



TOWN OF LEDYARD
CONNECTICUT
PUBLIC WORKS DEPARTMENT

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2019
YEAR-END REPORT
for the
LEDYARD PUBLIC WORKS DEPARTMENT

by
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Director of Public Works
January 16, 2020

INTRODUCTION

The purpose of this report is to provide a summary of the accomplishments and advancements of the Public Works Department during 2019 and outline expectations for the year ahead.

EXECUTIVE SUMMARY

2019 was marked by a modest winter and no severe tropical weather. However, we were still recovering from widespread tree kill from Gypsy Moth caterpillar infestation that resulted in significant tree damage.

In 2019 funding for the road restoration program was subject to the normal annual appropriation process; \$825,000 was budgeted (out of \$1,015,000 requested according to projected needs), of which nearly 80% was State grant funds. Most of the State grant funds have been arriving late in the fiscal year, so as of this report, we are still waiting for them. The continued uncertainty regarding State funding and the delays in its appropriation leave our road resurfacing program likewise on uncertain ground.

Application of intermediate forms of road repair were continued, including crack sealing and microsurfacing, that have been more systematically utilized since 2012. We also continued a new in-house method of intermediate repair—spot milling and patching.

The specific efforts accomplished included milling/resurfacing of Flintlock Rd and roads in the Coachman Pike subdivision and overlay of the eastern end of Thomas Rd. The Town met annual crack-sealing needs, covering nearly 10 miles of roads. Additionally, Lambtown Rd was treated through microsurfacing. This effort covered more than 2 miles. However, due to steady annual appropriations below the required amount, at the end of the year the average road rating had declined from 82.3 to 81.6 (on a downward trend from 83.2 at the end of 2017).

The Public Works Department continued to keep pace with essential infrastructure maintenance needs. Road right-of-way clearing (including rock outcroppings) and drainage maintenance and improvements are areas of notable backlog. Roadside mowing kept pace with needs in 2019. The Department handled in-house a large drainage improvement project, saving the Town thousands of dollars.

With the new curbside contract in place as of July, the Town continued to see fairly stable costs associated with collection and waste disposal. The slight upward trend in waste volume over the last few years continued.

OPERATIONS

Street Sweeping and Catch Basin Cleaning

The Department completed sweeping in a timely fashion. The annual basin cleaning requirements for 2019 were fully met. These tasks are a vital component of a comprehensive maintenance program that will meet the formal requirements of the EPA's Phase II Stormwater regulations.

Drainage Repairs and Improvements

Drainage repairs were directed systematically toward priority needs. Several catch basins were reconstructed or replaced, with associated piping work, which represented the essential annual needs. A backlog of detention basin clearing and restoration remains.

Failed culverts at Ferry View Dr and Bluff Rd were addressed through contract services. A major drainage improvement project at South Glenwoods Rd was accomplished in-house that relieved longstanding flooding issues at several downgrade properties on Route 214. By handling this work in house, relative to one proposal we saved more than \$130,000 (more than \$160,000 accounting for on-budget labor).

Paving

Paving continued in accordance with the Pavement Management Program capital plan. However, funding has lagged the level necessary to assure maintaining our current average Road Surface Rating (RSR), which for the second straight year declined slightly. By planning metrics, annual funding will now have to be kept at a steady level of around \$1.0 M to preserve our average road surface rating and make progress in orphaned side roads. Annual required funding levels have not been achieved since the infusion of bond funds between 2012 and 2014.

Curbing/Driveway Aprons

Between a lower-than-average snow event count and efforts to minimize contact, the winter yielded a significantly lower-than-average curbing repair length of about 1,500 linear feet. This gave us the flexibility to handle more work in house, such as the South Glenwoods drainage improvement.

Guiderail Placement/Replacement

Guiderail installation, except for minor maintenance, is contracted out. Safety-related terminal end improvements were completed at Shewville Rd, Colonel Ledyard Hwy, Church Hill Rd, and Matthewson Mill Rd. The significant amount of old-style rail remains and is in present need of replacement along Sandy Hollow Road. This has been identified in the Capital Improvement Plan since FY12 but has not been funded.

