other - High Volume	
2014	1	SH 88	16.8	21.7	Arapahoe Rd., I-25 to Parker Rd	\$9,000,000	2" mill and 2.5" SMA	NHS - High Volume	
2014	1	SH 121	3.9	5.3	Wadsworth Blvd., Parkhill to Belleview	\$2,500,000	2" mill and 2 - 2.5" HMA	NHS - High Volume	
2014	1	SH 121	5.3	7.5	Wadsworth Blvd., Belleview to Hampden	\$3,500,000	2" mill and 2 - 2.5" HMA	NHS - High Volume	
2014	1	SH 121	7.5	9.9	Wadsworth Blvd., Hampden to Florida	\$3,500,000	2" mill and 2 - 2.5" HMA	NHS - High Volume	
2014	1	US 40	296.3	297.5	Colfax Ave., Federal to Speer	\$2,000,000	2" mill and 2" HMA	NHS - High Volume	
2014	1	Various Locations			R1 Preventive Maintenance TBD	\$1,000,000	Crack sealing		
						R1 Baseline \$32,500,000			
						R1 RAMP \$0			
2014	2	025A	109	119.3	Pinon North	\$15,174,000	FY14 RAMP - 2.5" mill and modified HMA fill	Interstate	
2014	2	010A	39.20	57.00	SAUNDERS ARROYO EAST	\$4,468,869	1" MILL & 1.5" OVERLAY	Other - Low Volume	
2014	2	US 24	253.6	263.0	Wilkerson Pass-East	\$3,500,000	Thin HMA overlay	Other - Low Volume	
2014	2	025A	109.00	114.20	PINON NORTH	\$6,807,481	2.5" MILL & 2.5" MODIFIED HMA	Interstate	
2014	2	025A			25C Interchange to JCT SH69		2.5" MILL & 2.5" MODIFIED HMA	Interstate	
2014	2	050A	278.00	279.50	1ST ST TO 19TH ST	\$1,624,029	2.5" MILL & 2.5" MODIFIED HMA OVERLAY	NHS - High Volume	
2014	2	050A	279.50	281.00	19TH ST TO DOZIER AVE	\$1,948,835	2.5" MILL & 2.5" MODIFIED HMA OVERLAY	NHS - High Volume	
2014	2	096A	28.00	39.10	WEST OF CUSTER/PUEBLO CL TO NEWTON RD	\$2,786,766	1" MILL & 1.5" OVERLAY	Other - Low Volume	
2014	2	096A	39.10	46.00	NEWTON RD - EAST	\$1,979,788	1" MILL & 1.5" OVERLAY	Other - Low Volume	
2014	2	160C	405.00	425.69	KIM - EAST AND WEST	\$4,637,886	1" MILL & 1.5" OVERLAY	Other - Low Volume	
2014	2	167A	0.00	1.50	NORTHEAST OF FOWLER	\$369,876	1.5" MILL & 1.5" OVERLAY	Other - Low Volume	
2014	2	167A	1.50	1.90	THROUGH FOWLER	\$263,023	1.5" MILL & 1.5" OVERLAY	Other - Low Volume	
2014	2	167A	1.90	4.91	SOUTHWEST OF FOWLER	\$742,219	1.5" MILL & 1.5" OVERLAY	Other - Low Volume	
						R2 Baseline \$29,128,772			
						R2 RAMP \$15,174,000			

Statewide Surface Treatment Projects for FY2014* - All baseline and RAMP projects

