Midtown Alliance

greenprint midtown

SUSTAINABILITY ACTION PLAN 2012

MIDTOWN ALLIANCE
SOUTHFACE ENERGY INSTITUTE
RENAISSANCE PLANNING GROUP
SUSTAINABLE ATLANTA
PERKINS+WILL

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executive summary

Midtown Atlanta is perfectly positioned to be a leader in sustainability due to its location, its infrastructure, and its people. The purpose of Greenprint Midtown, is to spur actions that further enhance Midtown's development as one of the nation's most livable, innovative, economically successful, and sustainable communities. This plan adds a "green lens" to Midtown Alliance's existing programs and identifies new opportunities to increase Midtown's sustainability. The report examines five impact areas – energy, water, open space, transportation, and waste – focusing primarily on the 118 blocks that make up the core of Midtown.

A 6-month long planning process captured input and direction from hundreds of residents, restaurateurs, retailers, employers, employees, property owners and subject area experts. This report details recommended high priority as well as longer-term actions, projects and programs that will make Midtown an even more appealing and sustainable place, building on the Midtown Alliance's past success in developing and implementing long-range community-based plans. Successful implementation will require the participation of all members of the community; however, Midtown Alliance and its leadership will play a unique and essential role to bring disparate entities and efforts together to galvanize the community around a collective vision and facilitate implementation.

LEADING FROM A POSITION OF STRENGTH

Located in the heart of the city, Midtown is a high-density, mixed-use, walkable community. Midtown is home to many of Atlanta's most prominent institutions – the Woodruff Arts Center, Emory University Hospital – Midtown, the Center for Puppetry Arts, Georgia Institute of Technology, and the Savannah College of Art and Design – Atlanta. Over the past 15 years, Midtown has experienced unprecedented growth. Today, this community boasts over 24 million square feet of office space, 1 million square feet of restaurant/retail space, 12,000 multi-family residential units and 4,000 hotel rooms.

Midtown's accelerated growth is due in large part to its high level of regional and local accessibility. With four MARTA rail stations, regional and local buses and shuttles, an established grid of streets with sidewalks and bike lanes, and Interstate access, Midtown is highly connected.

Two hundred acres of adjacent green space create a virtual forest within the city. Piedmont Park serves as a regional destination for recreation and rejuvenation, and a growing number of smaller public and private parks and plazas punctuate the district and create places for people to relax and play. A distinguishing feature of Midtown is its over 2,000 street trees. Midtown's sidewalk canopy allows for a comfortable and inviting walking environment. Midtown's Atlanta Botanical Garden consistently ranks as one of the best in the country and has a long-term commitment to conservation.

Midtown's property owners, businesses, and institutions all play a strong role in shaping Midtown as a sustainable community. Georgia Tech is one of the nation's leading research institutions with a deep commitment to innovation and sustainability. Office tenants are seeking green buildings and property owners and developers are responding. Eight of the last ten buildings developed in Midtown are LEED certified and seventeen (17) office buildings in the Midtown Core have received the Energy Star designation. The diverse mix of residents, students, doctors, architects, engineers, researchers, artists, lawyers, and even puppeteers makes for an interesting and vibrant community but also present a unique opportunity for developing innovative and creative solutions to sustainability challenges.

DOVETAILS WITH CITY AND REGIONAL EFFORTS

Greenprint Midtown aligns well with a number of city and regional efforts to address sustainability. The plan feeds into the City of Atlanta's Power to Change sustainability plan. Greenprint's investigation of new opportunities for open space furthers the City's efforts to add new green spaces as identified in Project Greenspace. The Metro Atlanta Chamber of Commerce's recently released Sustainable Economic Growth Initiative (SEGI) presents a strategy to link job growth and environmental sustainability. At the regional level, Plan 2040, the regional growth plan developed by the Atlanta Regional Commission, embraces sustainability as its organizing principle. The Metro North Georgia Water Planning District has plans and programs to address water supply and conservation, wastewater treatment, and stormwater management.

FROM BLUEPRINT TO GREENPRINT TO ECODISTRICT

Blueprint Midtown, completed in 1997 and updated in 2003, serves as the foundation for Greenprint Midtown. The Blueprint was created as a vision plan for a mixed-use, walkable, transit friendly community that catalyzed and directed growth and development in the core of Midtown. The planning process incorporated the input of thousands of community members and spurred Midtown's transformation.

Greenprint Midtown continued the focus on community engagement by hosting public and stakeholder meetings, reaching out to the community through extensive surveying efforts, and capturing the expertise from technical and advisory committee members. Greenprint reinforces the original Blueprint vision but builds on it. This plan takes a deliberate approach to being more sustainable. It has a strong action bias and was designed for near-term success.

As Greenprint Midtown moves from planning to implementation, Midtown Alliance will brand Midtown as an EcoDistrict. An "ecodistrict" is defined by national sustainability leaders as a place that has made a broad commitment to district-scale sustainability. The Midtown EcoDistrict brand will provide an opportunity to highlight success stories, create additional awareness around sustainability, and inspire

others to take part.

PROGRAMMATIC RECOMMENDATIONS

The following briefly summarizes the recommended opportunities and priority programs for each the five Impact Areas. Programs were prioritized based on their expected level of impact, their value to the community, and their likelihood of success.