Roadside Vegetation Control

- *Spraying*: The Department uses a contracted guiderail weed-control spraying program. This has been highly effective in reducing the overgrowth of vegetation near guiderails, and thus increasing the efficiency of mowing efforts.
- *Mowing*: In conjunction with road right-of-way clearing efforts, roadside mowing has been very thorough and effective. Though wet weather persisted through the summer, encouraging constant regrowth, we managed to stay on top of the needs for mowing in 2019, with all main roads receiving two passes, and some three passes.
- *Brush/Tree Trimming*: Road right-of-way clearing efforts continued from where they left off in 2018, resulting in completion of all subdivisions that hadn't received attention in the last ten years. Systematic tree canopy clearing continued with the segment of Long Cove Road from Vinegar Hill Road to the Groton Town line, and a 2,500-ft section of Lambtown Road from Colonel Ledyard Highway to the west.

Sign Maintenance and Installation

As a result of achieving substantial compliance with federal mandates as of 2014, signs and markings work has been incorporated into the periodic and seasonal work cycles of the Highway Division. This involves miscellaneous sign repairs and replacements and crosswalk and stop-bar painting. We met essential needs in 2019. State-funded crosswalk signage improvements were completed in the Highlands area.

Snow Removal

The winter weather demands for the 2018/2019 season were modest; winter operations expenses at were below historical average and 76.1% of budget. There were limited breakdowns of snow removal equipment, though the deferring of certain major maintenance needs left a considerable backlog that required significant expenditures later in the year.

Buildings and Grounds Maintenance

In addition to keeping pace with essential duties and emergent conditions the B & G Division made great progress with improvements in several areas, and with increased efficiencies in a number of others. Many projects were undertaken in-house that had previously been contracted out.

Several capital facilities projects were accomplished in 2019, with several pending and imminent at the end of the year. Funding for capital facilities projects has been budgeted at a nominal level, but has been substantially supplemented through special appropriations, most recently \$370,000. The full list and status of facilities needs is provided in the Comprehensive Municipal Facilities Capital Needs report.

EQUIPMENT

The Public Works Department utilizes reserve funds for appropriations for its vehicle and equipment needs. It is essential that the reserve funds continue to be funded in accordance with the long-range plan to avoid the difficulties associated with a peak and valley approach to capital equipment rotation and improvements. Intermediate refurbishment is being utilized more frequently in the last several years to help extend life expectancy.

Heavy Equipment. Refurbishment will continue to be used extensively to extend the life of certain major assets. This has allowed us to defer replacement of the Sweeper, Catch Basin Cleaner, and Brush Chipper. Notwithstanding, we are reassessing the composition of our heavy equipment fleet as replacement of the Sweeper and Catch Basin Cleaner approach to align any replacement plans with productivity improvements and efficiencies.

Large Trucks. Historic capital funding for Large Trucks has been stretched to attempt to support a 25-year replacement cycle. This has required aggressive refurbishment efforts. Notwithstanding, this did not prove workable, and the annual reserve funding appropriation was increased in FY20 for a return to a 20-year life cycle. Since a 20-year replacement interval still stretched the envelope, we continue to rely on targeted refurbishment. In keeping with this, we converted a truck body to stainless steel in 2019. One truck is slated for replacement in FY21.

Small Trucks. The reserve fund for small trucks covers a wider variety of vehicles. Though standard replacement cycles form the foundational basis for the funding plan, flexibility has been (and will continue to be) employed to best align the fleet with needs. This has involved repurposing lower-use assets in conjunction with replacement. There are no replacements programmed for FY21.

FACILITIES

Since the demolition of the old Firehouse, equipment storage expansion has been a prominent need. The already-marginally-sufficient storage assets at the Highway Garage have been severely tested. Increased storage efficiency has been realized through concerted housekeeping and systematic rearrangement efforts, a serious storage gap remains and has been addressed in the CIP.

