



SMART GROWTH AND REGIONAL COLLABORATION

Final Report for 2015 Technical Assistance Grant to MAPC

December 28, 2016

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Introduction

The Pipeline & Hazardous Materials Safety Administration (PHMSA) awarded the Metropolitan Area Planning Council (MAPC) a 2015 Technical Assistance Grant (TAG) for a one-year term, beginning on September 24, 2015. As stated in the Grant Agreement, MAPC's program consists of the following:

“[The] grant will fund the Metropolitan Area Planning Council (MAPC) and the Home Energy Efficiency Team (HEET) to measure leakage in natural gas distribution pipelines in the Greater Boston region in order to 1) accurately identify leakage locations and concentrations and 2) enhance the capacity for municipalities to collaborate with gas utilities on leak repair. The goal is to accelerate the repair of natural gas leaks by providing data to more comprehensively scope the problem and to support mitigation and engagement strategies.

Goals:

- Improve the understanding of the extent of natural gas leaks in eastern-Massachusetts so that response efforts can more appropriately target risk
- Facilitate the efficient repair of aging, leaking pipeline infrastructure by providing data to support best practices for municipal collaboration with gas companies to repair leaks
- Generate productive dialogue between stakeholders that will endure throughout the long-term process of reducing natural gas leaks
- Overall, support efforts to protect public and environmental health, reduce the risk of injury, and minimize contributions to global climate change by mitigating natural gas leaks.¹

The overall purpose of the PHMSA TAG program is to “allow communities and groups of individuals to obtain funding for technical assistance in the form of engineering or other scientific analysis of pipeline safety issues and help promote public participation in official proceedings.”² MAPC's implementation of the TAG program will directly address both of those purposes. First, the leak surveys and interviews with participating municipalities about coordination practices will produce quantitative and qualitative data about pipeline safety issues. Second, MAPC will participate on and present findings to the Special Utility Commission, convened by the Massachusetts Department of Public Utilities, to address utility-municipality coordination.

¹ PHMSA & MAPC Grant Agreement

² Ibid

Program Objectives & Outputs

MAPC's program culminated with the three major achievements:

- 1) Three regional workshops with municipal and gas company officials to discuss best practice recommendations for improved municipal-gas company collaboration;
- 2) White paper and accompanying website documenting results of gas leak surveys and best practice recommendations for coordination; and
- 3) Participation in the Department of Public Utilities "Special Utility Commission" for the development of a report on municipal-utility collaboration to the state legislature

The website is available at <http://FixOurPipes.Org>. The white paper is available for download on the site, along with resources for municipalities, such as a best practice guide and annual calendar. The white paper is divided into two parts, a main body and a Technical Appendix. This Final Report will direct the reader to information found in both parts of the white paper, which are included as Exhibit 1 and will be referred to as "white paper" and "Technical Appendix", respectively.

The following details completion of each of the program's objectives.

Objective 1

Within the first 3 months of the program (e.g. 12/31/2015), MAPC and HEET will have recruited the participation of 15 to 25 municipalities and designed a survey methodology best suited for the project.

MAPC, supported by HEET, recruited 25 municipalities to participate in the program (See Figure 1). MAPC also achieved active participation from the three natural gas distribution companies (gas companies) in the region, National Grid, Eversource, and Columbia Gas. MAPC conducted multiple interviews with each gas company to hear their perspectives on municipal collaboration and to provide feedback on the gas leak survey methodology.

MAPC worked with the gas companies, project contractor Gas Safety USA, and survey methodologies published by the Department of Public Utilities (DPU) to develop a final methodology for the project. The methodology was comprised of two main components: 1) interviews with municipal staff and gas company staff focusing on successes and challenges with coordination of leak-prone³ pipe removal; and 2) independent surveys of gas leaks. See the white paper for the full methodology.

Of the 25 municipalities, 10 participated in the interviews only and 15 participated in interviews and the gas leaks surveys.

³ Leak-prone pipe is classified as cast-iron, wrought-iron and non-cathodically protected steel pipe

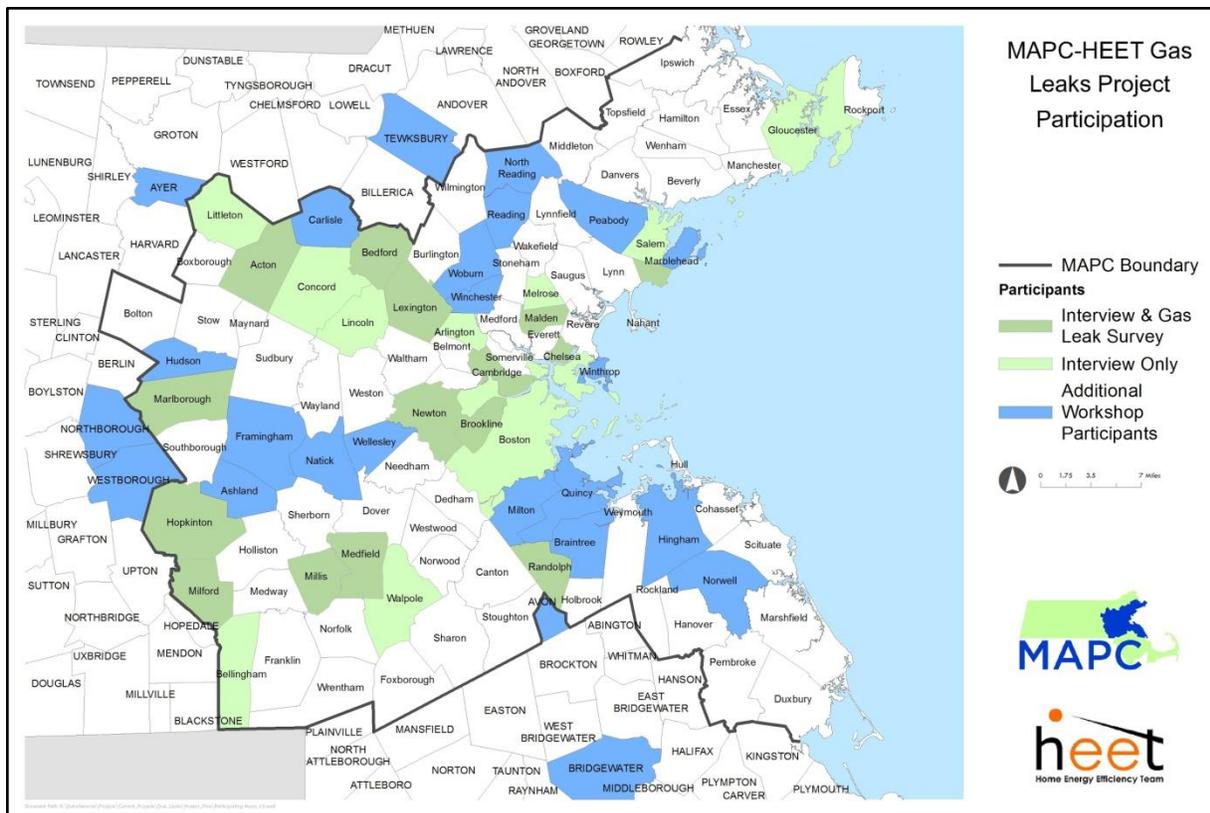


Figure 1. Municipalities Participating in the Project

The majority of the interviews were conducted before the start of the gas leak surveys. From the interviews, it became clear that improved coordination had the potential to avoid significant costs for both the municipalities and the gas companies. Those cost savings could allow the gas companies to replace more leak-prone pipe with the same amount of rate payer funding, and they provided a strong incentive for municipalities to engage in coordination. The team found through the interviews that municipalities had diverse coordination practices and that some generated much more satisfaction for the municipality and gas company than others. As a result, MAPC determined that it would be most effective to develop a series of best practices to support more widespread use of the successful coordination strategies. Further, MAPC decided that use of certain practices could be a useful variable to include in analysis of the gas leak data collected through the surveys.

Objective 2

Within the first 7 months of the program (e.g. 4/30/2016), Gas Safety Inc. will have performed natural gas leak surveys in each of the participating municipalities according to the methodology, covering roughly 10 to 15 miles of below-street natural gas distribution system in each municipality.