I. ENERGY: Midtown's economic growth and quality of life depends on reliable and affordable energy - to keep buildings comfortable, to move trains and cars, to manage traffic, and to keep Midtown streets and sidewalks safe. Midtown's energy goals are to promote energy conservation, energy efficiency, and renewable energy; to reduce energy use by minimizing demand; and to reduce reliance on fossil fuels. The following programs are recommended to meet these goals:

- Energy Efficiency and Conservation in Buildings
- High Efficiency Public Spaces Lighting

II. TRANSPORTATION: The function, convenience, comfort, and safety of our transportation system has a significant effect on quality of life, the environment and the economic health of regions and communities. The transportation goals for Midtown are to improve access and mobility, decrease single occupancy vehicle trips to, from and within Midtown, and to reduce the total amount to miles people travel. Midtown has an opportunity to build on a relatively high number of commuters and residents using transit, walking, and/or bicycling through additional emphasis on the following programs:

- Streetscape Program Implementation
- Bicycle Plan Implementation
- Enhanced Transportation Demand Management
- Improved Local Transit and Coordinated Shuttle Services

III. WATER: Clean and readily available water is fundamental to environmental and human health, as well as economic prosperity. Our City and State face significant water quality and supply issues that could affect how our community grows and prospers. Through the Greenprint Midtown process, three overarching goals have been identified to meet these needs in Midtown: minimize storm water runoff from impervious surfaces; increase water efficiency in buildings; and reduce potable water consumption. The following programs will aid in meeting those goals:

- Green Stormwater Infrastructure Program
- Restaurant Water Efficiency Outreach
- Multi-family Water Efficiency Outreach
- Rainwater Harvesting Outreach

IV. OPEN SPACE - The largest positive impact that we can have on our natural environment is encouraging more options for living and working in dense urban districts where we use less land and fewer natural resources. Programmed open spaces and tree-lined streets are important to providing a quality of life that will attract residents and businesses and catalyze new development. The open space goals outlined in Greenprint Midtown are to provide increased access to permanent and temporary open spaces; to design and program spaces to encourage community vitality and interactions; and to preserve and enhance Midtown's tree canopy and landscaped areas. Programs include:

- Acquisition and Development of Civic Squares
- Temporary Park and Plaza Development
- Open Space Activation
- Landscape Enhancement

V. WASTE: Given the density of people that live, work and play in Midtown, a significant amount of waste is generated in Midtown. This waste contributes to air, water and land pollution. However, Midtown's diversity and concentration of uses, particularly restaurants, provides significant opportunities for successful waste reduction strategies that can make measurable differences in waste reduction, are cost neutral, and support local industry. The overall goal is to reduce the amount of solid waste generated by maximizing reuse, recycling, and composting. Programs include:

- Restaurant Waste Reduction Outreach
- Multi-family Building Recycling Outreach
- Electronics Recycling Outreach

IMPLEMENTATION

Transitioning the recommended programs from Greenprint Midtown into an implementation strategy is key to its success. To that end, Midtown Alliance will focus on near-term implementation efforts that include fine-tuning programs, combining programs where appropriate, developing tools to educate and inform the community, cultivating partnerships with key stakeholders, and establishing tracking and measurement tools. While implementation will require participation by all members of the community, Midtown Alliance's role as implementer, catalyst, or facilitator will be critical to

ensure long-term success.
Three pivotal strategies that have the potential to positively influence all Impact Areas and can be implemented in the short-term are described below:

Develop Partnerships – Midtown Alliance relies on partnerships to execute its work plan. There is a near-term opportunity to further an existing partnership with Georgia Tech that would serve to tie together innovation, economic development, and sustainability. Combining the unique research and innovation assets of Georgia Tech with an organization that brings people and institutions together offers great potential for Midtown to become a "sand box" for innovations that solve energy, water, and transportation challenges.

Midtown EcoDistrict Brand – Branding Midtown as an ecodistrict will identify Midtown as a place where sustainability is important. The brand can also be used to create awareness and educate residents, employees, and visitors about sustainability initiatives in Midtown and the individuals and entities that are contributing to its success.

Green Business Recognition Program – Another opportunity to raise the level of awareness of businesses that have made a commitment to sustainability is to create a "green" business certification and recognition program. This program would empower Midtown stakeholders to support sustainable businesses, would provide positive reinforcement for businesses adopting sustainable practices, and would serve to inspire other businesses to engage in sustainable actions.

In short, Midtown has the opportunity to build on the assets, existing programs, and commitments from this community's stakeholders to make Midtown one of the most livable, innovative, and sustainable communities.

SECTION 1

introduction

Greenprint Midtown is a comprehensive sustainability action plan that outlines strategies and recommends programs to address energy, water, waste, open space, and transportation challenges in Midtown Atlanta. This section discusses background information that provides the context for the plan, the motivation for sustainability planning in Midtown, how Greenprint Midtown dovetails with broader regional and city sustainability goals, and the structure of the plan.

BACKGROUND

In February 2012, Midtown Alliance launched a planning initiative to identify actions that would lead to a more sustainable Midtown Atlanta. The results of this report provide the framework for the creation of an "eco-district" in Midtown. While future visioning was a important component of this planning process, the focus was on identifying strategies that could be implemented in the near-term. Midtown Alliance has a strong track record for creating inspiring plans and most importantly, turning them into action.

Midtown Alliance was formed in 1978 to improve the quality of life in the core commercial district. The early years were focused on public safety and economic development. In 1997, inspired by the Georgia Conservancy's Blueprints for Successful Communities program, Midtown Alliance launched a groundbreaking economic development master plan called Blueprint Midtown. Developed using a comprehensive community visioning process, Blueprint Midtown reflected a strong desire for action and progress within the core area. Blueprint Midtown was a vision plan that stimulated dramatic change within the District by providing the framework and impetus for new housing, desirable office space, transportation improvements, public safety initiatives, environmental maintenance, and a pedestrian-friendly streetscape program. It also laid the groundwork for the largest rezoning in the history of the City of Atlanta. To fund many of these initiatives, Midtown Alliance worked with commercial property owners in 2000 to form the Midtown Improvement District – a geographically defined area where commercial properties pay an additional tax to fund improvements within the District. Through implementation of the Blueprint, Midtown has emerged as an authentic live-work-play urban community, home to over 20,000 residents, over 80,000 workers and over 6 million annual visitors.

