

Public Works Department

FY 2019-2020 Budget

Town of Brunswick

Jay Astle
Public Works Director
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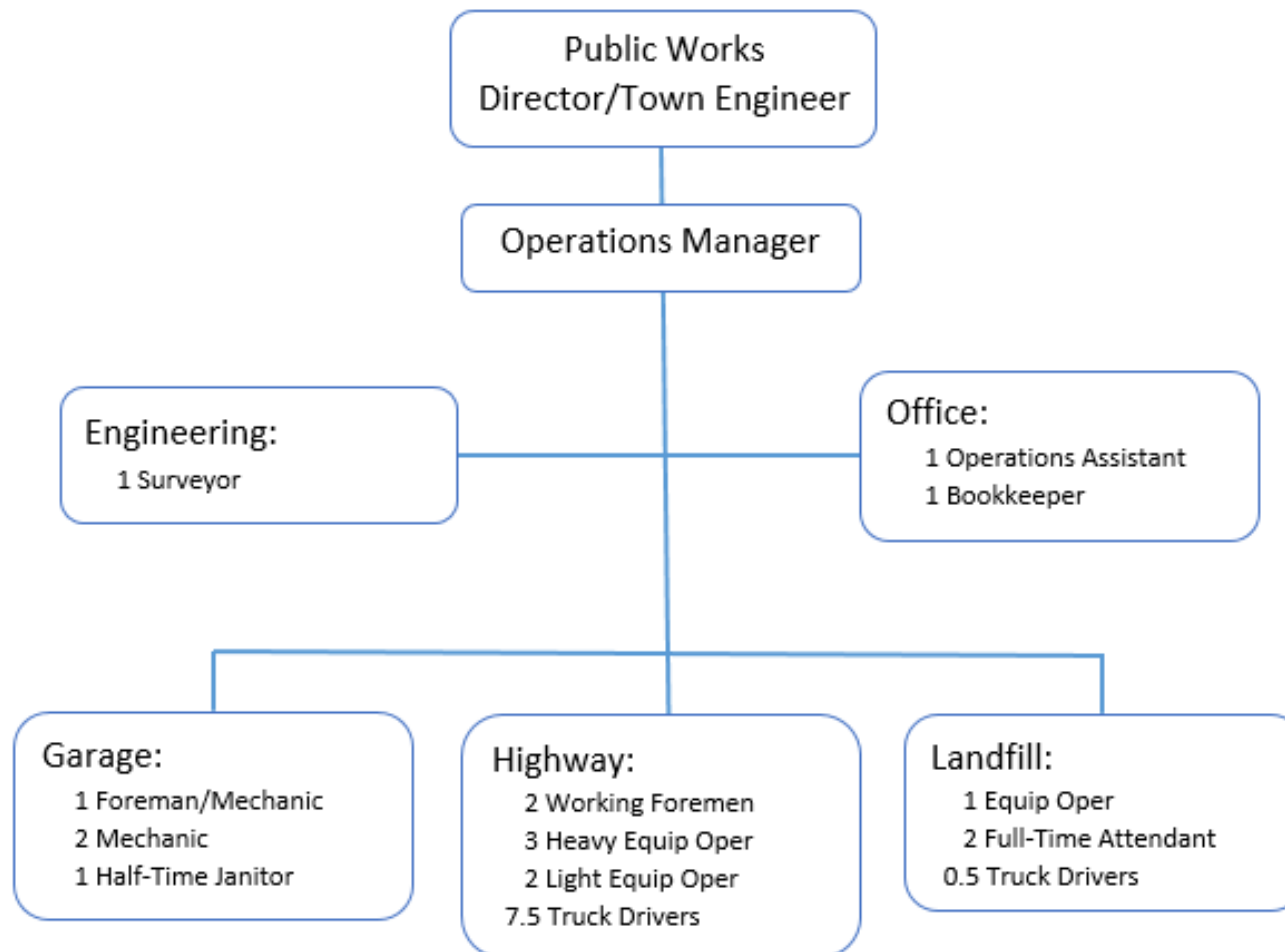
Ryan Barnes, PE, CPESC
Town Engineer
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Tom Mann
Operations Manager
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Office: 725-6654

