## MMA Fiscal Policy Committee Best Practice Recommendation: Capital Planning and Climate Change

**BEST PRACTICE**: Update local capital improvement plans by including specific policies and practices to ensure that new and upgraded capital equipment and projects are protected from the impact of climate change. CIPs should include evaluation of the vulnerability of capital assets, such as drinking water, wastewater and stormwater systems, roads and bridges, communications and utility systems and buildings and other structures that are critical to the operation of the city or town and the health and safety of the population. Policies should have specific criteria for using climate change adaptation as a factor for adding projects to local plans and setting priorities for funding.

The Government Finance Officers Association recommends that "finance officers evaluate both the financial and non-financial impacts of a project, including environmentally responsible measures that impact the jurisdiction in the long term as well as the local, regional and global environment, changes to resource use and efficiency, and other areas that impact quality of life for the public." The GFOA recommends policy principles to apply when developing environmental components for a capital plan, including consideration of an environmental factor when prioritizing capital needs and methods of financing capital improvements.

The GFOA also recommends that local officials take steps to "educate and communicate" with residents. "Lack of engagement with the public can increase the risk of misperceptions of environmental responsibility-based initiatives. One method of communication for finance officers is through the capital planning document itself. Governments should be clear on how environmentally supportive projects directly relate to important environmental considerations and improve the quality of life for the public."

The Massachusetts Executive Office of Energy and Environmental Affairs manages the Municipal Vulnerability Preparedness grant program, which provides support for cities and towns to plan for resiliency and to implement climate change adaptation actions. The state awards funding to local governments to complete vulnerability assessments and develop resiliency plans. The program helps cities and towns define extreme weather and natural and climate-related hazards, and helps municipalities understand the local impacts of climate change, identify existing and future vulnerabilities and strengths, develop and prioritize actions for the community, identify opportunities to act to reduce risk and build resilience, and implement key actions identified through the planning process.

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- Government Finance Officers Association, "Environmentally Responsible Practices in Capital Planning": www.gfoa.org/environmentally-responsible-practices-capital-planning
- Municipal Vulnerability Preparedness Program: <a href="https://www.mass.gov/municipal-vulnerability-preparedness-mvp-program">www.mass.gov/municipal-vulnerability-preparedness-mvp-program</a>
- MMA Best Practices Vol. 1, Number 2, Capital Planning: www.mma.org/wp-content/uploads/2018/07/mma\_best\_practices\_vol1no2\_jan2016.pdf
- MMA Best Practices, Vol. 3, Number 3, Municipal Climate Adaptation Plans: www.mma.org/wp-content/uploads/2018/07/mma\_best\_practices\_vol3no3\_jan2018.pdf

## MMA Policy Committee on Energy and the Environment Best Practice Recommendation: Municipal Investment in Electric Vehicles and Charging Stations

**BEST PRACTICE**: Promote alternative energy sources and decrease fossil fuel dependence by investing in electric or hybrid vehicles for municipal fleets and building charging stations on municipal property for public use.

As the global effects of climate change worsen each year, Massachusetts continues to prioritize a reduction in greenhouse gas emissions and other climate-supporting measures. The Commonwealth's 2008 Global Warming Solutions Act required, by 2020, a 25 percent reduction in greenhouse gases from all sectors below the 1990 baseline level, and at least an 80 percent reduction by 2050. According to updated data released in summer 2018, as of 2016, greenhouse gas emissions were approximately 20.8 percent below 1990 baseline levels. The transportation sector is the biggest contributor to greenhouse gas emissions, at 39 percent of all emissions. And while fuel efficiency improvements continue to be implemented across the transportation sector, vehicle miles driven are 28 percent higher than 1990 levels, cancelling out some of that effect.

