

# Pothole Repair Study

Presented by:

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**2019-2027 Strategic Plan Priorities**



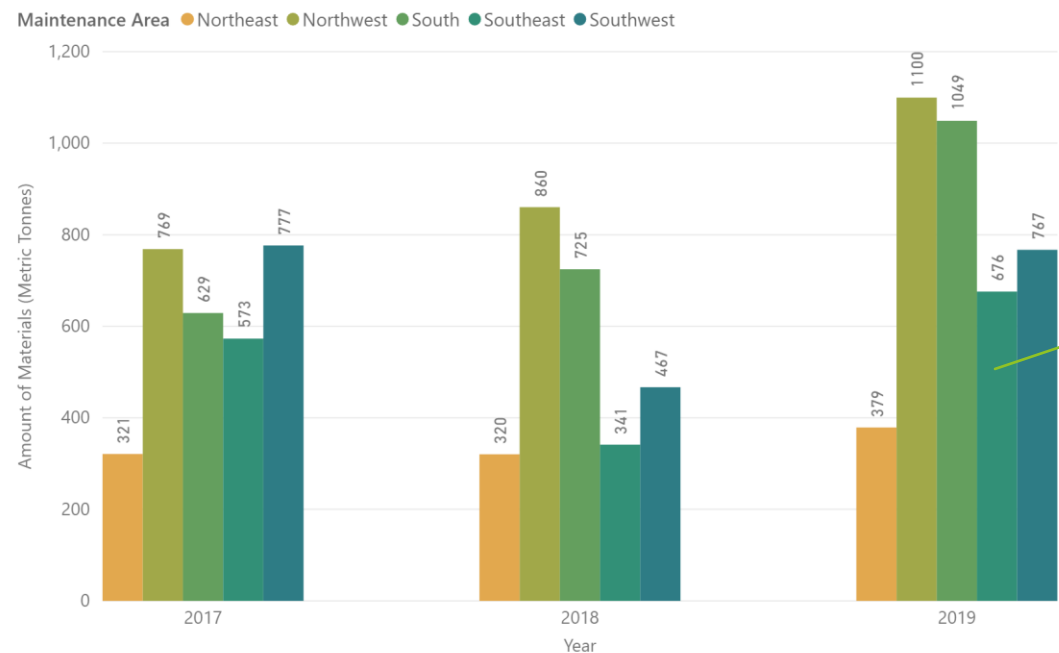
55,000  
potholes  
filled  
annually  
(Avg)

99,275  
potholes  
filled in  
2019

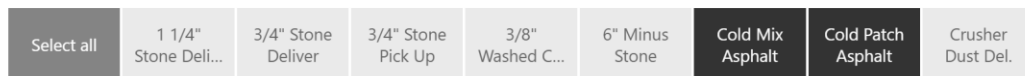


# Material Used

CGS Materials Consumption (Metric Tonnes) by Year and Maintenance Area



Material Type



WOENTITY

- Select all
- DCATCHBASIN
- DDITCH
- DINLETPPOINT
- FROBISHER DEPOT
- RBOULEVARD
- RCULVERT
- RCURBGUTTER
- RROADSEGMENT
- RROUTEHANDSANDTARGET
- RROUTEROAD
- RROUTESIDEWALK
- SGRAVITYMAIN
- SLATERALCONNECTION
- SMANTENANCEHOLE
- ST CLAIR DEPOT
- SUEZ DEPOT
- WBOOSTERSTATION
- WHYDRANT
- WPRESSURIZEDMAIN
- WSERVICEBOX
- WSERVICECONNECTION
- WSYSTEMVALVE
- WWALVECHAMBER

Year

2017

2019

PERIOD (Month)

