



Borough of Bath

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MEMORANDUM

To: Mayor & Borough of Bath Council
From: Bradford T. Flynn, Borough Manager
Date: January 24, 2024
Subject: 2023 Year-End Man-Hour Report

This memorandum provides Borough Council an overview of allocated man-hours within the Public Works Department for fiscal year 2023.

Disclosure: The Public Works reported man-hours are estimations of time spent on daily work tasks. The time logged considers an 8-hour, per man workday. The hours do not consider time away for lunch or break periods. However, there were days when public works crewmembers skipped lunch to continue working on a project.

In 2023, the Public Works Department began the year staffed with a Crew Leader and 3 crewmembers: 3 full-time employees and 1 part-time employee. The department ended the fiscal year with 4 crewmembers: 3 FTE and 1 PTE.

Public Works man-hours are assigned by 'Type' of work the department is conducting. Additionally, work 'Type' is then broken down further into classes or 'Tasks'.

Work 'Type' is separated into 3 main categories and defined accordingly:

- Type 1 - **Capital Improvement Projects** – work involving significant construction or rebuild. This type of work could include things such as major road replacement or repairs.
- Type 2 - **Program Projects** – work includes street sweeping, line painting, street festival and special event prep work. Projects in this category can be added or removed from Public Works responsibilities.
- Type 3 - **Maintenance/Operational** – work involving storm sewers and draining, right-of-way clearance, winter maintenance, park and recreational maintenance, shop maintenance, sign repair/replacement, fleet, or equipment repair/replacement work.

Table 1 below lists the 2022 Public Works man-hours according to work aggregate work 'Type.' Figure 1 below is a pie chart representative of all work Type man-hours.

Table 2 below is the cumulative man-hours by work 'Task.' Work Tasks are broken in many different categories and will be specified where an entry for man-hours has been noted by a Public Works supervisor.

- Type 1 work contains five separate work tasks:
 - a. Street and/or Base Repairs
 - b. Sidewalk & Curb Construction
 - c. Storm Sewer & Facilities Construction
 - d. Major Park Improvements or Upgrades
 - e. Building of Facility Upgrades

- Type 2 work contains eight separate work tasks:
 - a. Street Sweeping
 - b. Mowing or ROW Clearance
 - c. Landscaping
 - d. Striping and/or Curb Painting
 - e. Christmas Lighting Work
 - f. Street Festival or Special Event Prep. Work
 - g. Leaf Collection Operations
 - h. Curb Line/Street Gutter Maintenance

- Type 3 work contains 18 separate work tasks:
 - a. Park Maintenance
 - b. Trash Pickup/Debris Removal
 - c. MS4/Environmental Compliance
 - d. Street Maintenance/Crack Sealing
 - e. Urban Forestry Work
 - f. Fleet Related Work/Equipment Maintenance
 - g. Administrative Work
 - h. Facility Repair Work
 - i. Sign Repair/Replacement/Inventory
 - j. Snow & Ice Control Operations/Prep./Planning
 - k. Material Pickup/Transportation Ops.
 - l. Winter Maintenance Operations
 - m. Calls For Service/Work Tickets/Unscheduled Work
 - n. Training Detail (List Under Training)
 - o. Morning Inspections
 - p. Shop Maintenance/Upkeep
 - q. Emergency Management Ops
 - r. Assist other Agency

Figure 2 below is a bar graph indicating each work Type and Task with the overall percentage of man-hours spent on each Task.

Table 1 – PW Man-Hours by Work Type

| 2023 Man-Hours by Work Type | | |
|---------------------------------------|------------------|-------------------|
| Work Type | Man Hours | % of Total |
| Type 1 - Capital Improvement Projects | 1383.5 | 22% |
| Type 2 - Programs | 1047 | 17% |
| Type 3 - Maintenance/Operational | 3777.5 | 61% |
| TOTAL | 6208 | 100% |