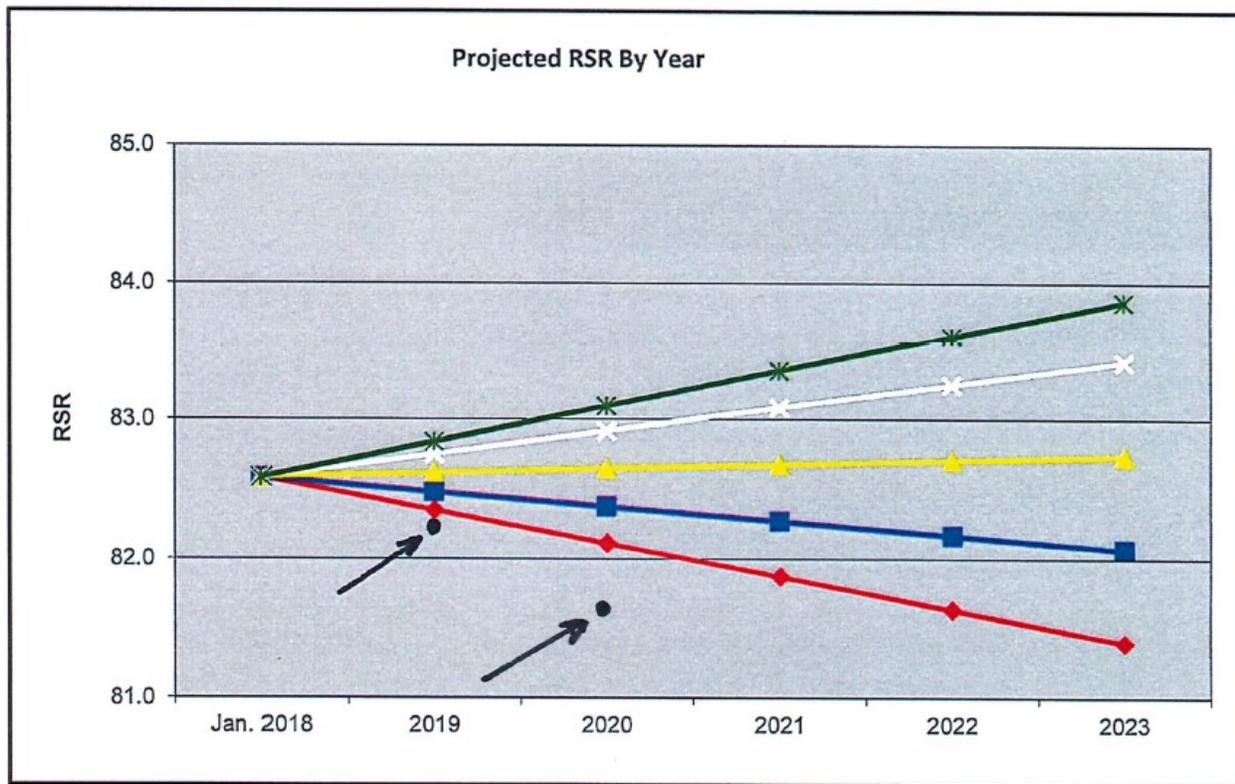
With the infusion of special appropriation funds, the replacement of the dilapidated Buildings & Grounds Shed has been initiated and is well underway. Funds are in place now for the extension of the Truck Shelter. The reroofing project at the Highway Garage was completed.

OUTLOOK

Since the mid-1980's around 18 miles of road have been added. This has naturally placed an additional corresponding year-round maintenance burden on the Town in several areas. In general, the Department continues to keep pace with essential routine infrastructure maintenance, and some progress continues to be made in chipping away at the backlog of more major work, but a lot of important tasks continue to be deferred. Personnel changes in 2019 offer conditions where additional manning should be considered.

The tri-annual road surface management study update was conducted in late 2017 and is due in 2020. The study concludes that an annual capital budget amount of more than \$1.1M is needed to maintain the status quo road condition in Ledyard. Through modest progress last year, this projection has been reduced to about \$1.0M. This level of funding will generally trend upward according to inflation. The required amount of capital road funding has rarely met the annual need, though an FY 11 \$3.5M road resurfacing bond offset the considerable cumulative funding deficit that had accumulated up to that time.