Established in 1978, Midtown Alliance has been the driving force behind sustained revitalization through a comprehensive approach to consensus-building, planning, and development.

The Blueprint was updated and further refined in 2003 with a specific focus on retail, transit, and parks. This spurred the creation of a retail effort referred to as the Midtown Mile, a renewed interest and examination of a streetcar network, and development of the Arts District Plaza and the Fox Triangle Plaza. Nine years later, a new layer has been added to the Blueprint. Greenprint Midtown was initiated to place a "green lens" over Blueprint Midtown. It will serve to augment the existing vision and programs currently underway by capitalizing on market forces to further economic growth while specifically addressing environmental challenges and opportunities.

MOTIVATION FOR GREENPRINT MIDTOWN

Sustainability is commonly defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. Most experts believe that further developing compact, walkable communities like Midtown offer the best opportunity to become more sustainable. A more sustainable Midtown means creating a place where people and companies want to be – a place where businesses can be successful, residents have an opportunity to live well, and our air, water, and land is clean. Midtown's expanding population and rapid increases in buildings and associated infrastructure intensify its environmental impact. As a region, we struggle to deal with air pollution from vehicles and power plants, water quality and supply issues, the heat island effect from too many hard surfaces, and health issues. At the same time, market forces are helping to move the needle on identifying and implementing innovative solutions to these issues. The commercial real estate sector is leading the way with building efficiency improvements that save money and reduce energy and water impacts. The potential to attract Generation Y is pushing cities and communities to make investments in transit, walking and bicycling infrastructure, technology, and opportunities for social interaction.

Pursuing sustainability is no longer a luxury. It is essential for remaining competitive. Sustainability requires taking a fresh look at balancing economy, environment, and equity that in the past have been viewed as competing against one another, rather than being complementary.

Greenprint Midtown capitalizes on growing public understanding of sustainability issues and the desires of governments, businesses, and individuals to live, learn, work, and play more sustainably within their local community. Midtown Alliance is well positioned to guide sustainability efforts in the District due to its long and successful experience with community engagement, planning, and action bias. This experience will allow Midtown Alliance to engage the community in new programs and projects that focus on broader stewardship and responsible resource management while generating more diverse economic development opportunities.

REGIONAL AND LOCAL SUSTAINABLITY

The need for Greenprint Midtown is also evident within the context of regional and local sustainability challenges. These challenges include a sprawling growth pattern, dependence on cars and nonrenewable sources of electricity, loss of greenspace, increasingly limited water resources, and a sluggish economy. Initiatives that address these challenges are often slowed or complicated by numerous decision-making bodies and disparate local service delivery areas. Limited capital for infrastructure investments and even more limited funding for education and outreach efforts often curb comprehensive implementation of sustainability initiatives.

Despite these challenges, individuals and organizations across Atlanta are working to shift the regional sustainability paradigm. The Atlanta region is a national leader in green building. City and regional planners are working to create denser, transit-oriented developments, and bureaucratic hurdles are being removed to encourage sustainable development in private industry. In addition, city leaders are collaborating with regional and state partners to improve regional transportation infrastructure.

ATLANTA REGIONAL COMMISSION PLAN 2040

The Atlanta Regional Commission's PLAN 2040, specifically its Regional Resource Plan, represents a regional planning approach that addresses sustainability challenges for Atlanta. The plan recognizes the region's historical growth trends and seeks to encourage more sustainable ways to accommodate another three million residents by mid-century.

A paradigm shift will be needed for the region to move forward, and sustainability actions at the district-scale will play a significant role in supporting the region's economy, environment, and residents. PLAN 2040 provides residents of Metro Atlanta with increased opportunities to live, learn, work, and play in an evolving metropolitan area. The goals of the plan are to serve the people, engage community, enhance mobility, preserve the environment, and expand the economy. These objectives will enhance the sustainability of the region for decades to come.

CITY OF ATLANTA POWER TO CHANGE

Issues of growth, land and resource use, transportation, and development must also be addressed at the municipal scale. Often, it is easier to enact change at a municipal level than regionally, because of increased complexities in governance and scope. The City of Atlanta and Mayor Kasim Reed are addressing these issues with the Power to Change plan. This plan outlines objectives for the City of Atlanta to integrate sustainability into its operations and infrastructure with the goal of becoming one of the "Top Ten" sustainable cities in the nation.

The Mayor's Office of Sustainability is charged with implementing Power to Change and engaging all relevant stakeholder groups to ensure that they balance economic growth with environmental protection, while taking care not to disenfranchise low-income communities. Power to Change seeks to reduce greenhouse gas emissions 25 percent by 2020, reduce residential waste 30 percent by 2013, provide a minimum of ten acres of green space per 1,000 residents, restore the tree canopy to 40

percent coverage, reduce municipal energy use 15 percent by 2020, use renewable energy to generate 5 percent of municipal demand by 2015, and make local food available within ten minutes of 75 percent of all residents by 2020.

The City of Atlanta, in partnership with a variety of private and public sector stakeholders including Midtown Alliance, has launched the Atlanta Better Buildings Challenge, an initiative to help commercial real estate facilities reduce energy and water use by 20 percent by 2020. The Better Buildings Challenge, along with various neighborhood and community-based sustainability initiatives, assists the City in achieving the goals set forth in Power to Change.

VISION FOR A MIDTOWN ECODISTRICT

Atlanta's sustainability challenges highlight the need for a new approach to sustainable building and design at the community and neighborhood scale. Renewed interest in locally defined and implemented sustainability efforts is evidenced by growing participation, both nationally and internationally, in programs such as the U.S. Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Development (LEED ND) program and the Portland Sustainability Institute's (PoSI) EcoDistrict Initiative. PoSI defines an ecodistrict as "a neighborhood or district with a broad commitment to accelerate neighborhood-scale sustainability. EcoDistricts commit to achieving ambitious sustainability performance goals, guiding district investments and community action, and tracking results over time." Midtown Alliance's mission and planning approach exemplify these characteristics, and as such, Greenprint Midtown uniquely positions the Midtown community as an ecodistrict.

