



Underground Utilities Update

Orleans Main Street

Orleans Planning Board

October 27, 2015



CAPE COD
COMMISSION

Goal and Tasks

PROJECT DESCRIPTION

Study Goal

To understand the costs and steps involved in placing utilities underground, particularly along Main Street, in Orleans

Research Tasks Completed

- Completed 2 Case Studies
 - Concord, MA and Nantucket, MA
- Researched Legal Framework
- Estimated Cost
- Researched Payment Options

Concord, MA and Nantucket, MA

CASE STUDIES

Concord

- Municipal electric utility established in 1898
- 1967 established an underground wiring fund with \$40,000 the first year and annual appropriations going forward
- 1987 Town meeting approved the long-term goal of town-wide undergrounding and a 2% surcharge on monthly electricity bills (since lowered to 1.5%)
 - Currently approximately 50% are underground
 - Average cost estimated at \$1M per mile
 - The average surcharge is \$3-\$4 per ratepayer per month

Note on Munis

- 41 municipal utilities in Massachusetts
 - Serve 15% of the population
- Customers of municipal utilities pay an average of 24% less on their electric bills according to the Massachusetts Municipal Wholesale Electric Company.
- No new municipal utilities have been established since 1926 with passage of MGL Chapter 164

Nantucket

- Investor owned utility
- Undergrounding began in the downtown (6 miles) and then in Siasconset village (2 miles)
- The purpose was to preserve historic character and improve reliability
- The cost was approximately \$1M per mile not including labor or transformers
- The Town spent approximately \$2M on additional costs

Massachusetts Law

LEGAL FRAMEWORK

MGL Chapter 166 Section 22

- Municipalities may:
 - Require that any new utilities for new development to be placed underground
 - Require that existing utilities be placed underground by the utility companies

Orleans By-Law

- Orleans zoning provision for new utility lines:
 - For any Definitive Plan showing property which could potentially be developed with two or more new dwellings, all electrical, telephone, cable television and other utility lines shall be placed underground.
 - Appears to be limited to residential subdivisions

MGL Chapter 166 Section 22

- Existing utility lines – municipalities must
 - Complete a preliminary study with utilities
 - Establish the need
 - Public safety, health, convenience or welfare
 - Conduct a public hearing and make a report of findings, conclusions, and recommendations
 - Adopt an ordinance or by-law
 - Reimburse (through ratepayers or directly) utilities

Orleans Definition of Need

- Defining the need for Orleans
 - Public Safety: Cape Cod is considered very vulnerable to storms which reduces the reliability of overhead utility lines that can take weeks to repair.
 - But since Orleans is considering undergrounding only a small section this justification may be more difficult.
 - Welfare: not specifically defined
 - Orleans could argue that the area they wish to underground will support further economic development by improving reliability to businesses and community character which is essential for a successful tourism sector

How much does it cost to complete and how do you pay for it?

COST ESTIMATES & FINANCING

Cost of Undergrounding

- Utilities incur the cost of construction but must be reimbursed by ratepayers or the town or both
 - Eversource quoted \$3M per mile cost
 - Cable utility and other utility costs will be above and beyond this estimate – this study assumes the cost is the same at \$3M per mile

Cost of Undergrounding

- The town may incur direct costs in addition to those incurred by the utilities
 - Obtaining easements if necessary
 - Moving water/sewer infrastructure if necessary
 - New street lights if they were previously on the poles
 - Fixing the road
- There may also be direct costs to property owners since utilities are only required to underground 50ft into private property

Cost Estimate for Orleans

- Cost per mile for Electricity Lines:
 - \$3M per mile estimate from Eversource
 - Route from bike path to library is .4 miles so at \$3M per mile this section would cost \$1.2M
 - From 6A/Main intersection to Eastham town line is .8 miles so at \$3M per mile this section would cost \$2.4 M
 - The transmission lines over Cedar Pond span .17 miles; assuming the same unit cost this section would cost \$510,000 however, it is likely that burying transmission lines is more expensive than burying distribution lines
- Assuming the cost of undergrounding Cable is the same the total bill will be twice this estimate

Maintenance

- Takes longer to repair but the need to make repairs occurs less often
 - Nantucket estimated underground maintenance was 2 ½ times the cost of above ground
 - Concord experience very few outages in their underground system during Hurricane Irene and where able to concentrate their energies on the areas still served by overhead lines

Paying for Undergrounding

- MGL Chapter 166 Section 22 requires utilities to do the burying but their costs must be reimbursed
 - Reimbursement fee rates are:
 - 7% of electric retail sales;
 - 2% of other utilities gross revenues (at time of Nantucket project all were 2%)
 - All residents must pay the reimbursement fees even if they do not directly benefit
 - The payback period is determined in cooperative agreements between the town and the utilities

Paying for Undergrounding

- In Orleans
 - the 7% surcharge on retail electricity sales would generate approximately \$448,000 per year

Total Meter Charges (Eversource Summer 2015)	6,394,707
Highest Possible Surcharge	7%
Estimated Annual Revenue from Surcharge	447,629

Paying for Undergrounding (Electric Only)

Location	One Mile	Main Street: Rt. 28 to Commerce Way	Eastham Gateway: Town Line to New Roundabout	Both	Cedar Pond
Miles to be put underground	1	0.4	0.8	1.2	0.17
Estimated Total Cost to Utility	\$3,000,000	\$1,200,000	\$2,400,000	\$3,600,000	510,000
Years to pay off bill assuming surcharge generate 500K/year and no interest	7	2.68	5.36	8.04	1.14
Estimated Ratepayer Cost over life of surcharge	\$453	\$181	\$363	\$544	\$77

On a monthly basis this would AVERAGE approximately \$6 per ratepayer

Paying for Undergrounding (Other Utilities)

- Phone/TV/Internet monthly bills average \$100
- If you assume the same number of ratepayers as for electric that amounts to \$7.9M sales annually
- Multiplied by the reimbursement rate of 2% this would generate \$158,784 per year
- At this rate it would take 8 years to pay for Main Street and 15 years for the other two areas

Other ways to pay for Undergrounding

- General fund annual appropriations
- Bonding
 - Local bonding authority (MGL chapter 44 section 7-8): underground utilities are not listed as an eligible activity to be funded through a municipal bond. There is a general clause but that only allows a 5 year bond which is unrealistic for undergrounding utilities. Thus, either a change in the legislation or a piece of special legislation would be needed to allow for any local financing.

Other ways to pay for Undergrounding

- State MassWorks Infrastructure Program
 - Grants generally associated with new growth
 - Rural communities eligible for set aside up to \$1M
 - These grants may fund all design costs but must also be used to fund construction
 - 2015 Investment Goals focused on housing and preference was given to mixed use districts, projects in weak or distressed areas, and where the community committed resources
 - Projects must be ready to proceed with construction in the upcoming construction season

Other ways to pay for Undergrounding

- Possible Federal Funding Sources
 - CDBG: Yes, but must benefit residential area with 51% low to moderate income residents
 - Federal Highway Transportation Enhancements Program: Yes under the Landscaping and Other Scenic Beautification activity area (#5 of their 12 eligible activities)
 - FEMA Pre-disaster Mitigation Grants: Hazard Mitigation plan for Orleans required that identifies areas as high risk

