



COLORADO

Department of Transportation

Division of Highway Maintenance

4201 East Arkansas Ave, 3rd Floor
Denver, CO 80222

TO: Transportation Commission
FROM: Kyle Lester, Director of Highway Maintenance
CC: Michael P. Lewis, CDOT Chief Operating Officer

DATE: January 5, 2017
SUBJECT: FY17 Winter Operations Update

Purpose

This memorandum summarizes CDOT's Winter Operations performance and budget for the period of October 1st to January 1st. In addition, current and future initiatives in Winter Operations is provided.

Action Requested

No action is requested at this time.

Background

The snow season began late during the 2017 fiscal year. This is demonstrated by decreased snow and ice spending and lower plow mile totals than this time last year.

Details

Due to a late start in the snow season, the Division of Highway Maintenance is not requesting additional Snow and Ice Contingency funds.

Region 5 Maintenance Section 3 is the only Maintenance section with a projected deficit of \$140,865.08. This deficit is 2.51% of their total snow and ice budget. The section has more than \$2M of their snow and ice budget available for the winter season.

The Division of Highway Maintenance staff will continue to monitor the MLOS snow and ice budgets for future requests.

Section Snow and Ice Report
Tuesday, January 03, 2017

CDOT Section	Section S&I Projected Expenditure	Section S&I YTD Expenditure	Remaining Winter	S&I Section Budget Remaining	Section Budget Surp/(Def)	Section Budget Surplus	Section Budget Deficit	Section TC Recommendation
Greeley Maintenance	\$ 9,454,756.96	\$ 2,599,393.92	60.68%	72.51%	11.83%	\$ 0.00	\$ 0.00	\$ 0.00
Grand Junction Maintenance	\$ 17,078,184.03	\$ 5,561,876.68	60.68%	67.43%	6.75%	\$ 1,153,265.28	\$ 0.00	\$ 0.00
Durango Maintenance	\$ 4,175,095.24	\$ 1,746,512.53	60.68%	58.17%	-2.51%	\$ 0.00	\$ (104,865.08)	\$ 0.00
Pueblo Maintenance	\$ 12,083,522.74	\$ 2,297,713.84	60.68%	80.98%	20.30%	\$ 2,453,527.31	\$ 0.00	\$ 0.00
Aurora Maintenance	\$ 13,858,134.18	\$ 3,113,556.89	60.68%	77.53%	16.85%	\$ 2,335,461.47	\$ 0.00	\$ 0.00
Craig Maintenance	\$ 4,962,245.21	\$ 1,636,263.69	60.68%	67.03%	6.35%	\$ 314,891.12	\$ 0.00	\$ 0.00
Alamosa Maintenance	\$ 4,426,544.43	\$ 1,276,028.44	60.68%	71.17%	10.49%	\$ 464,488.83	\$ 0.00	\$ 0.00
Eisenhower Tunnel	\$ 8,130,795.07	\$ 2,392,185.32	60.68%	70.58%	9.90%	\$ 804,843.30	\$ 0.00	\$ 0.00
Aurora Traffic	\$ 0.00	\$ 0.00	60.68%	0.00%	-60.68%	\$ 0.00	\$ 0.00	\$ 0.00
Pueblo Traffic	\$ 0.00	\$ 0.00	60.68%	0.00%	0.00%	\$ 0.00	\$ 0.00	\$ 0.00
Grand Junction Traffic	\$ 2,564.28	\$ 0.00	60.68%	0.00%	0.00%	\$ 0.00	\$ 0.00	\$ 0.00
Greeley Traffic	\$ 54,801.86	\$ 605.92	60.68%	98.89%	38.21%	\$ 20,942.17	\$ 0.00	\$ 0.00
Durango Traffic	\$ 45,866.27	\$ 7,450.49	60.68%	83.76%	23.08%	\$ 10,584.13	\$ 0.00	\$ 0.00
Total	\$ 74,272,510.27	\$ 20,631,587.72	60.68%	72.22%	11.54%	\$8,676,220.13	(\$104,865.08)	\$ 0.00
Percent of Shortfall to be supplemented								0%

Standard Winter: 10/14 - 05/08



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Department of
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Division of Highway Maintenance

FY17 Winter Operations
Status Update





FY17 Winter Operations

MLOS Budget Status

Section Snow and Ice Report

Tuesday, January 03, 2017

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Standard Winter: 10/14 - 05/08



2016 Winter Weather Overview

Storm Severity

- **A total of six documented Level 3 or greater winter storms** from November 1st to January 6th, 2017.
- The storm severity index (SSI) accounts for the storm’s parameters such as **snowfall volume, rates, duration, wind gusts and surface temps** and gives the storm a severity value.

