



**TOWN OF LEDYARD**  
**CONNECTICUT**  
**PUBLIC WORKS DEPARTMENT**

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2016  
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 2016 and outline expectations for the year ahead.

## **EXECUTIVE SUMMARY**

2016 was marked by a noticeably more modest than average winter. And for the fourth straight year we were spared any severe tropical weather during the summer and fall timeframe. This allowed uninterrupted construction season focused on routine and special road maintenance efforts.

In 2016 funding for the road restoration program was subject to the normal annual appropriation process; \$700,000 was budgeted (out of \$875,000 requested according to projected needs). However, because the road restoration funds were tied primarily to State grant funds (97+%), a major portion of which (\$421K) are still pending, only modest efforts were undertaken during 2016. The major restoration efforts were deferred pending receipt of remaining grant funding. Application of intermediate forms of road repair, including infra-red spot repairs, crack sealing, and microsurfacing, that were more aggressively utilized in 2012 were continued.

The efforts accomplished included the Town's annual crack-sealing needs, amounting to 25 miles of roads. Additionally, the roads in the Pheasant Run Subdivision were brought into uniformity through variable use of asphalt leveling and microsurfacing. This effort treated a total of about 4.5 miles. At the end of the year, the average road rating remained stable above 82.

The Public Works Department continued to keep pace with essential infrastructure maintenance needs. Road right-of-way clearing and drainage maintenance and improvements are areas of notable backlog. Roadside mowing kept pace with needs in 2016.

With further advancements in collection practices, the Town continued to see stable costs associated with curbside collection and waste disposal. The Town has seemed to have settled in to the conversion to automated collection, and enforcement of its provisions has been resulted in almost complete compliance.

## **OPERATIONS**

### Street Sweeping and Catch Basin Cleaning

The Department completed sweeping in a timely fashion with only one sweeper. The annual basin cleaning requirements for 2016 were fully met, and significant 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.

### Paving

Paving continued in accordance with the Pavement Management Program capital plan. But more than \$400K of State grant funding had not arrived in time for the construction season, and was still pending by the end of the year. If this funding is ultimately withheld, it would represent a major setback to the road program, if not replaced. Additionally, by planning metrics, annual funding will have to be kept at a steady level of around \$875,000 to preserve the gains made in average road surface rating and make progress in orphaned side roads. This funding level has not been maintained.

### Curbing/Driveway Aprons

In spite of modest snow events, the winter yielded a larger-than-average curbing repair length of more than 6,000 linear feet. Nevertheless, the early start of the construction season allowed timely completion of curbing 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 2016 was again limited to essential repairs (mostly related to vehicular accidents). However, a significant amount of old-style rail is in present need of replacement along Sandy Hollow Road. This has been identified in the Capital Improvement Plan for several years, but has not been funded. Additionally, an application was submitted for systematic replacement of guiderail on Shewville Road to improve inherent safety. At the end of the year grant approval was still pending.

### Roadside Vegetation Control

- *Spraying*: Since the spring of 1998 the Department has utilized a 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. This effort has been contracted out since 2002.
- *Mowing*: Adjustments in the approach to this service have not completely eliminated problems with the timeliness of efforts. However, in conjunction with road right-of-way clearing efforts, roadside mowing has been very thorough and effective. We stayed ahead of needs for mowing in 2016, with all main roads receiving two passes, and some three passes.
- *Brush/Tree Trimming*: Where winter conditions allowed, substantial road right-of-way clearing efforts were conducted at several roads, including Rose Hill Road, Thomas Road, and Baron Court.

### Sign Maintenance and Installation

As a result of achieving substantial compliance with federal mandates as of 2014, the Signs & Markings Manager position was eliminated through restructuring. Signs and markings work has been incorporated in the periodic and seasonal work cycles of the Highway Division. This involves miscellaneous sign repairs and replacements and crosswalk and stop-bar painting.

### Snow Removal

The winter weather demands for the 2015/2016 season were somewhat less than average, with winter operations expenses at 78.5% 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 burden of additional work associated with the Gales Ferry Landing continued to occupy a considerable proportion of the workload. Though funding was cobbled together for a few of the minor capital projects identified in the comprehensive municipal capital needs plan, all of the significant ones remain deferred due to unfunded CIP requests.

## **EQUIPMENT**

The Public Works Department utilizes reserve funds for appropriations for its vehicle and equipment needs. These funds were established between 1999 and 2002 to assure adequate long-term budgeting, if approved as proposed. 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 has been utilized more frequently in the last several years to help extend life expectancy.

Large Trucks. Under historic appropriations, the budgeted large truck sinking fund will support a 20-year replacement cycle. However, the cost of large trucks has skyrocketed in the last few years, requiring a gradual extension of the lifecycle to around 25 years, which will undoubtedly stretch the maintenance envelope. One truck was replaced in 2016, with a modest amount of grant funding secured for this purchase through the federal clean diesel program.