Electric vehicle technology provides a sustainable alternative to gasoline-fueled (and greenhouse gas-emitting) vehicles. The Commonwealth's commitment to electric vehicles was solidified in 2017 when Gov. Charlie Baker signed into law an electric vehicle bill that makes it easier and more affordable for consumers to buy and use these cars. While thousands of Massachusetts residents have opted to purchase or lease electric vehicles, often with the assistance of government incentive programs, municipalities are coming around to the benefits of this mode of transportation. Municipal investment in electric vehicle fleets and publicly-sited charging stations has the potential to realize multiple benefits: helping the state to meet greenhouse gas emission reduction targets, reducing vehicle fueling costs for the municipality, and providing a charging service for residential and commercial owners of electric vehicles. Local governments that prioritize environmental and climate health are often more appealing to residents.

The Massachusetts Department of Environmental Protection offers the Massachusetts Electric Vehicle Incentive Program to promote the purchase of electric vehicles and installation of charging stations by qualifying entities, including municipalities and other public institutions. The MassDEP reports that, to date, it has provided nearly \$2.3 million in MassEVIP grants to 83 separate entities (including approximately 75 municipalities) to purchase 267 electric vehicles for their fleets and to install 92 charging stations.

The following are two examples of municipalities that have invested in electric vehicles for their municipal fleets and publicly-sited electric vehicle charging stations:

- New Bedford obtained 23 electric vehicles (Nissan Leaf) and 25 charging stations through a \$299,000 MassEVIP grant. The city was able to replace aging vehicles in its fleet that cost more in maintenance than their value, and to make six of the charging stations available for public use. With approximately 30 percent of its municipal fleet comprised of electric vehicles, New Bedford realized more than \$117,000 in savings over three years.
- Since 2006, Cambridge has made a commitment to convert its fleet according to a Green Fleet Policy. The policy requires that all requests for new vehicles include an evaluation of options based on fuel efficiency and emissions standards. Cambridge has introduced 25 hybrid vehicles and several fully electric vehicles into its fleet to date, and provides public access to four electric charging stations.

- MassEVIP program: www.mass.gov/how-to/apply-for-massevip-fleets-incentives
- MassEVIP profile of New Bedford: www.mass.gov/files/documents/2018/10/09/massevip-newbedford.pdf
- State and Federal Electric Vehicle Funding Programs: www.mass.gov/service-details/state-and-federal-electric-vehicle-funding-programs
- City of Cambridge Green Fleet Policy: www.cambridgema.gov/CDD/climateandenergy/municipalsustainability/greenfleet

### MMA Policy Committee on Energy and the Environment Best Practice Recommendation: Municipal Solid Waste Diversion Programs

**BEST PRACTICE**: Reduce solid waste tonnage and promote sustainable alternatives to waste disposal by creating or partnering on municipal diversion programs, such as for organic waste and textiles.

Factors ranging from China's National Sword policy, which limits foreign exports of recyclable materials to China, to declining in-state landfill capacity, have placed substantial pressures on the solid waste and recycling markets in Massachusetts. Cities and towns have seen the costs for hauling recyclables, and in some cases trash, rise sharply over the past two years. Increasingly, municipal officials must explore alternatives to reduce solid waste tonnage in their communities, clean up the recycling stream, and lower costs.

Cities and towns at the forefront of municipal solid waste diversion have invested in programs that divert organic waste, textiles, and bulk or hazardous items from the waste stream. According to a study from the U.S. Environmental Protection Agency, organics such as food and yard waste make up as much as 30 percent of municipal solid waste, and textiles account for another 9 percent. In the case of organics, while Massachusetts has banned the disposal of commercial organic waste for businesses or institutions that dispose of more than 1 ton of these materials per week, no such restrictions or common alternatives exist for municipalities or their residents. By helping to divert these materials from the waste stream through composting or recycling, municipalities can realize positive benefits both for the environment and their bottom line.

The following are examples of municipalities that have invested in solid waste diversion initiatives:

- Newburyport is one community that has piloted a program to provide kitchen buckets and curbside carts to select households for organic waste collection and processing. During a two-year pilot, the city provided the receptacles to residents free of cost. According to the city's estimates, residents who participated in the pilot saw a 20 percent reduction in their solid waste tonnage by diverting organics for composting. Newburyport launched a website in conjunction with the program to educate residents on the environmental benefits of composting organics, and the distinction between what items are appropriate for backyard versus commercial-scale composting.
- Somerville has contracted with Simple Recycling to offer free curbside textile recycling pickup for residents.