Storm Event Dates	Max Statewide Storm Severity (SSI)
Nov 17 - 18	4.09
Nov 21 - 24	7.29
Nov 26 - 28	11.86
Dec 6 - 8	7.71
Dec 16 - 18	20.24
Dec 31 - Jan 6	25.64

LEGEND	
SSI = 0	No weather impacts.
SSI = 0.01 - 1.00	Small accumulations. Minimal impacts, if any, expected.
SSI = 1.01 - 5.00	Equates to NWS advisory level. Minor disruptions for those who did not prepare.
SSI = 5.01 - 20.00	Equates to NWS warning level. A day or two of recovery time from snow and ice accumulations.
SSI = 20.01 - 50.00	Significant impacts, even with preparation. Several days of recovery time from snow and ice accumulations.
SSI > 50.01	Historic event. Widespread severe impacts. Up to a week of recovery time from snow and ice accumulations.



FY17 Winter Performance

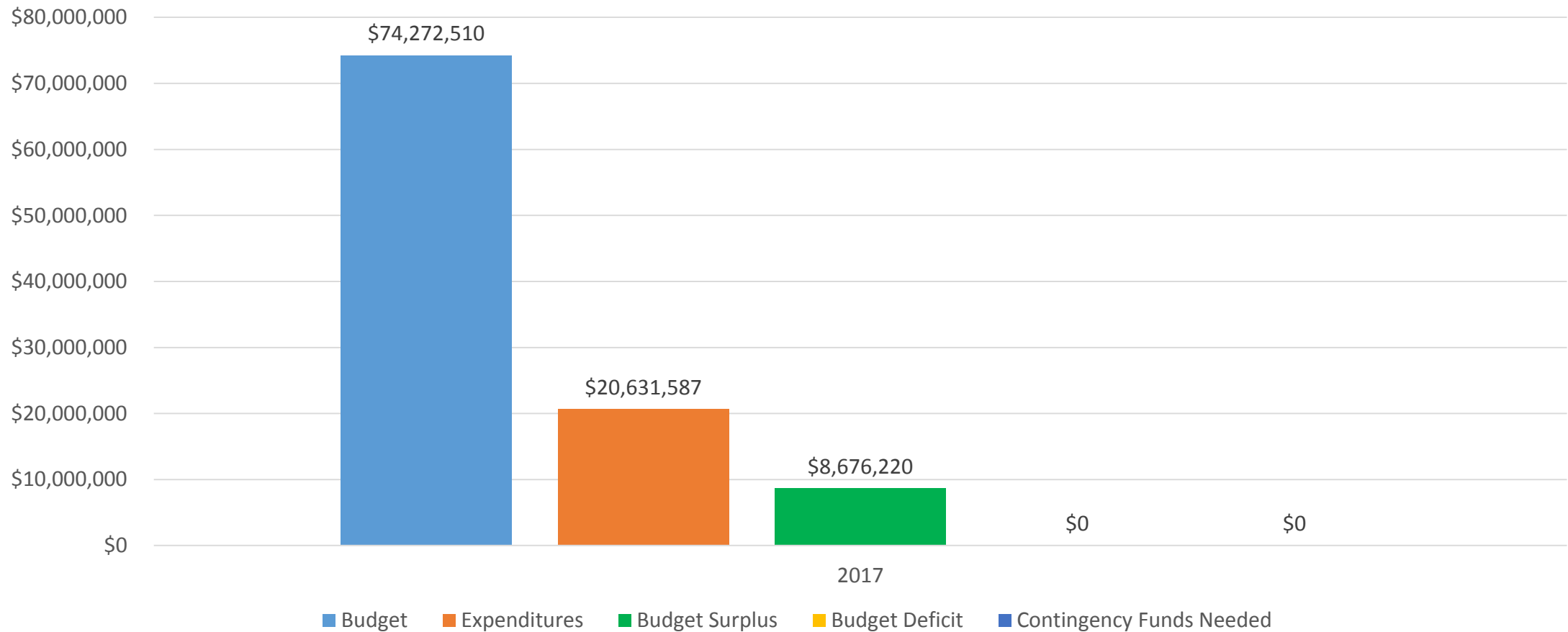
October 1st to January 1st

Statewide Storm Identification	Storm Severity	Performance Grade	Statewide Cost
#1 Nov 17-18	4.09	B	\$1,493,232
#2 Nov 21-24	7.29	A	\$1,191,225
#3 Nov 26-28	11.86	A	\$661,756
#4 Dec 6-8	7.71	B	\$2,512,022
#5 Dec 16-18	20.24	C	\$2,299,475
#6 Dec 31 – Jan 5	25.64	NA	NA