4/9/2013

Shading used to show highway segments grouped into one project									
FY	Region	Highway	BMP	EMP	Description	Estimate	Treatment Type	Tier	
2014	3	070A	16	37.0	Loma to Clifton	\$27,000,000	FY14 RAMP - 3" HMA overlay	Interstate	
2014	3	070A	87	97	I-70 Rifle Slab Replacement	\$4,000,000	FY14 RAMP - concrete slab replacement	Interstate	
2014	3	070A	203.9	213.5	I-70 EB Truck Lane	\$2,000,000	FY 14 RAMP - 2" mill & 2" HMA overlay, rt EB lane only	Interstate	
2014	3	64	28	38	SH 64 East of Rangely	\$4,200,000	1.5" HMA overlay	Other - Low Volume	
2014	3	6	163.1	170.2	US 6 Edwards E & W	\$3,500,000	1.5" overlay; mill and fill where C&G exist	Other - High Volume	
2014	3	133	66	68.2	SH 133 Carbondale: Added to RPP project for minor ml paving only	\$500,000	added to RPP project for minor mainline paving only	Other - Low Volume	
2014	3	340	1	7.22	SH 340 King's View Estates (additional paving only): Surface treatment will be added to project for additional paving, extends to 20.5 Rd; limits may change	\$3,300,000	added funding for paving extension only	Other - Low Volume	
2014	3	40	129.9	131.7	US 40 Steamboat East and West		2" HMA mill and fill (in town)	NHS - High Volume	
		40	132.6	139.1		\$6,000,000	2" HMA with spot leveling east of town	NHS - High Volume	
2014	3	13	79	88.6	SH 13 South of Craig	\$7,400,000	2" milling + 3" HMA overlay	Other - Low Volume	
2014	3	70 Fr N	172.8	176	Vail Frontage Roads		1.5 or 2" HMA; some C&G sections with 2" milling, and ADA		
		70 Fr S	172.2	180		\$4,600,000	ramps:		
2014	3	50	42.19	46.3	US 50 Whitewater East: milling and overlay (budget based on 3" HMA overlay), paving RR approaches on SH 141	\$5,500,000	mill & 3" overlay, paving RR approaches on SH 141	NHS - High Volume	
						R3 Baseline \$35,000,000			
						R3 RAMP \$33,000,000			
2014	4	76		10 miles	NE COLO - Next I-76 Segment	\$25,000,000	RAMP FUNDING FY14 - Major rehab not reconstruction	Interstate	
2014	4	263A	2.73		CR 49 to Fern Ave. (No MP to CR49 Available)	\$203,000	2" HMA	Other - Low Volume	
2014	4	287C	347.72	348.26	Conifer to Willox	\$1,000,000	Composite HMA/Conc.	NHS - High Volume	
2014	4	287C	339.09	342	Harmony South	\$4,200,000	3" Mill and Fill	NHS - High Volume	
2014	4	14C	139.5	147.32	East of I-25 to WCR 23	\$12,500,000	6" CIPR+4.5"HMA	Other - High Volume	
2014	4	85L	279.76	291.5	Ault to Nunn	\$8,214,000	FDR + 5" HMA	Other - Low Volume	
2014	4	86	38.1	50.5	Ramah Rd. - East	\$7,250,000	HMA Mill and overlay	Other - Low Volume	
2014	4	36	118.4	120	Jct SH 36 & Cabin Creek	\$500,000	Overlay and patching as needed	Other - Low Volume	
2014	4	76			Slab replacements	\$2,400,000		Interstate	
2014	4	119C	59.7	63.55	Boulder/Weld CL East	\$12,000,000	FDR+PCCP	NHS - High Volume	
2014	4				Foothills Parkway Operational Improvements	\$75,000			
2014	4	119B	44.24	44.61	Partner w/ Boulder-East of 36(Iris)	\$400,000		NHS - High Volume	
						R4 Baseline \$48,742,000			
						R4 RAMP \$25,000,000			
2014	5	491A	0	6.422	US 160/US 491 New Mexico to Towaoc	\$19,708,000	RAMP FUNDING FY14 - 1" Leveling course 2" overlay	NHS - Low Volume	
		160A	18.298	30			RAMP FUNDING FY14 - Full depth Reclamation, overlay	NHS - High Volume	
2014	5	285A	5.23	6.3	US 285 in Antonito Reconstruction	\$5,000,000	Concrete reconstruction	NHS - Low Volume	
2014	5	285A	6.3	11	US 285 Antonito North	\$4,500,000	Leveling course and overlay (scoping underway)	NHS - Low Volume	
2014	5	160A	273.5	278.6	US 160 La Veta Pass	\$6,500,000	Leveling course and overlay (scoping underway)	NHS - Low Volume	
2014	5	160A	107	117	US 160 Bayfiled to Yellow Jacket	\$7,000,000	2" overlay (scoping underway)	NHS - High Volume	
2014	5	160A	71	81.3	US 160 Hesperus to Durango (west of Wildcat Canyon)	\$10,500,000	Determined after scoping	NHS - High Volume	
						R5 Baseline \$33,500,000			
						R5 RAMP \$19,708,000			

FY 2014

Statewide Baseline \$178,870,772
Statewide RAMP \$92,882,000

Statewide Surface Treatment Projects for **FY2015*** - All baseline and RAMP projects