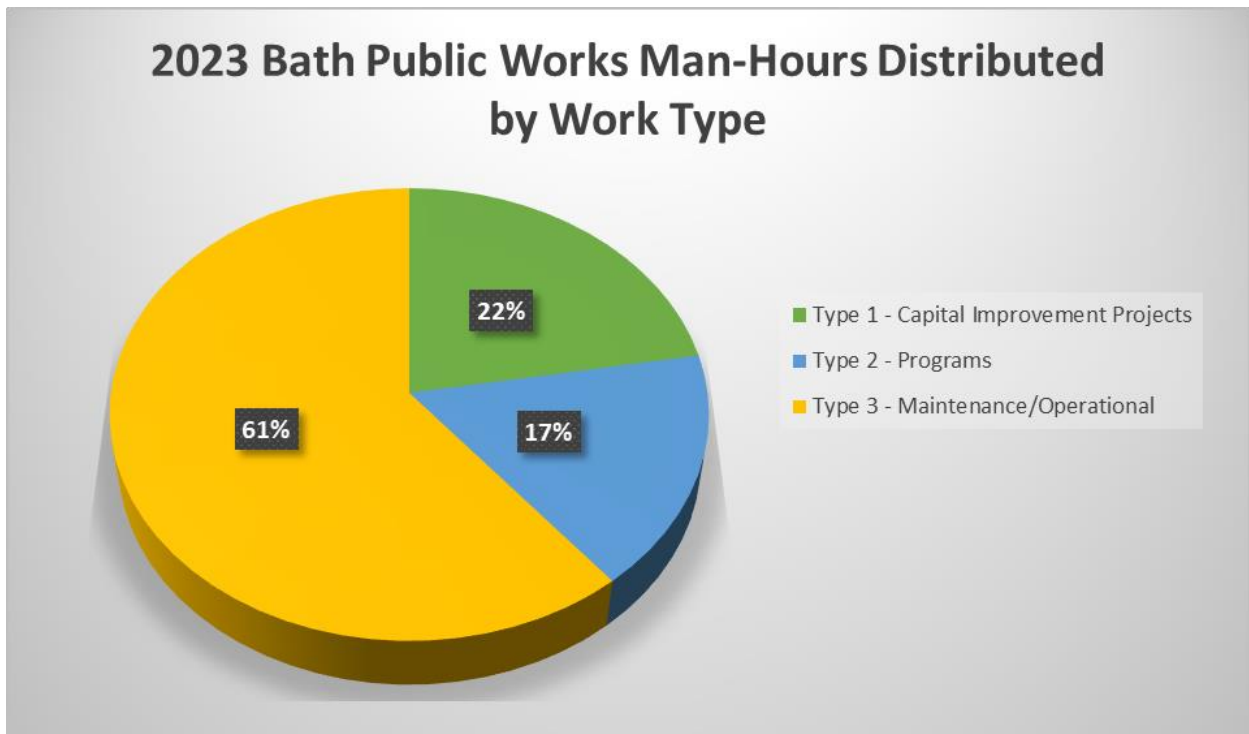


Figure 1 – Pie chart representation of Public Works man-hours by Work Type and percentage of overall time spent.

Table 2 – Public Works Man-Hours by Work Task Classification

| 2023 Man-Hours by Work Type Task Class | | |
|---|------------------|-------------------|
| By Work Type & Task Classification | Man-Hours | % of Total |
| Type 1 - Street/Base Repairs | 1,383.50 | 22.29% |
| Type 2 - Street Sweeping | 99 | 1.59% |
| Type 2 - Mowing or ROW Clearance | 361 | 5.82% |
| Type 2 - Landscaping | 2 | 0.03% |
| Type 2 - Striping and/or Curb Painting | 4 | 0.06% |
| Type 2 - Christmas Lighting Work | 58 | 0.93% |
| Type 2 - Street Festival or Special Event Work | 10 | 0.16% |
| Type 2 - Leaf Collection | 482 | 7.76% |
| Type 2 - Curb Line/Street Gutter Maintenance | 31 | 0.50% |
| Type 3 - Park Maintenance | 830 | 13.37% |
| Type 3 - Trash Pickup/Debris Removal | 56 | 0.90% |
| Type 3 - MS4/Environmental Compliance | 516.5 | 8.32% |
| Type 3 - Street Maintenance/Crack Sealing | 459.5 | 7.40% |
| Type 3 - Fleet Related Work/Equipment Maintenance | 369 | 5.94% |
| Type 3 - Administrative Work | 70.5 | 1.14% |
| Type 3 - Sign Repair/Replacement/Inventory | 252 | 4.06% |
| Type 3 - Snow & Ice Control Ops/Prep./Planning | 85.5 | 1.38% |
| Type 3 - Winter Maintenance Operations | 4 | 0.06% |
| Type 3 - Calls for Service/Work Ticket/Unscheduled Work | 69 | 1.11% |
| Type 3 - Training Detail | 29.5 | 0.48% |
| Type 3 - Morning Inspections | 641 | 10.33% |
| Type 3 - Shop Maintenance/Upkeep | 369 | 5.94% |
| Type 3 - Assist Other Agency | 26 | 0.42% |
| TOTAL | 6,208 | 100.00% |