Through implementation of Greenprint Midtown, Midtown Alliance will be able to define sustainability standards at the community level and realize its vision of an innovative, interconnected, resource-efficient EcoDistrict. The Midtown EcoDistrict will organize property owners within the area to take collective actions that reduce consumption of energy, water, and other resources, while simultaneously increasing market share and profitability. By leveraging partnerships, providing better measurements for success, and boosting marketing efforts, the Midtown EcoDistrict will also aid broader city and regional sustainability initiatives.

PLAN STRUCTURE

Following this chapter, Greenprint Midtown includes four sections and multiple appendices. The "Planning Approach" section summarizes the planning process, including the

community engagement activities, research, and assessments conducted to inform the development of the plan. The "Impact Areas" section of the plan is organized by topic and outlines general sustainability information, as well as strategies and specific program recommendations associated with each. The "Implementation" section discusses the projected timeline and outlines opportunities to execute the plan. The "Measurement & Reporting" section outlines future tracking and measurement methodologies and includes a chart of performance measures that will gauge the progress of Greenprint Midtown. Greenprint Midtown is accompanied by three appendices that are intended to document the planning process and provide resources to support implementation. These sections include: community engagement strategies, best practices, and barriers to implementation.

SECTION 2

planning approach

Greenprint Midtown was developed using a collaborative planning approach designed to capitalize on the technical expertise of industry professionals and to engage the broader Midtown community. This section outlines the comprehensive planning and assessment approach that was conducted between February and July 2012 which led to the final recommendations in the plan.

PROJECT LEADERSHIP

Midtown Alliance engaged a consultant team led by Southface Energy Institute to develop this report. Greenprint Midtown was guided by an Executive Advisory Committee and received valuable input from Technical Advisory Committee members dedicated to a more sustainable future for Midtown.

CONSULTANT TEAM

Midtown Alliance managed the overall planning process and retained consulting services from local and regional sustainability specialists to form the Consultant Team that conducted the majority of planning activities. The Consultant Team consisted of:

SOUTHFACE ENERGY INSTITUTE – Southface is an Atlanta based non-profit that promotes energy, water, and resource efficient workplaces, homes, and communities throughout the Southeast. Southface served as the project manager, implemented the community engagement process, and provided technical expertise in the areas of energy, water, and waste.

RENAISSANCE PLANNING GROUP – Renaissance is a planning, design, and policy analysis consulting firm with expertise in transportation, urban design, land use, technology, and sustainability. RPG served as the technical lead on transportation.

SUSTAINABLE ATLANTA – Sustainable Atlanta is a local non-profit that serves as a catalyst and facilitator for sustainable progress in Atlanta. Sustainable Atlanta served as the liaison to broader city and regional sustainability initiatives, assisted with identifying barriers to implementation and project replication opportunities.

EXECUTIVE ADVISORY COMMITTEE

An Executive Advisory Committee (EAC) was formed to provide executive level guidance and direction for the planning process. The ten-member committee was comprised of Midtown Alliance and Midtown Improvement District board members, as well as other community leaders interested in advancing sustainability in Midtown. The EAC convened at key points throughout the process.

TECHNICAL ADVISORY COMMITTEE

A Technical Advisory Committee (TAC) was organized to engage approximately thirty-five industry professionals with expertise in particular sustainability topics, including energy, water, open space, transportation, and waste. TAC members helped develop, vet, and prioritize the strategies and programs outlined in this report. TAC members attended a webinar orientation in early April 2012 and met primarily via conference call on an ongoing basis throughout the planning process.

PLANNING AREA

The focus of Greenprint Midtown centers on the Midtown Core which generally mirrors the Midtown Improvement District (MID) boundary, where Midtown Alliance has a long history of successfully working with local property owners, businesses, institutions, and residents. Where necessary or appropriate, the scope of analysis was expanded beyond the Midtown Core to embrace greater Midtown. Midtown Alliance sees Greenprint Midtown as providing the framework for creating an EcoDistrict that emanates from the core of Midtown. The Midtown EcoDistrict would not have a prescribed boundary but is envisioned to embrace the larger Midtown community.

The planning area includes approximately:

- 850 acres over 118 blocks
- 24 million square feet of office space
- 1 million square feet of restaurant/retail space
- 12,000 multifamily residential units
- 4,000 hotel rooms

IMPACT AREAS

Sustainability is commonly defined as meeting the needs of the present without compromising the ability of future generations to meet their own need. For Midtown, this means creating a place where businesses can be successful, people have opportunities and are healthy, and our air, water, and land is clean. The specific needs of a community dictate the necessary focuses for an effective local sustainability plan. To help define the appropriate areas of focus for Greenprint Midtown, Midtown Alliance and the Consultant Team evaluated the mission and capacity of the Midtown Alliance, the unique characteristics of Midtown, other local sustainability planning efforts including the City of Atlanta's Power to Change, [1] the Atlanta Regional Commission's Plan 2040 [2], and the ecodistrict planning process developed by the Portland Sustainability Institute. The result of that analysis identified five areas of focus, or Impact Areas that fit within the mission of Midtown Alliance and in most cases builds off of an existing role. The five impact areas are as follows:

Energy Transportation Water Waste Open Space

[1] City of Atlanta. 2011. "Power to Change." Available at : http://atlantasustainabilityweek.org/ATLSustainPlan.pdf (Accessed June 2012)

[2] Atlanta Regional Commission. 2011. "Plan 2040." Available at: http://documents.atlantaregional.com/plan2040/ARC-PLAN2040report_web.pdf (Accessed June 2012)

These five Impact Areas provide the best opportunity for Midtown Alliance to have a direct impact on sustainability outcomes in the District. Transportation and open space programs are a strong fit with Midtown Alliance's long history of success with infrastructure development, greenspace planning and development, pedestrian-friendly streetscapes, and public safety programs. Many of the outreach functions that Midtown Alliance currently provides to businesses in the District in the areas of transportation demand management could be easily expanded to encompass similar concepts of conservation and efficiency in the areas of energy, water, and waste.

