



TOWN OF LEDYARD
CONNECTICUT
PUBLIC WORKS DEPARTMENT

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2018
YEAR-END REPORT
for the
LEDYARD PUBLIC WORKS DEPARTMENT

by
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INTRODUCTION

The purpose of this report is to provide a summary of the accomplishments and advancements of the Public Works Department during 2018 and outline expectations for the year ahead.

EXECUTIVE SUMMARY

2018 was marked by an average winter, and we were again spared any severe tropical weather during the summer and fall timeframe. However, we experienced two modest severe windy weather events and widespread tree kill from Gypsy Moth caterpillar infestation that resulted in significant tree damage. Clean-up from these events significantly affected normal construction season road maintenance efforts and required deferral of certain tasks.

In 2018 funding for the road restoration program was subject to the normal annual appropriation process; \$750,000 was budgeted (out of \$1,115,000 requested according to projected needs), of which about 90% was State grant funds. The majority 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.

Offsetting this is some measure was a special appropriation of nearly \$120,000 that allowed some significant work to proceed and effectively brought the annual appropriation to nearly \$900,000. Application of intermediate forms of road repair were continued, including crack sealing and microsurfacing, that have been more aggressively utilized since 2012. We also continued a new in-house method of intermediate repair—spot milling and patching. Significant benefit was realized here.

The specific efforts accomplished included a major milling/resurfacing job for the Barry Drive subdivision roads. The Town met annual crack-sealing needs, amounting to more than 20 miles of roads. Additionally, most of Colonel Ledyard Highway was treated through microsurfacing. This effort covered nearly 3 miles. However, due to steady annual appropriations below the required amount, at the end of the year the average road rating had declined from 82.8 to 82.3 (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 brush and rock outcroppings) and drainage maintenance and improvements are areas of notable backlog. Roadside mowing kept pace with needs in 2018.

The Town continued to see fairly stable costs associated with curbside collection and waste disposal. There appears to be a slight upward trend in waste volume over the last few years.

OPERATIONS

Street Sweeping and Catch Basin Cleaning

The Department completed sweeping in a timely fashion. The annual basin cleaning requirements for 2018 were fully met, and progress was made in cleaning clogged drainage pipes. 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. Progress with detention basin clearing and restoration was one of the victims of the unusually high tree clearing workload.

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 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.

Curbing/Driveway Aprons

Despite only average snow events, the winter yielded a significantly larger-than-average curbing repair length of nearly 6,000 linear feet. Curbing repair work extended through the summer. Along with the impacts of extensive tree debris clearing, this required deferment of other necessary work.

Guiderail Placement/Replacement

Guiderail installation, except for minor maintenance, is contracted out. Because of the severe increase in cost over the last few years and limited capital funding, guide rail work in 2018 was again limited to essential repairs (mostly related to vehicular accidents). However, a 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. Additionally, the grant received for the systematic replacement of guiderail on Shewville Road to improve inherent safety was abandoned due to local share funding constraints.

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*: Adjustments in the approach to this service have improved the timeliness of efforts. In conjunction with road right-of-way clearing efforts, roadside mowing has been very thorough and effective. We managed to stay on top of the needs for mowing in 2018, with all main roads receiving two passes, and some three passes.
- *Brush/Tree Trimming*: Winter conditions in early 2018 did not allow road right-of-way clearing efforts, but we were able to resume these efforts late in the year and made significant progress in many subdivisions that hadn't received attention in the last ten years. Systematic tree canopy clearing continued with the Shewville Road south of Route 214 and Whitford Road.

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 2018.

Snow Removal

The winter weather demands for the 2017/2018 season were fairly steady from January on and ended up at the historical amount above average, with winter operations expenses at 111.4% 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

The B & G Division kept pace with essential duties and emergent conditions. However, the Police building, though new, continued to present certain significant unanticipated challenges with the HVAC system. Permanent resolution of some of these issues was still pending at the end of the year.

Only a few capital facilities projects were accomplished in 2018, with several pending at the end of the construction season. Funding for these capital facilities projects has been budgeted at a nominal level and has otherwise been mostly cobbled together through special appropriations. 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. We had intended to continue to stretch the life of the Front-End Loader in this way, but after 20 years of use, it became apparent that repair/refurbishment at this stage would not be cost-effective. The Loader was replaced late in 2018 through 5-year lease/purchase. The next refurbishment planned is for the Sweeper in 2020. The next full equipment replacement is slated for the Sweeper in FY 24.