Snow and Ice Financial Status

Budget, Expenditures, Surplus, Deficit and Contingency Funding Needs
10/2016 – 12/2016

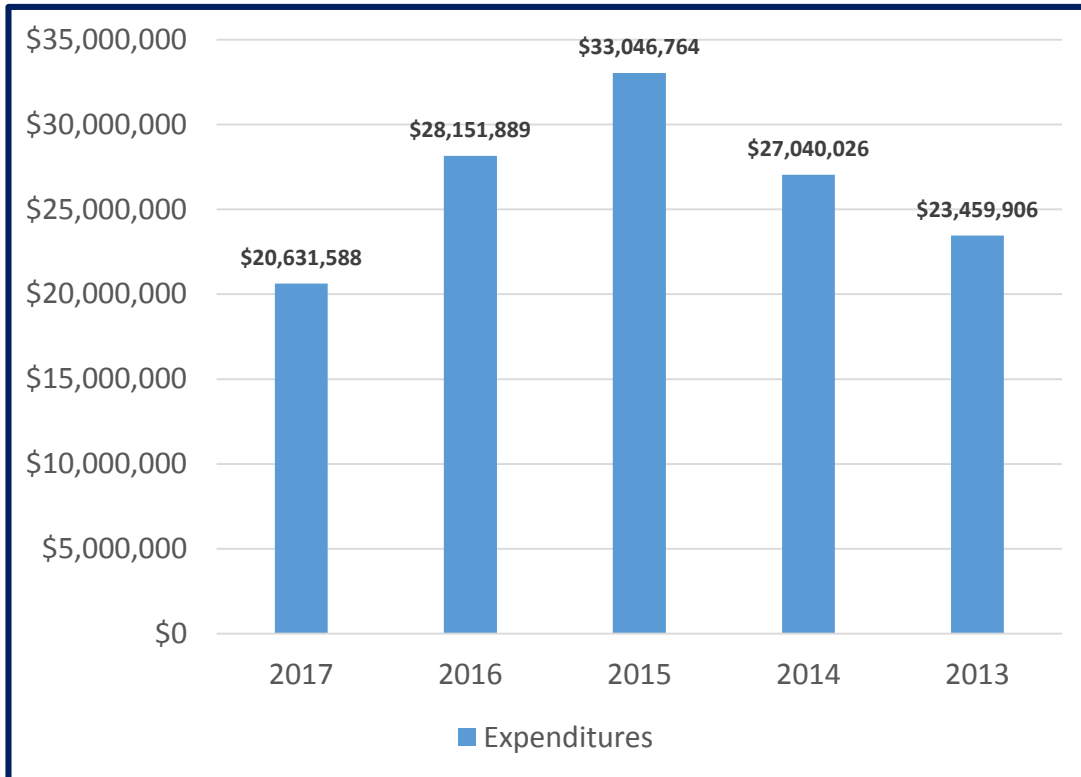




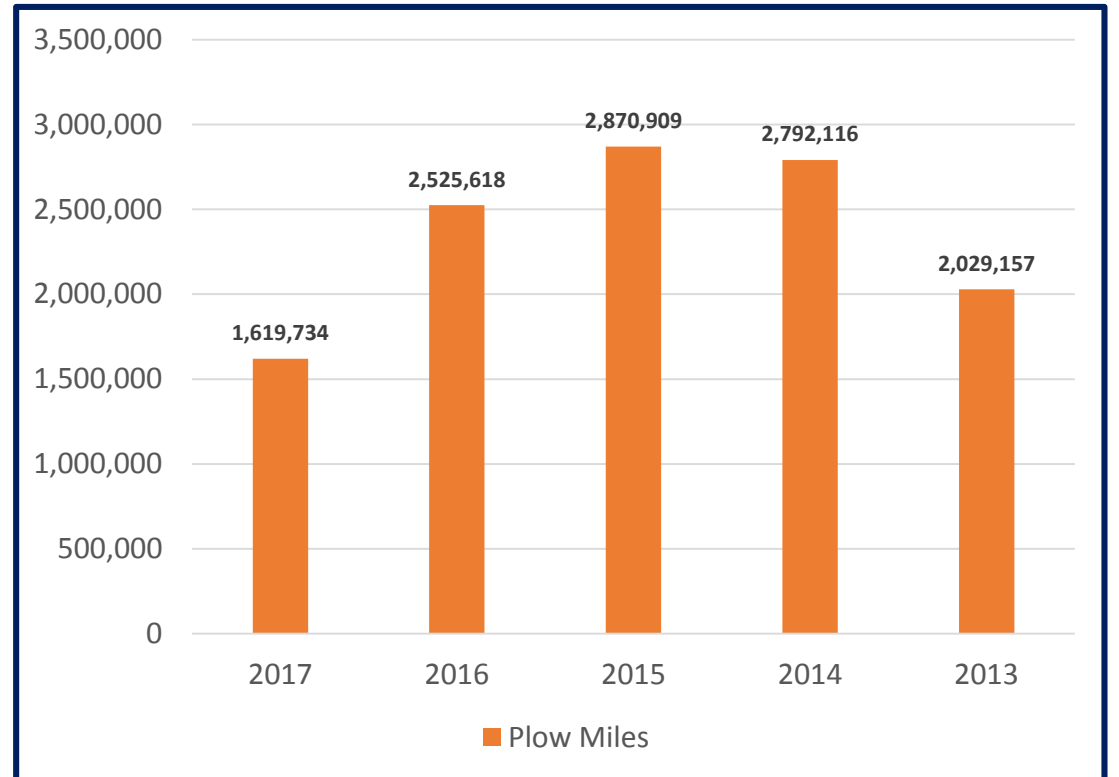
Snow and Ice Budget Status

Historical Expenditures and Accomplishments To Date Comparison
October - December