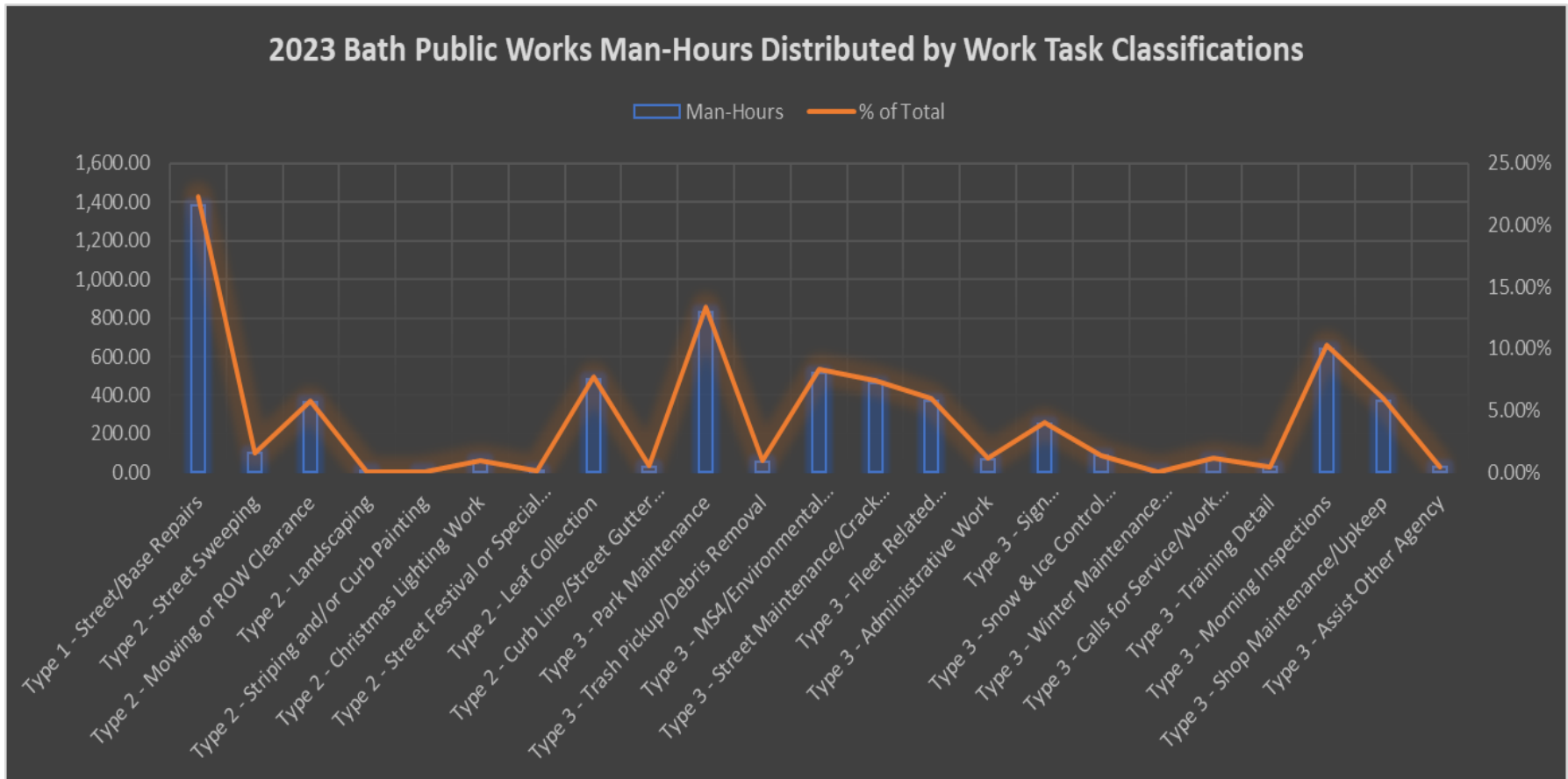


Figure 2 –Graph representation of Public Works man-hours by task and percentage of overall time spent.

2023 Capital Road Work Review

| <u>Historic Summary</u> | |
|---|-----------------------|
| Estimated Local Road Miles | 8.774 |
| 2012 Est. Condition Ratings | 4.5 |
| 2022 Est. Condition Ratings | 6.6 |
| Condition Rating Change from 2012 to 2022 | 46% Increase |
| Est. Road Miles Repaired/Reconstructed | 4.118 |
| Road Inventory Repaired/Replaced (2012 to 2022) * | 47% |
| | |
| Est. Road Repaired/Replaced Cost (10 Years) | \$1,548,860.04 |
| Est. Cost Per Mile | \$376,119.49 |
| Average Yearly Road Improvement Costs | \$154,886.04 |

**The latter half of the decadal period from 2016 to 2022 accounts for 84% of all major capital road improvement expenditures between 2012 and 2022.*

2023 Major Road Repair Work – Bath Public Works Department

- Pine Street Poplar Street to Broad Street; reconstruction and overlay
- Penn Street Broad Street to Dead End; reconstruction and overlay
- Hoch Street Mid-block to Broad Street; mill and overlay

Base Repairs & Overlay Work (Material) **\$64,786.34**

2023 Holiday Hill Crack Sealing Project

- Park Ridge Drive
- Spyglass Hill Road
- Spyglass Hill Court
- Christmas Avenue
- Turnberry Court

Crack Sealing & Supplies (Material) **\$14,175.00**

2023 Miscellaneous Road Repairs

- Silk Mill
- Fantozzi Way
- Miscellaneous Pothole Repairs

Minor Road Repairs (Material) **\$1,785.61**

TOTAL **\$80,746.95**

Special Note – 2023 Major Road Repair Work – Bath Public Works Department