COMMUNITY VISIONING AND ENGAGEMENT

Community engagement strengthens planning processes by including all relevant stakeholders in the project. It ensures that the needs of community are being incorporated in plan development, it helps to build a "coalition of the willing," and it opens up opportunities for ongoing partnerships. Building on the success of the Blueprint Midtown process, Midtown Alliance remained committed to collaborative community engagement during the development of Greenprint Midtown and incorporated several opportunities for open dialogue and input.

The Stakeholders

Midtown employers, property owners, residents, workers, visitors, and City and regional leaders helped define the vision and planning priorities for Greenprint Midtown. Community feedback was gathered through public meetings, multiple surveys, social media outlets, and one-on-one discussions.

Kick-Off Meeting

Midtown Alliance hosted a kick-off meeting on March 1, 2012 to introduce the project to the Midtown community and gather "out of the gate" ideas and comments. Over 200 attendees rep-

resenting diverse interests in Midtown learned about the goals of Greenprint Midtown and provided valuable and informative feedback on their visions for community sustainability. Public comments and suggestions were recorded at the meeting to inform later steps of the planning process; ideas and questions from participants heavily influenced questions asked in follow-up surveys. A summary of feedback from the kick-off meeting is provided in Appendix A.

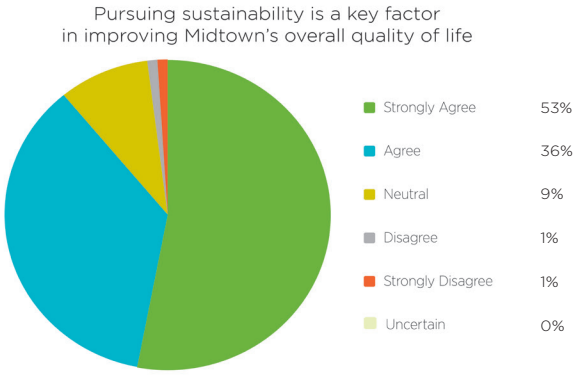
Community Survey

Midtown Alliance invited further input through an online community survey that was available for eight weeks from late March 2012 through early May 2012. Over 600 respondents provided feedback and information on their current level of activity, their interests, motivations for taking personal sustainability actions, and their ideas for community-level programs and outcomes. The survey indicated strong buy-in from the Midtown community on sustainability; recognizing that sustainability is key to Midtown's economic success and its quality of life. The survey also revealed opportunities for education and incentives to further actions in homes and workplaces. A summary of the community survey results is provided in Appendix A.

Interactive Visioning Session

The public was invited to engage more deeply in the planning process at the Interactive Visioning Session hosted on April 17, 2012. Approximately 100 attendees participated in five rounds of facilitated discussions and provided feedback on specific sustainability strategies for the five Impact Areas. Feedback from participants was largely positive and affirmed that the proposed strategies were appropriate and necessary for advancing sustainability in Midtown. With a di-

Image 1: Visualization of Public Feedback on Water

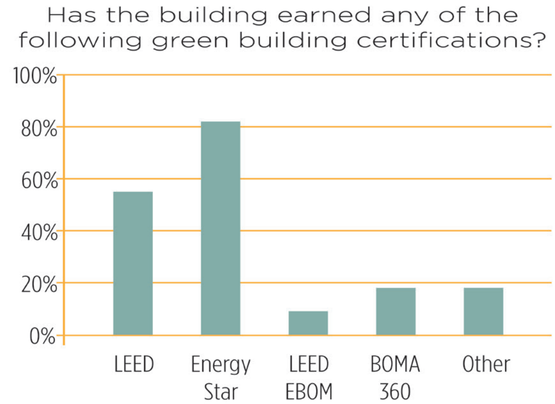


verse group of people, it was an opportunity to educate, learn, and listen. Presentation materials from the Visioning Session and a summary of feedback received are included in Appendix A.

Building Owners and Managers Survey

Building owners and property managers are an important interest group to the Greenprint Midtown process due to their ability to implement building-level projects and practices. They also offer a communications channel to the employers and employees in Midtown. Midtown Alliance capitalized on their relationships with local owners to gain important baseline information on sustainability assets and practices already in place in Midtown. The Consultant Team used these responses to inform and develop recommended strategies and programs for each of the Greenprint Midtown Impact Areas.

In late March, 2012, Midtown Alliance solicited input and information from building owners and managers through an online survey to gather building-specific data and better understand the existing level of participation in sustainability measures in Midtown buildings as well as their level of interest in education and training opportunities. The survey indicated that many buildings are developing and/or actively implementing sustainability projects or programs and are engaging tenants in them. Aggregated survey results are included in Appendix A.



Restaurant Survey

Midtown Atlanta has a particularly high concentration of restaurants which make a significant contribution to the local economy and quality of life. Restaurants also happen to be large consumers of water and energy and generis important to better understand their current sustainability practices and willingness to adopt new practices. The survey conducted of restaurants in Midtown revealed that less than half of respondents currently have a comprehensive recycling program and a high percentage of respondents were unsure about the status of water efficient fixtures in their facility. The survey results inform priority program recommendations and baselines for measurement and tracking. Aggregated survey results are included in Appendix A.