Residents are given bright pink bags to be filled with discarded textiles and placed on the curb alongside trash and recycling bins on pickup day. According to the Massachusetts Department of Environmental Protection, 95 percent of textiles that are discarded (not including charitable donations of clothing) could instead be recycled or reused. Simple Recycling reports that it resells about 20 percent of the collected material to thrift stores, and the remaining 80 percent is either sold internationally or used as raw material for rags, industrial material, home insulation, carpet padding, or the automotive industry.

- Waste Zero on Materials Diversion: <a href="http://wastezero.com/our-solutions/materials-diversion">http://wastezero.com/our-solutions/materials-diversion</a>
- Republic Services on Organic Waste: www.republicservices.com/businesses/organic-waste
- Waste 360: www.waste360.com
- City of Newburyport Organic Waste Collection: <a href="http://newburyportorganicspilot.wordpress.com">http://newburyportorganicspilot.wordpress.com</a>
- City of Somerville Curbside Textile Recycling: www.somervillema.gov/departments/programs/curbside-textile-recycling-program

## MMA Policy Committee on Municipal and Regional Administration Best Practice Recommendation: Considering Social Media Policies in the Context of the Open Meeting and Public Records Laws

**BEST PRACTICE**: Develop a detailed written policy on the use of social media by employees and officials. Having a social media policy will help to avoid unintended conflicts or problems under the open meeting law and the public records law.

The open meeting law requires that meetings of a public body be properly noticed and open to members of the public, unless an executive session is convened. A "meeting" is defined as "a deliberation by a public body with respect to any matters within the body's jurisdiction." The law was revised in 2010 to include exchanges by email in the definition of deliberation. A "deliberation" is thus defined, in relevant part, as "any oral or written communication through any medium, including electronic mail, between or among a quorum of a public body on any public business within its jurisdiction." For the purposes of the open meeting law, a "quorum" is a simple majority of the members of a public body. The law does not restrict an individual's right to make comments to the general public.

As stated in the Guide to the Massachusetts Public Records Law, "The Public Records Law applies to all government records generated, received or maintained electronically, including computer records, electronic mail, video and audiotapes." According to the Massachusetts Municipal Records Retention Manual, electronic records must be managed and maintained in accordance with an electronic records management plan.

In the context of social media, here are recommended actions for members of public bodies:

- Avoid "friending" or following members of your public body.
- Understand that the intent of your public posts will be examined to determine if there are any open meeting law violations.
- Make certain that you do not comment about hearings or other specific public body matters that may fall under its jurisdiction. The expression of an opinion of one public body member on matters within a public body's jurisdiction to a quorum of a public body is considered a deliberation, even if no other public body member responds.

- If you must comment or discuss matters on social media, limit comments to political statements that are not within the public body's jurisdiction.
- Recognize that the distribution of meeting agendas, scheduling information or other procedural information, or the distribution of reports or documents that may be discussed at a meeting, provided that no opinion of a member is expressed, are excluded from the definition of deliberation.
- Always proceed with caution when communicating over social media platforms. It is not always apparent whether a subject is considered public business within the public body's jurisdiction. Even if you feel you are following the law, the Attorney General's Office might disagree.
- Develop an electronic records management plan that includes social media. Capturing and preserving social media content must be a part of any municipal electronic records management plan, and municipalities should work with their legal counsel and IT professionals to do so.

- From the MMA's Municipal Advocate magazine, "To Tweet or Not to Tweet? Social Media, Public Records and the Open Meeting Law": <a href="https://www.mma.org/wp-content/uploads/2018/07/mma\_advocate\_28-4\_law\_social\_media.pdf">www.mma.org/wp-content/uploads/2018/07/mma\_advocate\_28-4\_law\_social\_media.pdf</a>
- From KP Law, "The Opening Meeting Law and Social Media Potential Pitfalls": <a href="https://www.k-plaw.com/wp-content/uploads/2017/01/Open-Meeting-Law-and-Social-Media-Potential-Pitfalls.pdf">www.k-plaw.com/wp-content/uploads/2017/01/Open-Meeting-Law-and-Social-Media-Potential-Pitfalls.pdf</a>
- From the Attorney General's Office, Open Meeting Law Frequently Asked Questions: <a href="https://www.mass.gov/frequently-asked-questions-about-the-open-meeting-law">www.mass.gov/frequently-asked-questions-about-the-open-meeting-law</a>
- Attorney General's Office Open Meeting Law Determinations Search: http://massago.onbaseonline.com/Massago/1700PublicAccess2/OML.htm
- Secretary of State's Guide to the Massachusetts Public Records Law: www.sec.state.ma.us/pre/prepdf/guide.pdf