MAPC's contractor Gas Safety, performed natural gas leak surveys in 15 municipalities from April 2016 through June 2016, starting later than expected due to winter conditions that impaired leak

detection abilities. The project averaged 10.5 miles surveyed per municipality, for a total of 172 miles. This included 27 miles of new, plastic pipe and 26 miles of new pavement. New pipe was surveyed to test whether the new, plastic pipe is really leak free. New pavement was surveyed to test whether there were “missed opportunities” – cases where the gas company was unable to access its leaky pipe before municipal paving. Surveyed mileage was distributed roughly evenly between each of the three gas companies. In total, the contractor found 513 natural gas leaks. See the Technical Appendix for full details of mileage, leaks, new pipe and new pavement per municipality and gas company.

Objective 3

Within the first 9 months of the program (e.g. 6/30/2016), MAPC and HEET will have analyzed and produced an internal report of the results of the study.

MAPC and HEET collaborated to analyze the gas leaks survey data along with the responses from the municipal interviews. The initial internal report was comprised primarily of analysis of interview responses and some gas leaks data. This formed the basis of the upcoming regional workshops, and can be seen in **Exhibit 2**.

Objective 4

Within the first 11 months of the program (e.g. 9/30/2016), MAPC and HEET will have produced a website to host the study results and conducted 3 regional workshops with municipal leaders to disseminate results, discuss the implementation of best practices and other next steps, and collect input. The meetings will have at least 50 municipal attendees, the website will get at least 100 unique visits within two months of its launch, and at least 5 media outlets in the region will promote the press release.

During the development of the internal report, MAPC determined that the website would be most valuable to present the final white paper, which would include revision based on feedback from the regional workshops. As a result, the website was released after the workshops and concurrent with the white paper.

MAPC’s three regional workshops were held in September 2016 over the course of two weeks. Interested municipalities could attend any workshop, although one workshop was held in each of the participating gas companies’ territories to facilitate more targeted conversations between municipalities and their gas company.

- National Grid – 9/16, Lexington, MA
- Columbia Gas – 9/21, Randolph, MA
- Eversource – 9/29, Marlborough, MA

There were a total of 60 municipal staff that either attended or registered for the regional workshops (45 actually participated). There were at least three representatives from the gas company at each workshop.

The workshops were structured to facilitate interaction between the gas company and municipal staff. MAPC arranged small group tables and distributed municipal and gas company staff evenly

throughout. MAPC and HEET then presented best practice recommendations in three units: 1) Communication, 2) Data Management and 3) Process Improvement. After each unit, MAPC had the participants discuss their reactions to the recommendations in the small groups. MAPC and HEET facilitated each of the small group discussions, and directed conversation towards exploring the feasibility of the recommendations and suggestions for improvement.

Reactions from both gas companies and municipalities were very positive to the workshops. Ahead of the workshops, the gas companies had expressed concern that the workshops would simply provide the municipalities a chance to harangue and demonize the gas company staff. However, each gas company reported after the workshop that it felt that MAPC had structured the event to create a positive environment that offered the opportunity to share and examine both parties' viewpoints. The gas companies brought staff from their field offices as well as higher-level staff. The field staff appreciated hearing perspectives from other regions, and the higher level staff appreciated the chance to hear directly from the municipality about the issues they faced. The municipalities enjoyed the ability to talk with the gas company about improving overall coordination strategy, rather than, as they more commonly do, communicating just about a specific issue. The municipalities also found it very helpful to talk to one another, to understand whether their issues were unique or common, and what types of solutions their peers were implementing.

MAPC and HEET captured extensive feedback during each discussion session, and used that information to refine the best practices for the final white paper.

A preliminary version of the website was launched in late September, and finalized with the press release and concurrent launch of the white paper on October 26, 2016. The website is available at <http://FixOurPipes.org/> and a copy of the press release is available in **Exhibit 3**. The website has an engaging home page that provides a concise summary of the issue and the main tenants of the study. Visitors can then explore the best practice recommendations, review case studies, and access a number of tools to assist with implementation of best practices.

MAPC promoted the press release to a wide range of media outlets, and specifically pitched the Boston Globe, which had previously expressed interest in a story. Ultimately, the Boston News Network requested an interview with MAPC, and produced a 10 minute video segment called "Getting in Sync on Fixing Gas Leaks", shown on BNN and available for re-viewing on YouTube. See the full segment at <https://www.youtube.com/watch?v=5HPGRLmVwRg&feature=youtu.be>. Within the first two months of program launch, the website has received 65 unique page views.

While the media and website response has been lower than expected, the later release date pushed into the winter holiday period, which may account for lower attention. MAPC and HEET plan to continue to promote the project via the website in early 2017 and anticipate updating the site periodically as new tools are made available. Specifically, MAPC plans to continually target specific best practices and promote their adoptions. For example, MAPC is currently pursuing grant funding from the state of Massachusetts to help municipalities implement online permitting for street opening permits.

Objective 5

Within 1 year of the program, MAPC and HEET will have 1) conveyed feedback to the municipal-utility coordinating commission; 2) held at least one meeting with DPU and leading communities in continuation of the existing dialogue managed by MAPC; and 3) published a white paper of the study results that can be used to support programs in other regions and states to accurately scope gas leaks and implement collaborative remediation procedures.

In early 2016, the Department of Public Utilities convened the Special Utility Commission on Utility & Municipal Coordination (Commission). MAPC's Transportation Director was appointed to the Commission and participated throughout the process. The Commission was tasked with providing a report of recommendations to the state legislature by then end of 2016. As a result, the timing of the project aligned well with MAPC's PHMSA TAG grant, providing the opportunity for MAPC's project to influence the content of the Commission's report.

As part of its report development, the Special Utility Commission invited a number of municipalities to attend a meeting and provide feedback on how to improve coordination. MAPC, as a member of the Commission, participated in the meeting, held in July 2016. Seven municipalities attended, and the meeting served as an effective way to municipalities to provide input to DPU early on in its drafting process.

As MAPC neared project completion, the project manager for the PHMSA grant, Patrick Roche, began attending Commission meetings and providing input based on the program's findings. Mr. Roche attended the Commission's monthly meetings from August through December, and shared a copy of the final report with the Commission at the end of October. MAPC's broad experience from interviewing over 25 municipalities in the PHMSA project provided unique and valuable data about the municipal experience that MAPC used to inform Commission and shape recommendations.

The Commission's final report, attached as **Exhibit 4**, was delivered to the state legislature in December 2016. It cites MAPC's white paper multiple times to support its recommendations. Additionally, the Commission's final report reflects many of the best practices suggested by MAPC in the white paper. One of the most important recommendations included was for utility companies explore "shared savings" agreements with municipalities. These agreements would allow the utility to share cost-savings achieved from coordination efforts with the municipality. Ultimately, this would provide a strong incentive to municipalities to continue and improve coordination, as well as providing funding to help support implementation of some of the coordination strategies. Additional recommendations from MAPC in the Commission's final report include:

- Implementing an annual coordination meeting prior to the construction season, along with a draft meeting agenda.
- Suggesting an appropriate frequency of in-person meetings during the construction season
- Adding contract language to make the schedules of municipal paving contracts enforceable

- Using online permitting and GIS to better facilitate planning and reduce administrative time

As previously mentioned, MAPC's white paper was released on October 26, 2016, along with the project website. The main body of the white paper focuses on coordination. The portion of the gas leaks survey results that support the impact of coordination on leak reduction is included first. Then the white paper documents the challenges and solutions to coordination that municipalities and gas companies reported through the interviews. Finally, the white paper suggests best practices based on those existing conditions.

The white paper format should make it very accessible and useful for other cities, towns and gas companies outside of just the MAPC region. Each of the best practices has concise explanation of the context for the recommendation; if a user wants even more context, he or she can return to the section on background challenges and solutions. While there are some references to Massachusetts-specific institutions, the best practices are presented in a way that should be relatively easy to apply to a specific state or regional context.

The best practices are organized into four groups, and presented as an ordered process.