Shading used to show highway segments grouped into one project

4/9/2013

FY	Region	Highway	BMP	EMP	Description	Estimate	Treatment Type	Tier
2015	1	058A	0	5.6	SH-58: SH-93 to I-70	\$15,000,000	RAMP FUNDING FY15 - HMA and PCCP Options	Other - High Volume
2015	1	24	350.8	359.6	El Paso CL - East	\$4,540,000	Minor Rehab	Other - Low Volume
2015	1	SH 74	8	18	Evergreen to Morrison	\$3,500,000	Minor rehab mill and fill	Other - High Volume
2015	1	79.0	4.2	18.9	North of Bennett - North	\$3,000,000	Thin overlay	Other - Low Volume
2015	1	I-70	220.0	228.0	Bakerville to Georgetown	\$6,000,000	Mill and fill	Interstate
2015	1	30.0	11.7	15.1	Pickadilly-Buckley	\$2,000,000	Minor rehab mill and fill	NHS - High Volume
2015	1	US 40	242.7	244.4	Berthoud Pass	\$1,000,000	Minor rehab HMA mill and fill	NHS - High Volume
2015	1	I-70	232	241	HSR Treatment - (Placeholder)	\$2,000,000	Minor rehab HMA mill and fill to shoulders	Interstate
2015	1	US 40	288	291.4	Colfax Ave., I-70 to Kipling	\$3,000,000	2" mill 2.5" hma fill	Other - High Volume
2015	1	SH 95	6.9	9.7	Sheridan Blvd., 25th to I-76	\$3,500,000	2" mill 2.5" hma fill	Other - High Volume
2015	1	SH 128	5.4	8	Eldorado to Wadsworth	\$2,500,000	2" mill 2" hma fill	Other - High Volume
2015	1	US 85	200.1	204.2	Santa Fe Dr., Blakeland to Crestline	\$8,000,000	2" mill 2" hma fill	NHS - High Volume
2015	1	US 40	298.7	300.7	Colfax Ave., Clarkson to Colorado	\$3,000,000	2" mill 2.5" hma fill	NHS - High Volume
2015	1	SH 177			At US-285 Intersection Reconstruction (Hampden/University)	\$3,000,000	Concrete intersection 10 - 12"	NHS - High Volume
						R1 Baseline \$45,040,000		
						R1 RAMP \$15,000,000		
2015		025A	26.6	39	Ludlow North	\$21,400,000	RAMP FUNDING FY15- 4" mill and HMA fill (modified top mat)	Interstate
2015	2	025A	54.7	59	I-25 JCT SH 10 TO AIRPORT ROAD	\$6,256,431	2.5" MILL & 2.5" MODIFIED HMA OVERLAY	Interstate
2015	2	025A			AIRPORT AND REDROCK RD INTERCHANGE		2.5" MILL & 2.5" MODIFIED HMA OVERLAY	Interstate
2015	2	350A	8.4	33.4	THATCHER - EAST & WEST	\$5,828,180	1" MILL & 1.5" OVERLAY	Other - Low Volume
2015	2	050B	377.4	381.2	THROUGH LA JUNTA	\$5,211,329	2.5" MILL & 2.5" MODIFIED HMA OVERLAY	NHS - High Volume
2015	2	094A	17.2	35.007	ELLCOTT EAST TO EL PASO / LINCOLN CL	\$9,588,481	1" MILL & 3" OVERLAY	Other - Low Volume
2015	2	096A	55.4	58.812	ARKANSAS RIVER TO US 50B	\$2,818,503	4" MILL & 2" HMA OVERLAY	Other - High Volume
2015	2	096A	55.4	58.812	ARKANSAS RIVER TO US 50B (TOP LIFT)	\$2,675,281	2" MODIFIED HMA OVERLAY TOP LIFT	Other - High Volume
2015	2	024A	225.55	226.81	CHAFFEE / PARK CL (TROUT CR PASS) EAST	\$3,722,403	2.5" MILL & 2.5" OVERLAY	NHS - Low Volume
2015	2	024A	226.55	234	ANTERO JCT EAST		2.5" MILL & 2.5" OVERLAY	Other - Low Volume
2015	2	285D	161.8	162	ANTERO JCT NORTH		2.5" MILL & 2.5" OVERLAY	NHS - Low Volume
						R2 Baseline \$36,100,607		
						R2 RAMP \$21,400,000		

Statewide Surface Treatment Projects for **FY2015*** - All baseline and RAMP projects