### MMA Policy Committee on Municipal and Regional Administration Best Practice Recommendation: Update Accessory Dwelling Unit Bylaws

**BEST PRACTICE**: Each municipality should look at updating its accessory dwelling unit bylaw, considering whether to include successful techniques and approaches used in communities large and small across the Commonwealth.

Accessory dwelling units are a second dwelling unit on a single-family residential lot. ADUs are self-contained and can either be attached to the single-family dwelling or detached. ADUs provide supplementary housing that can be integrated into existing single-family neighborhoods to provide a typically lower-priced housing alternative.

The approach used by most municipalities for ADUs is a zoning bylaw that permits the improvements to be made. Common restrictions include maximum allowed building and site modifications, the options for choosing inhabitants, whether the owner must occupy the main unit, and minimum lots sizes. Generally, the greater the number of restrictions, the lower the number of homes capable of adding units.

The following are some ADU recommendations based on successful local practices:

- Do not restrict occupancy to relatives of the homeowner.
- Reconsider lot size restrictions in allowance for an ADU.
- Allow simultaneous construction and conversion of a primary dwelling to an ADU.
- Allow for attached or internal ADUs.
- Allow flexibility in parking requirements.
- Establish clear and objective standards around design.
- Consider a square footage cap that is not necessarily dependent on a percentage of the primary dwelling, as this can limit ADUs for older homes that are commonly smaller. The average for Massachusetts is 800-900 square feet.

• Develop a comprehensive short-term rental policy for your community.

#### **Resources:**

• Executive Office of Energy and Environmental Affairs, Smart Growth / Smart Energy Toolkit Modules – Accessory Dwelling Units:

www.mass.gov/service-details/smart-growth-smart-energy-toolkit-modules-accessory-dwelling-units-adu

• Metropolitan Area Planning Council webinar, Accessory Dwelling Units: Building Public Education and Support, July 2018:

www.mapc.org/wp-content/uploads/2018/07/AARP-MAGIC-Webinar-on-ADUs.pdf

# MMA Policy Committee on Municipal and Regional Administration Best Practice Recommendation: Create a Policy Surrounding the Review and Negotiation of Applicants and Host Community Agreements

(Supplement to 2018 MMA Recreational Marijuana Best Practice)

**BEST PRACTICE**: For municipalities that have opted not to impose a ban on marijuana commerce, including those that are engaged in planning and decision-making while a temporary moratorium is in place, adopt a best practice or community policy for the review of applications and negotiation of host community agreements.

State law and Cannabis Control Commission regulations created several license types: cultivators, product manufacturers, retailers, transporters, testing laboratories, research facilities, microbusinesses, and craft cooperatives. Each license type created a wide variety of distinct areas of business operations that create jobs in distinct fields.

#### Recommendations:

- Municipalities wishing to encourage the development of small businesses should consider what type of licenses they wish to allow within their community. Municipalities should negotiate specific terms in their host community agreements with an understanding of the differences in business practices and business models between cannabis applicants.
- Community leaders should attend an applicant's community outreach meeting, where they may hear specific concerns raised by community members.
- Municipalities should consider prioritizing applicants that have been disproportionately affected by the enforcement of previous cannabis laws, small or local businesses, and companies led by people of color, women, veterans, and farmers. One option would be to sign host community agreements alternating between these prioritized applicants and all other applicants.
- Establish an objective selection process and clear timeline for prospective licensees.