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 is not proving workable, and funds will now be sought to return to a 20-year life cycle. One truck is slated to be upgraded to stainless steel construction in 2019 to extend life and offset future full truck replacement costs.

Small Trucks. Again, significant shuffling of asset replacement plans was accomplished through repurposing/reassignment of a B & G Division pick-up truck to the Highway Division. A new B & G Pick-Up was purchased and the replaced asset in the Highway Division will be auctioned in the Spring.

FACILITIES

Equipment storage expansion remains a prominent need. With the demolition of the old Firehouse, the already-marginally-sufficient storage assets at the Highway Garage have been severely tested. Though 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.

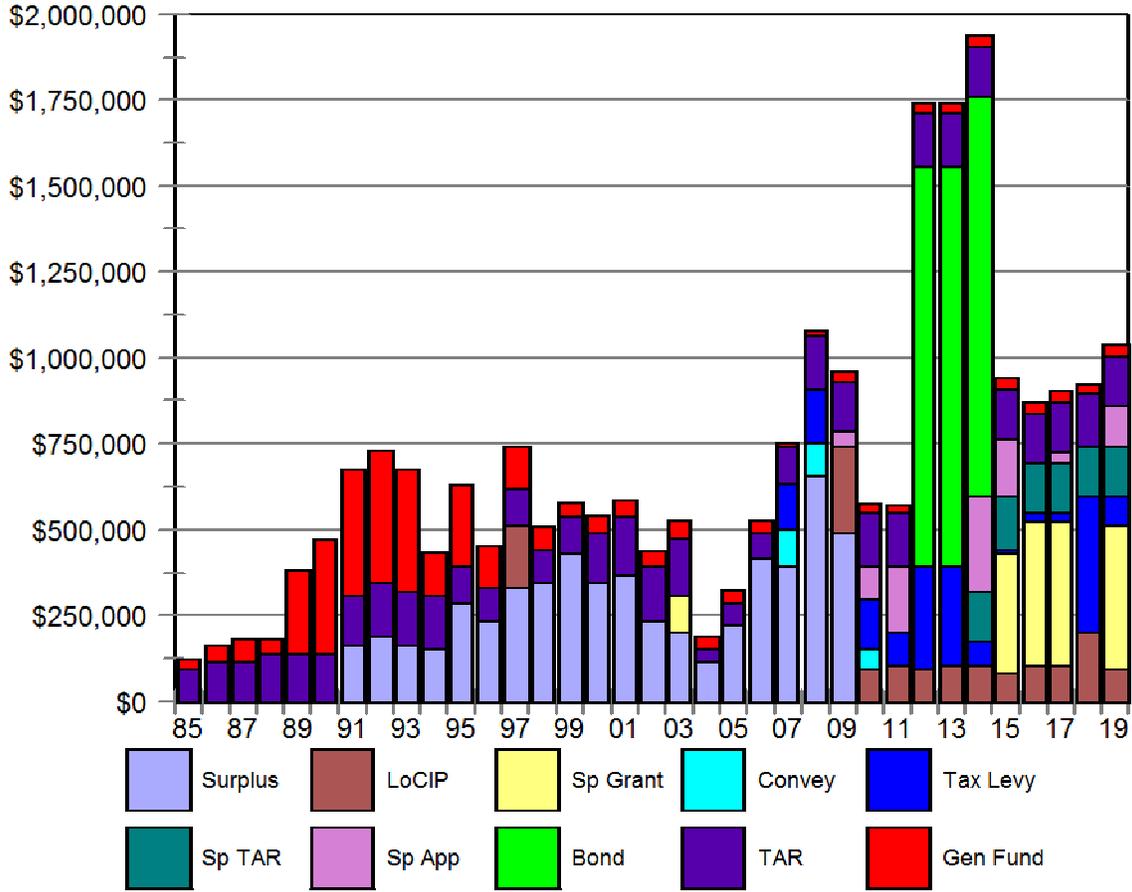
Several major maintenance items and improvements (e.g., reroofing) have been slated as priorities according to the Comprehensive Municipal Facilities Capital Needs plan. These will be tackled as part of the Town building capital needs plan.

OUTLOOK

Since the mid-1980's around 18 miles of road have been added. This has 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. At present manning levels the Town is receiving excellent value in the realm of work accomplished.

The tri-annual road surface management study update was conducted in late 2017. 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 allowed recovery of momentum toward overall road surface rating (RSR) improvement. 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 19 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.