Shading used to show highway segments grouped into one project

4/9/2013

FY	Region	Highway	BMP	EMP	Description	Estimate	Treatment Type	Tier
2015	3	050A	158	181.6	US 50 Gunnison East	\$12,000,000	RAMP FUNDING FY15- 2" mill and 3" HMA overlay	NHS - High Volume
2015	3	SH 9	82.0	86.2	Hoosier Pass to Breckenridge	\$2,900,000	Minor rehab HMA mill and fill	Other - High Volume
2015	3	133	50	62	SH 133 Redstone N & S: (Priority 1 for Forest Highway Funds)	\$7,900,000	3" HMA (Budget shown includes paving pullouts)	Other - Low Volume
2015	3	50	145	156	US 50 West of Gunnison	\$9,000,000	3" HMA overlay	NHS - Low Volume
2015	3	13	98	111	North of Craig	\$17,000,000	overlay with full depth reclamation or 8" CIPR + 3" HMA	Other - Low Volume
2015	3	To be determined			Craig Residency	\$1,700,000	Various Chip Seals 2015	
						R3 Baseline \$38,500,000		
						R3 RAMP \$12,000,000		
2015	4	70A	401.3	419.3	I-70 Alkali Silica (Phase 1)	\$25,000,000	RAMP FUNDING FY15 - Portions done this phase	Interstate
2015	4	287C	334.7	339.09	Loveland North to Harmony (Ft Collins)	\$6,000,000	3" Mill and Fill	NHS - High Volume
2015	4	85L	291.5	301	Nunn to Carr	\$9,300,000	FDR and HMA	Other - Low Volume
2015	4	287C	342.3	346.28	College Ave. Ft Collins, Mulberry South	\$7,500,000	3" Mill and Fill	NHS - High Volume
2015	4	392B	104.46	110	Windsor East (257A/392B)	\$5,000,000	CIPR + 3" HAMA Possibly	Other - High Volume
2015	4	66B	36.6	42.4	Boulder/Weld CL East	\$4,500,000	4"HMA	Other - High Volume
2015	4	76A			I-76 Slab Replacement	\$500,000		Interstate
2015	4	287C	339.1	339.3	PCCP Intersection 287/392	\$900,000	3" Mill and Fill	NHS - High Volume
2015	4	85H	0.42	2.07	Greeley Buss. 5th to O. St.	\$2,700,000	Slabs	Other - High Volume
2015	4	14B	75	85	Hwy 14 Chips(East of Cameron Pass	\$1,200,000	Chip seal	Other - High Volume
2015	4	287C	307.95	309.2	Jasper Road North Chips	\$500,000	Chip seal	NHS - High Volume
2015	4	71D	138	154.5	Woodrow South Chips	\$1,400,000	Chip seal	NHS - Low Volume
2015	4	36A	5	7	RMNP to Elkhorn	\$1,500,000	4" HMA	Other - High Volume
						R4 Baseline \$41,000,000		
						R4 RAMP \$25,000,000		
2015	5	160A	61.79	81.5	US 285/US 24 Resurfacing N&S of Johnson Village	\$15,176,700	RAMP FUNDING FY15 - Concrete reconstruct in town, 1" levelii	NHS - High Volume
2015	5	50A	199	205.25	US 50 Top of Monarch to Maysville	\$6,300,000	Leveling course and 2" overlay (scoping underway)	NHS - Low Volume
2015	5	491B	26.4	32	US 491 North of Cortez (w/Lebanon Rd Inter.)	\$9,000,000	Concrete Reconstruction (lifecycle cost analysis needed)	NHS - High Volume
2015	5	145A	3.5	4.588	SH 145 Cortez north to CR P (intersection)	\$1,103,500	1 - 2" overlay (scoping underway)	Other - High Volume
2015	5	550B	105	115.56	US 550 Ridgway North	\$8,115,489	1 - 2" overlay (scoping underway)	NHS - High Volume
2015	5	112A	0	13.1	SH 112 Del Norte to US 285	\$6,000,000	1 - 2" overlay (scoping underway)	Other - Low Volume
						R5 Baseline \$30,518,989		
						R5 RAMP \$15,176,700		

FY 2015

Statewide Baseline \$191,159,596

Statewide RAMP \$88,576,700

RAMP FY '14 Asset Management



CDOT
April 18, 2013



Agenda

- RAMP Asset Management Funds
- Proposed FY '14 Uses in “Minor” Categories
- *Note: Surface Treatment and Bridges covered separately*



Delphi - Asset Management

	FY14 RAMP = \$160 Million		
<u>Asset:</u>	<u>FY14 Budget</u>	<u>FY14 RAMP</u>	<u>FY14 Budget + RAMP</u>
Surface Treatment	\$150.6	\$88.2	\$238.8
Structures			
Bridge & BE	\$140.6	\$33.3	\$173.9
Tunnels	\$0.0	\$7.4	\$7.4
Culverts	\$5.6	\$5.9	\$11.5
Walls	\$0.5 incl. in Brdg	\$0.0	\$0.0
MLOS	\$249.0	\$0.0	\$249.0
Fleet	\$14.1	\$6.8	\$20.9
ITS (excludes new capital)	\$11.2	\$10.3	\$21.5
Rockfall	\$5.2	\$3.8	\$9.0
Buildings	\$6.9	\$4.4	\$11.3
Total	\$583.2	\$159.9	\$743.1