This infusion of short-term funding resulted in substantial improvement of the road surface rating (RSR). But this boost needs to be augmented by a parallel commitment to long-term stability of annual funding for ongoing resurfacing efforts into the future. Efforts continue to leverage other funding sources and intermediate treatment methods to render annual funding as effectual as possible. There has been an uptick in appropriations for FY's 14 through 20 from some previous years, but still below the annual projected need, and this has been aggravated by the uncertainty of State grant funding, to which our road funding has been largely tethered. A cumulative deficiency in applied funding is growing again, and as shown in the chart below, the RSR has declined modestly the last two years.



Recent operational budget and TAR funding have been adequate to meet routine infrastructure needs. This has been largely based on stable TAR funding at recent historical levels. Absent TAR funding, several vital annual infrastructure maintenance efforts will either be curtailed or must find alternative local or other funding. In the long run, the absence or reduction of TAR funding will severely hamper annual maintenance initiatives. Such shortfalls would have to be made up in other ways to meet essential infrastructure needs.

Department Manning

As stated earlier, the infrastructure inventory has modestly increased since the mid-1980's (up more than 15%). By the mid-1990's the manning level of the Department was reduced about 35%, or by about 9 individuals, and has remained essentially flat since then. It is apparent at times that Public Works

manpower resources are stretched thin; it is a challenge in some areas to keep up with essential maintenance demands, considering the increased and growing roadway infrastructure and the increasingly complex buildings and grounds needs. This has been especially true when we have been hit by significant severe weather impacts, clean-up of which has occupied the crew for up to several weeks.

Contracting Out

To meet certain road infrastructure and buildings maintenance demands, contract services have been routinely used, if funding permits, simply based on scope of work versus Department resources and capacity. Relative to road maintenance needs alone, such tasks have included large drainage repairs and improvements, large tree removal, guiderail installation, roadside spraying, road line striping, and various road resurfacing efforts from road crack sealing to paving.

Sanitation Services

We continue to benefit from stability in the area of sanitation services, and this is in large measure due to our relationship with SCRRRA, which substantially subsidizes disposal costs for Incinerator waste and many other items. Eventually this could change as facilities close, fees in various areas increase, and agreements expire and are renegotiated. Because of present policy and legal obligations, this area of the budget is least discretionary—any cost increases have been absorbed on a compulsory basis.

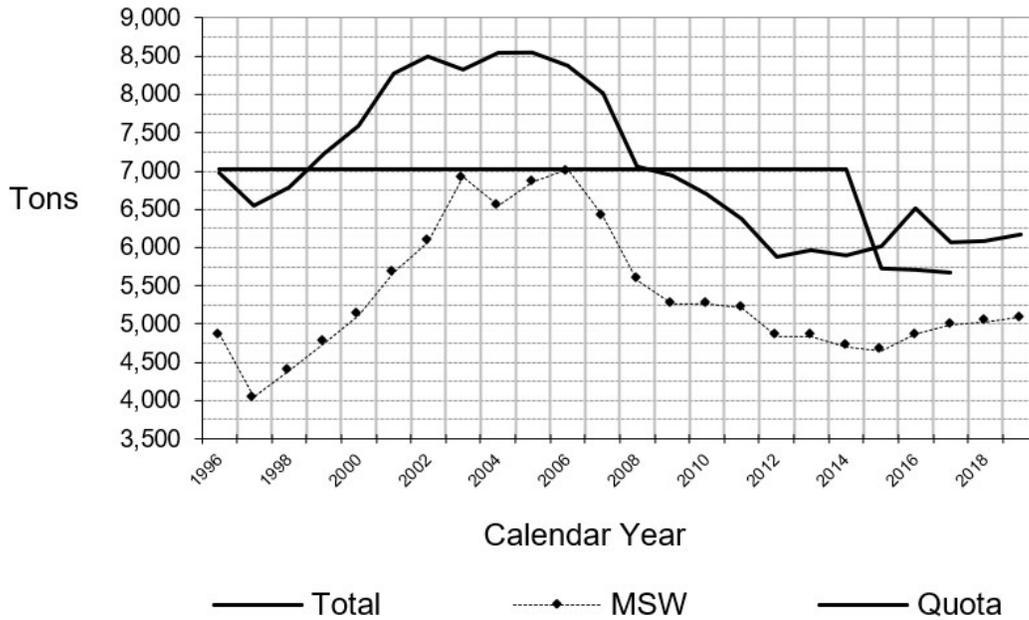
The Town can control certain aspects of cost associated with local contracts, e.g., curbside collection. The Town received a favorable bid for renewal of services starting in July that will carry us through June 2026. At the same time, contracts for recycling have expired and the terms of renewal in the contract negotiated by SCRRRA with Willimantic Waste Paper Company for Single Stream recycling are much less favorable, simply reflecting the general collapse of the recycling market. Though SCRRRA has agreed to absorb the disposal costs now associated with recycling, this will not continue indefinitely. The Town should be prepared to absorb some or all of this cost starting in FY22.