FY 2016-2017 Organizational Chart

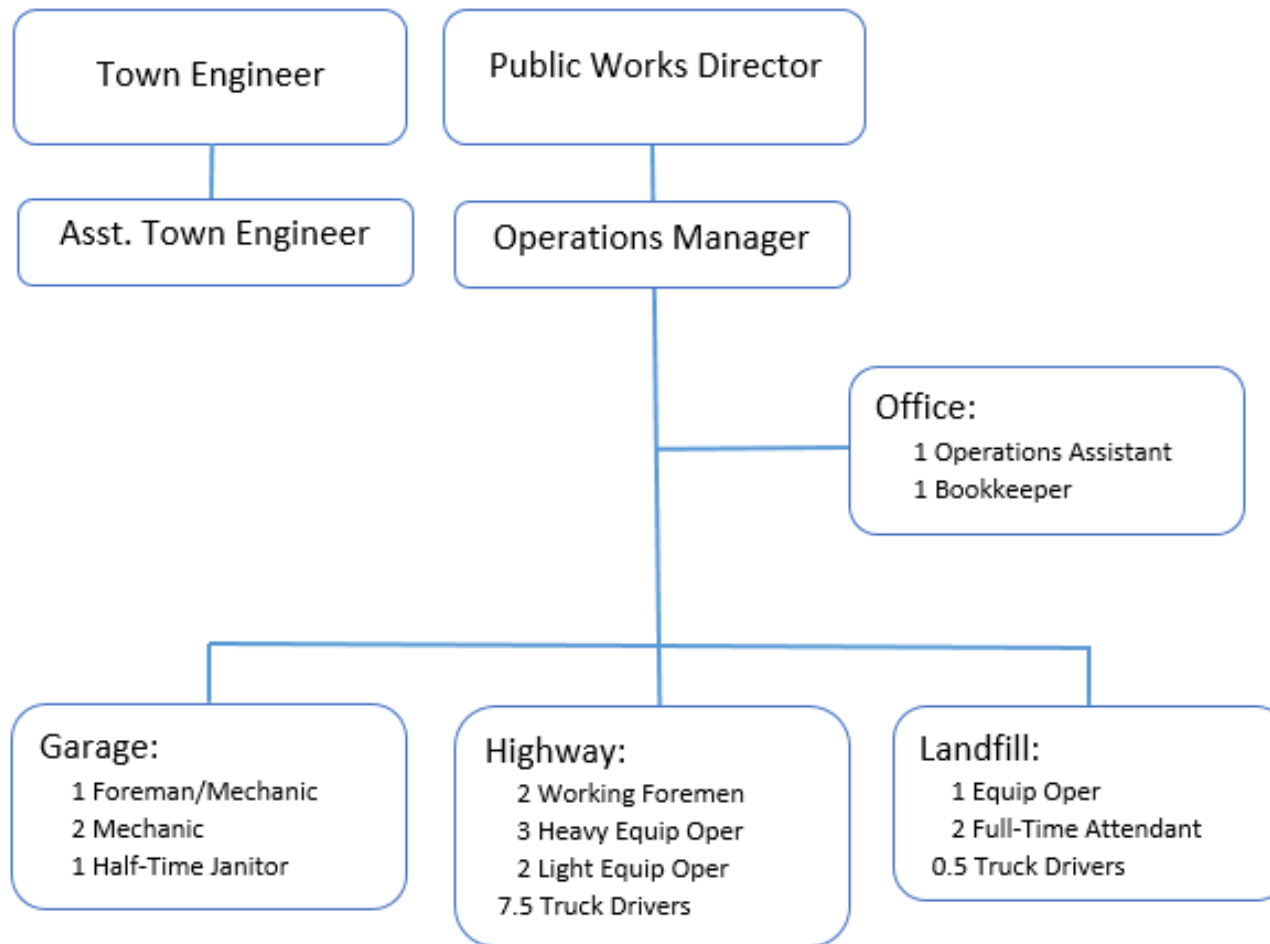
Public Works Department



26 Regular Employees – 25.5 FTE

FY 2019-2020 Organizational Chart

Public Works Department

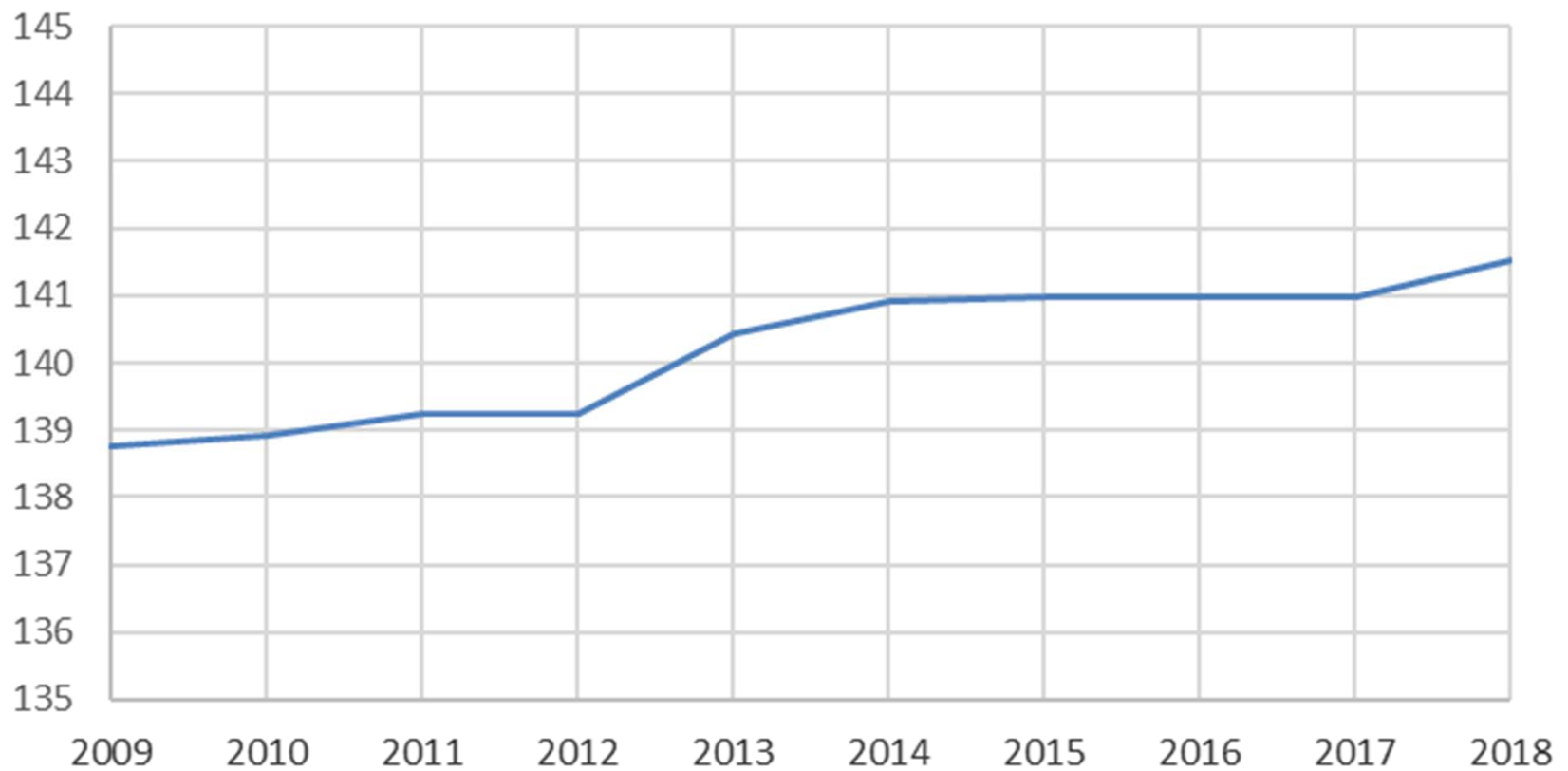


26 Regular Employees – 25.5 FTE

Historical Trends

Public Works Department

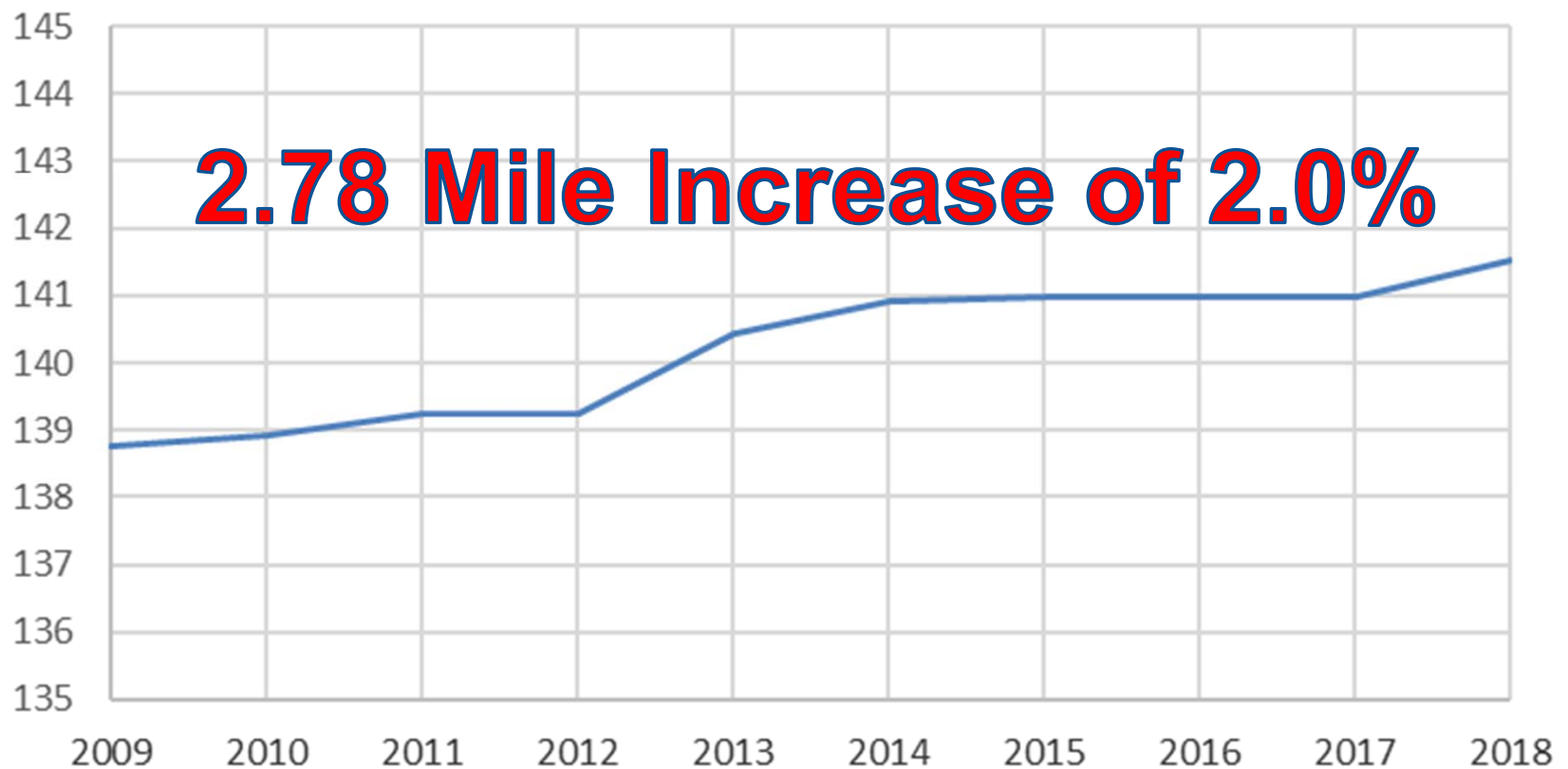
2009-2019 Increase in Roadway Mileage



Historical Trends

Public Works Department

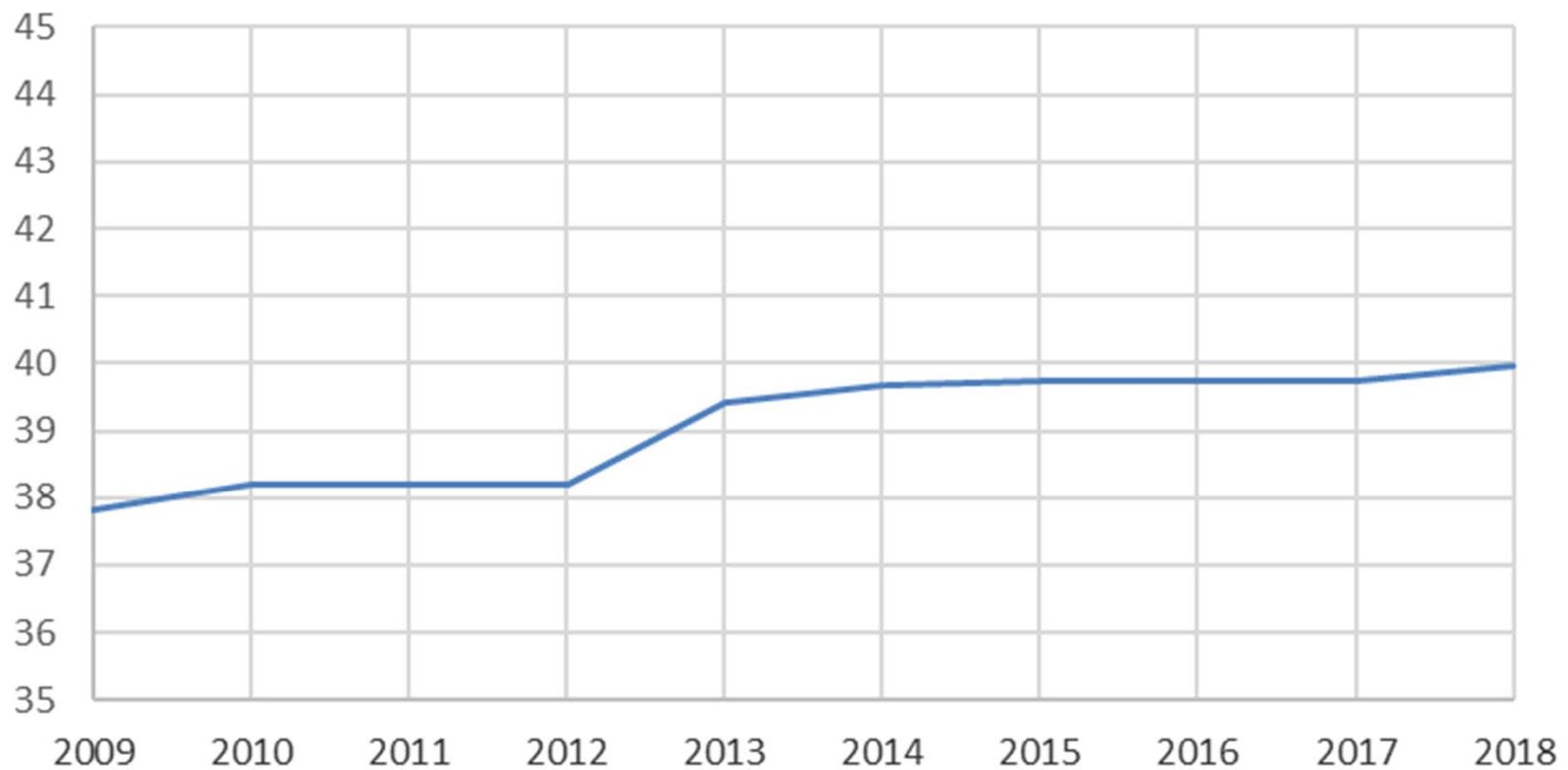
2009-2019 Increase in Roadway Mileage



Historical Trends

Public Works Department

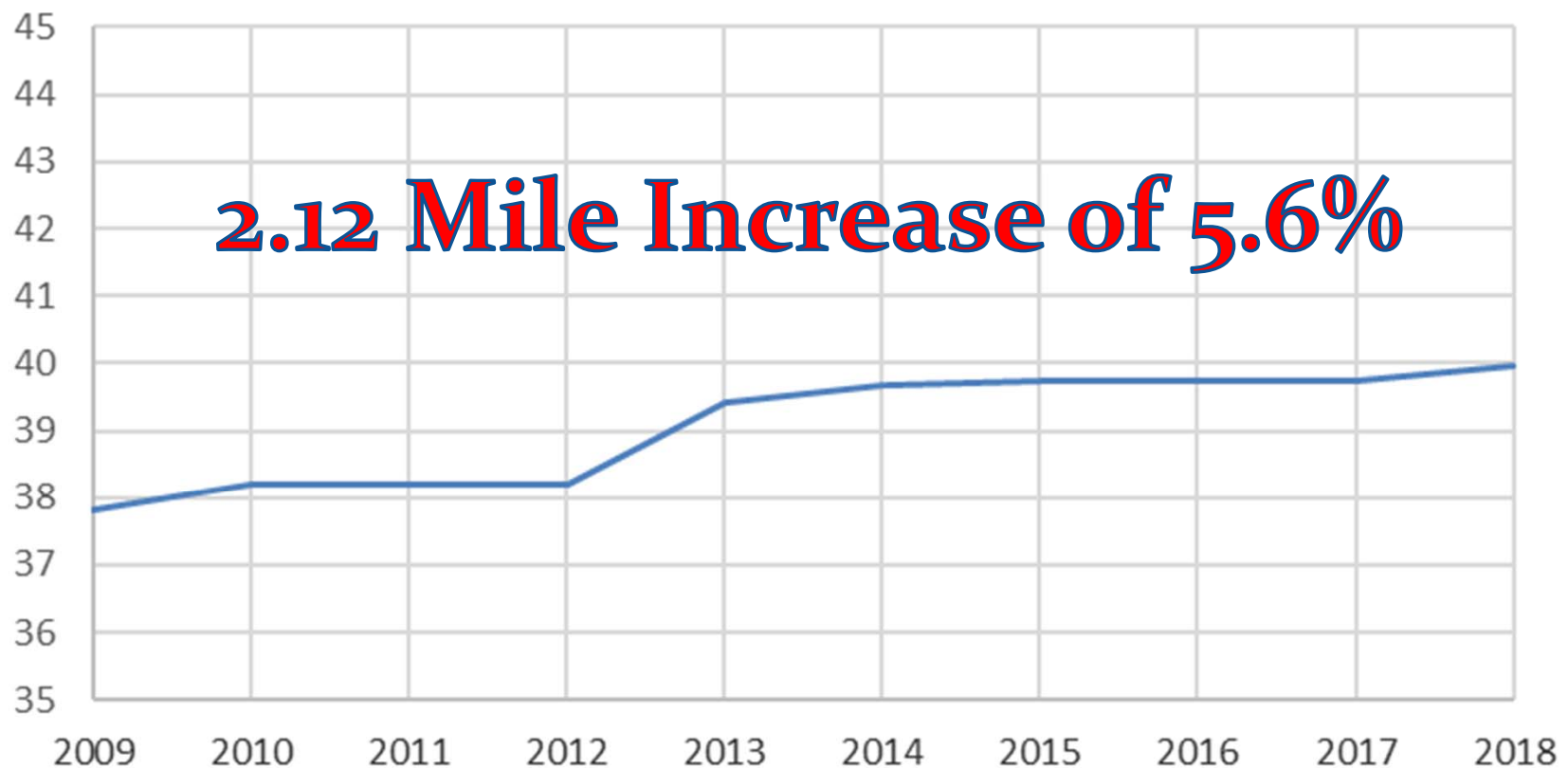
2009-2019 Increase in Sidewalk Mileage



Historical Trends

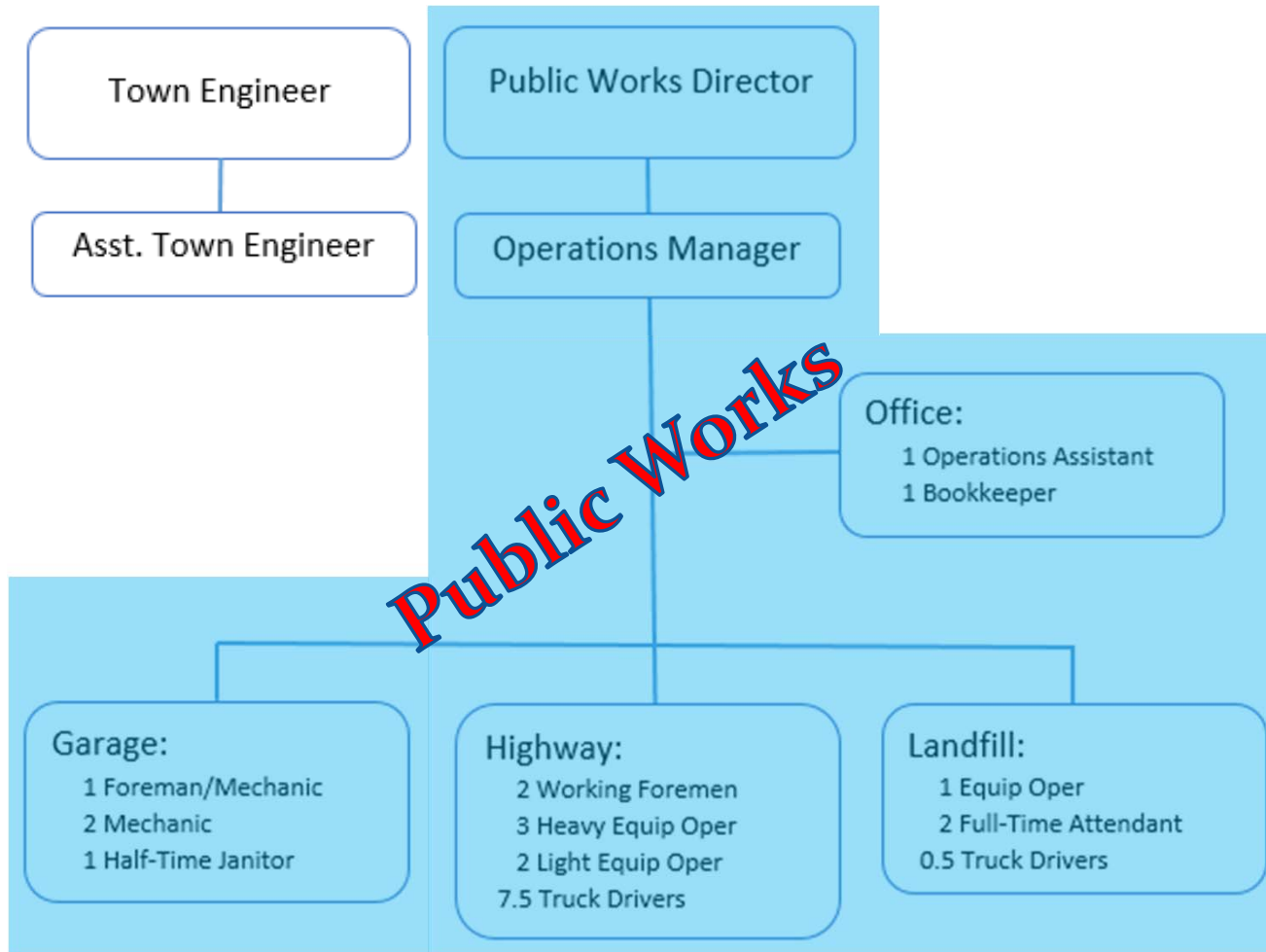
Public Works Department

2009-2019 Increase in Sidewalk Mileage



FY 2019-2020 Budget Request

Public Works



26 Regular Employees – 25.5 FTE

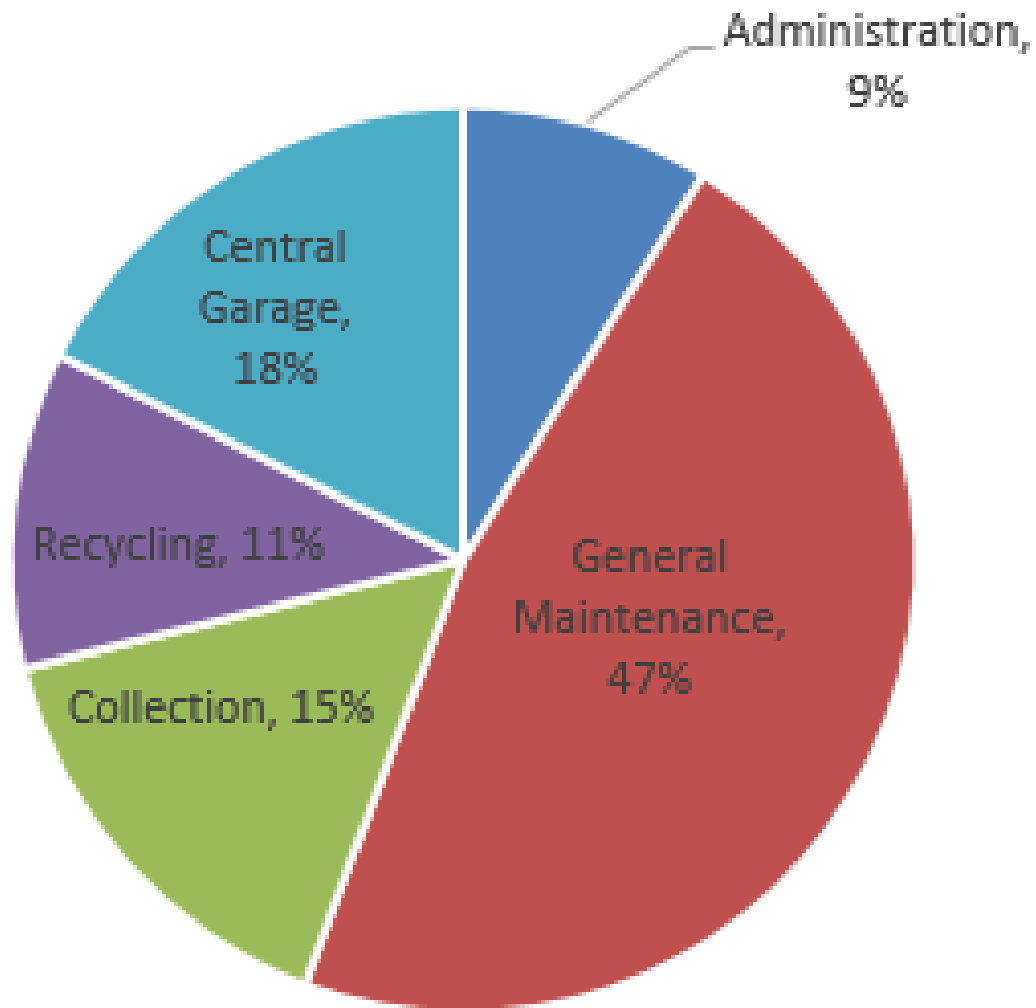
FY 2019-2020 Budget Request