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- Cannabis Control Commission, Guidance on Equitable Cannabis Policies for Municipalities: http://mass-cannabis-control.com/wp-content/uploads/2018/08/Municipal-Equity-Guidance-August-22.pdf
- Cannabis Control Commission, Guidance for Municipalities: http://mass-cannabis-control.com/wp-content/uploads/2018/03/FINAL\_Guidance-for-Municipalities\_040218.pdf
- Town of Amherst, Guidance for Recreational Marijuana Retail Establishments: www.amherstma.gov/DocumentCenter/View/45082/2-Guidance-for-Marijuana-Establishments-in-Amherst
- City of Somerville, Ordinance Regarding Adult Use Marijuana Establishments: www.somervillema.gov/sites/default/files/SCO%20License%20final%20clean.pdf

### MMA Policy Committee on Personnel and Labor Relations Best Practice Recommendation: Human Resources Professionals

**BEST PRACTICE**: Hire a human resources professional in order to increase compliance, defray costs and reduce risk. Human resources responsibilities are often split among a variety of positions leading to fractured and inconsistent processes, lost time and legal issues. Recruitment, training, orientation, performance reviews, benefits administration, policy creation and enforcement, labor relations, conflict resolution, employee discipline, and retaining a competent and motivated workforce can all be delegated to a human resources professional familiar with best practices and personnel laws.

Municipal leaders are advised to delegate the management of human resources issues to a human resources professional so they may focus on their own leadership while maintaining a dedicated focus in the municipality on human resources administration. Municipal school districts should also consider hiring a dedicated human resources professional.

The following are recommended best practices in hiring a human resources professional:

- A human resources professional should be a member of a municipality's central administration team and work closely with department heads.
- A human resources professional should direct a comprehensive human resources program, including recruiting, onboarding, developing and retaining a talented and diverse workforce, managing a compensation and benefits system, collective bargaining, employee relations, maintaining personnel records, and ensuring compliance with local, state and federal personnel laws.
- A human resources professional should maintain continuous relationships with municipal employees in order to support municipal officials in their efforts to provide cost-effective, high-quality services to their communities and to attain adequate oversight.
- A human resources professional should remain in close contact with legal counsel to minimize liability in all human resources areas. A human resources professional can manage workplace complaints and conduct prompt

investigations or advise those conducting investigations to yield timely outcomes and decisions.

- Municipalities should try to align with the industry-recommended best practice of maintaining one human resources professional for every 100 employees. Municipalities with smaller departments may consider sharing a human resources professional with another municipality.
- Municipalities should consider creating a personnel bylaw or charter provision that will allow human resources policies to be created and implemented. This bylaw or charter provision would ideally include the addition of a human resources professional.

- Massachusetts Municipal Personnel Association: <a href="www.mma.org/members/mmpa">www.mma.org/members/mmpa</a>
- MMA website Labor and Personnel Resources: www.mma.org/resources/labor-and-personnel

## MMA Policy Committee on Personnel and Labor Relations Best Practice Recommendation: Professional Development for Municipal Officials

**BEST PRACTICE**: Municipal officials, including members of elected and appointed boards, benefit from professional development that is specific to their job and increases their exposure to knowledge of local government and beyond. Equally important is the development of cross-functional skills in order to develop a more well-rounded view of their mission as leaders, managers and collaborators in local government. By developing both skill sets, municipal officials may grow personally and professionally to improve services and leadership, which improves the overall development and resiliency of the local government entity, enhances professional relationships, supports the strategic direction of the municipality, contributes to succession planning, and serves the public good. Municipalities should provide, prioritize and actively support professional development for municipal officials.

The MMA recommends that municipalities adhere to the following best practices:

- Municipal officials should create a strategic plan for the professional development of both functional and cross-functional skills. Development of a plan should begin with an understanding of the local government's needs and the overall work environment, then training should be prioritized. The plan may include mentoring, observation, assessment and high-quality training, including conferences, workshops, seminars, trainings offered by law firms and professional organizations, networking opportunities, professional reading, distance learning, and leadership development programs.
- Professional development for municipal leaders should be impactful, sustained, in-practice, and evaluative.
- Municipal officials should also consider training prior to embarking on a new project or endeavor. This helps to establish a vision before commencing the project and leads to better, more sustainable, outcomes.
- Municipalities should include a line item for professional development in the budget and ensure that individual departments devise professional development budgets for department heads. Professional development can also be a part of compensation packages to attract and to maintain highly qualified personnel.
- Commit to ongoing learning and professional development.

