



COLORADO Transportation Commission

4201 East Arkansas Avenue, Room270
Denver, CO 80222-3406

DATE: September 17, 2014
TO: Transportation Commission
FROM: Joshua Laipply P.E., Chief Engineer
SUBJECT: Surface Treatment Program Update

Purpose

This topic is intended to update the Transportation Commission on the progress of the "Drivability Life" Pavement Management System and the FY 16 and FY 17 Surface Treatment projects.

Action

Informational Item

Background

With the development of the "Drivability Life" model for pavement management, there is a new philosophy for developing surface treatment projects that is centered around system preservation to maximize the life of our pavements and to treat more lane miles per year. This model was partially implemented for use in developing the FY15 surface treatment projects and is fully implemented for FY 16 and FY17 surface treatment projects.

Details

This workshop will provide a detailed overview and status of the Surface Treatment Program. This will include information on how the new model is directing a positive return on investment as well as details on why the scope and location of statewide projects can vary from year to year. Additionally, information will be presented that compares statewide surface treatment accomplishments at pre-RAMP versus post-RAMP investment levels. Examples of FY 16 and FY 17 pavement investment scenarios will be outlined for the Commission.

Attachments

PowerPoint Presentation on the Driveability Life model and the FY16 & 17 Surface Treatment Projects





COLORADO
Department of
Transportation

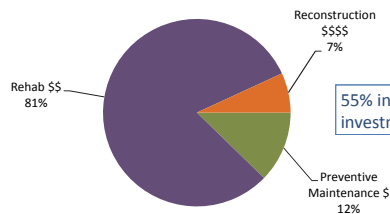


Surface Treatment Program Workshop

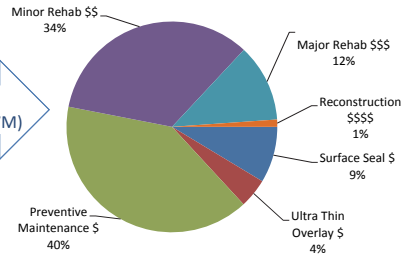


Improvements to Surface Treatment Pavement Management

FY12 Treatment Strategies
Percentage of Treatment Length
(Centerline Miles)



FY16 Treatment Strategies
Percentage of Treatment Length
(Centerline Miles)



55% increased investment (\$83.7M)

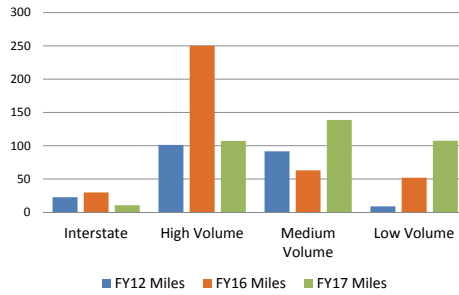
- Before Ramp Investments
- Before Drivability Life Metrics

- After Ramp Investments
- After Drivability Life Metrics



Improvements to Surface Treatment Pavement Management

Treatment Centerline Miles
FY12, FY16, & FY 17



FY12 to FY16 Change in Treatment Miles				
	FY12 Miles	FY16 Miles	FY17 Miles	Avg. Percent Change
Interstate	22.5	29.8	10.6	12%
High Volume	101.2	250.2	107.1	76%
Medium Volume	91.5	62.9	138.7	10%
Low Volume	8.8	51.8	110.4	822%
All Categories	224.0	394.7	366.8	70%



Improvements to Surface Treatment Pavement Management

Investment Efficiency

	Total Centerline Miles	Total STP Investment *	Efficiency Dollars/Mile	Treatment Cycle Time
FY12	224.0	\$180,338,799	\$804,940	41 years
FY16	394.7	\$217,087,000	\$549,958	24 years
FY17	366.8	\$218,460,000	\$595,567	

* total construction funds in **today's dollars**



US 24



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FY16 Surface Treatment Program

- FY16: \$235.9 Million
- 83% of FY16 projects match model recommendations (Commission desire was 80%)
- 46 Surface Treatment Projects total



Recall Condition Metric:

- High DL > 10 years Drivability Life
- Moderate DL = 4-10 years Drivability Life
- Low DL ≤ 3 years Drivability Life

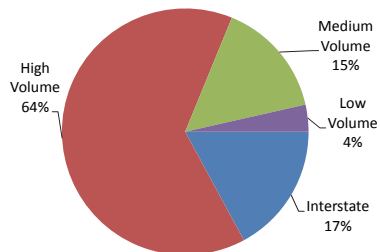
Project Example: 036D, Milepost 220, just west of Kansas border.

- 2013 DL = 6
- 2016 Chip Seal is planned

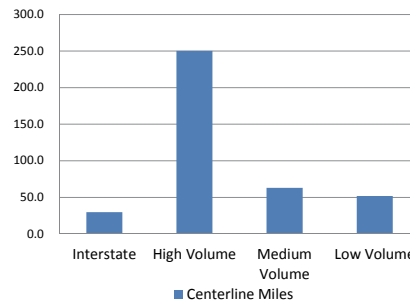


FY16 Surface Treatment Program

FY16 Percent of Dollars Invested in Each Pavement Traffic Category



FY16 Treatment Centerline Miles in Each Pavement Traffic Category



395 total centerline miles planned



FY17 Surface Treatment Program

- FY17: \$240 Million (Anticipated)
- 82% of FY17 projects match model recommendations (Commission desire was 80%)
- 45 Surface Treatment Projects total



Recall Condition Metric:

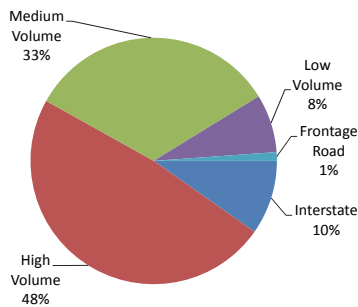
- High DL > 10 years Drivability Life
- Moderate DL = 4-10 years Drivability Life
- Low DL ≤ 3 years Drivability Life

- Project Example: 23A, Milepost 0 to 17.5 outside of Holyoke
- 2013 DL = from 2 to 7
 - 2017 Project planned with mix of treatments TBD

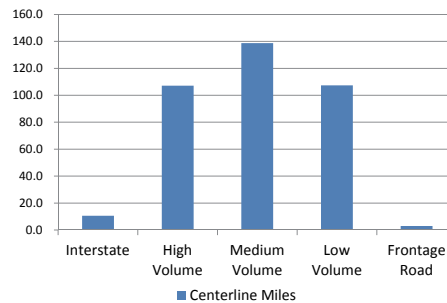


FY17 Surface Treatment Program

FY17 Percent of Dollars Invested in Each Pavement Traffic Category



FY17 Treatment Centerline Miles in Each Pavement Traffic Category



367 total centerline miles planned



Key Take-Aways

- Exceeded Commission desire for 80% match between Surface Treatment Plan and Pavement Management Recommendations
 - 82.4% match for FY16 & 17 combined
 - 762 centerline miles of work planned in FY16 & 17
- Surface Treatment Program ability to proactively manage and mitigate risks
 - Long range project planning cost estimates will change as project-level investigation and design details are refined.
 - Exact beginning and ending mileposts may change to ensure logical construction limits.
 - As projects details are refined, project funding may be modified or redirected among Regional projects to optimize expenditures and construct the complete scope of STP work planned statewide.
 - As project details are refined, funding may be redirected, if approved, between planning years while maintaining planning total amounts over time.
 - Treatment options are defined in the Pavement Design Manual. Exceptions can be granted with approval of the Chief Engineer.