Small Trucks. No assets were presently slated for replacement in 2016; the next truck scheduled is the Buildings and Grounds landscaping truck in 2017.

Heavy Equipment. Because of capacity and wear issues, the Skid Steer Loader and Mini Excavator were replaced earlier than planned, which required adjustment of the replacement schedule for other equipment, but also recovered more trade-in value. This was also possible due to savings realized through expanded use of refurbishment to extend life cycles. The next refurbishments planned are as follows: Catch Basin Cleaner – 2017, Sweeper – 2018, Front-End Loader – 2019. The next full replacement is slated for the Loader in FY 21.

## **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 rearrangement efforts, a serious storage gap remains and has been addressed in the CIP.

Also, in accordance with the demands of extended life cycles for the large dump trucks, vigorous and aggressive in-service washing is essential. To improve the effectiveness and efficiency of such washing, an undercarriage wash system remains proposed in the CIP.

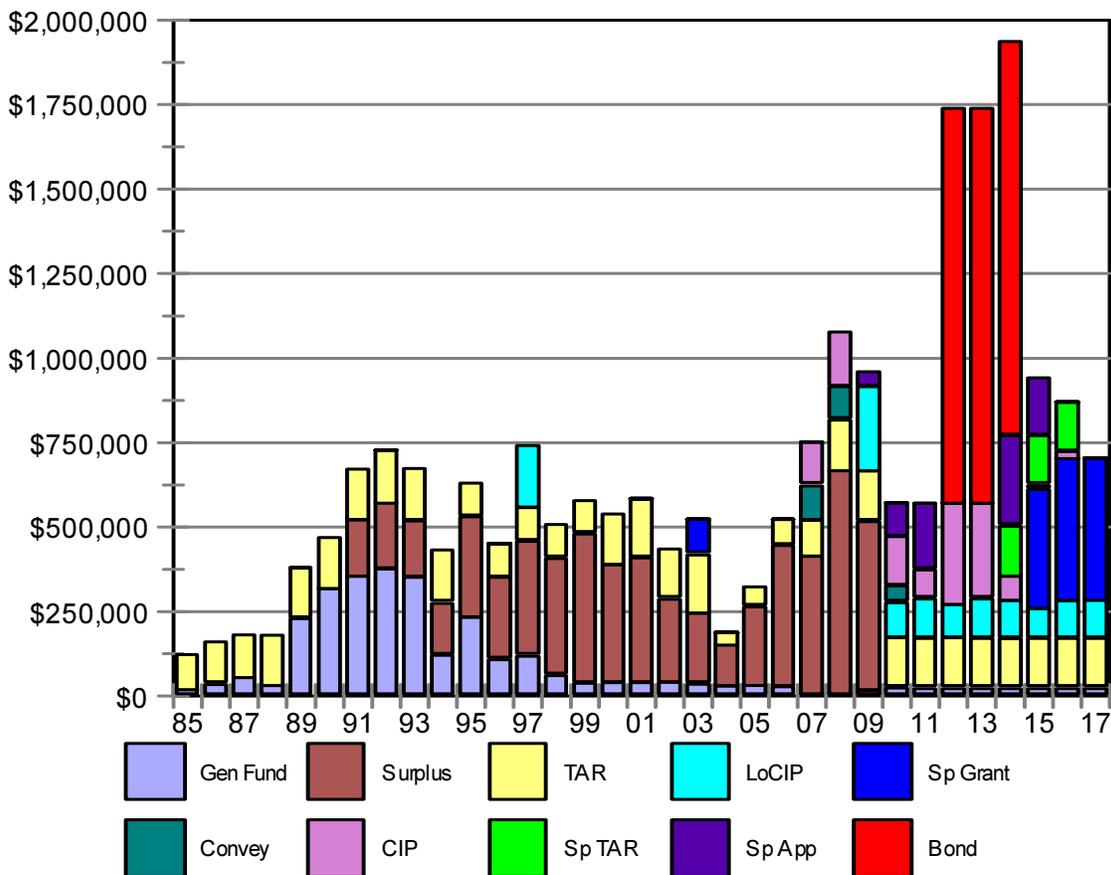
## **OUTLOOK**

Even though the growth rate of Town-road-related infrastructure has slowed somewhat, since the mid-1980's around 17.5 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 good progress has been 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.