- MMA workshops and meetings: <a href="www.mma.org/event">www.mma.org/event</a>
- International City/County Management Association conferences, professional programs and online support: <a href="http://icma.org/events">http://icma.org/events</a>

### MMA Policy Committee on Personnel and Labor Relations Best Practice Recommendation: Wellness Programs for Municipal Employees

**BEST PRACTICE**: Implement wellness programs with the goal of encouraging healthier lifestyles, improving productivity and engagement, lowering absenteeism, and improving morale. While certain wellness programs thrive by meeting goals and objectives, others languish or fail altogether. An effective wellness program creates a culture of health in the workplace that integrates the employer's mission with the individual health needs of employees. The strongest wellness programs are supported by senior leadership and use strategic communications to drive greater participation.

Here are some steps that cities and towns can take to develop an effective wellness program:

- Managers commit resources and set the example by participating in the wellness program, practice healthy behaviors, and incorporate healthy activities into their workdays. They approve policies and practices that support the well-being of employees. For example, a town manager might serve on the wellness committee, attend wellness programming, and actively encourage employees to participate in the program. Policies support health and wellness goals and contribute to a culture of health, becoming a part of how the workplace operates.
- Municipalities create wellness teams to design and administer the program, often with support and guidance from wellness coordinators from the group's health plan. Teams include members from the school department, all municipal departments and municipal leadership. The teams create annual operating plans that include mission statements and specific, measurable short- and long-term goals.
- Address all aspects of wellness, including career, financial and social and emotional well-being, especially resilience, mindfulness and stress reduction. Employees should have access to an employee assistance program. Having a comprehensive program increases overall employee participation. Operating plans should include online, onsite and phone options.
- Wellness programs that have a strong health literacy component are more likely to see cost savings, as the goal of

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health literacy is to provide employees and their family members with the information and motivation needed to make significant changes in how they use the health care system. The goals are to reduce unnecessary, potentially harmful, and high-cost health care. Health literacy strategies may include onsite and online campaigns, focus groups and quiz games.

- Municipal wellness programs should be easy to join and access and should bring people together in fun ways. Variety is key. Basketball courts, gyms and fitness rooms, outdoor fitness circuits at schools, nature walking trails, and public rooms in libraries or police stations may provide space for a variety of activities and workshops. Local spin or dance studios may partner to provide additional wellness programming. Maximizing convenience for program participants should be a high priority. Offering programs that bring different skill levels together for fun and fitness like line dancing, yoga and boot camp tend to be more successful. Employees can help to build the wellness program so that it meets their needs, and program facilitators can encourage personalization of programming through employee activity trackers and smartphone apps.
- Employers that recognize and acknowledge employees' efforts and successes will see greater engagement. Rewarding employees by recognizing their efforts in their jobs contributes to improved morale and employee satisfaction.
- Include a strategic and multi-channeled communications component. Communications through email, newsletters, posters or flyers, direct mail, telephone, social media and word-of-mouth are important tools to enlist employee participation and to ensure that participants are aware of programming. Weekly wellness tips emailed to employees and an interactive online presence offer consistent engagement with participants. Employee orientations should include general marketing of municipal wellness programs.
- Follow legal and regulatory requirements to protect the personal information of wellness program participants and to ensure that the program complies with federal and state laws.