1

12

Materials Used By

- Select all
- 2485
- CGS
- Contractor

Cost Type

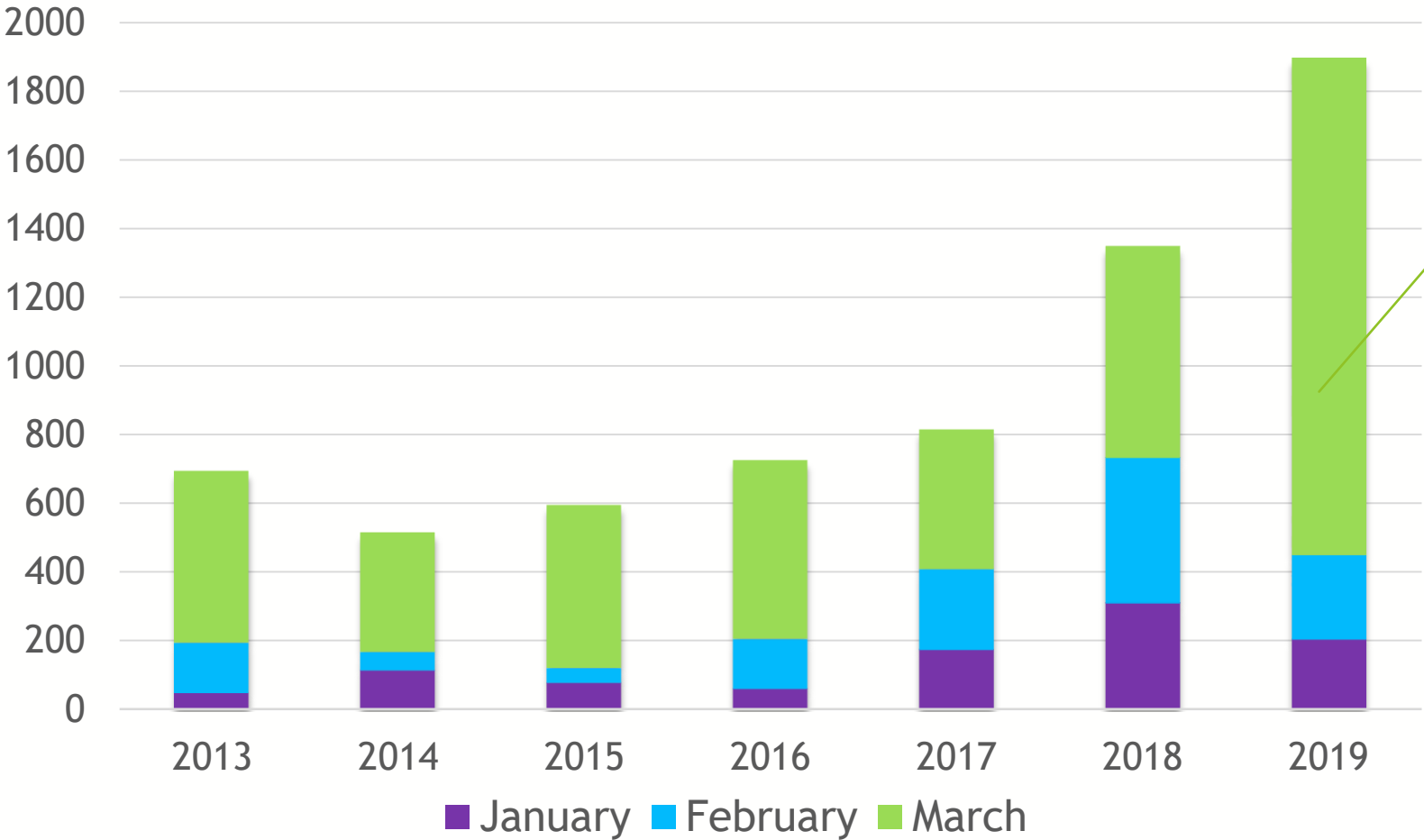
- Actual
- Budget
- Committed
- Estimate

37% more material used in 2019 vs 2017/2018 (Avg)