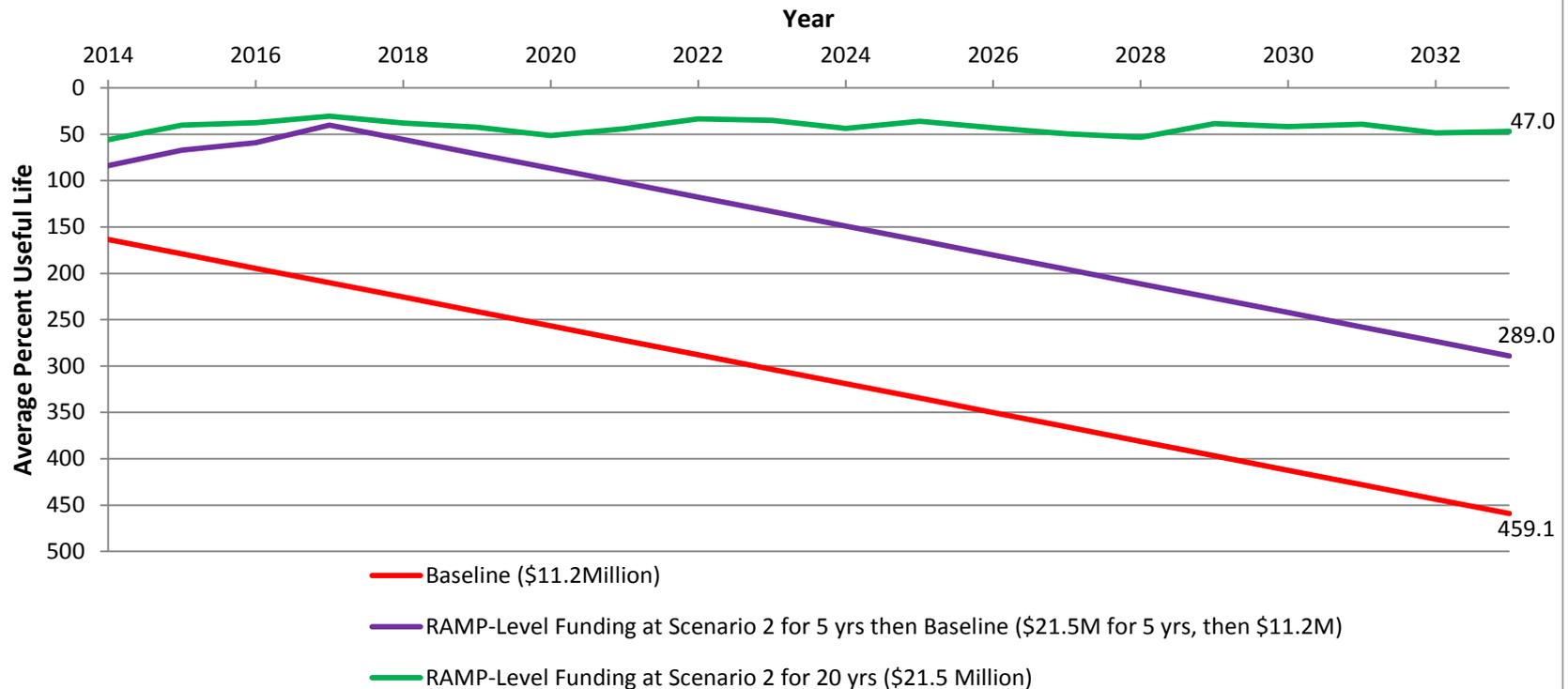


ITS Maint., Ops, Replacement

Analysis Assumptions

- Y-axis based on mfg. spec. modified by actual experience
- Timeframe: 20 years, 3% inflation
- Assumes July 1 expenditure
- Excludes new capital requests
- Excludes growth of capital inventory