- "Best Practice Design Principles of Worksite Health and Wellness Programs," by Nico Pronk, Ph.D., Health & Fitness Journal: <a href="https://dev-journals2013.lww.com/acsm-healthfitness/Pages/articleviewer.aspx?year=2014&issue=01000&article=00012&type=Fulltext">https://dev-journals2013.lww.com/acsm-healthfitness/Pages/articleviewer.aspx?year=2014&issue=01000&article=00012&type=Fulltext</a>
- Town of Chelmsford Well Power program, in partnership with Massachusetts Interlocal Insurance Association: <a href="https://www.townofchelmsford.us/669/Wellness-Programs">www.townofchelmsford.us/669/Wellness-Programs</a>
- Society for Human Resource Management Foundation Executive Briefing "Wellness Strategies to Improve Employee Health, Performance and the Bottom Line," by David Chenoweth, Ph.D.: <a href="https://www.shrm.org/foundation/ourwork/initiatives/resources-from-past-initiatives/Documents/Wellness%20Strategies%20to%20Improve%20Employee%20Health.pdf">www.shrm.org/foundation/ourwork/initiatives/resources-from-past-initiatives/Documents/Wellness%20Strategies%20to%20Improve%20Employee%20Health.pdf</a>
- Fusion 2.0 Conference: <a href="http://fusion2conference.com/about-us">http://fusion2conference.com/about-us</a>

### MMA Policy Committee on Public Works, Transportation, and Utilities Best Practice Recommendation: Develop a Sustainable Wood Debris Management Plan

**BEST PRACTICE**: Address an increase of wood debris caused by weather events, pest infestations and limited disposal options by developing a sustainable wood debris management plan.

As changing environmental and market conditions affect the quantity and quality of wood debris generated in Massachusetts cities and towns, local government is increasingly responsible for managing and properly disposing of this debris. Contributing factors include an increase in severe weather events as well as invasive species infestations from the gypsy moth, the Asian long-horned beetle and the emerald ash borer. Managing this growing stock of wood debris is increasingly difficult due to the limited disposal options available to municipalities. The out-of-state market for reprocessing wood debris is shrinking due to the declining demand for paper products as Americans transition from print to online media, while at the same time quarantines have been placed on infested wood sources, which limits export options.

As with the recycling crisis, municipalities have seen the costs associated with hauling and processing their wood debris increase as a result of these factors. While wood debris can be processed and released into forested areas or stored for later disposal, both of these options, in large and compact quantities, have potential environmental consequences stemming from the release of carbon dioxide and methane gas.

Municipalities are advised to develop a sustainable wood debris management plan to address the increase in debris. A wood or tree debris management plan is a best practice recommendation of the American Public Works Association and the U.S. Department of Agriculture Forest Service. Alongside other plans developed by municipal public works departments to prepare for emergencies and eventualities, sustainable wood debris management is prudent and necessary.

The following are some recommended action steps:

• Develop a process for inventorying sources of wood debris (trees, stumps, shrubbery, etc.) within public rights-of-way, adjacent to public utilities, in public parks, and in other public areas. If possible, such an inventory should include

a mapping component using GIS or other software. Municipalities should also be aware of their responsibility, through solid waste and recycling contracts, for coordinating the disposal of wood debris generated on private property.

- Conduct an analysis of trees and other wood sources that considers their age, size or volume, condition, and ongoing maintenance needs.
- Understand the state and federal regulations that govern the disposal of wood debris in forested areas, the storage of wood debris for periods of time, and the export of infested wood debris to out-of-state sites.
- Refer to the Massachusetts Department of Conservation and Recreation guides and advisories on invasive species that threaten forest health.
- Consider options for generating biomass fuel (heat and/or electricity) from wood debris. The Massachusetts Department of Energy Resources offers incentives to residents and municipalities that generate biomass heat, through the Alternative Portfolio Standard program.

- Massachusetts Tree Wardens and Foresters Association: <a href="http://masstreewardens.org">http://masstreewardens.org</a>
- American Public Works Association Best Practice: "Urban Forest Management Plan": http://www2.apwa.net/Documents/About/CoopAgreements/UrbanForestry/UrbanForestry-4.pdf
- UMass Amherst Tree Management Plan Guide: <a href="https://www.umass.edu/urbantree/mgtplanguide.pdf">www.umass.edu/urbantree/mgtplanguide.pdf</a>
- Massachusetts Department of Energy Resources' Alternative Energy Portfolio Standard program: www.mass.gov/alternative-energy-portfolio-standard