Last Refreshed On: 6/11/2020 5:20:00 PM



# Pothole 311 Service Requests



204% calls in  
March 2019 vs  
5 year Avg



# Top 3 Causes of Pothole Development

## ► Summer

1. Pavement Age
2. Subgrade Soil
3. Drainage

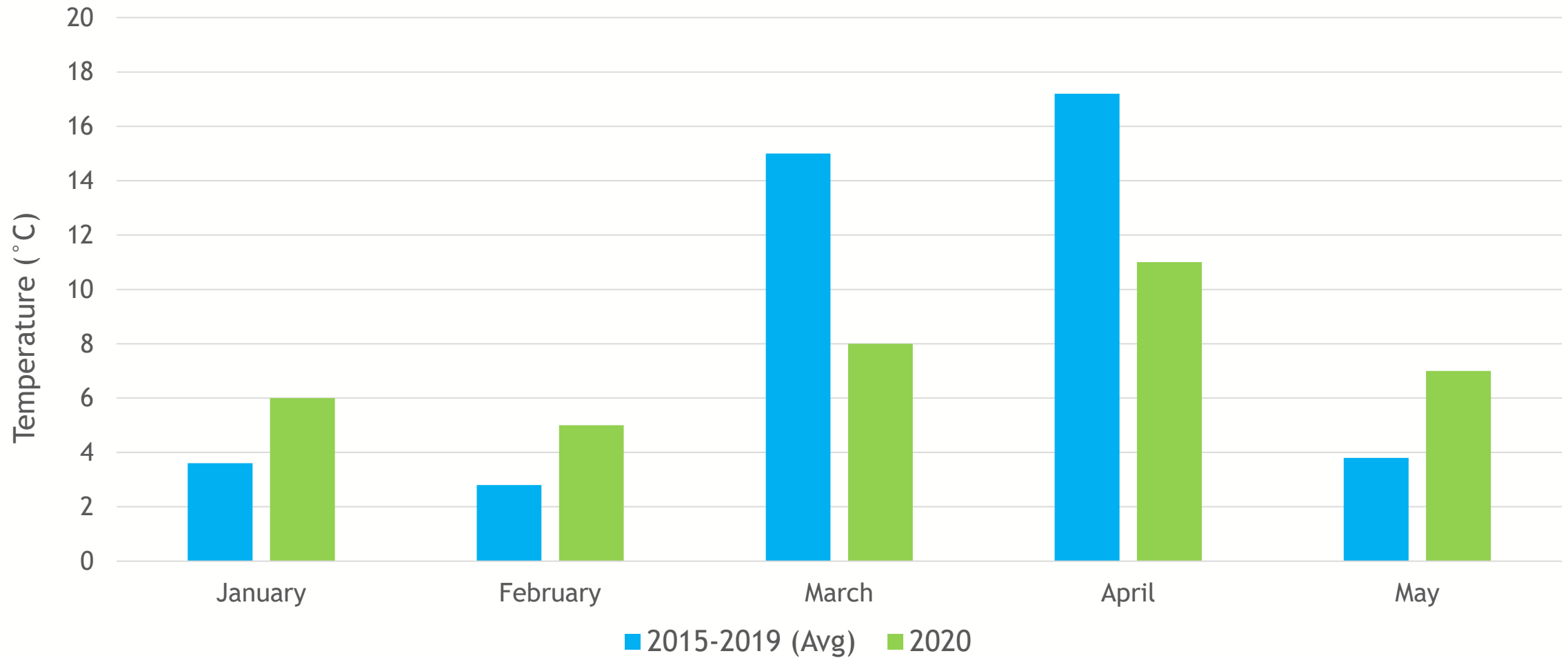
## ► Winter

1. Freeze/Thaw cycles
2. Pavement Age
3. Reoccurring potholes and repair techniques