Public Works

Totals	Actual 2017-2018	Budget 2018-2019	Request 2019-2020	Increase/ (Decrease)	% Change
Administration	\$ 450,770	\$ 587,058	\$ 375,620	\$ (211,438)	-36%
General Maintenance	\$ 1,706,161	\$ 1,839,369	\$ 1,982,841	\$ 143,472	8%
Collection	\$ 620,250	\$ 657,040	\$ 653,554	\$ (3,486)	-1%
Recycling	\$ 328,341	\$ 341,717	\$ 479,491	\$ 137,774	40%
Central Garage	\$ 728,470	\$ 739,838	\$ 742,785	\$ 2,947	0%
Totals:	\$ 3,833,992	\$ 4,165,022	\$ 4,234,291	\$ 69,269	2%
Totals	Actual 2017-2018	Budget 2018-2019	Request 2019-2020	Increase/ (Decrease)	% Change
Personnel	\$ 1,097,498	\$ 1,314,842	\$ 1,156,357	\$ (158,485)	-12%
Benefits	\$ 492,830	\$ 596,088	\$ 573,278	\$ (22,810)	-4%
Contractural	\$ 1,354,952	\$ 1,618,652	\$ 1,745,306	\$ 126,654	8%
Materials & Supplies	\$ 882,347	\$ 635,440	\$ 699,350	\$ 63,910	10%
Capital	\$ 6,365	\$ -	\$ 60,000	\$ 60,000	
Totals:	\$ 3,833,992	\$ 4,165,022	\$ 4,234,291	\$ 69,269	2%