1. Set Foundation
2. Share & Strategize
3. Generate & Capture Savings
4. Find Efficiencies

"Set Foundation" focuses on establishing data management practices, appropriate staffing, and policies internal to the municipality and gas company and will allow for organized, systematic, and repeatable communication and planning efforts. "Share & Strategize" discusses the important pieces of data to provide to the other party (e.g. municipality or gas company) and how to use them to find opportunities to synchronize projects. "Generate & Capture Savings" details how municipalities can make targeted changes to things like paving policies so that when municipal and gas company projects get synchronized, the gas companies can avoid unnecessary cost. By putting in place a written agreement, the municipality can have the gas company share some of its avoided cost from those synchronized projects. Lastly, "Find Efficiencies" discusses a range of diverse strategies that can reduce time and resource burdens on both the municipality and gas company. These range from new customer advertising, making more permit applications accessible online, improving mark-outs for infrastructure, and protecting street trees from gas leaks.

Along with the white paper, MAPC produced two valuable documents for municipalities. First, a checklist of all the municipal-only best practices. Second, a calendar of best practices which will help municipalities stay up to date on planning for the next construction season and coordinating with the gas company. These can be found on the website and on page 83 and 91 of **Exhibit 1**, respectively.

In Summary

MAPC would like to thank PHMSA for its award of the Technical Assistance Grant. In 2016, natural gas leaks have been a major topic among the Massachusetts environmental community, state regulators, and, increasingly, the mainstream media. The TAG program provided critical funding to advance work on this vital issue. The program's efforts have been well received by the participating municipalities and the gas companies. As a result, MAPC is confident that it has strengthened the ability for municipalities and gas companies to work together and has established a firm foundation for improving the efficiency of leak-prone pipe replacement. MAPC looks forward to continuing to promote the best practices and will work to periodically select specific best practices and support their deployment.

Exhibit 1: White Paper

Due to file size, the white paper, with the main body and Technical Appendix can be downloaded at <https://mapc-org.sharefile.com/d-sa09a7d758cb4dcea>

Exhibit 2: Internal Report / Regional Workshop Presentation

Talk. Share. Leak Repair.

How Coordination between Municipalities and Gas Companies
Can Reduce Costs and “Lost Opportunities” for Both

Marlborough, MA

9/29/2016



A project funded by a Technical Assistance Grant from the Department of
Transportation’s Federal Pipeline & Hazardous Materials Safety Administration



Focus on Solutions

- Maximize opportunities for leak-prone pipe replacement and leak repair before paving
- Achieve multi-utility coordination when possible



Considering Next Steps



Let us know how MAPC and HEET help you moving forward!

- Technical assistance?
- Advocacy at DPU?
- Procurement of software or other services?

Agenda

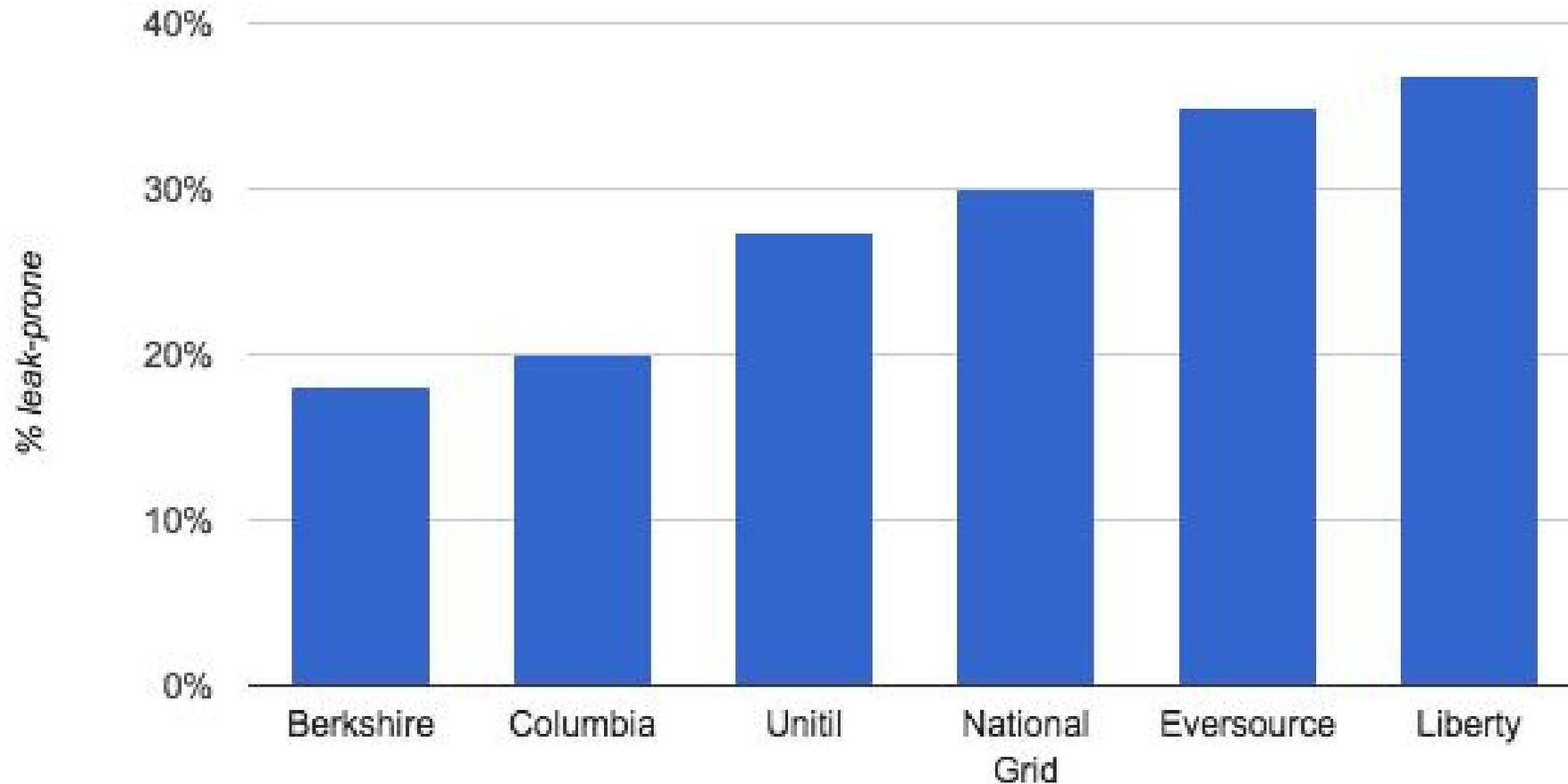
1. Project Overview
2. Experience Sharing from Audience
3. Cambridge Case Study
4. Findings, Best Practices & Group Discussion
 - a. Communications
 - b. Data Management
 - c. Process Improvement
5. Closing remarks and next steps