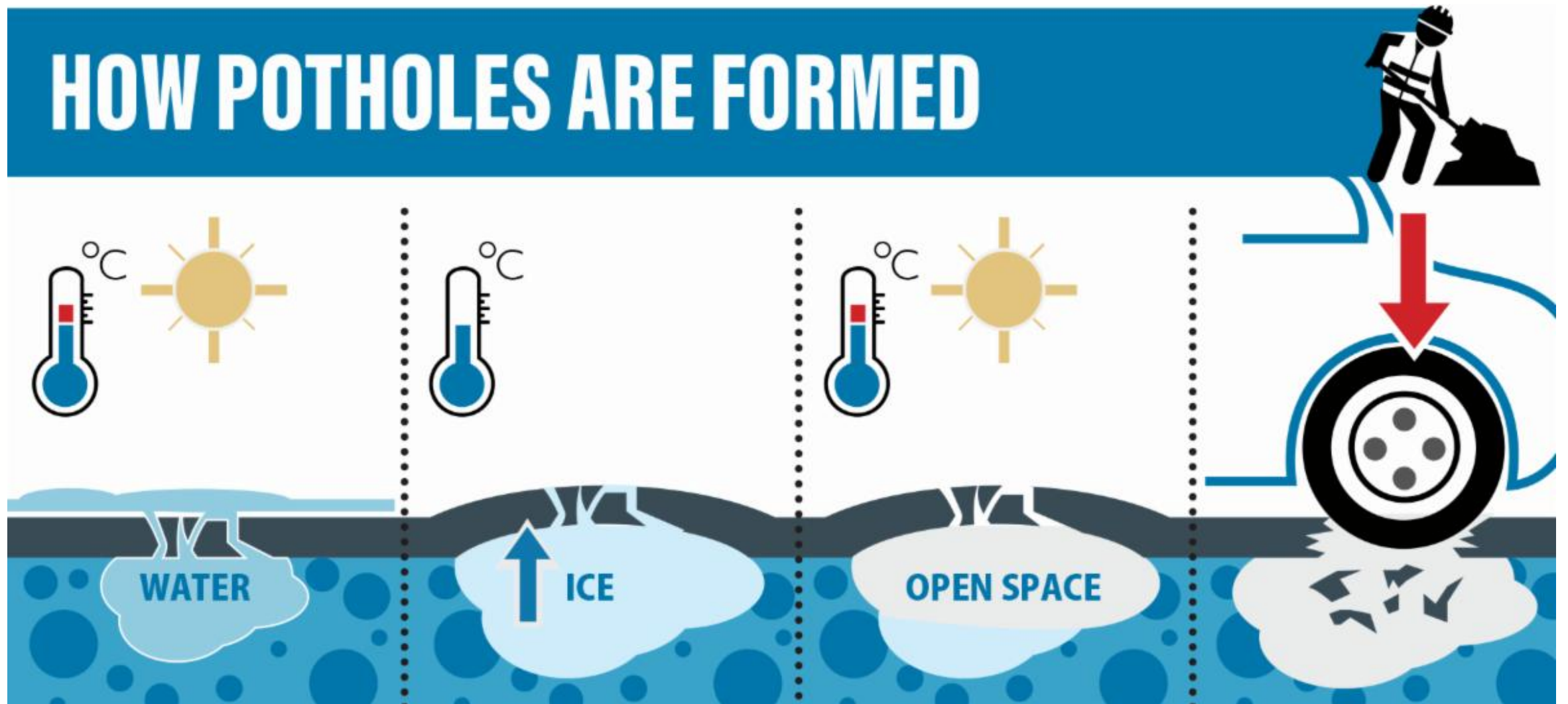
TAC “Best Practices for Pothole Repairs in Canada (2019)”

# Freeze-Thaw Cycles





# HOW POTHOLES ARE FORMED



# Causes of Pothole Repair Failure



- ▶ Insufficient adhesion
- ▶ Insufficient compaction
- ▶ “Pop-outs”
- ▶ Integrity of surrounding pavement

TAC “Best Practices for Pothole Repairs in Canada” (2019)