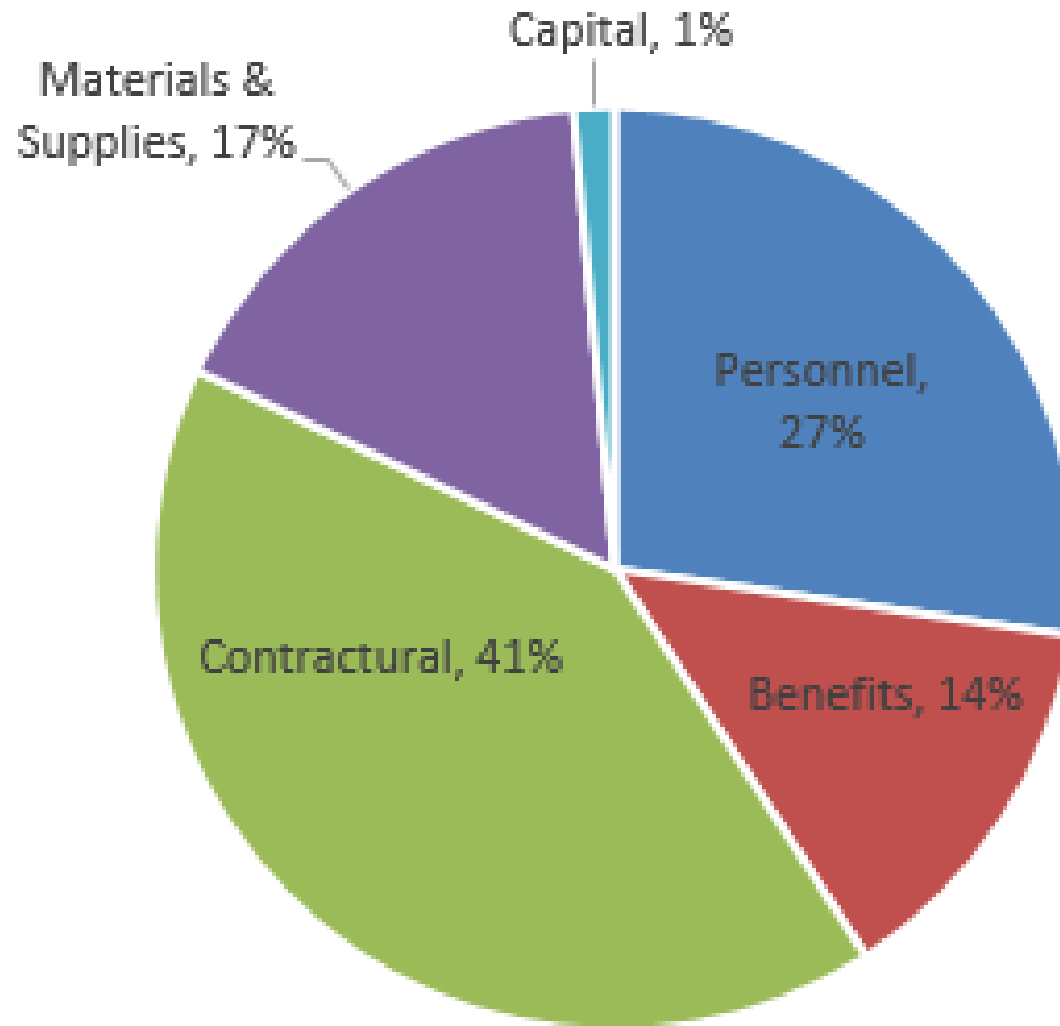
FY 2019-2020 Budget Request

Public Works



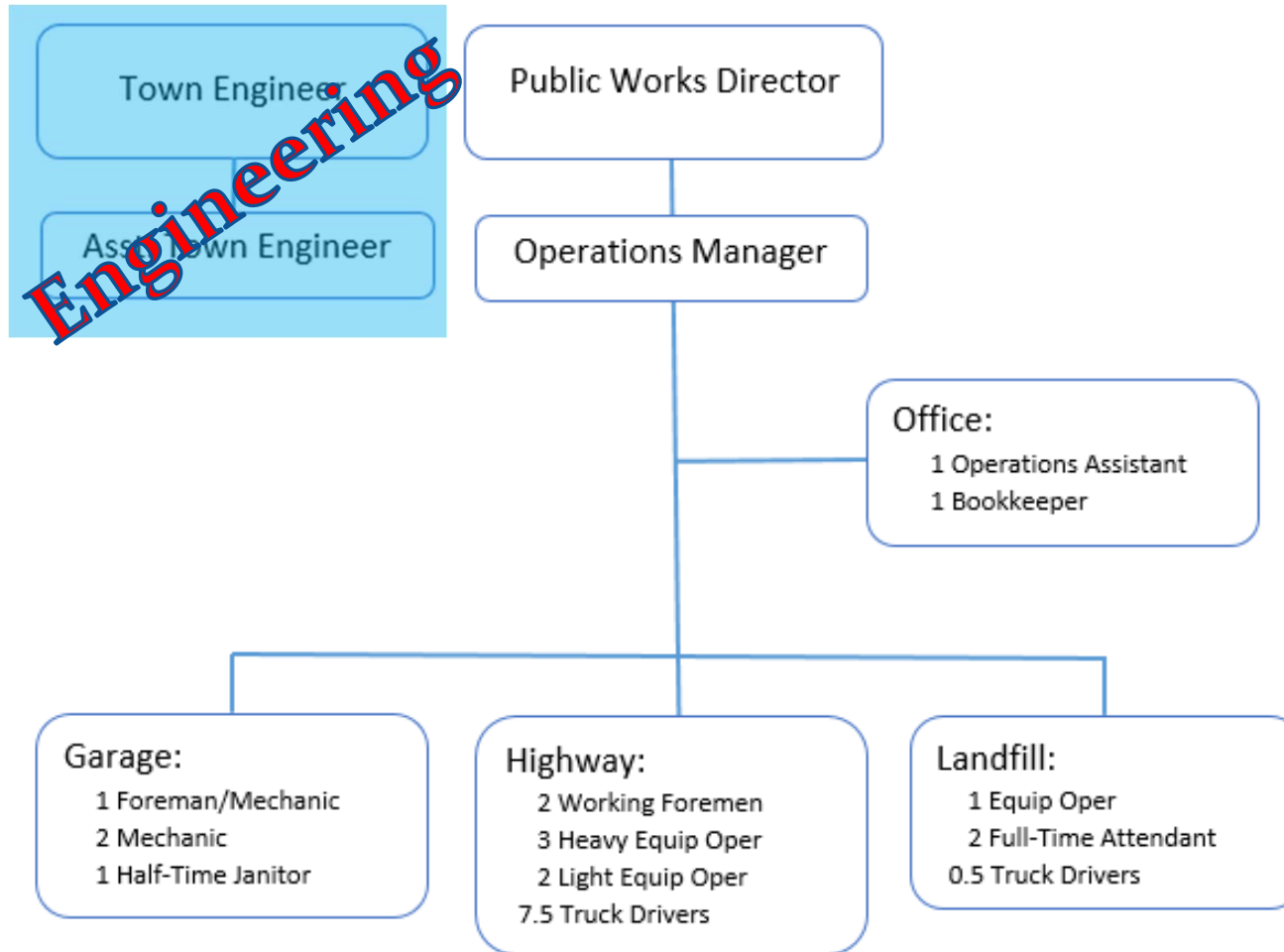
FY 2019-2020 Budget Request

Public Works



FY 2019-2020 Budget Request

Engineering



26 Regular Employees – 25.5 FTE

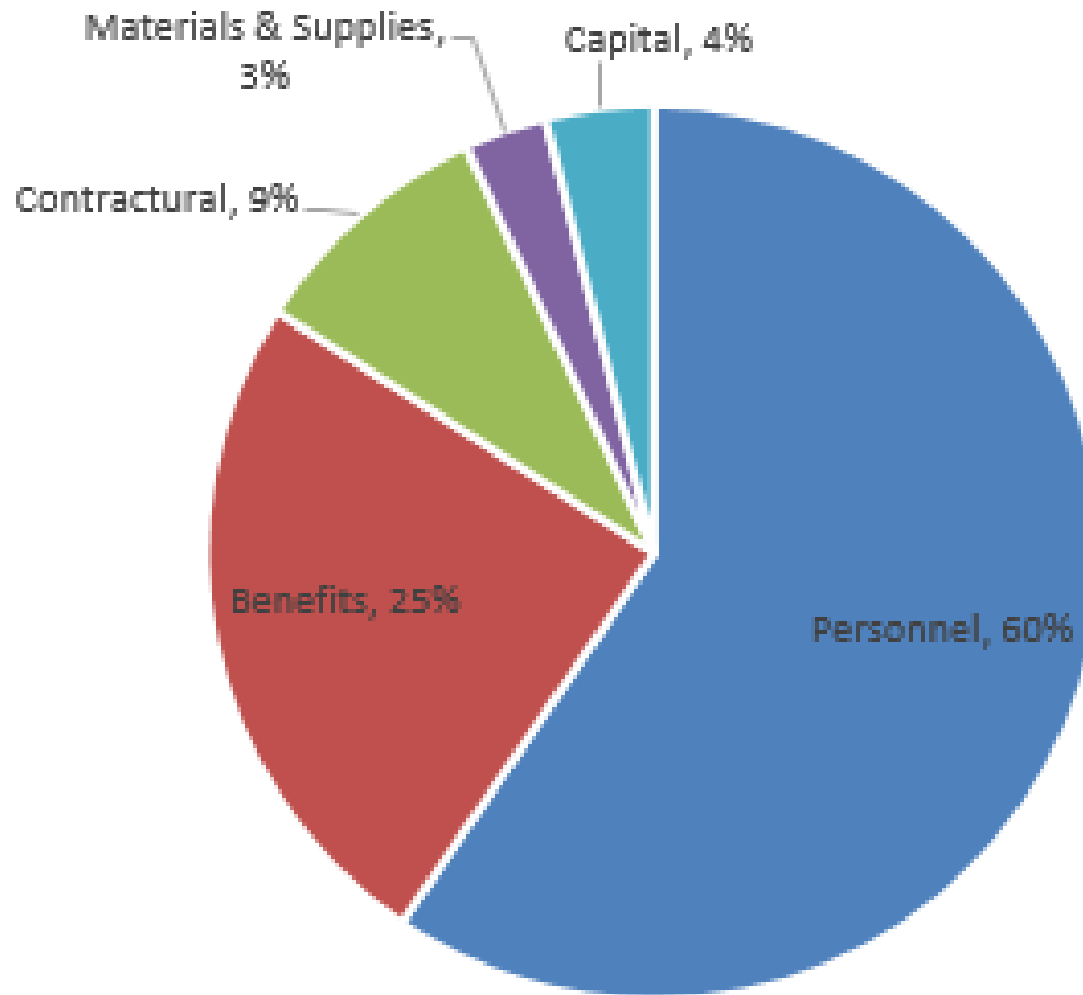
FY 2019-2020 Budget Request

Engineering

Totals	Actual 2017-2018	Budget 2018-2019	Request 2019-2020	Increase/ (Decrease)	% Change
Personnel	\$ -	\$ -	\$ 152,729	\$ 152,729	
Benefits	\$ -	\$ -	\$ 62,957	\$ 62,957	
Contractual	\$ -	\$ -	\$ 23,190	\$ 23,190	
Materials & Supplies	\$ -	\$ -	\$ 7,690	\$ 7,690	
Capital	\$ -	\$ -	\$ 10,000	\$ 10,000	
Totals:	\$ -	\$ -	\$ 256,566	\$ 256,566	

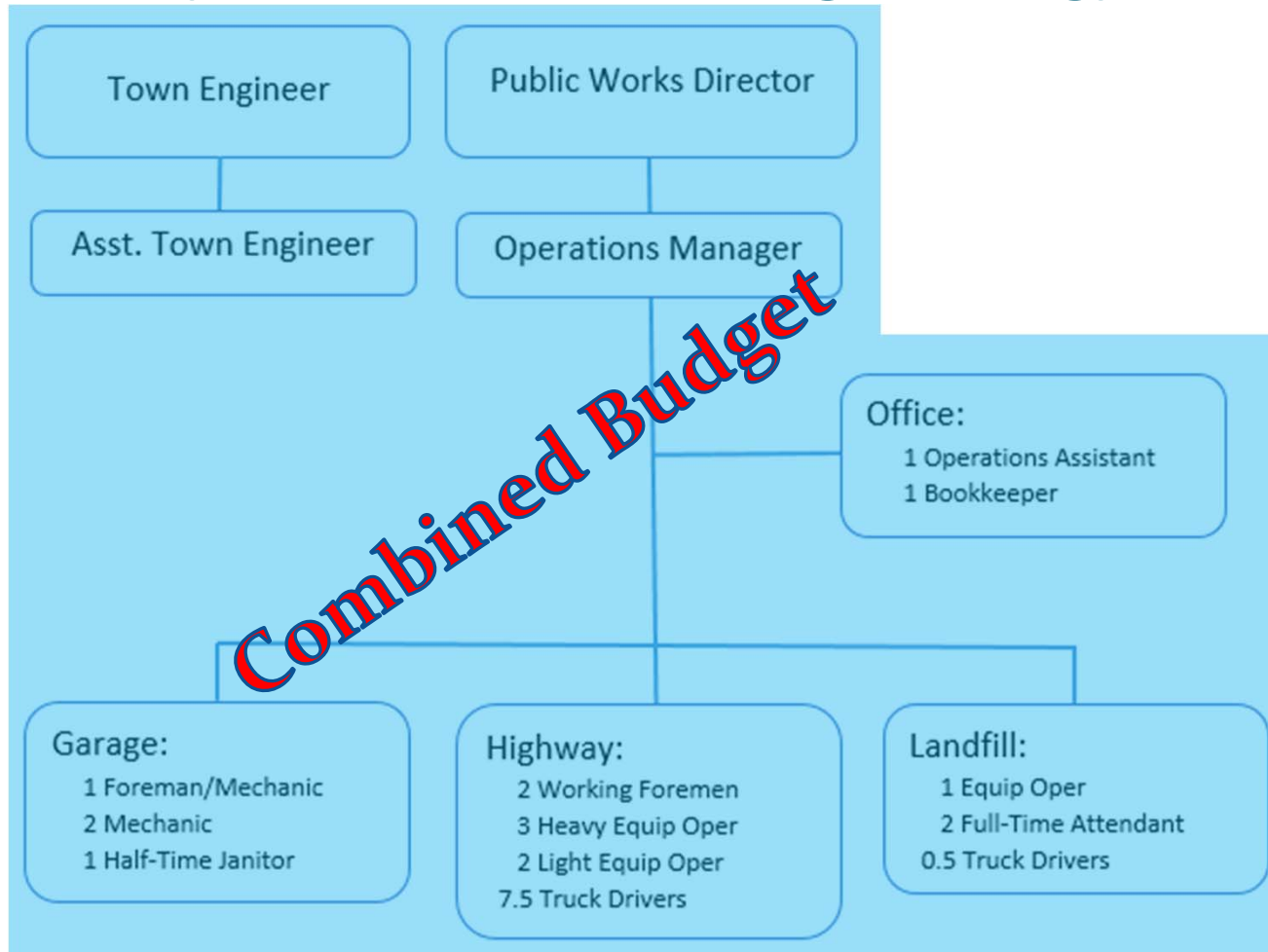
FY 2019-2020 Budget Request

Engineering



FY 2019-2020 Budget Request

Combined (Public Works and Engineering)