A road surface management study was conducted in FY 11. The study confirmed that an annual capital budget amount of more than \$750,000 was needed to maintain the status quo road condition in Ledyard. Though this amount was met or exceeded in FY's 08 and 09, a cumulative deficit of around \$3 million had accrued since 2001 alone due to depressed funding. In late FY 11 the residents approved a \$3.5M road resurfacing bond initiative. This amount of short-term funding has allowed recovery of momentum toward overall road surface rating (RSR) improvement. But this boost will have to be augmented by a parallel commitment to long-term stability of funding for ongoing resurfacing efforts into the future (the

annual requirement for which is now about \$890,000). Efforts are underway to leverage other funding sources and intermediate treatment methods to render annual funding as effectual as possible. Though capital funding had improved somewhat in FY's 07 through 09, capital appropriations in FY's 10 through 13 were reduced to pre-FY 07 average levels. There was an uptick in appropriations for FY's 14 through 17, 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.

### 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 have to find alternative local or other funding. In the long run, the absence or reduction of TAR funding will severely hamper annual maintenance initiatives.

#### Department Manning

As stated above, the infrastructure inventory has modestly increased since the mid-1980's (up more than 15%). Though this would demand a commensurate increase in maintenance resources, the manning levels of the Department since then have been reduced about 35%, or about 9 individuals, including a person most recently cut in FY 09. 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, in light of the increased and growing roadway infrastructure and additional municipal facilities.

## **Contracting Out**

In order to meet certain road infrastructure and buildings maintenance demands, contract services have been routinely used, if funding permits, simply on the basis of scope of work versus Department resources and capacity. Relative to road maintenance needs alone, such tasks have included 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 have continued to benefit from stability in this area, and this is in large measure due to our relationship with SCRRRA, which substantially subsidizes disposal costs for Incinerator waste and other items. Eventually this could change as facilities close, fees in various areas increase, and agreements expire. Because of present policy and legal obligations, this area of the budget is least discretionary—any cost increases have been absorbed on a mandatory basis.

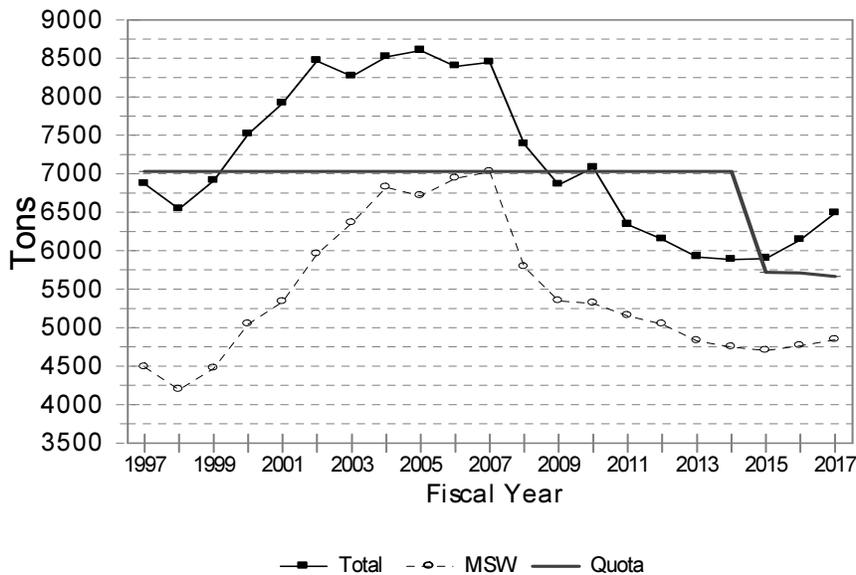
The Town can control certain aspects of cost associated with local contracts, e.g., curbside collection. In addition to seeking to fashion this service in the most cost-effective way, we can leverage purity of our waste stream, which assures we pay only for Ledyard waste at the Preston Incinerator. This may be clearly seen in the substantial reduction in tonnages since the contract change of 2007. We would also benefit from an increased recycling rate, which directly affects disposal cost. 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 revenue for the recyclables.

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 there was a major adjustment to waste management practices in Ledyard; automated curbside collection was introduced. As this has settled in, we have seen a nominal 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.

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 to cover 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 SCRRRA 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, in the last three years there has been 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, which we are seeking to address through SCRRRA.

## Fiscal Year Incinerator Tonnage



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, as well as Freon evacuation and the grinding of bulk brush. Collection of non-hazardous paint was added in 2014 and waste oil and antifreeze in 2016. The net savings to Ledyard has averaged around \$40,000 annually.

In looking forward, several other initiatives to reduce the cost of waste management, particularly as associated with disposal, should be seriously considered by the Town. At the present time, each ton of recyclables removed from the Incinerator waste stream would net the Town at least \$63. Pay-As-You-Throw (PAYT) has been very 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.

### **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 be continue to be a matter for consideration of balance between in-house resources and consulting services. Consulting costs will increase significantly starting in FY18 to address increased MS4 program requirements.