# Current Pothole Filling Practices

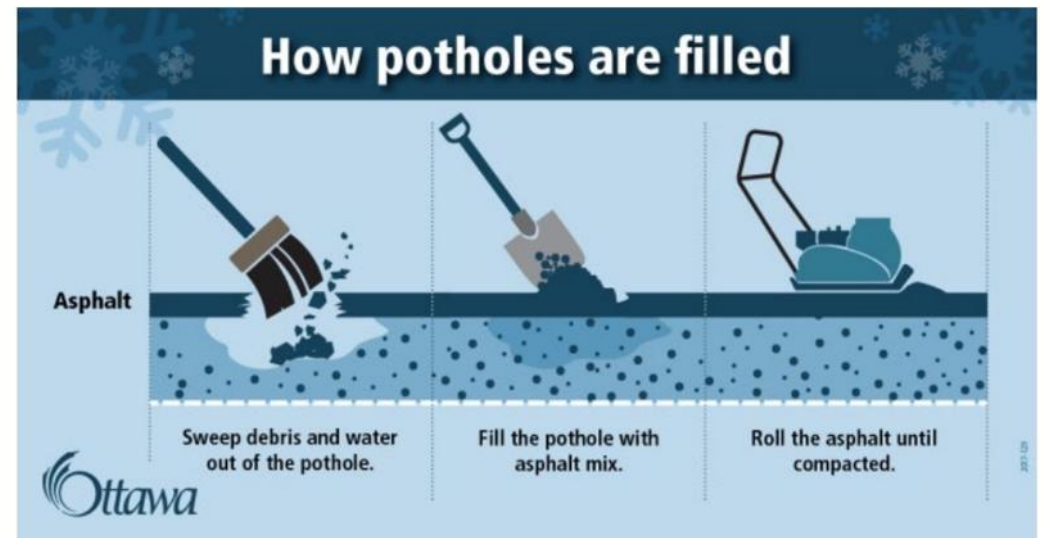
## 1. “Throw and Roll”

- Emergency or Temporary
- Completed in inclement weather

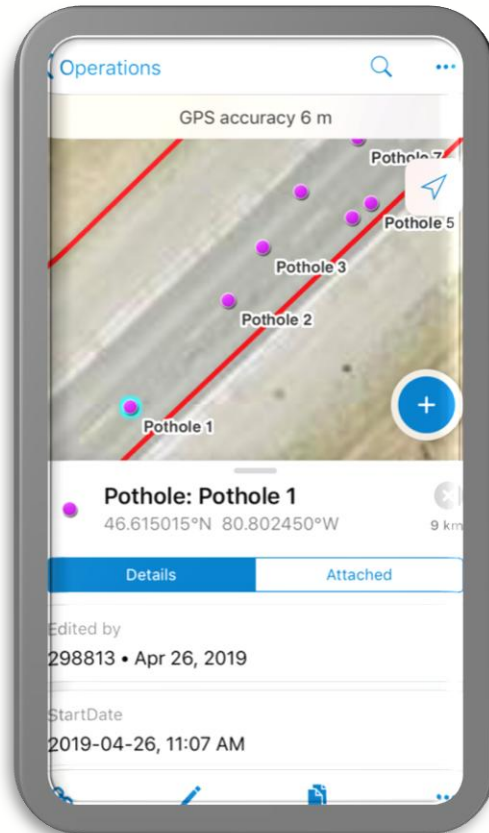
## 2. Detailed Patching

- Temporary or Semi-Permanent
- Completed in good weather

- Methods are identified in TAC “Best Practices for Pothole Repairs in Canada (2019)” as industry best practice