26 Regular Employees – 25.5 FTE

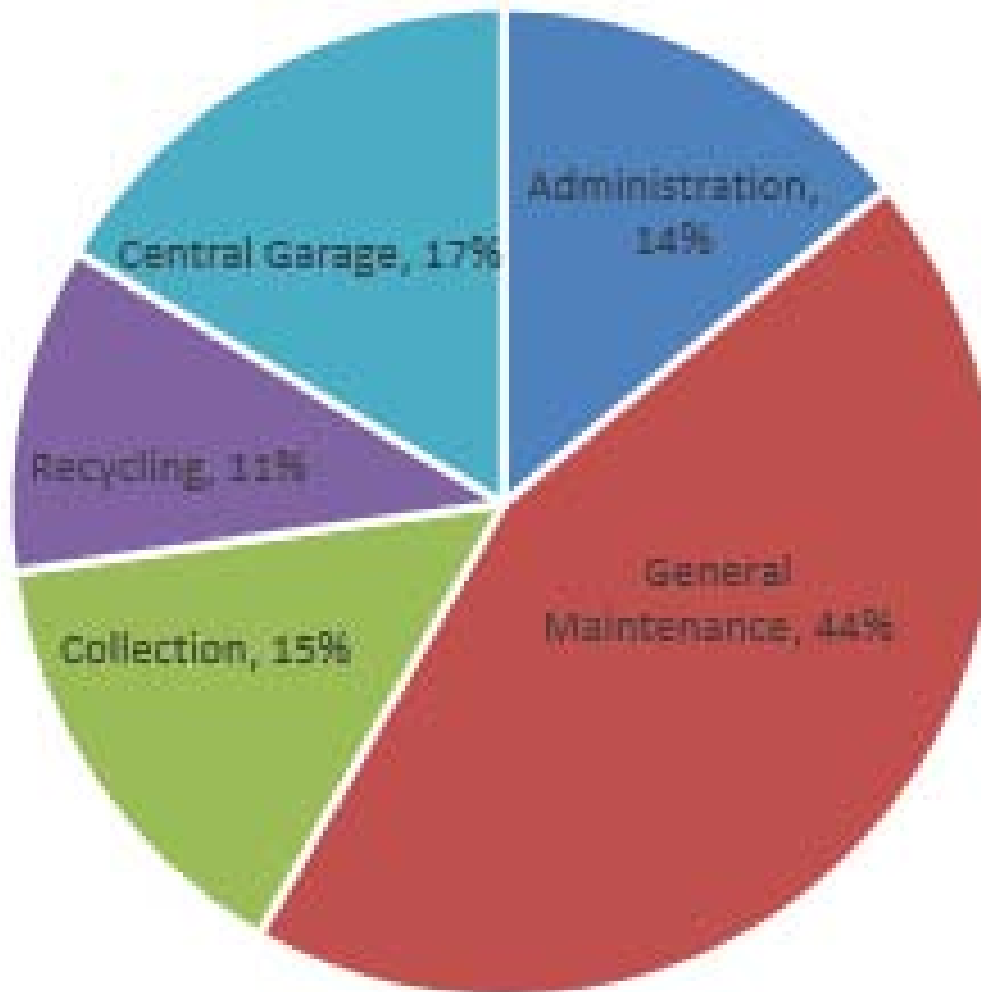
FY 2019-2020 Budget Request

Combined (Public Works and Engineering)

Totals	Actual 2017-2018	Budget 2018-2019	Request 2019-2020	Increase/ (Decrease)	% Change
Administration	\$ 450,770	\$ 587,058	\$ 632,186	\$ 45,128	7.7%
General Maintenance	\$ 1,706,161	\$ 1,839,369	\$ 1,982,841	\$ 143,472	7.8%
Collection	\$ 620,250	\$ 657,040	\$ 653,554	\$ (3,486)	-0.5%
Recycling	\$ 328,341	\$ 341,717	\$ 479,491	\$ 137,774	40.3%
Central Garage	\$ 728,470	\$ 739,838	\$ 742,785	\$ 2,947	0.4%
Totals:	\$ 3,833,992	\$ 4,165,022	\$ 4,490,857	\$ 325,835	8%
Totals	Actual 2017-2018	Budget 2018-2019	Request 2019-2020	Increase/ (Decrease)	% Change
Personnel	\$ 1,097,498	\$ 1,314,842	\$ 1,309,086	\$ (5,756)	-0.4%
Benefits	\$ 492,830	\$ 596,088	\$ 636,235	\$ 40,147	6.7%
Contractural	\$ 1,354,952	\$ 1,618,652	\$ 1,768,496	\$ 149,844	9.3%
Materials & Supplies	\$ 882,347	\$ 635,440	\$ 707,040	\$ 71,600	11.3%
Capital	\$ 6,365	\$ -	\$ 70,000	\$ 70,000	
Totals:	\$ 3,833,992	\$ 4,165,022	\$ 4,490,857	\$ 325,835	8%

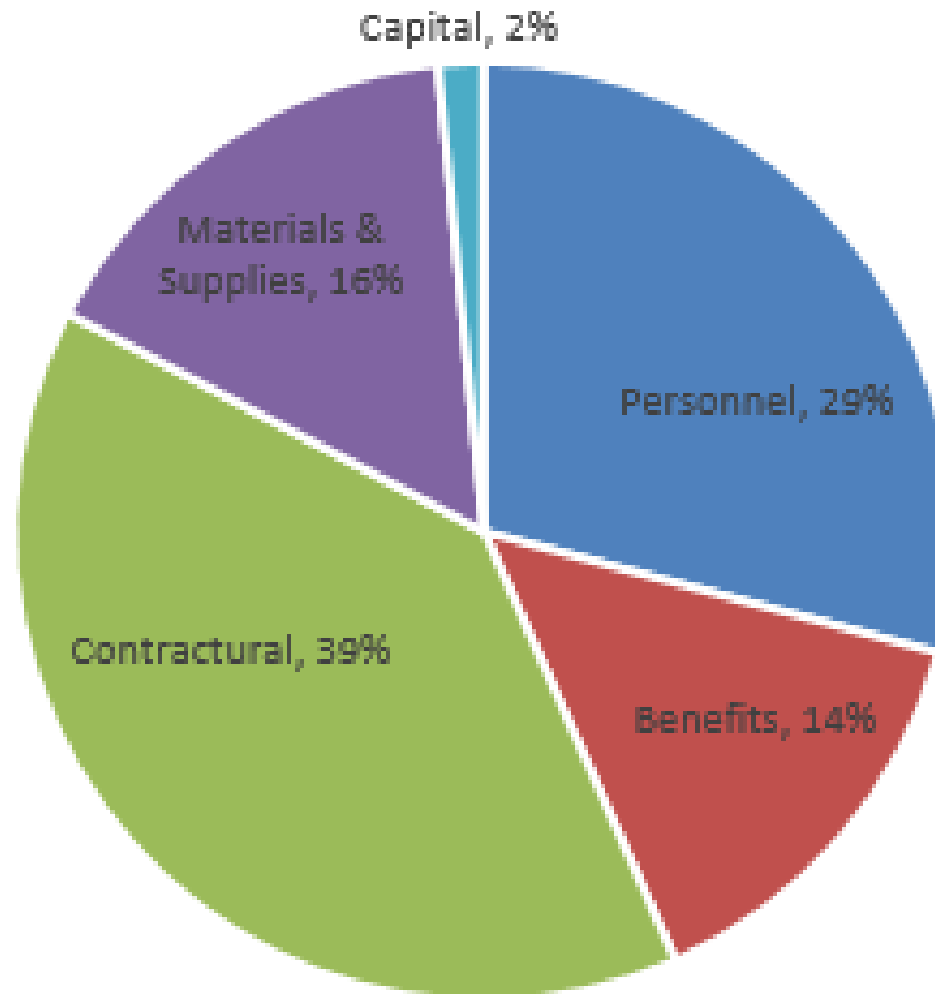
FY 2019-2020 Budget Request

Combined (Public Works and Engineering)



FY 2019-2020 Budget Request

Combined (Public Works and Engineering)



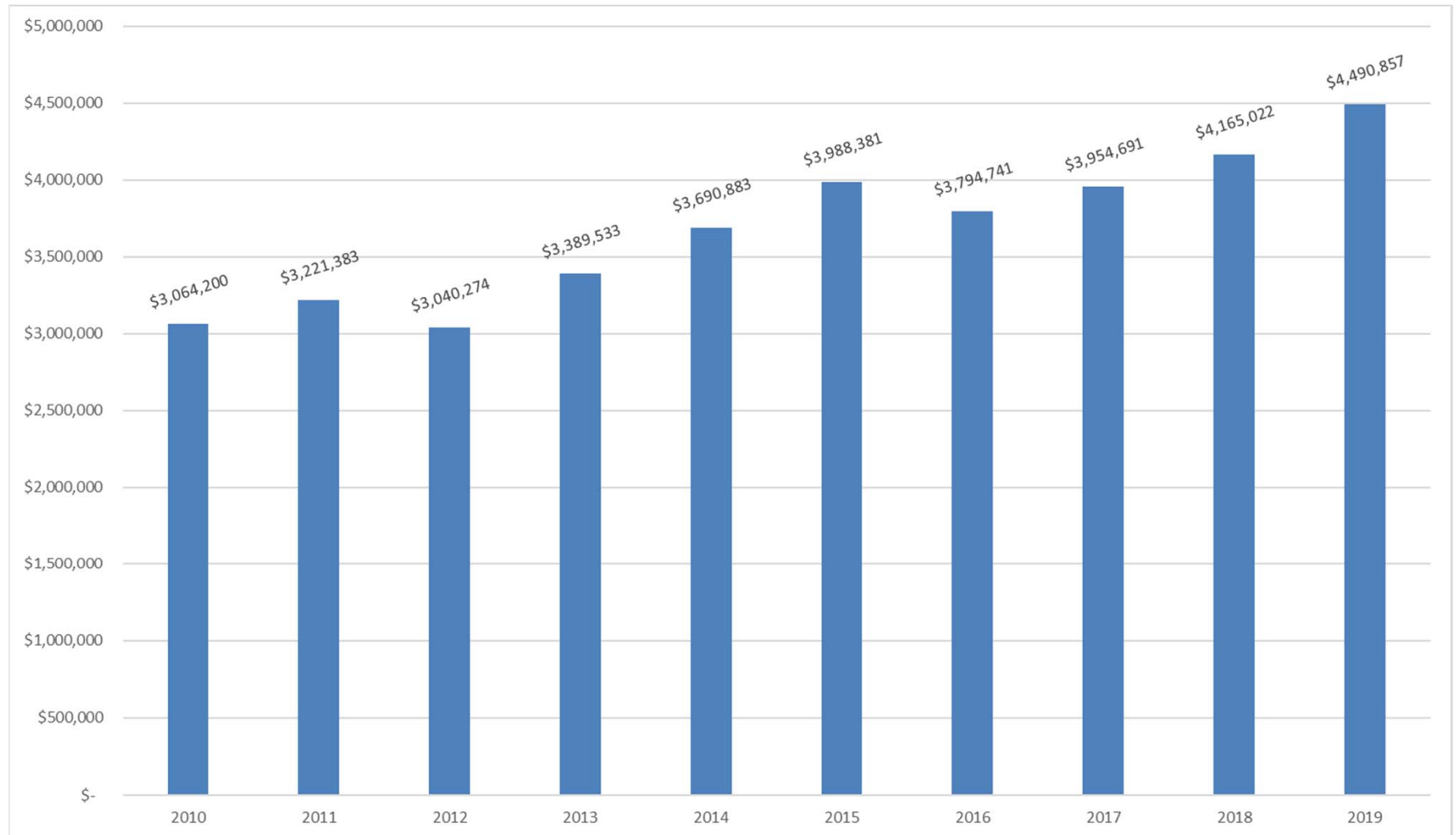


Major Cost Increases in Budget

7% increase in benefits	\$ 40,000
40% increase in collection/disposal of recycling	\$138,000
33% increase in de-icing materials	\$ 66,000
Upgrades to existing plow trucks	\$ 60,000