ITS Percent Useful Life
FY14 Baseline Budget & RAMP Funds



Proposed FY 14 RAMP ITS Capital Replacement

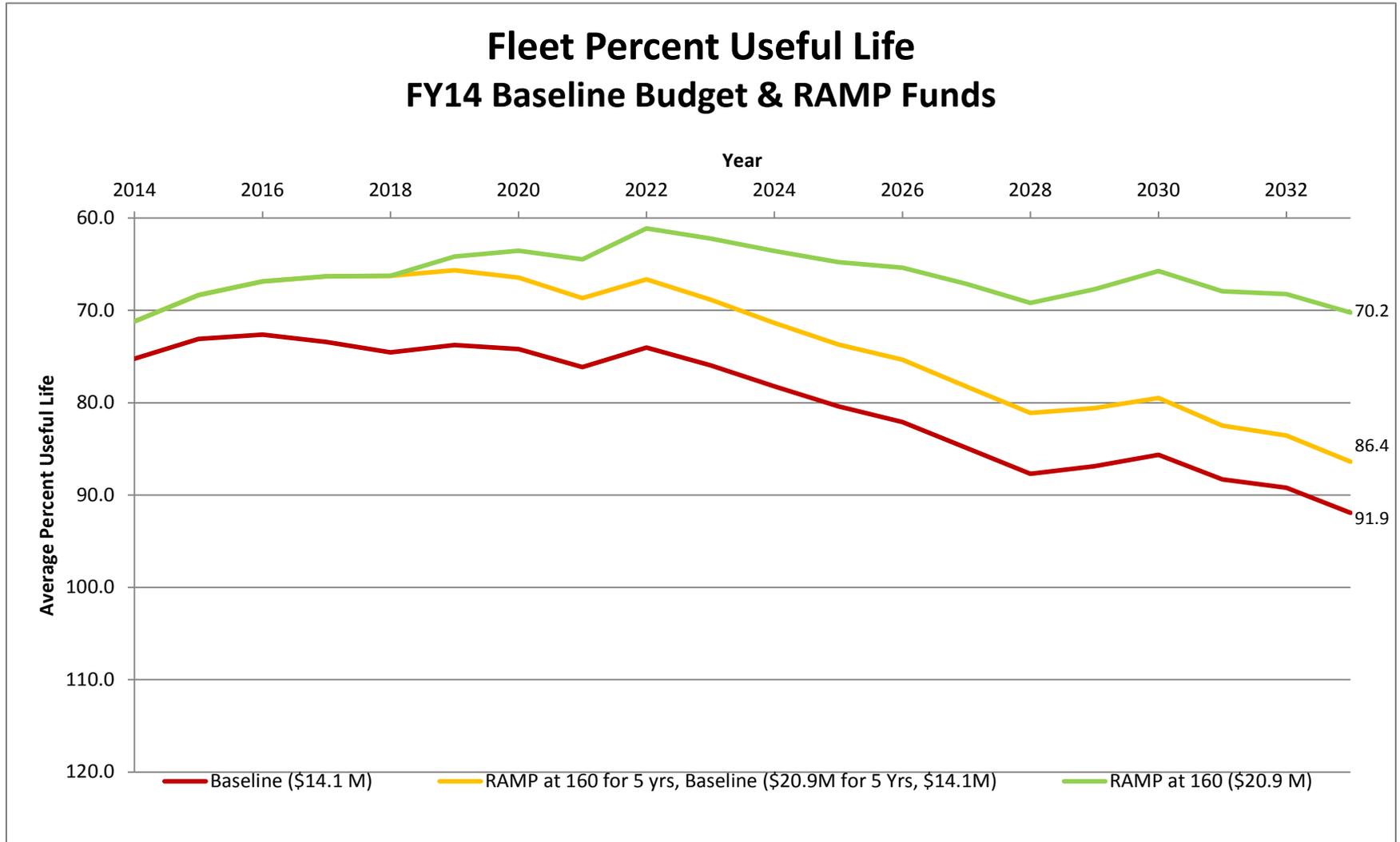
- Variable Message Sign Replacements \$6.2 m
(24 signs at various locations)
- ITS Network Upgrade \$2.1 m
(Switches, Routers, Encoders, Fiber)
- ITS System Equipment Upgrade \$0.9m
(Servers, Firewall, Video Distribution)
- CTMC Video Wall Upgrade \$1.1 m
(Components, Processor, Consoles)



Fleet Asset Management

Analysis Assumptions

- Based on % useful life
- 3.0% inflation rate
- Timeframe: 20 years



Note: a previous fleet analysis included \$0 in the first year to address the lag for purchasing equipment; 6 this graph funds all years for consistency in this slide deck.