Impetus for Project

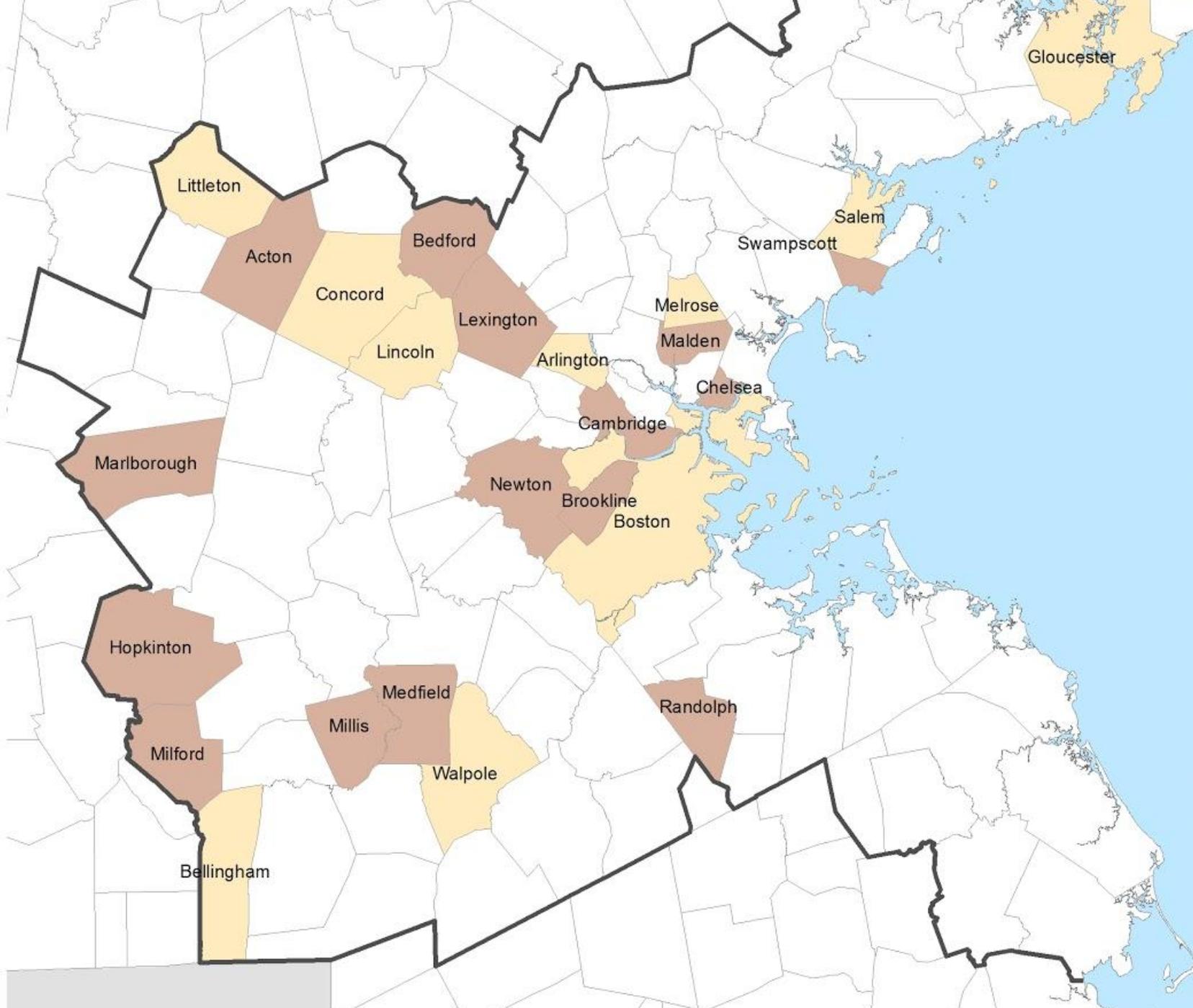
- GSEP plans: 400% increase in the replacement of gas mains in Massachusetts
- 20-25 year time frame for replacement of leak-prone pipe
- Can this be done more efficiently and potentially faster?
- Technical Assistance Grant from the Department of Transportation's Federal Pipeline & Hazardous Materials Safety Administration

Need for Coordination

Figure 6. Percent Leak-Prone out of Total Gas Mains by Gas Company



Project Participation



Legend

— MAPC Boundary

Grant Participation

Interview

Interview & Gas Leak Survey



The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by:
Metropolitan Area Planning Council
60 Temple Place, Boston, MA 02111 | (617) 933-0700

Data Sources:
Metropolitan Area Planning Council (MAPC)
Massachusetts Geographic Information System (MassGIS)
Massachusetts Department of Transportation (MassDOT)

September, 2016

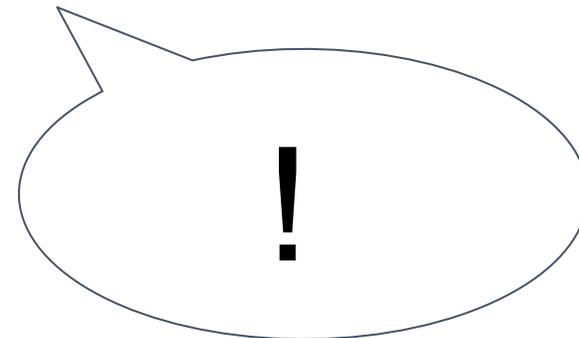
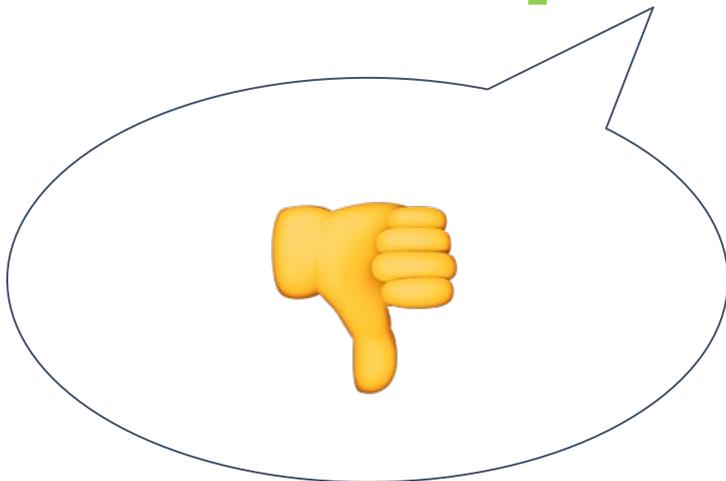


0 1.75 3.5 7 Miles





What has your coordination
experience been like?



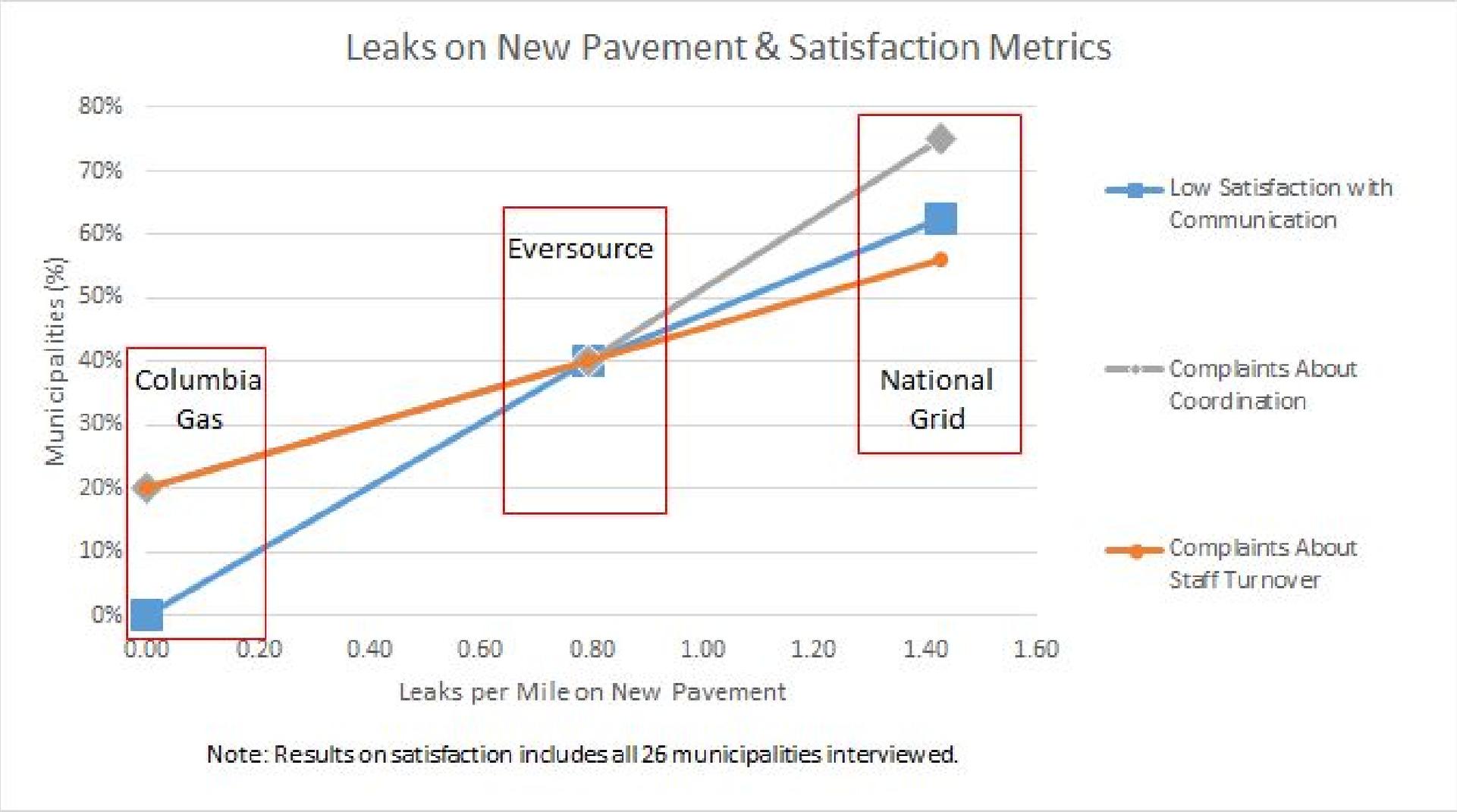
Cambridge Case Study



CAMBRIDGE
DEPARTMENT
OF PUBLIC
**THE
WORKS**

Findings, Best Practice Recommendations & Discussion

Success of Best Practices



1. Communications

Challenges Identified

Challenges Identified

- Gas company staff turnover and workload
- Different communication timelines for municipalities and gas companies
- Communicating in real time during construction season
- Installation of new services (i.e. new customers) on newly paved roads