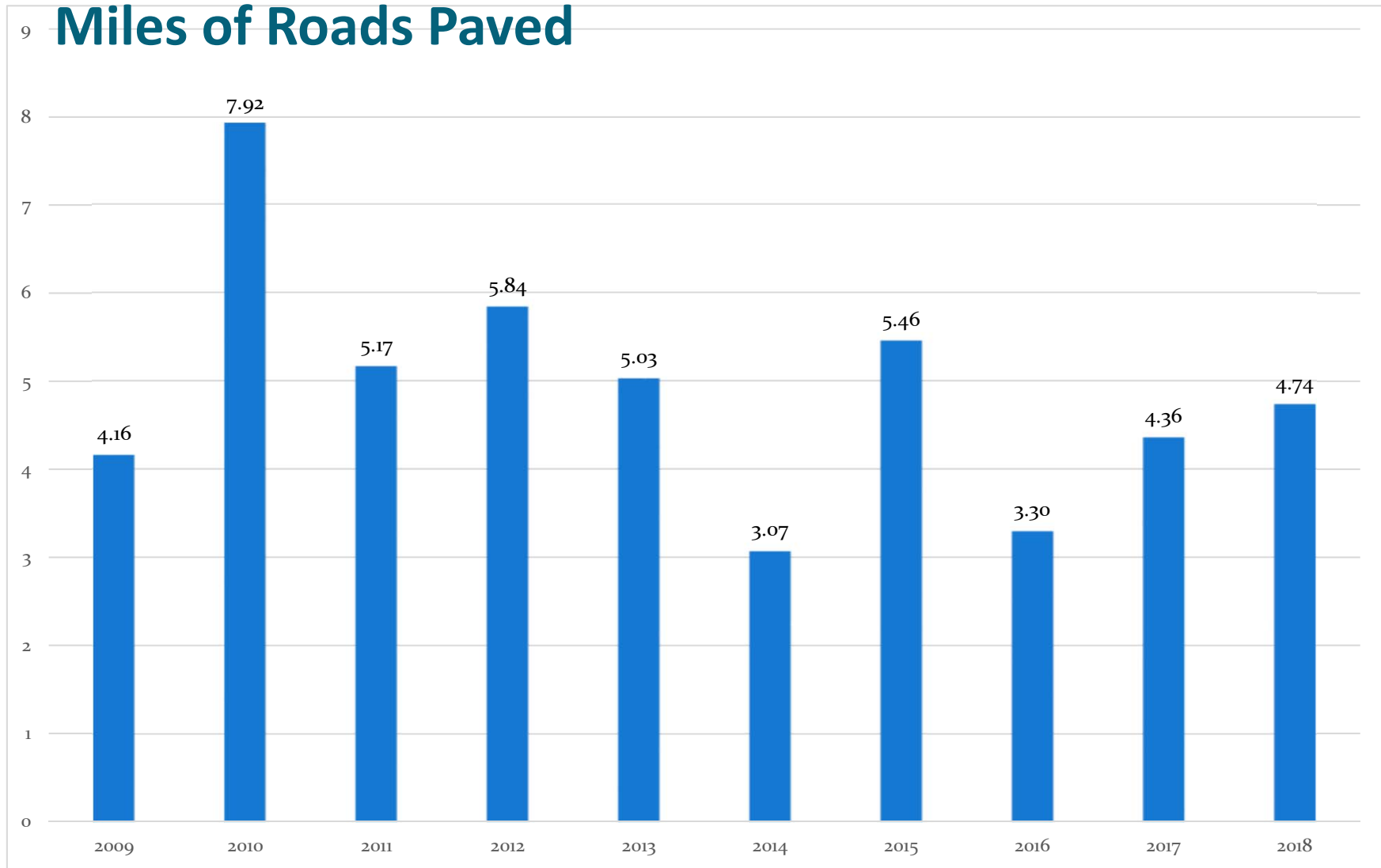
Ten-Year Comparative Budget

Public Works Department



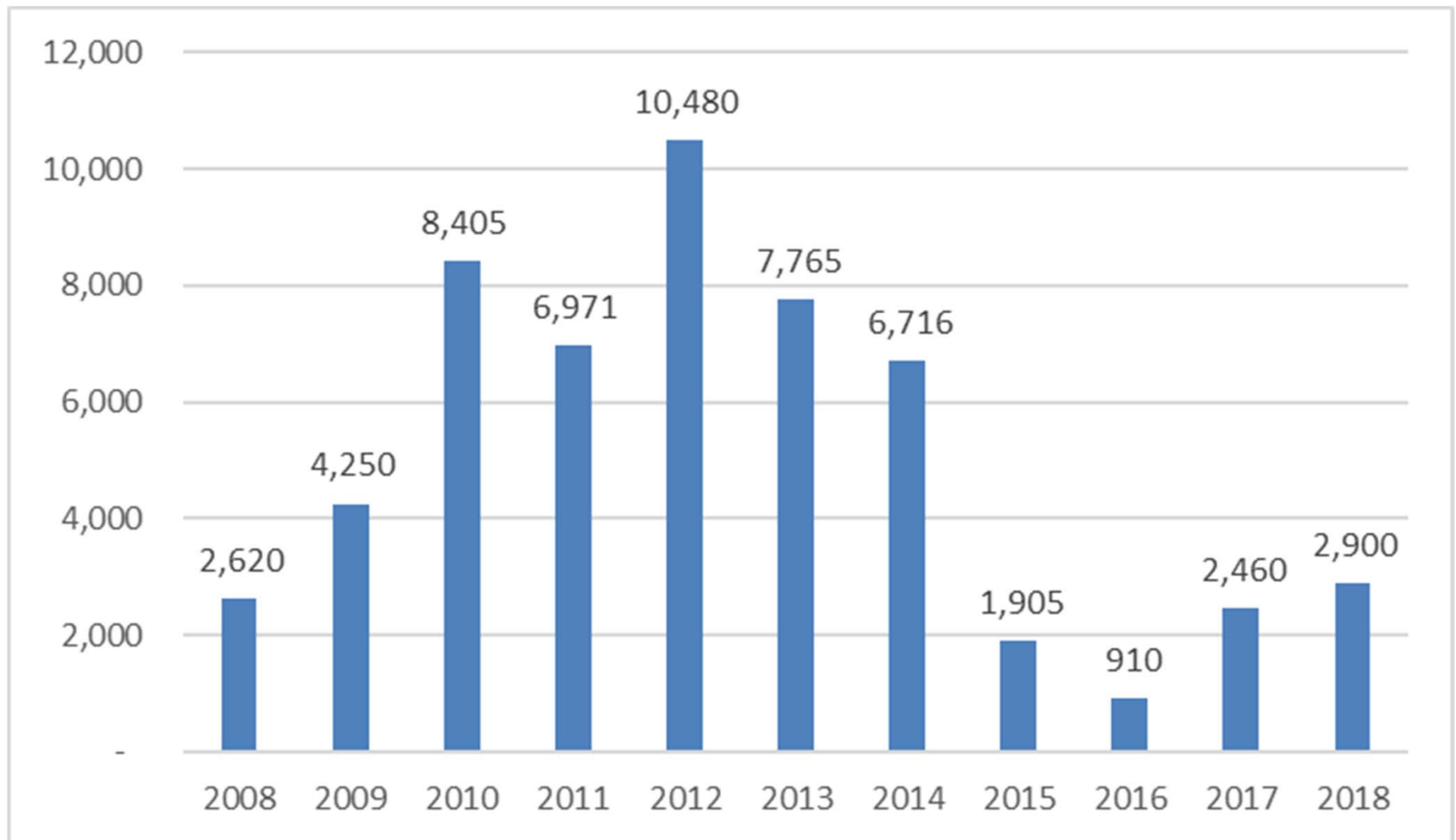
Paving History, 2009-2018

Miles of Roads Paved



Sidewalk Repair History, 2008-2018

Linear Feet of Sidewalk





Pavement Management

- Update of Pavement Condition Ratings
- Revision of the Pavement Management Plan
- Use of new techniques to preserve our roads and extend our paving dollars

Pavement Management

Update of Pavement Condition Ratings

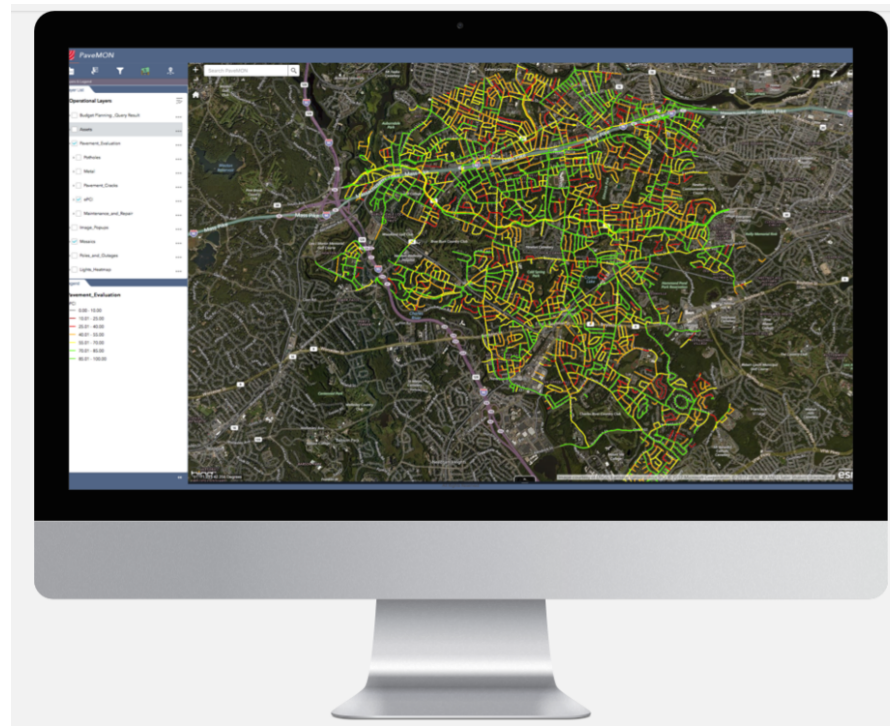
StreetScan will be collecting new pavement conditions and updating Pavement Condition Ratings



Pavement Management

Revision of the Pavement Management Plan

- Map-based application
- Computer-automated ranking
- Data-driven decision making