Proposed FY 14 RAMP Fleet Purchases

- \$6.8 million added to \$14.1 m baseline
- Moved down the replacement list
- 36 pieces of equipment
- Some Examples:
 - 3 Motor Graders @ \$275k each
 - 7 Tandem Dumps @ \$262k each
 - 8 Mid-Range Dumps @ \$231k each
 - 2 Loaders \$450k total



Real Estate (Buildings)

FY14 Buildings	
FY14 Baseline without RAMP:	FY14 Baseline with RAMP:
\$6.9 Million	\$11.3 Million
\$2.0 Million Controlled Maintenance	\$2.0 Million Controlled Maintenance
\$.35 Million Deferred Maintenance	\$.35 Million Deferred Maintenance
\$4.55 Million Capital:	\$8.95 Million Capital:
Fairplay (7-bay vehicle storage facility, replaces older bldg) \$1.05m	Fairplay (7-bay vehicle storage facility, replaces older bldg) \$1.05m
R2 Maintenance Shop (4-bay+ Offices) \$600k	R2 Maintenance Shop (4-bay+ Offices) \$600k
R4 6-bay vehicle storage facility \$900k	R4 6-bay vehicle storage facility \$900k
CO Sand Sheds (6) \$2.0m	CO Sand Sheds (6) \$2.0m
Berthoud Falls	Berthoud Falls
Colorado Springs	Colorado Springs
Snowmass	Snowmass
New Raymer	New Raymer
Durango	Durango
Villa Grove	Villa Grove
	R3 Twin Lakes Bay Extensions for longer vehicles (4) & Roof \$500k
	R4 Loveland Bay Extensions (4) \$400k
	Empire (12-bay vehicle storage facility replacement)\$1.8m
	CO Sand Sheds (5) \$1.7m (work thru backlog)
	Colbran
	Douglas Pass Summit
	Joes
	Carr

Controlled Maintenance: Allocated on Annual basis for A-C Rated Buildings to maintain current level

Deferred Maintenance : Allocated to D buildings to prevent them falling to F List



Tunnels

FY14 Tunnels	
FY14 Baseline without RAMP:	FY14 Baseline with RAMP:
\$0	\$7.4 Million
	Eisenhower-Johnson Memorial Tunnel (Region 1)
	\$5M Roof replacement at each end of the tunnel
	Hanging Lake Tunnel and Reverse Curve (Region 3)
	\$1M Tunnel Lighting Upgrade
	\$20K Upgrade Switchgear Controls
	Wolf Creek Tunnel (Region 5)
	\$1.3 M Tunnel Lighting Design and Construction
	\$60K Replace UPS
	\$50K Upgrade De-icing System



Culverts

FY14 Culverts	
FY14 Baseline without RAMP:	FY14 Baseline with RAMP:
\$5.6 Million	\$11.5 Million
Repair or Replace ~15 Culverts	Repair or Replace ~31 Culverts
Colorado: 6,100 minor culverts and minor bridges	
Backlog for essential repairs: 209	
Backlog on the Interstate: 41	
Average estimated repair cost: \$370,000	