Pre-Construction Season Communication

Goal: Share plans to facilitate schedule adjustments by both gas company and municipality to allow for synchronized work

Variations in gas company timelines:

- When gas companies share their plans with municipalities
- Deadlines for paving plans to be sent to gas company
- Whether there is an in-person meeting to discuss plans

1. Communications

Best Practice Recommendations

Best Practice: Contacts & Data

Key Contacts for Gas Issues	
	Eversource
Point Person	Community Relations Representative
Gas Leak Repair	Area Maintenance Manager
Gas Main Replacement	Construction Manager

Gas Company	Municipality
Identify key contacts and responsibilities	Get key contact info and drive communication through appropriate key contacts
Make contact info and responsibilities available in online resource for municipalities	
Develop list of municipal records (e.g. plans) needed and streamline data request and sharing	
Ensure all departments have access to necessary data, get updates and avoid duplicative requests	

Best Practice: Gas Company Staffing

Gas Company
Decrease staff turnover in key contact positions
Improve transition process for key contacts
Assess workload and territory size of key contacts
Provide feedback mechanism to supervisors of key contacts

Best Practice: Pre-Construction Season

Gas Company	Municipality
Send request for municipal paving plans in December; set deadline for response of February	Provide all requested plans by deadline
<p>Hold at least one pre-construction season meeting in spring</p> <ul style="list-style-type: none">• Discuss municipality and gas company plans and adjustments• Agree on which projects will be synchronized that year• Set expectations for construction season communication<ul style="list-style-type: none">• Frequency - regular communication is key!• Information to exchange - important: paving schedule changes	

Best Practice: New Services/Customers

Gas Company	Municipality
Enact policy to prohibit direct advertising for new services/customers on roads with a paving moratorium	Send completed paving (i.e. moratorium information) to gas company
Provide flyers or door hangers for municipality to use to notify potential customers prior to paving	
Consider incentives to get customers to convert prior to paving	

Breakout Discussion (Groups of 7-10)

- Initial reaction
- Near-term best practices you might implement?
- Long-term best practices?
- What best practices would not work for your community?
- What did we miss?

2. Data Management & Sharing

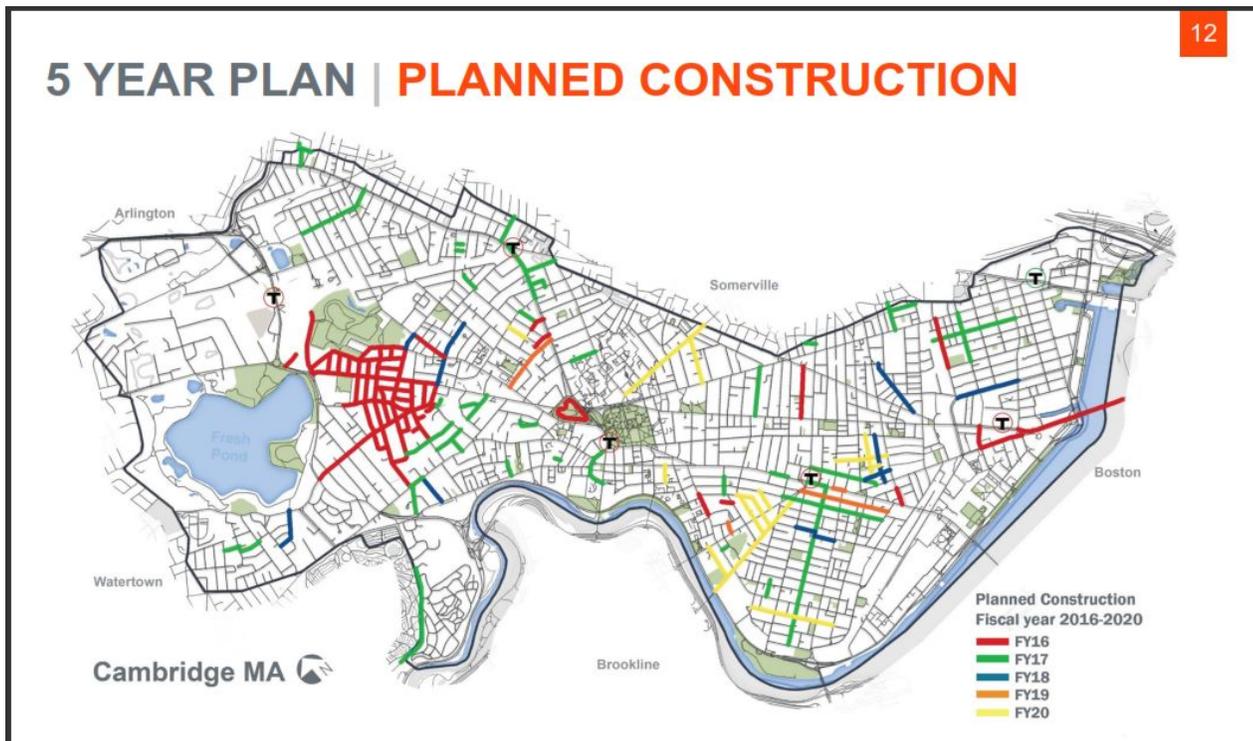
Challenges Identified

Paving & Other Infrastructure Plans

- All municipalities sent a paving plan to gas company
- Roughly half only sent a 1-year plan to the gas company
- Many had longer plans, but didn't send it