Multifamily Building Survey

Multi-family buildings are the predominant residential building type in Midtown Atlanta. A survey was conducted of multi-family buildings in Midtown Atlanta to better comprehend existing sustainability practices and their willingness to adopt new practices. Overall, the survey indicated that most buildings offered some type of recycling collection although many did not offer comprehensive recycling programs. Very few medium and small residential buildings participated in the survey so additional research needs to be conducted in the future. Aggregated survey results are included in Appendix A.

RESEARCH

In addition to the surveys, the Consultant Team conducted in-depth secondary research to develop specific recommendations for the Greenprint Midtown plan.

BEST PRACTICES

Best practices were identified and documented to support the development and implementation of Greenprint Midtown programs. The following research was conducted to develop best practices:

- Code and Ordinance Review
- Assets Research
- Metrics Research
- Sustainability Plan Evaluation
- Personal Consultation and Interviews
    - City of Atlanta Office of Sustainability
    - City of Atlanta Department of Planning and Community Development
        - Office of Buildings
        - Office of Planning
    - City of Atlanta Department of Watershed Management
        - Office of Water Efficiency
        - Bureau of Watershed Protection
- Better Buildings Challenge – U.S. Department of Energy
- Atlanta Better Building Challenge – City of Atlanta
- Portland Sustainability Institute

The best management practices identified through this research are referenced throughout the plan as appropriate; details are included in Appendix B.

BUILDING ASSESSMENTS

In addition to qualitative and best practices research, quantitative assessments at the building level are essential tools to determine the most effective building-level priorities for specific Impact Areas. Based on a listing of all buildings in the Midtown Core, the Consultant Team developed a representative sample of Midtown's building stock and performed building assessments with each to better understand energy and water use. Assessments were conducted in the following building types:

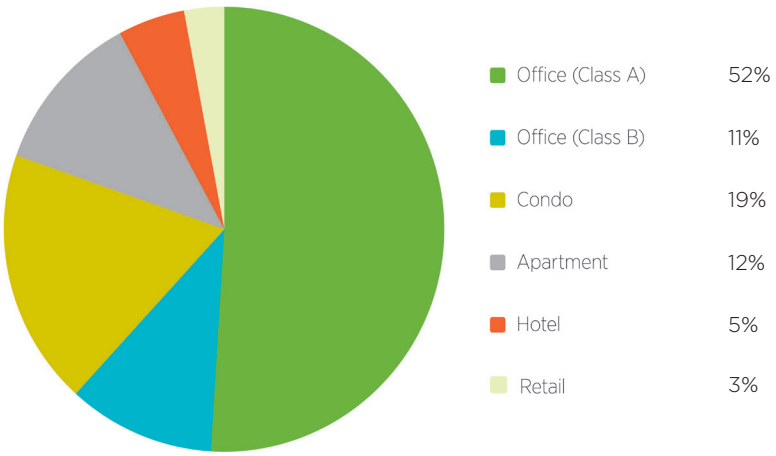
- Class A Office Building (3)
- Class B Office Building (1)
- Multi-family Residential Condo Buildings (2)
- Multi-family Residential Apartment Building (1)
- Hotel (1)
- Restaurant (1)

Individual building assessments provided:

- An on-site inspection of the building envelope and all energy and water systems
- A detailed analysis of where energy and water dollars are currently being spent
- Recommendations for cost-effective operational and capital improvements, both small and large-scale
- An evaluation of potential operational savings that will result from capital improvements and the implementation costs.

Results of the nine building assessments and a building characterization for Midtown are provided to Midtown Alliance as a separate deliverable.

Building type by total S.F. in Midtown



STRATEGY AND PROGRAM DEVELOPMENT

Community engagement, research activities, and input from technical experts were used to inform and develop a suite of sustainability strategies and programs that form the basic framework of Greenprint Midtown. For purposes of this plan, "strategies" are viewed as broadly defined initiatives designed to achieve the overall sustainability goals for the District. The strategies that were developed provide the basis for program development and are broad enough that future programs could be developed from them. Tier 1 or "priority" programs outline immediate and near-term actions Midtown Alliance will undertake to address local challenges within each Impact Area.

REVIEW PROCESS

The Coordinating Team applied a multi-step review process to develop general sustainability strategies and identify specific programs and projects that will be the most impactful for Midtown:

STEP 1: Community engagement activities and research used to develop more than sixty sustainability strategies.

STEP 2: Consultant Team and Midtown Alliance filtered list to remove strategies deemed infeasible or unlikely to result in successful outcomes.

STEP 3: Executive Advisory Committee and Technical Advisory Committee input used to develop specific programs and projects from list of strategies.

STEP 4: Consultant Team applied evaluation criteria to the list of recommended programs to select the final priority programs that are presented in detail in the following section of this plan.

PROGRAM EVALUATION CRITERIA	
Environmental Benefit • Protects or enhances natural resources	Likelihood of Success • Support for program/project • Willing partners • Valued by those implementing • Identified funding source • Not cost prohibitive to implementer
Community Benefit/Livability • Enhances quality of life • Offers opportunities for ongoing participation	Cost to Midtown Alliance • Staff and non-staff costs
Educational/Awareness Benefit • Provides opportunities for visibility • Presents Midtown as a leader • Ability to be replicated	Time to Deliver • How quickly to start • How quickly to complete

SECTION 3

impact areas

In this section, the results of research and the development of strategies and ultimately programs are presented for each of the five Impact Areas - Energy, Transportation, Water, Open Space, and Waste.

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The following framework is outlined for each Impact Area:

Overview: The overview provides the context and reasoning behind the development of particular strategies and programs.

Midtown Assets: Assets describes infrastructure and/or programmatic elements already present in the District that support the goals of the Impact Area.

Strategies: Broad initiatives that serve to realize the Impact Area goals. Strategies factor in local conditions and needs and were developed from technical expertise, best practices research, and the public engagement process. They form the foundation for program development.