Infrastructure Funding Breakdown



Recent operational budget and TAR funding have been adequate. 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 also 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

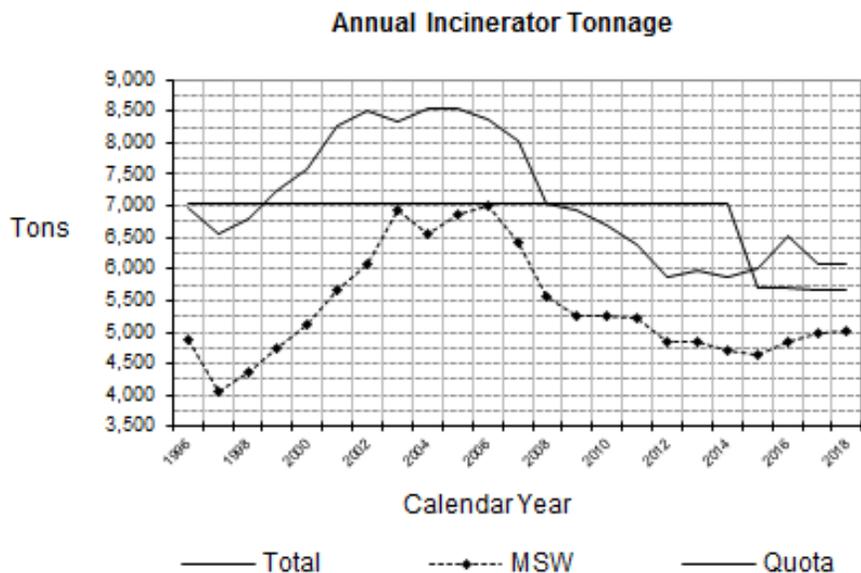
We continue to benefit from stability in the area of sanitation services, and this is in large measure due to our relationship with SCRRRA, which substantially subsidizes disposal costs for Incinerator waste and many other items. Eventually this could change as facilities close, fees in various areas 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. In addition to seeking to fashion this service in the most cost-effective way, we can leverage purity of our waste stream, which assures we pay only for collection and disposal of Ledyard waste. This may be clearly seen in the substantial reduction in contract MSW tonnages since the contract change of 2007. We would also benefit from an increased recycling rate, which directly affects disposal costs. The Town entered into an agreement with Willimantic Waste Paper Company for Single Stream recycling starting July 1, 2011 and renewed it in 2015. In addition to the savings of any further reduction of tonnage at the Incinerator, the Town presently receives nominal revenue for recyclables, but this will most certainly change early in FY20 when the WWP contract for recyclables expires.

Also, through careful management and increased SCRRRA no-cost services, 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. In 2015 automated curbside collection was introduced. As this has settled in, we have seen a modest structural increase in recycling rate. Because of the constantly shifting/changing conditions in the realm of waste stream management, our local practices must remain open to review and change. Our present curbside collection contract expires at the end of FY19.

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. Not only did this provide offsetting revenue in some measure and put Ledyard in league with virtually all other surrounding towns, it had obvious immediate impact in curtailing the rate of increase in overall delivered tonnage, as the tonnage graph below depicts.

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 the quota amount. In light of this, and in accordance with SCRRA procedure, Ledyard's assigned minimum commitment tonnage has been reduced since FY 15 to around 5,700 and has remained in that range since. However, at the same time, there was a noticeable trend in the increase of commercial tonnage at the Incinerator.



Though we recover the cost of this through backcharges, this increase reflects some misreporting by haulers of waste source. The significant drop of overall tonnage in FY 18 was due to shutting off at the incinerator a hauler that did not remain current on backcharge payments and which may have been the source of a significant amount of misreported waste (note the marked drop in total tonnage). We are seeking to address commercial hauler inconsistencies more effectively through SCRRA.

As mentioned above, the Town is benefitting increasingly from several Transfer Station/waste collection services the cost of which is now being picked up by SCRRA. 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, and antifreeze, 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.

In looking forward, several other initiatives to reduce the cost of waste management, particularly as associated with disposal, should remain on the table. Presently, each ton of recyclables removed from the Incinerator waste stream would net the Town at least \$63. Pay-As-You-Throw (PAYT) has been successful in reducing the trash component of the waste stream in other communities. Perhaps there will be a way to introduce this in some form at some point; the Town had begun evaluating this possibility in earnest, and then abandoned this initiative earlier in 2018.

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.