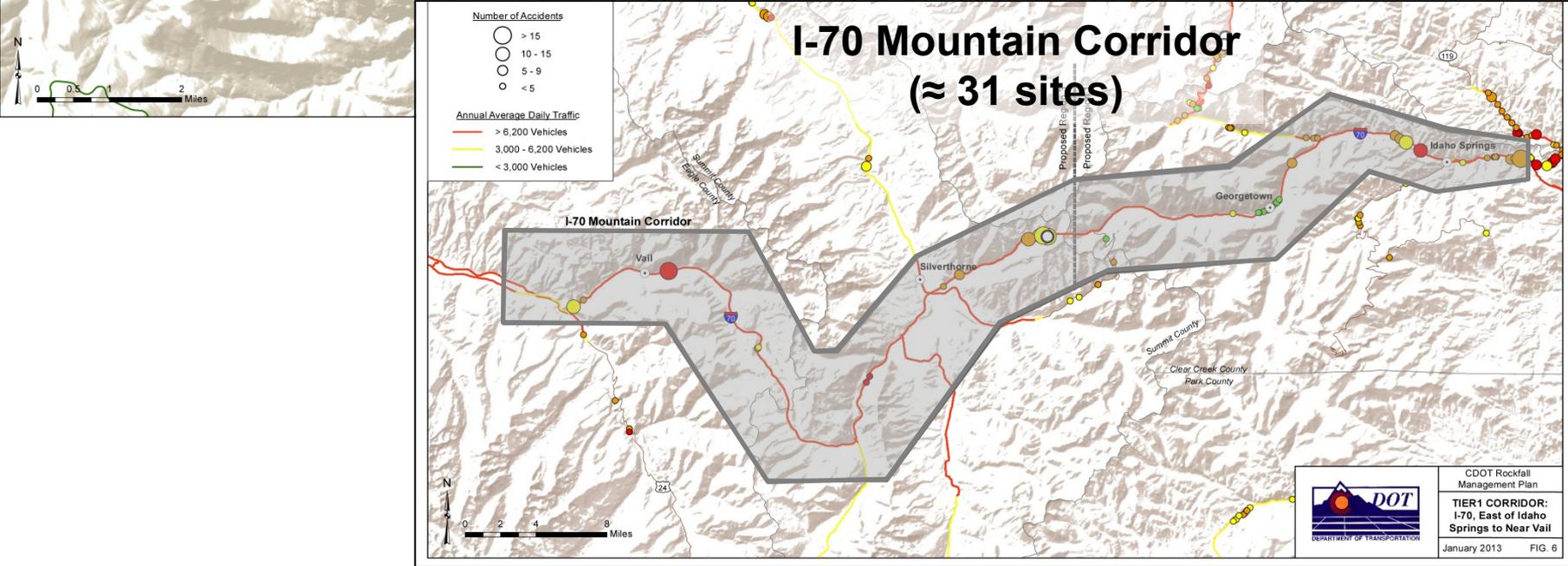
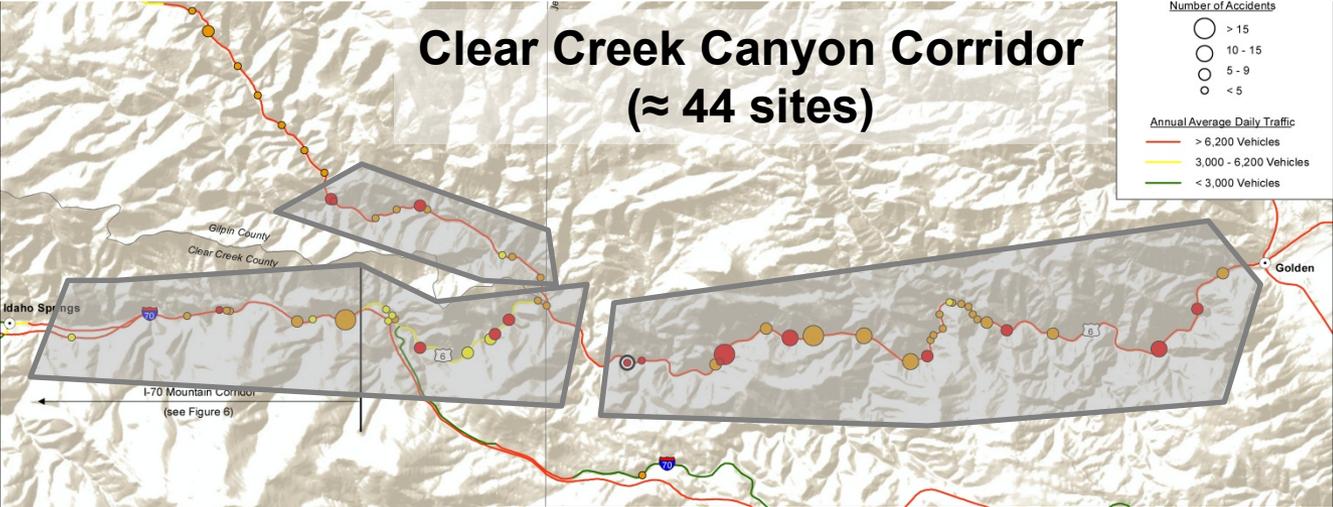


Rockfall Mitigation

FY14 Rockfall Mitigation	
FY14 Baseline without RAMP:	FY14 Baseline with RAMP:
\$5.2 Million	\$9.0 Million
\$2.5M Corridor Approach US6, Clear Creek Canyon Corridor	\$5 M Corridor Approach US6, Clear Creek Canyon Corridor (\$3M) I-70, Mountain Corridor (\$2M)
\$1.2M High Risk Outlier US 36, Estes Park	\$2.0M High Risk Outlier US 36, Estes Park
\$500K Design and Operations	\$1M Design and Operations
\$500K Repairs and Replacement	\$500K Repairs and Replacement
\$500K Urgent Need and Emergency	\$500K Urgent Need and Emergency



Corridor Mitigation



CDOT Rockfall Management Plan
TIER 1 CORRIDOR:
 I-70, East of Idaho Springs to Near Vail
 January 2013 FIG. 6

CLOSING

- Future Years
- Additional Questions?
- Comments?



Corridor Mitigation