Pavement Management

Preventative Maintenance vs. Rehabilitation



Figure 1

*Graph from TRNews 228

Pavement Management

Preventative Maintenance vs. Rehabilitation



Figure 1

*Graph from TRNews 228

Pavement Management

Paving History

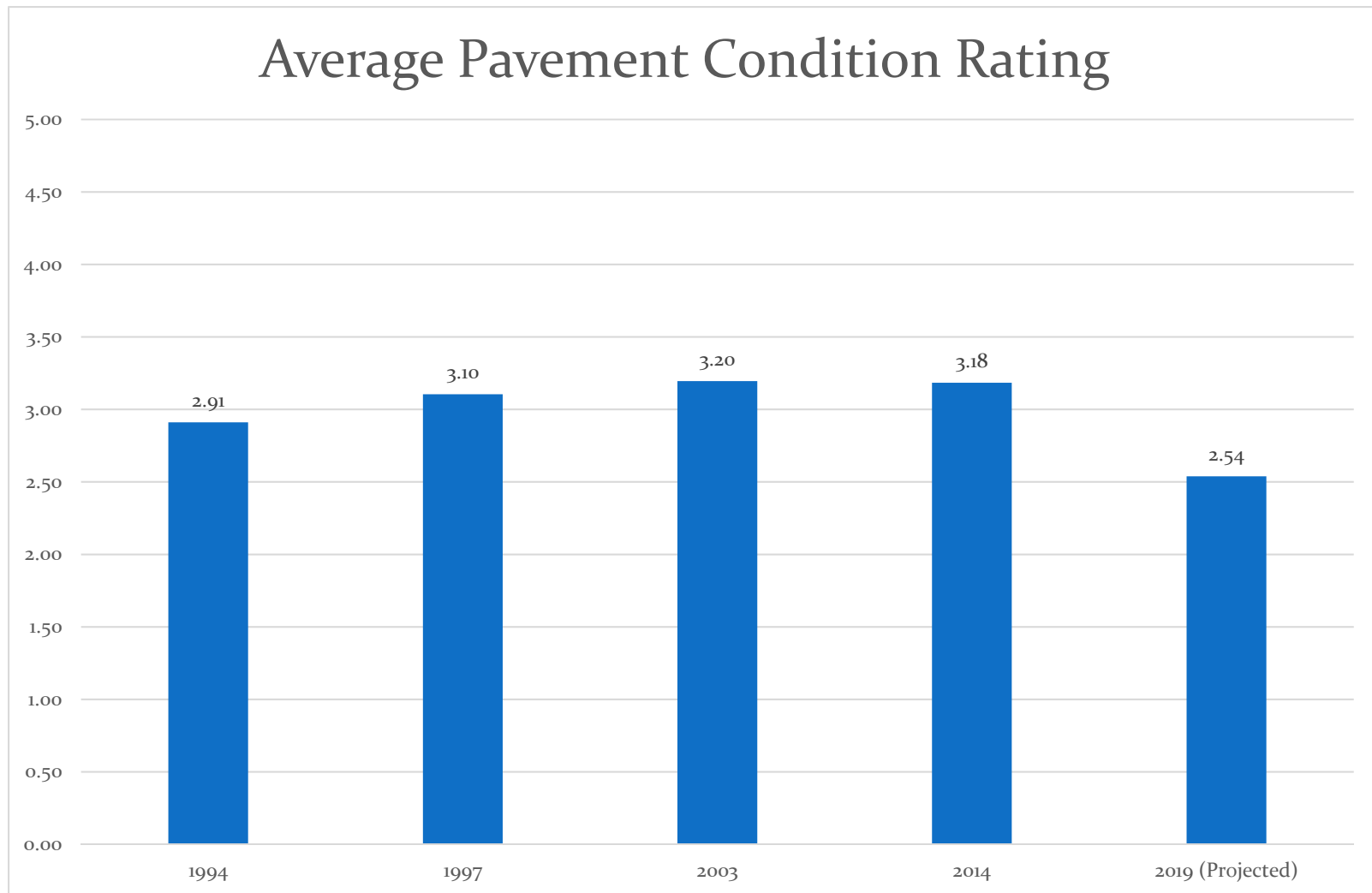
Last 10 Years (≥ 2009)	44.9	30.82%
>10 Yrs to 15 Yrs (2004-2009)	28.7	19.70%
>15 Yrs to 20 Yrs (1999-2004)	34.9	23.96%
>20 Yrs to 25 Yrs (1994-1999)	18.9	12.98%
Paved >25 Years (≤ 1994)	18.3	12.53%

100.00%

**37.2 miles or 25.51% of our roadways
have not been paved in over 20 years**

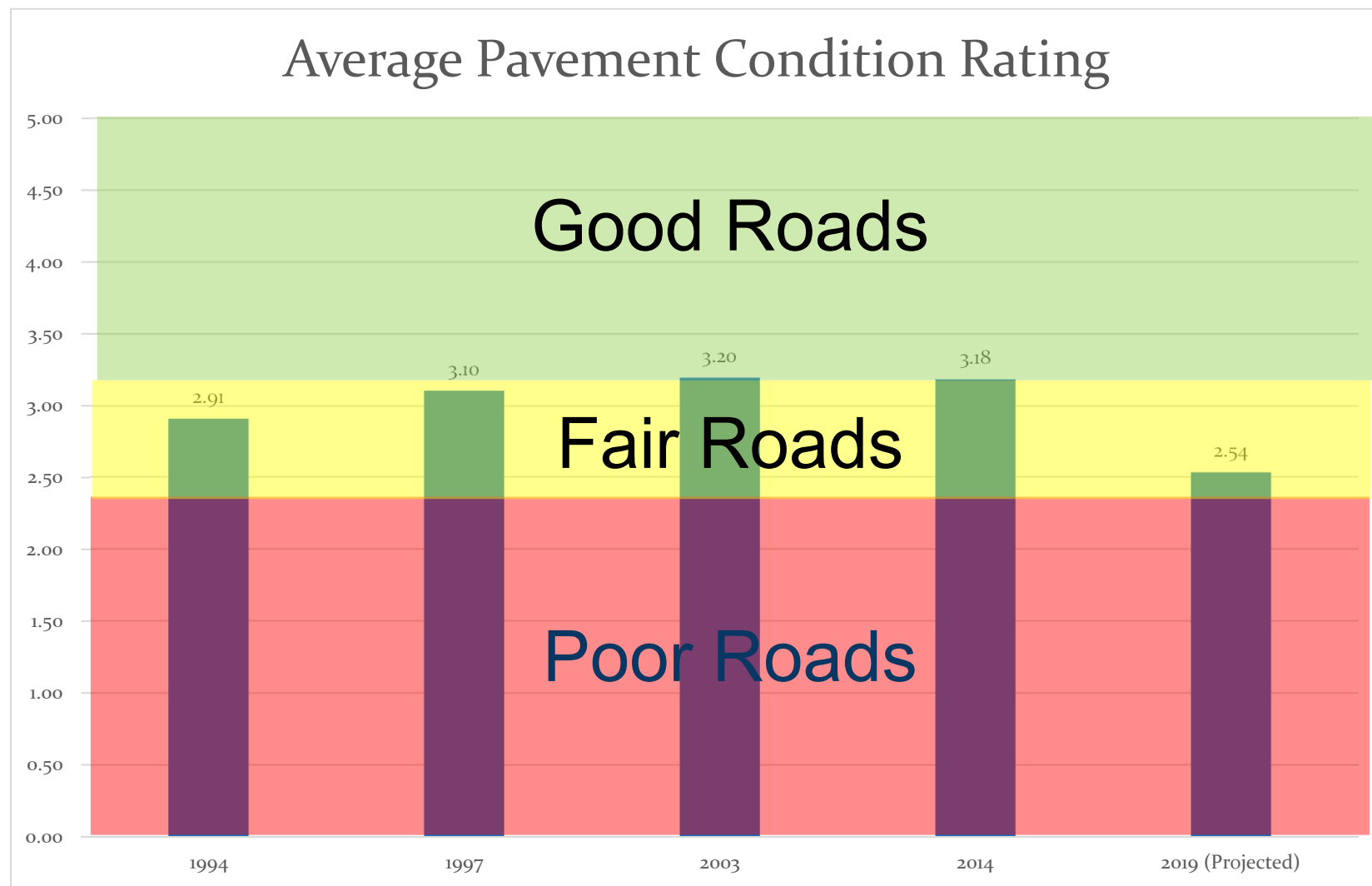
Pavement Management

2019 Average Pavement Condition Rating (*Projected*)



Pavement Management

2019 Average Pavement Condition Rating (*Projected*)





Pavement Management

2019 Average Pavement Condition Rating (*Projected*)

PCR Rating	Condition	% Of Roads
0.00-1.60	Very Poor	3.6%
1.61-2.00	Poor	8.4%
2.01-2.40	Fair-Poor	17.9%
2.41-2.80	Fair	18.8%
2.81-3.20	Fair-Good	15.0%
3.21-3.60	Good	10.3%
3.61-5.00	Very good	26.1%

Pavement Management

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3.61-5.00	Very good	26.1%

Good Roads – 36.4%

Future Overlay/Light Capital Paving

Pavement Management

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3.61-5.00	Very good	26.1%

Fair Roads – 33.8%
Heavy Overlay/Mill and Fill

Pavement Management

2019 Average Pavement Condition Rating (*Projected*)

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0.00-1.60	Very Poor	3.6%
1.61-2.00	Poor	8.4%
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2.81-3.20	Fair-Good	15.0%
3.21-3.60	Good	10.3%
3.61-5.00	Very good	26.1%

Poor Roads – 29.9%

Reclaim/Reconstruct



Winter Operations

- Establish a New Level of Service
- Revise Plow Routes
- Modify Treatment Methods
- Modify Equipment
- Benefits of New Approach
- Anticipated Savings