The Public Works Crew completed base repairs and overlay work on 3 Borough streets: Pine, Penn, and Hoch. This work equated to roughly 3,600 square yards of material.

Colliers Engineering & Design has experienced private contractor pricing for similar road projects (5” base, 2” binder, and 1.5” wearing course) between \$85 and \$295 per square yard. Most of the projects hit \$125 per square yard. This includes material and full installation. For a private contract to complete roughly the same work as Bath’s Public Works Department, the cost estimate is \$450,000.

The average wage rate for each of the Public Works Crewmember (full-time and fully loaded) is \$32.53 per hour. If we apply this rate to the man hours associated with Street/Base Repairs (1,383.50 hours), the total labor cost is \$45,005.26. This is a high estimate because the Borough operated with 3 full-time and 1 part-time employee during this timeframe. This estimate does not include neighboring Township Public Works personnel man-hours, which was only during the wearing course phase of construction. This pricing does not include crack-sealing labor and materials.

Bath Public Works completed approximately 3,600 square yards of road reconstruction work (roughly 4” base, 2-3” binder with 1-2” wearing course) for \$109,791.60—one-quarter the average price for similar private contracting per square yard. Bath’s Public Works price per square yard was roughly \$30.50. This is a taxpayer savings of between 64-90% private contractor market pricing.

Respectfully submitted,



Bradford T. Flynn, Borough Manager
Borough of Bath