Expenditures



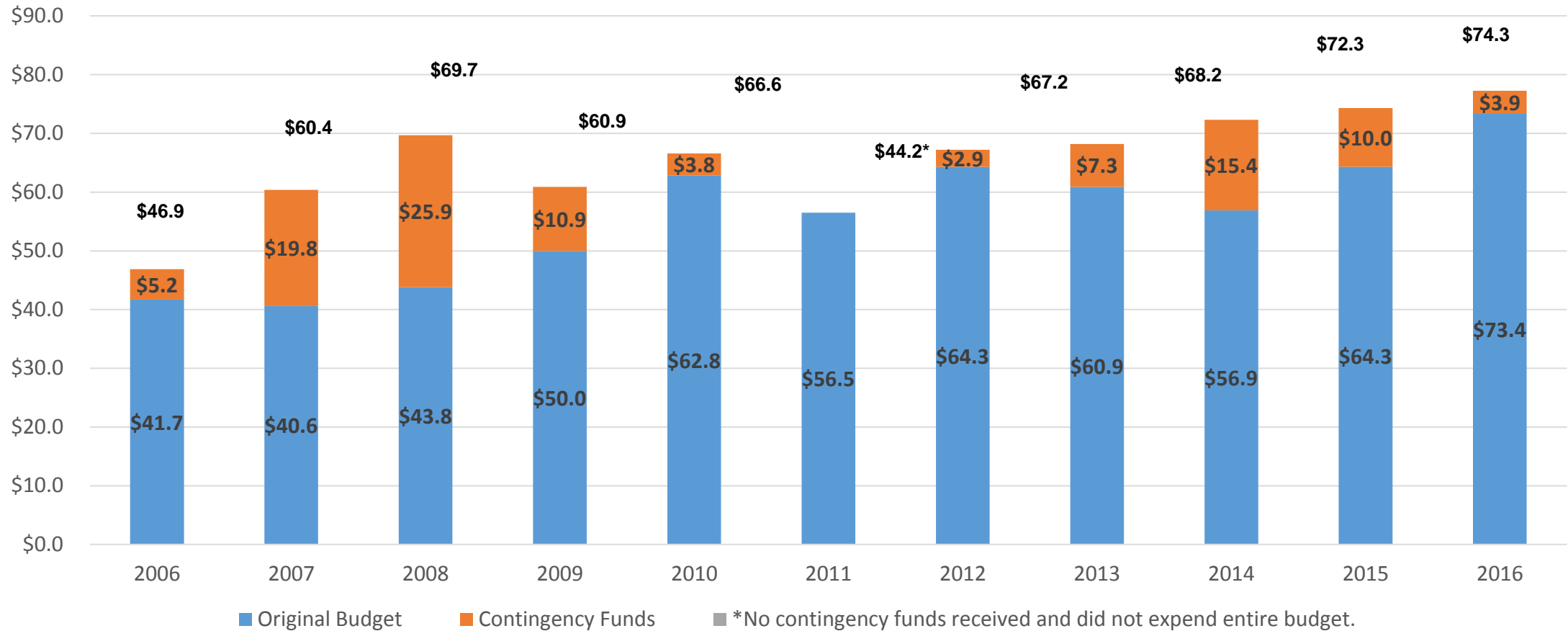
Plow Miles





Snow and Ice History

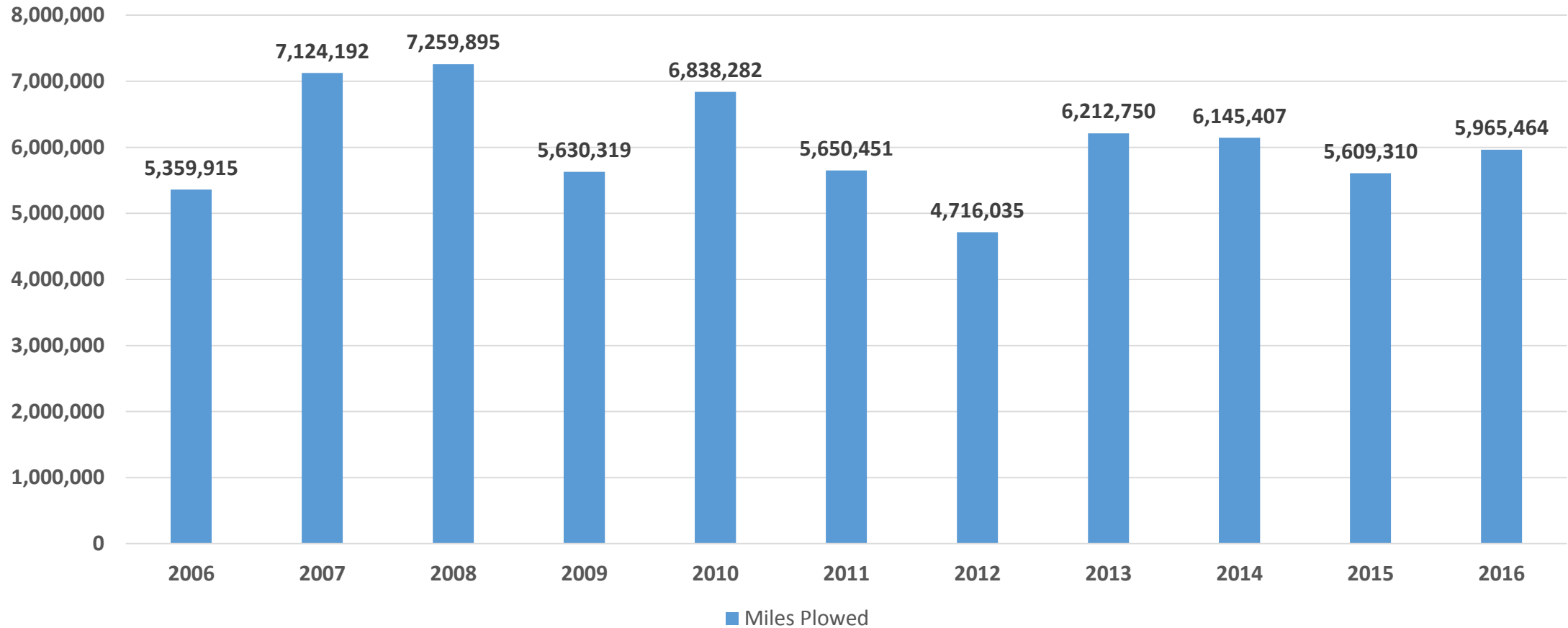
Original Budgets and Contingency Usage





Snow and Ice History

Miles Plowed





Winter Operations

Current and Future Initiatives

- Within the past month brought on David Johnson as the Winter Operations Manager. Mr. Johnson is a meteorologist and will advance our weather forecasting accuracy.
- Currently conducting a project with FHWA called Pathfinder to improve internal and external stakeholder communication.
- Reviewing and evaluating all statewide patrol plans for optimization opportunities. We are challenging historical routing patterns in an effort to increase our level of service with our existing resources.
- Deploying new technologies, such as telematics, the maintenance decision support system and Gazex, to advance winter operation performance.