



# Underground Utilities Update

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## 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

|   |                  |
|---|------------------|
| <b>Total Meter Charges (Eversource Summer 2015)</b> | <b>6,394,707</b> |
| <b>Highest Possible Surcharge</b>                   | <b>7%</b>        |
| <b>Estimated Annual Revenue from Surcharge</b>      | <b>447,629</b>   |

# Paying for Undergrounding (Electric Only)

| Location  | One Mile    | Main Street:<br>Rt. 28 to<br>Commerce<br>Way | Eastham<br>Gateway: Town<br>Line to New<br>Roundabout | Both               | Cedar Pond |
|---|-------------|--|---|--------------------|------------|
| Miles to be put underground   | 1           | 0.4  | 0.8   | <b>1.2</b>         | 0.17       |
| Estimated Total Cost to Utility   | \$3,000,000 | \$1,200,000                                  | \$2,400,000   | <b>\$3,600,000</b> | 510,000    |
| Years to pay off bill assuming surcharge generate 500K/year and no interest | 7           | 2.68   | 5.36  | <b>8.04</b>        | 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