Programs: Specific building-scale and District-scale programs that relate back to a Strategy and ultimately help to achieve Impact Area goals. The following information is outlined within each recommended Program:

- Description: Outlines the elements of the Program and defines Midtown Alliance's role.
- Potential Implementation Partners & Resources: Local organizations already working on similar initiatives that may provide programmatic support or serve as a resource.
- Impact: Potential environmental, community, and economic effects of the Program.
- Cost & Potential Funding: General estimates of costs to the Midtown Alliance and potential sources of funding.
- Challenges & Potential Solutions: Barriers to success and potential strategies to overcome them.
- Tracking and Measurement: Metrics define what is being measured, baselines establish existing conditions, and targets provide quantifiable goals that are time bound.

“Put simply, the market will ultimately favor the greenest buildings in the greenest locations in the greenest cities.”

- Edward McMahon, Senior Resident Fellow, ULI/Charles E. Fraser Chair for Sustainable Development and Environmental Policy

3.1 Energy

ENERGY OVERVIEW

Midtown's economic growth and quality of life depends on reliable and affordable energy - to keep buildings comfortable, to move trains and cars, to manage traffic, and to keep Midtown streets and sidewalks safe. With over 24 million square feet of office space, 12,000 residential units, 4,000 hotel rooms, and 1 million square feet of retail and restaurants, Midtown is a significant user of energy. Georgia's relatively hot, humid climate combined with few regulatory or price incentives result in higher than average energy use per capita state-wide as compared to the national per capita average. In fact, according to the American Council for an Energy-Efficient Economy (ACEEE), in 2011 Georgia ranked 36th among all states for energy efficiency.

However, residents of dense, mixed-use urban communities like Midtown use considerably less energy per capita than those living in suburban or rural locations. [1] Residential towers with smaller living spaces are more efficient to heat and cool. Easy access by foot to nearby services and workplaces means less energy use due to fewer car trips.

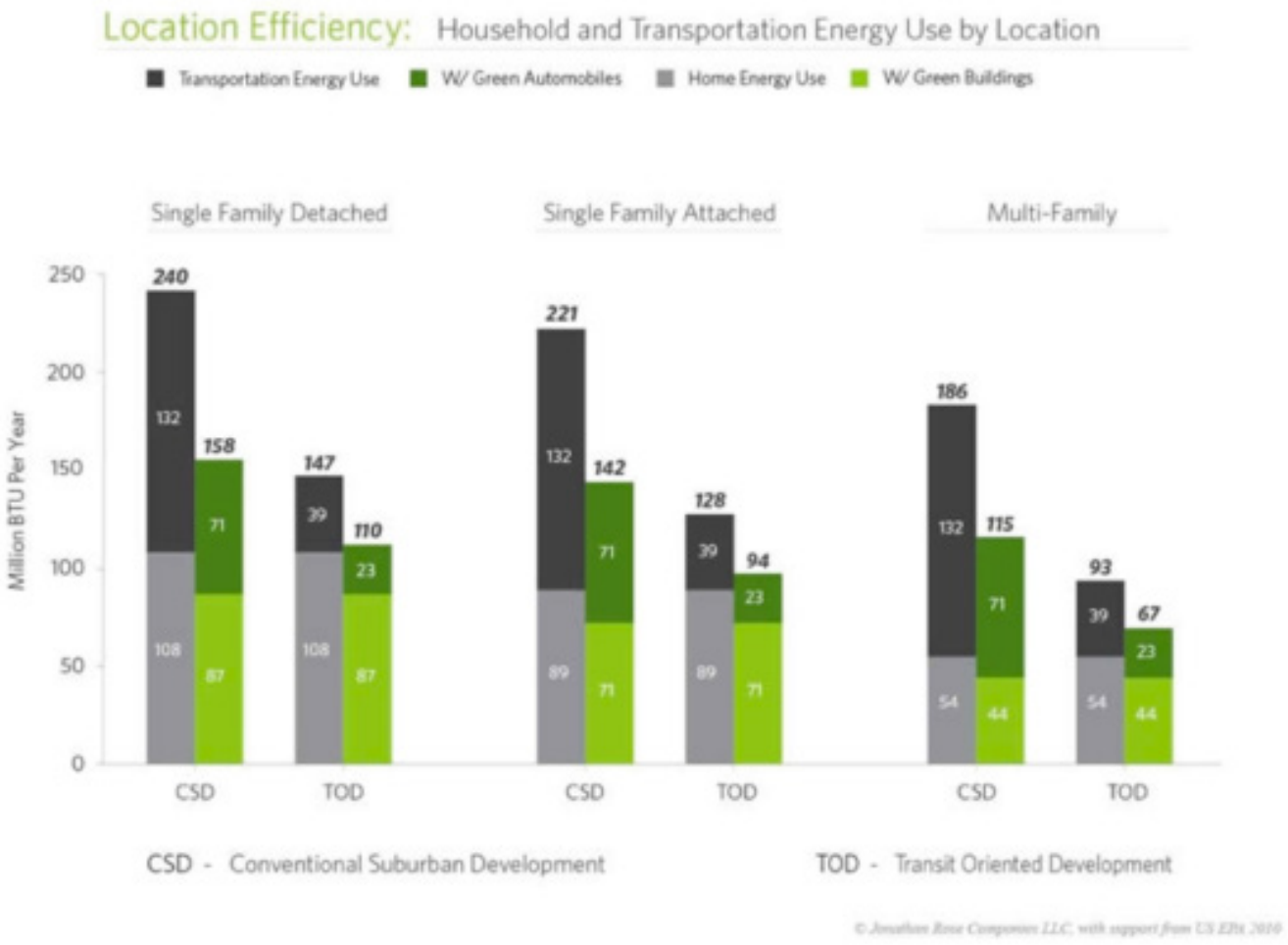
Midtown's commercial and institutional buildings have made significant strides in becoming more energy efficient as evidenced by the trend in green building certification programs such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) and the U.S. Environmental Protection Division's Energy Star certification. Eight (8) of the last ten (10) buildings developed in Midtown are LEED certified and many buildings are now seeking LEED for Existing Buildings certification. In 2011, EPA's list of cities with the most Energy Star certified buildings ranked Atlanta 3rd behind Los Angeles and Washington DC. Since 2005, 17 office buildings in the Midtown Core have received the Energy Star designation.