Through careful management and subsidizing of several services by SCRRRA, expenses associated with the Transfer Station operations have remained stable and historically low, but this will not likely continue indefinitely as waste stream dynamics shift and associated costs increase. Because of the constantly shifting/changing conditions in the realm of waste stream management, our local practices must remain open to review and change. The trends of Ledyard's waste stream are depicted below.

The Town of Ledyard was originally assigned a quota of 7,029 tons per year at the Incinerator by agreement with SCRRRA. This amount has served as the basis for annual budgeting for tipping fees. From 1999 through 2007, total tonnage exceeded the quota, which translated into a deficit in budgeted tipping fee funds. Effective January 1, 2003 the Town Council instituted backcharges for commercial tonnages delivered to the incinerator. This had immediate impact on reported tonnages. We are seeking to address remaining commercial hauler inconsistencies more effectively through SCRRRA.

However, by CY 06, curbside and other contractual (MSW) tonnage alone reached the quota. With this trend, the Town faced a budget increase for excess tipping fees for MSW volume. Then the curbside contract was rebid. As dramatically depicted, starting the last half of 2007 the shift to a new contractor resulted in a substantial reduction in tonnage; it has since remained well below FY07 levels. Though reduced in 2015, the quota requirement was moot many years earlier, and was eliminated in 2017.

Annual Incinerator Tonnage



As mentioned above, the Town is benefitting increasingly from the subsidizing of several Transfer Station/waste collection services. For years this has included hazardous waste collection. It has come to include collection and disposal of tires, ewaste, fluorescent light bulbs, mattresses, waste oil, antifreeze, and small propane tanks, as well as Freon evacuation and the grinding of bulk brush. The net savings (cost avoidance plus revenue) to Ledyard has increased to more than \$60K annually.

Transfer of non-hazardous paint is also free to the Town through a direct agreement with PaintCare. Additionally, through an arrangement with the neighboring farm separately permitted with the DEEP for composting, leaf disposal costs the Town nothing. This represents an annual savings of at least \$20K. So, without the above arrangements, disposal costs for the Transfer Station would add at least \$80K to the tax levy.

Regulatory Compliance and Administrative Services

While the Town employed a separate Town Engineer, several aspects of the EPA’s Phase I and II MS4 (Stormwater) program were tackled in-house. This had alleviated both the administrative and cost burdens associated with program compliance. Additionally, the presence of the Engineer relieved the Town considerably of dependence on consulting support and greatly increased the Department’s capacity to handle infrastructure maintenance planning, design, and administration, as well as plan review, construction inspection, and interdepartmental assistance. The position was vacated in 2007.

The Town’s Public Works administrative and engineering requirements naturally exceed present in-house capacities. During the protracted period of slow development activity, the Director has been able to keep up with many of these, and consulting support has been engaged only where assistance in meeting essential program needs is required. Meeting engineering needs will continue to be a matter for consideration of balance between in-house resources and consulting services.

Consulting costs have increased significantly starting in FY18 to address increased MS4 program requirements. The costs of MS4 program compliance may begin to decline and level off, but we are still in the early stages of establishing the necessary structural aspects of foundation of our local program. It cannot be overemphasized how sprawling and expensive MS4 compliance has become.