GIS for Plans

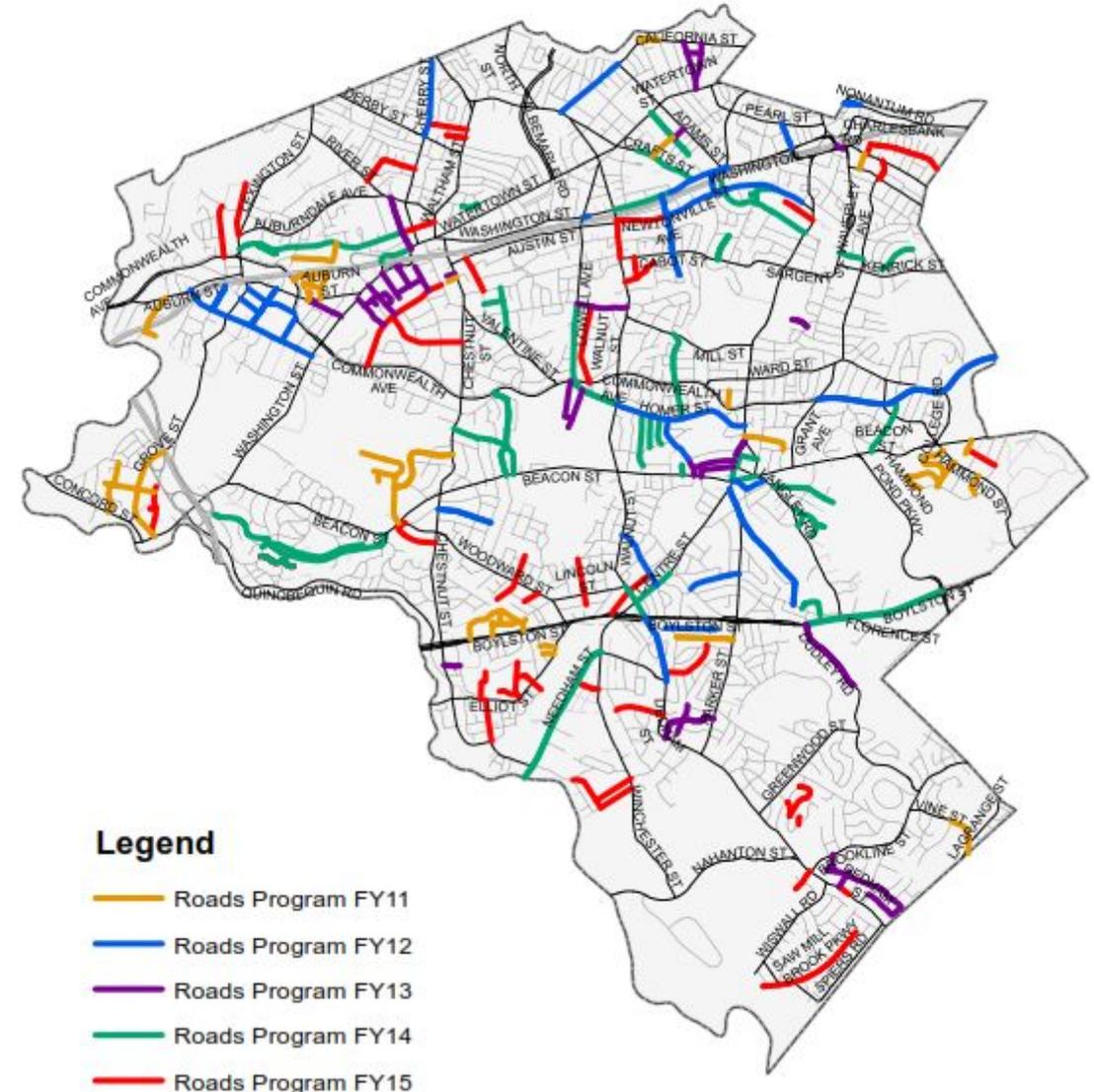


- <10% currently enter paving plans into GIS
- Additional 20% said they **will** enter paving plans into GIS in future
- 92% used GIS for other municipal infrastructure

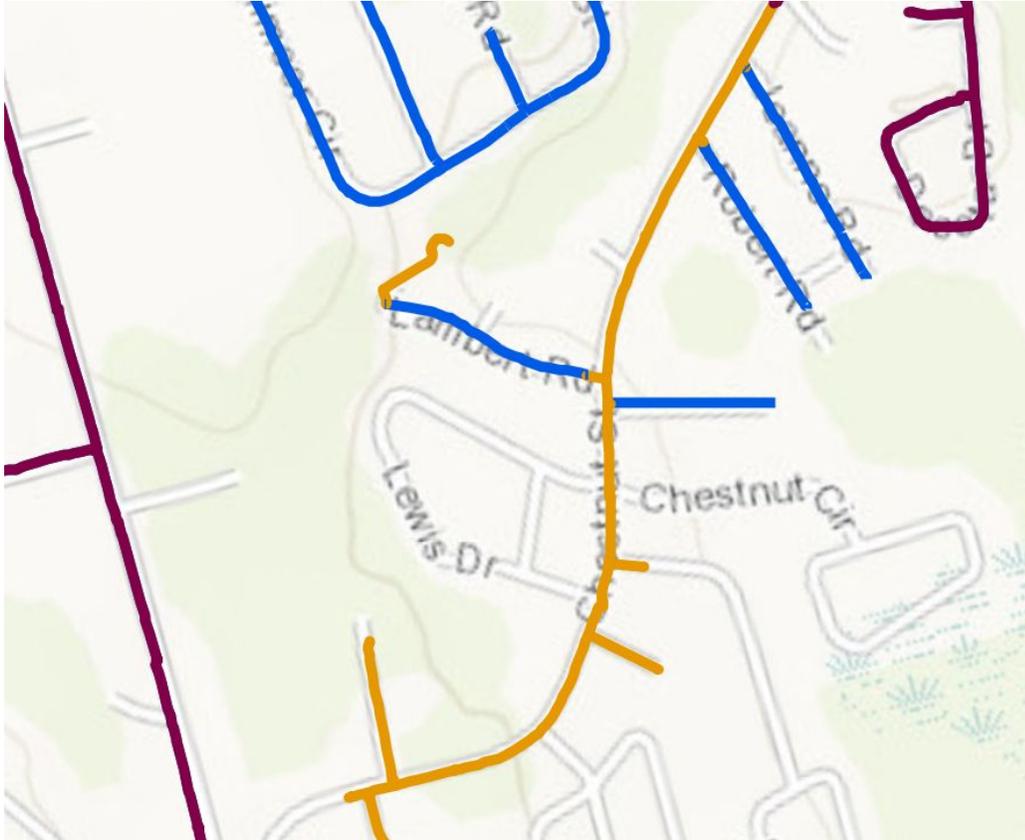
Completed Paving Lists

- Two-thirds tracked this centrally
 - Majority of tracking done in GIS
 - Others tracking on spreadsheet
- Gas companies report this information often does not reach them

City Of Newton
Road Construction History
FY11 - FY15



Gas Main Locations



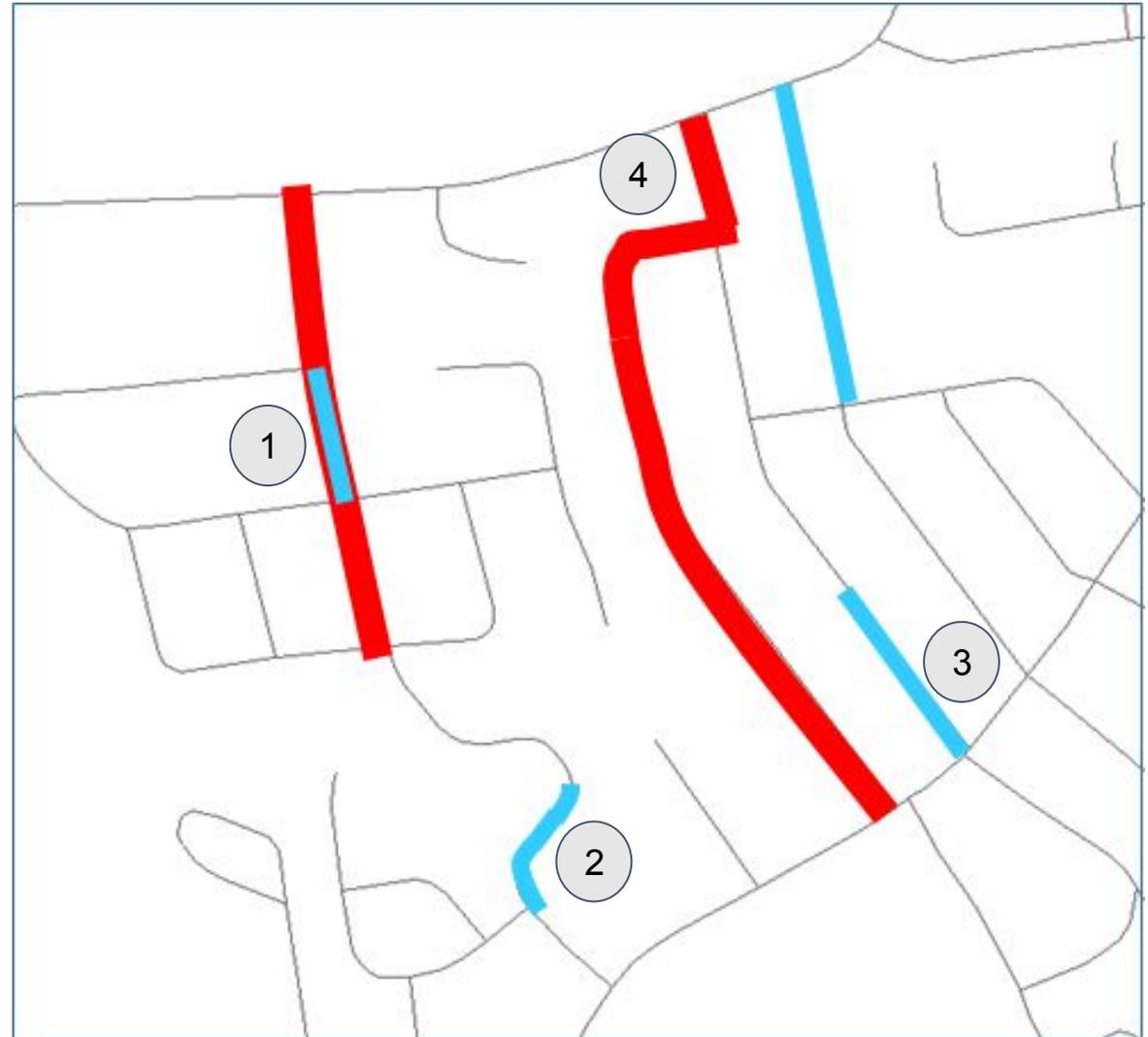
- 54% of municipalities asked for maps of gas infrastructure in their jurisdiction
- Gas companies:
 - Concerned re: sharing system level information
 - Open to sharings detailed specs for specific projects