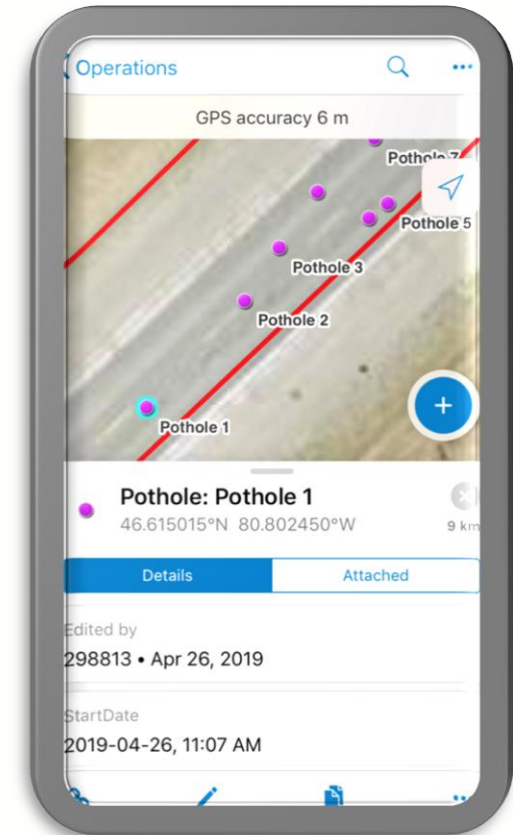
# Pothole Repair Study



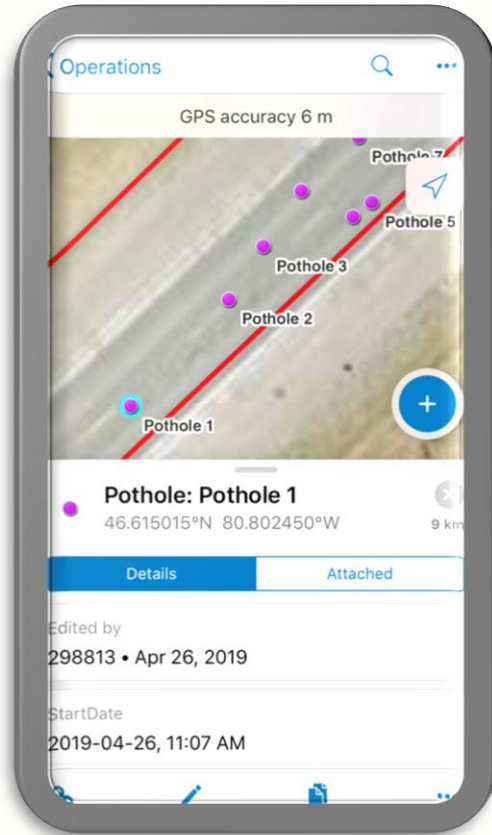
- ▶ Multi-phase Study
- ▶ Assess performance of pothole repair
- ▶ Field Evaluation - initiated Spring of 2019
- ▶ Follow methods from TAC “Best Practices for Pothole Repairs in Canada (2019)”

# Field Evaluation - Status

- ▶ **Phase 1** - April to November 2019
  - Materials types in “like” potholes in summer conditions
- ▶ **Phase 2** - March to April 2020
  - Materials types in “like” potholes in freeze-thaw (winter) conditions