Winter Operations

Establish a New Level of Service



Roadway Treated with Sand/Salt Mix



Same Roadway Treated with Salt



Winter Operations

Revise Plow Routes

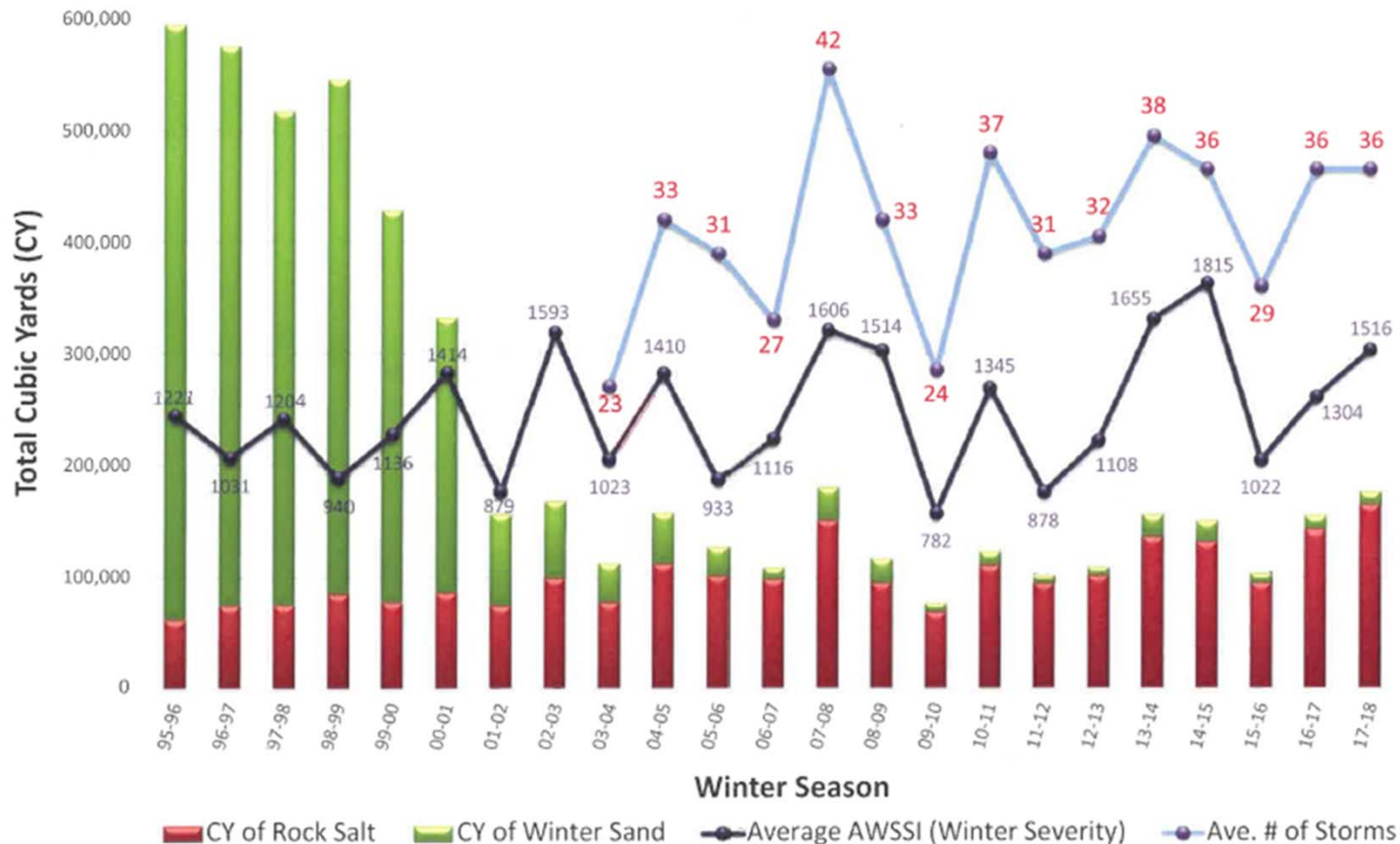
1. Identify Priority Corridors
 - Primary
 - o Arterials (Pleasant Street)
 - o Major collectors (Harpswell Road)
 - Secondary
 - o Minor collectors (Old Bath Road)
 - o Local collectors (Pleasant Hill Road)
 - Tertiary
 - o Residential streets (Noble Street)
2. Revise plow routes based on Priority Corridors and Level of Service needs

Winter Operations

Modify Treatment Methods (Sand Reduction)



Winter Sand and Rock Salt Usage (Statewide)

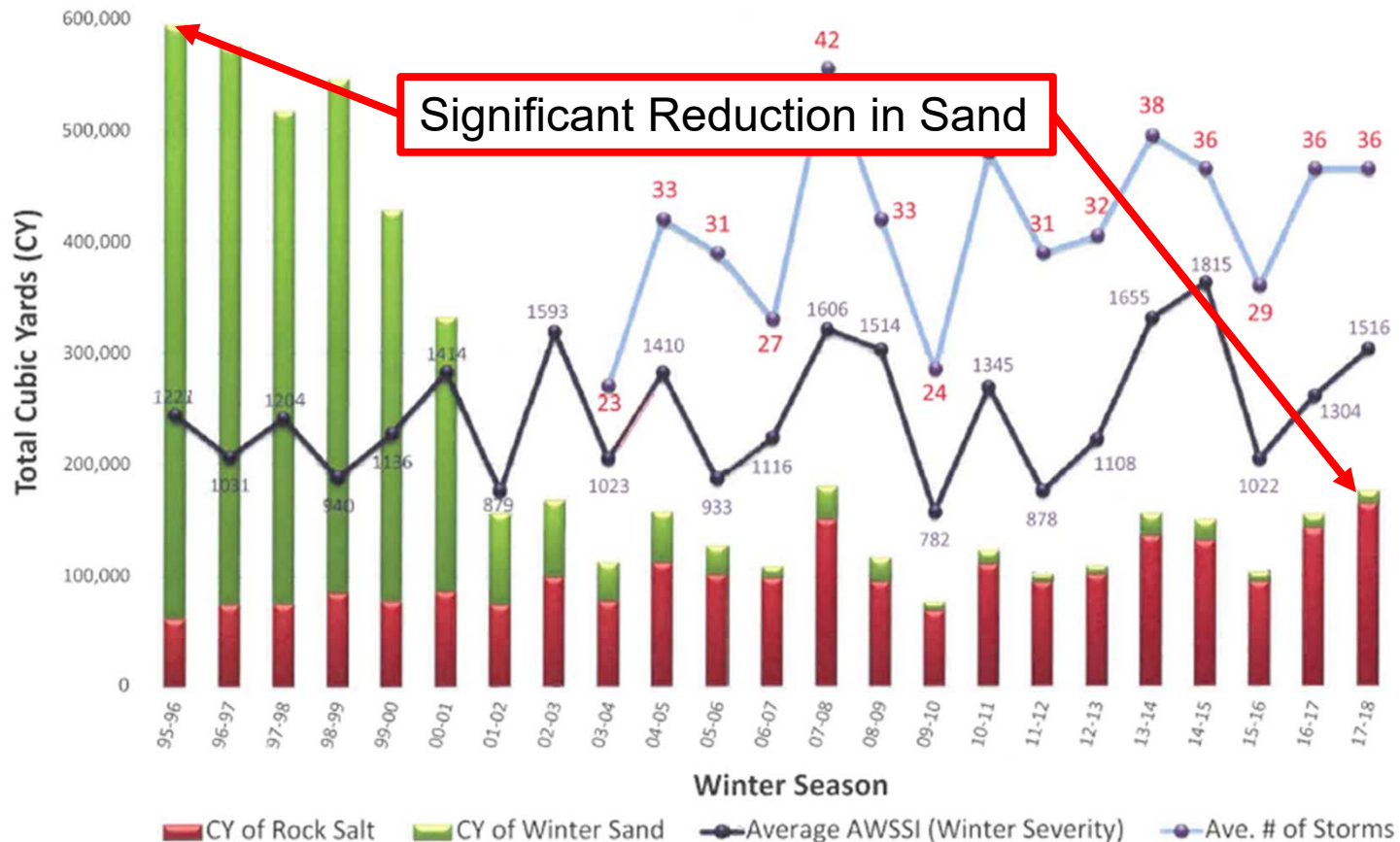


Winter Operations

Modify Treatment Methods (Sand Reduction)



Winter Sand and Rock Salt Usage (Statewide)

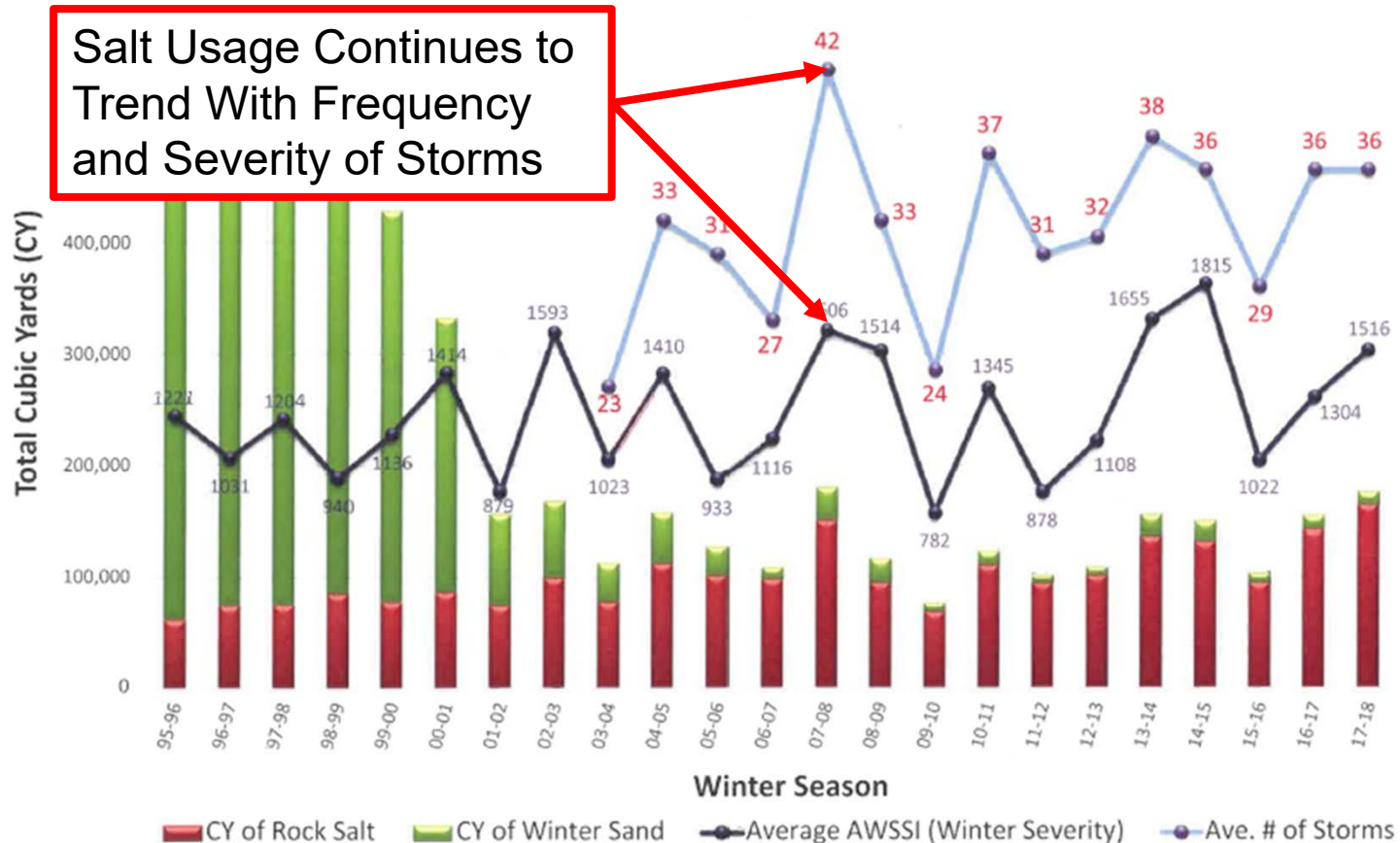


Winter Operations

Modify Treatment Methods (Sand Reduction)



Winter Sand and Rock Salt Usage (Statewide)



Winter Operations

Modify Treatment Methods *Magic-0*™

- Treated salt works at lower temperatures
- Treated Salt stays on the road better
- Prevents a bond from forming between the pavement and snow



Typical Corrosion Performance

Deicing Fluid	PNSDOT Relative Corrosion Rate
Magic-0™	7.87
Distilled Water	0
Rock Salt NaCl ₂	100
Calcium Chloride (CaCl ₂)	121
Magnesium Chloride (MgCl ₂)	80

Winter Operations

Modify Equipment

- Calibrate All Trucks
- Install on board liquid application equipment
- Install/upgrade ground speed controls
- Install road temperature measuring equipment



Winter Operations

Benefits of New Approach

- Measured application of salt and liquids prevents bonding of snow and ice to the pavement
- Treated salt works faster, at lower temperatures, and helps eliminate “bounce and scatter”
- *Magic-O*™ liquid has been recognized by the EPA as safe for the environment
- Calibrated approach ensures that the right material is placed at the right time in the right amount
- **SAND HAS VIRTUALLY NO MELTING PROPERTIES**



Winter Operations

Anticipated Savings

- Overtime – Less time required to clean up after the storm
- Vehicles – Fewer return trips to get sand will reduce wear and tear on the vehicles and increase the amount of time vehicles are on the road plowing
- Contractual Services
 - o Sweeping
 - o Catch Basins
 - o Plowing



Questions