Format of Data Sharing

- Gas companies and municipalities are sharing data with spreadsheets and lists
- Exception and Gold Standard: City of Boston Utility Coordinating Software (COBUCS)

Making Comparisons with GIS

StreetID	From Number	To Number
DEXTER RD	6	50
GRASSLAND ST	1	31
REVERE ST	3	12
DAWES RD		
FOLLEN RD	197	207
BUCKMAN DR		
CEDARWOOD TER		
EAST ST	99	
ROWLAND AVE	2	8
WOBURN ST	127	311
SHERIDAN ST	1	12



Worcester Cooperative Patching Program

- Monthly meetings
- Data sharing across utilities via spreadsheet
- Identifies shared opportunities
- Low-tech mechanism to achieve some of the outcomes of COBUCS



2. Data Management & Sharing

Best Practice Recommendations

Best Practice: Paving Information

Gas Company	Municipality
	Annually, develop at least a 3 year paving plan. Include wishlist items at a minimum for years 2 and 3.
Request all years of municipal paving plans	Share all years of municipal paving plan with gas company
Prioritize municipality's year 1 plans	
Request municipal completed paving data at same time as paving plans	Annually, update the list of paved streets and share with gas company

Best Practice: Gas Main Information

Gas Company	Municipality
Share all available data on location and type of of gas mains for specific street-segments, if requested by municipality for a project	Request location within street, depth, pressure, and size information on gas mains only for the extent of a planned project
Share basic map of whether mains exist under a street and whether they are leak-prone	

Best Practice: Data Sharing Format

Gas Company	Municipality
	Enter all years of paving plan and completed paving into GIS
	Share GIS files with gas company in response to their annual request for data
Share GIS file of gas company plans for gas main work	Request GIS files of gas companies plans

Breakout Discussion (Groups of 7-10)

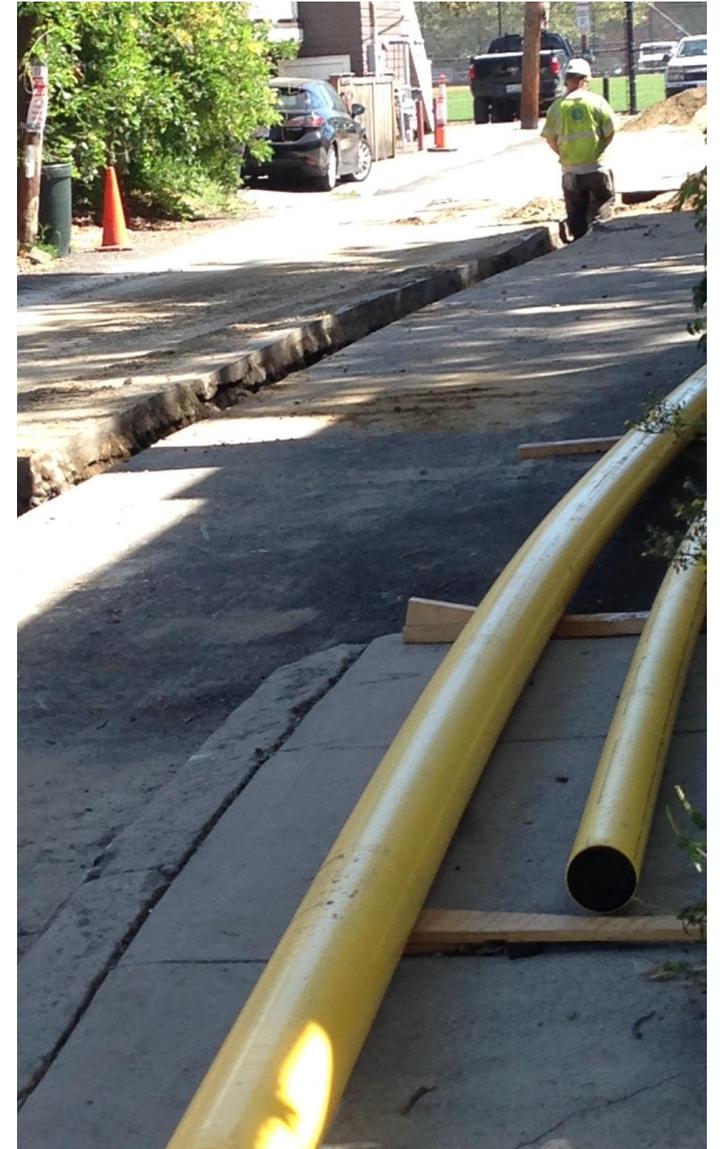
- Initial reaction
- Near-term best practices you might implement?
- Long-term best practices?
- What best practices would not work for your community?
- What did we miss?

3. Process Improvement

Challenges Identified

Street Opening & Trench Permits

- 80% of municipalities reported withholding permits in response to issues with gas company
- Often used because gas company unresponsive to question(s)
- Cambridge ties permits to attendance at meetings



Applying for Permits



- 80% of municipalities have offline submission systems
 - Time consuming for gas company
 - No benefit for municipal data management
- 4 municipalities had an online system for permits

ROW Permit Application 2016

Application Instructions Section--Click to Open

Work Type and Location Section--Click to Open

Work Type (Please see instructions, above) *

Class 1 (\$50) Class 2 (\$1

Class 3 (\$200) Trench Only

Work Location (use map window to indicate exact lo

Street Name: ▼

Street Number: ▼ Unit: ▼

For help with the map, click [here](#).

To (nearest cross street/pole #/house #)

From (nearest cross street/pole #/house #)

Email Address (if you want to receive email confirmation for this application)



The map window displays a street layout with Adams Rd running vertically. A blue highlighted area labeled '7B' is located on the right side of the road. Other street numbers visible include 67, 49, 29, and 12. A yellow crosshair icon is present on the map. The map includes navigation controls on the left side, such as a compass and zoom in/out buttons. A scale bar at the bottom left of the map shows the coordinates 688954, 2994139.

Screenshot from Town of Concord Online Permit System for Right of Way (i.e. Trench Opening) permit

Applying for Permits

- Some municipalities not processing permits until construction season begins
- Most payments still done via check and required per application

April, 2016						
Su	Mo	Tu	We	Th	Fr	Sa
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Paving & Patching

- Cuts during 5 Year Moratorium:
 - Some require curb-to-curb repaving, others infrared sealing
- Backfill in Trenches
 - Some municipalities request Flowable Fill
 - Soil Compaction Meter being piloted in Marlborough and Cambridge



Paving & Patching



- Frustration that patches not being inspected
- Potential disputed ownership of patches

DTE 98-22

- Conflict with community preferences for trench settling period
- Barrier to capturing value of coordinated projects for gas company and municipality
- Can enter into bi-lateral agreement to modify requirements of DTE 98-22 so long as it is cost-neutral

Capturing Value with DTE 98-22 Modifications

1 Utility & **No** Muni
Paving

1

Ex. Lawrence & Columbia Gas:

- Extend temporary patch timeline to allow settling period
- Substitute City preference for full depth cutback on permanent repair