# Field Evaluation - Phase 2

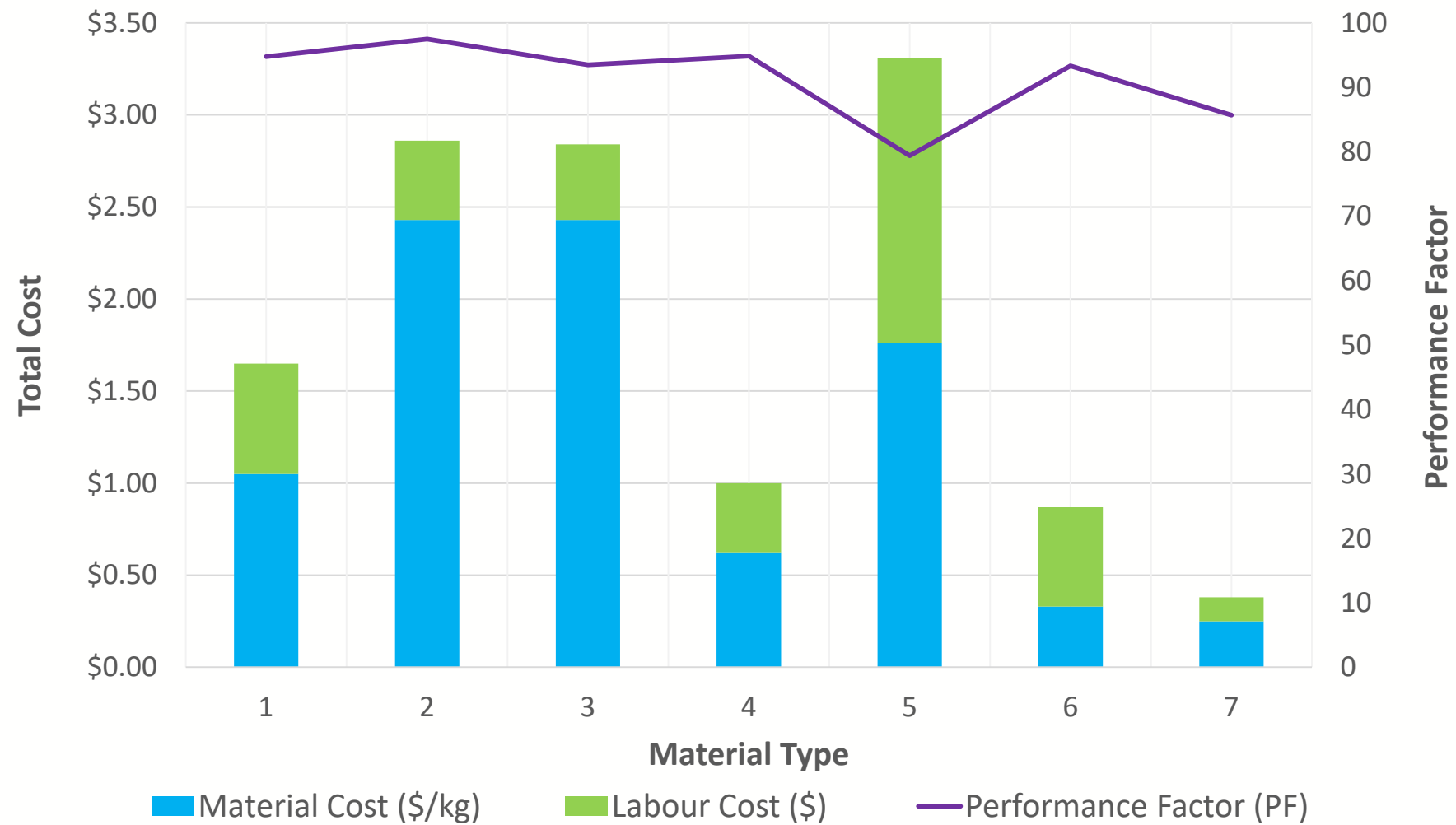


Compared 7 different materials:

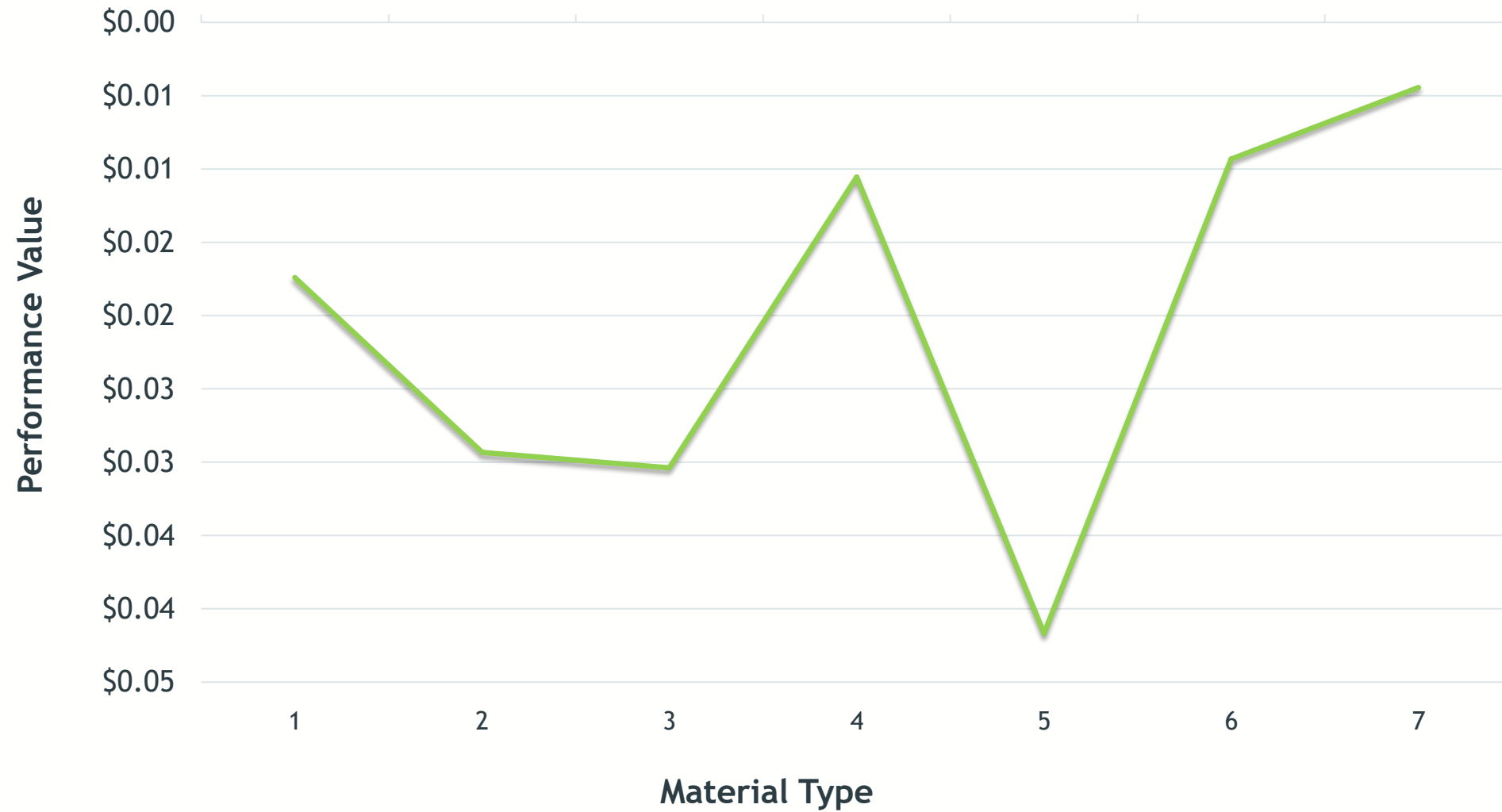
- ▶ 5 Container proprietary cold mix products
- ▶ 1 Bulk proprietary cold mix product
- ▶ 1 In-house batched recycled mix



# Performance vs. Costs



## Performance Value vs. Material Type



# Observations



1. Key uses for each type of product
2. Cold Mix (Containers) = increased plastic waste
3. Cold mix (Bulk) = high productivity & good performance
4. Opportunity to improve recycled mix performance



# Opportunities and Outcomes

Key  
recommendations  
TAC “Best  
Practices for  
Pothole Repairs in  
Canada”  
(2019)

Evaluate Field  
Performance

Pothole Repair  
Guidelines

Share policy and  
technical information





# Questions?