Capturing Value with DTE 98-22 Modifications

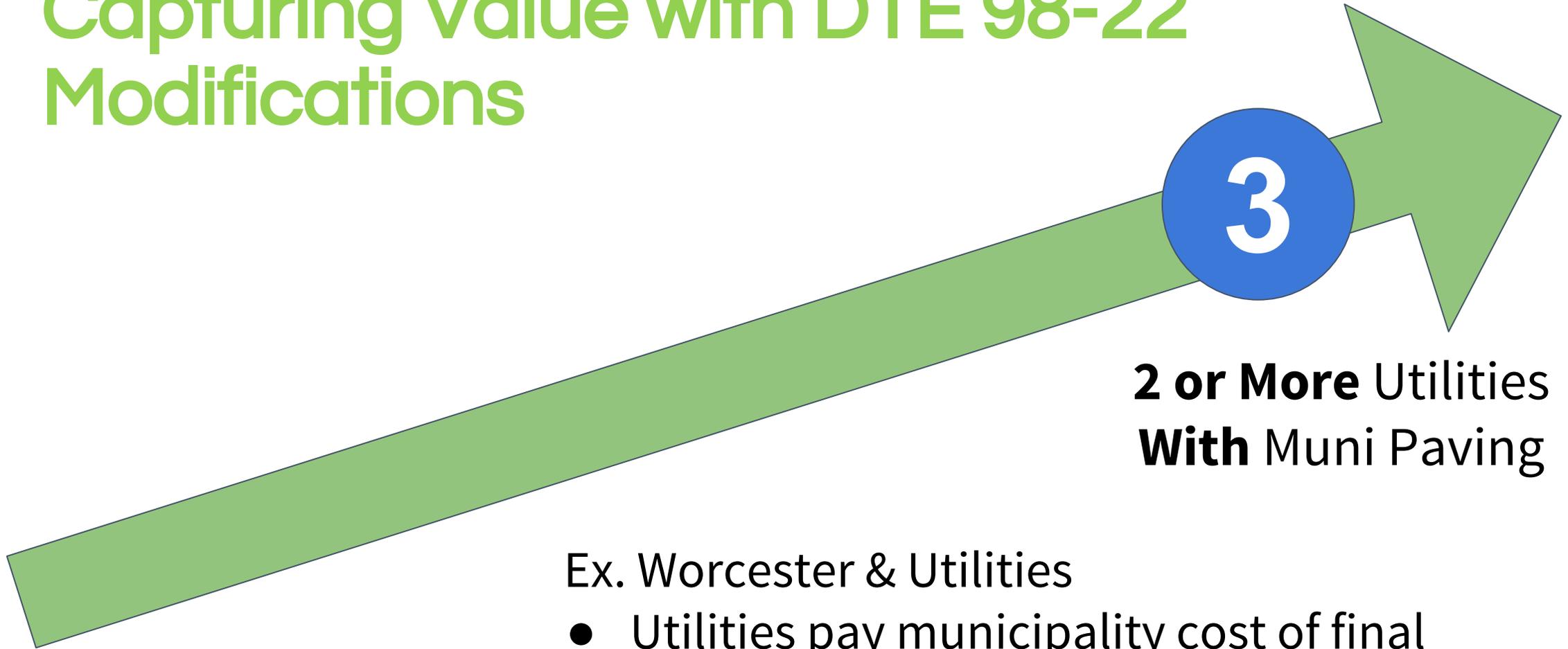
1 Utility
With Muni Paving

2

Ex. Lawrence & Columbia Gas

- Extend temporary patch timeline until paving by municipality
- 1/2 of avoided cost of final paving to paid City

Capturing Value with DTE 98-22 Modifications



**2 or More Utilities
With Muni Paving**

Ex. Worcester & Utilities

- Utilities pay municipality cost of final repaving on trenches
- City repaves section curb-to-curb

Best Practice: Permitting

Gas Company	Municipality
	Make permit applications conditional on gas company attendance at meetings, per schedule set up pre-construction season
	Commit to processing permits at least two weeks ahead of construction season, to allow for prompt start of work
	Implement online permit application system
	Allow for batch payment for permits or electronic permit payment

Best Practice: Paving & Patching

Gas Company	Municipality
	For cuts during 5 Year Moratorium, allow for infrared (not curb-to-curb) if gas company was not properly notified of moratorium
Use soil compaction meter and share results with municipality	Request use of a soil compaction meter and documentation of results
	Do not request use of Flowable Fill

Best Practice: Paving & Patching

Gas Company	Municipality
Communicate inspection reports to municipality on at-least monthly basis	Request monthly updates on inspection of patches
Use ownership tags to track patch ownership	

Best Practice: DTE 98-22 Modifications

Gas Company	Municipality
<p>Establish an overall bi-lateral agreement to DTE 98-22 to allow both municipalities and gas company to capture value of coordination, meet municipal preferences, and avoid unnecessary pavement repair costs for both when municipality will and will not pave afterwards.</p> <p>Include an addendum to identify specific projects each year that are governed by the bi-lateral agreement.</p>	

Breakout Discussion (Groups of 7-10)

- Initial reaction
- Near-term best practices you might implement?
- Long-term best practices?
- What best practices would not work for your community?
- What did we miss?

Thank You!

Remember, please turn in worksheets on registration table

Patrick Roche

MAPC

proche@mapc.org

Audrey Schulman

HEET

audrey.schulman@heetma.org

Exhibit 3: Press Release for White Paper & Website



Amanda Linehan, Communications Manager
Metropolitan Area Planning Council (MAPC)
617-933-0705
alinehan@mapc.org

For Immediate Release: Wednesday, October 26, 2016

MAPC, HEET Release Report on Gas Leaks

Report recommends ways to save money, protect local roads, and accelerate pipe replacement

Boston – The Metropolitan Area Planning Council (MAPC) and Home Energy Efficiency Team (HEET) today announced the release of a new report, **“Fixing Our Pipes: Coordinating Natural Gas Main Replacement between Local Governments & Gas Companies”** which identifies low-cost best practices that municipalities and gas companies can implement to accelerate replacement of leak-prone natural gas pipes, better protect the quality of local roads, and avoid hundreds of millions in gas main replacement costs statewide.

The report also suggests a way to identify the biggest gas leaks, helping to get the pipes with these “super-emitting” leaks fixed or replaced first. **Get a glimpse of the report’s findings on MAPC’s new interactive gas leaks website, <http://fixourpipes.org>.**

The state’s gas companies plan to replace over 5,000 miles of leak-prone natural gas pipe over the next 20 to 25 years. Accessing the pipes requires digging up municipal streets, an expensive process that leaves a patchy surface and reduces the useful life of the roads. MAPC and HEET interviewed 26 municipalities and three gas companies in the Greater Boston area to assess the effectiveness of the current process and find ways to improve.

“Gas companies recognize that their coordination processes need to evolve, but our report identified important steps municipalities need to take, too,” said Patrick Roche, Energy Coordinator at MAPC. “Encouragingly, we found effective coordination strategies scattered throughout municipalities and gas companies. Through this report, we hope to spread awareness in order to make these best practices more consistent across the region.”

The team also surveyed for gas leaks along 172 miles of roads in 15 municipalities. The surveys found that those cities and towns that already implement multiple best practices identified in the report had a lower rate of leaks per mile on newly paved roads.



This provides evidence that the best practices for coordination do increase the ability of gas companies to fix leaks and replace pipe before road paving occurs.

The report's best practices for both municipalities and gas companies focus on sharing infrastructure plans and utilizing effective communication in order to identify opportunities to synchronize gas main replacement projects with municipal upgrades to water- and sewer- mains, as well as street repaving projects.

"Communities like Melrose and Cambridge have shown the power of simple, regular communication and information sharing," says Audrey Schulman, President of HEET. "And, we're particularly excited about programs in the city of Worcester and at Columbia Gas which provide models to share cost savings with the municipality from synchronizing projects".

When shared, those savings can allow a municipality's paving dollars to stretch further and for the gas company to replace more leak-prone pipe. If the replacement of all of the remaining leak-prone pipe could be synchronized with municipal paving or other infrastructure projects, the savings could range from \$452 to \$843 million.

The report was funded through a grant from the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration, which provided grants to 22 local government and pipeline safety groups in 2015.

As the regional planning agency for the 101 cities and towns of greater Boston, MAPC leads efforts to promote smart growth and regional collaboration. MAPC's Clean Energy Department supports a diverse range of municipal and regional strategies to reduce greenhouse gas emissions.

For more information about the project or MAPC, contact Patrick Roche at proche@mapc.org or 617-933-0790, and visit www.mapc.org or contact Audrey Schulman Audrey.Schulman@heetma.org or 516-900-4338.

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Exhibit 4: Special Utility Commission on Utility & Municipal Coordination Report to the Legislature

Due to file size, the report may be downloaded at <https://mapc-org.sharefile.com/d-sa37c76a79564e8ca>.