[1] Edward L. Glaeser, "Green Cities, Brown Suburbs," City Journal. Vol. 19, No. 1. 2009

ENERGY GOALS

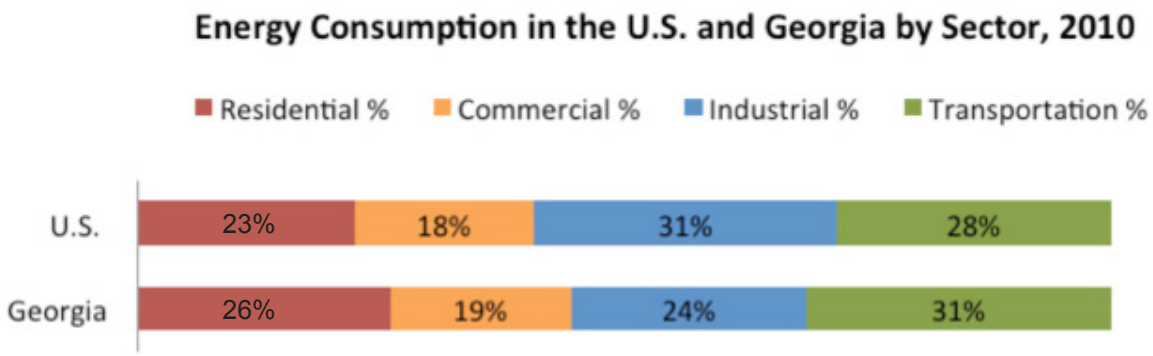
- Promote energy conservation, energy efficiency, and renewable energy
- Reduce energy use by minimizing demand
- Reduce reliance on fossil fuels

Energy improvements have also recently been made in the public realm in Midtown. In 2010, Midtown Alliance implemented a project with funding from the Midtown Improvement District (MID), Georgia Department of Transportation (GDOT), and the U.S. Department of Energy (DOE) to retrofit 542 traffic signal heads and 577 pedestrian signal heads with high efficiency, long-lasting light emitting diodes (LED). Over the lifespan of the LEDs, this upgrade is expected to reduce energy use by over 30 gigawatts and reduce carbon emissions by 22,000 tons. This project has improved performance and safety, and has reduced City energy and maintenance costs.



It is estimated that by 2020, the United States could reduce annual energy consumption by 23 percent from a business as usual projection by deploying an array of energy efficiency measures that overcome existing barriers.[2] While there is a heightened awareness and a trend nationally toward becoming more energy efficient and reducing energy consumption, significant opportunities exist in Midtown to accelerate the pace of adoption and enhance an existing strength. By doing so, Midtown building owners, businesses, and residents can lower operating costs, improve public and environmental health, increase energy security, increase property values, and improve performance. Midtown Alliance can help to achieve this goal by implementing programs that promote reduced energy consumption, increasing awareness of the benefits of conservation and efficiency, linking retrofit projects with creative financing mechanisms, and continuing investments in energy efficiency in the public right of way.

[2] McKinsey & Company. 2009. "Unlocking Energy Efficiency in the U.S. Economy." Retrieved from: http://www.mckinsey.com/client_service/electric_power_and_natural_gas/latest_thinking/unlocking_energy_efficiency_in_the_us_economy (Accessed July 2012).



Source: U.S. Energy Information Administration – State Energy Data System. Energy Consumption Overview: Estimates by Energy Source and End-Use Sector, 2010. [3]

CHALLENGES

Buildings consume nearly half of all energy produced in the United States and are responsible for almost half of U.S. CO_2 emissions. Here in Georgia, commercial buildings use about 14 percent more electricity than the national average, and residential buildings use about 25 percent more than the national average.[4] This differential is primarily due to a hot and humid climate, previously weak energy efficiency codes, lack of public awareness, and perhaps most importantly, a lack of economic incentive due to Georgia's relatively low energy prices.

While Georgia Power's parent company, Southern Company, is increasing its portfolio of natural gas fired generation and investing in small renewable energy projects, coal remains the predominant fuel source for electricity generation in Georgia. In 2010, over 95 percent of all electricity generated in Georgia was from imported, non-renewable energy sources.[5] Georgia is one of just 17 states that does not currently have a renewable portfolio standard (RPS) requiring a certain percentage of electricity to be generated from a renewable energy source.

[3] Energy Information Administration. 2012. " National figures from EIA Annual Energy Review." Retrieved from:http://www.eia.gov/totalenergy/data/annual/index.cfm#consumption (Accessed July 2012). Georgia figures from EIA State Energy Data System for Georgia. 2012. Retrieved from: http://www.eia.gov/state/state-energy-profiles-data.cfm?sid=GA#Consumption (Accessed July 2012).

[5] Energy Information Administration. 2012. " Table 5A. Residential Average Monthly Bill by Census Division, and State." http://www.eia.gov/electricity/sales_revenue_price/html/table5_a.html. (Accessed July 2012). Table 5B. Commercial Average Monthly Bill by Census Division, and State.2012.Retrieved from: http://www.eia.gov/electricity/sales_revenue_price/html/table5_b.html (Accessed July 2012).

[5] U.S. Energy Information Administration. 2012. "Georgia Energy Profile 2010. 'Table 5. Electric Power Industry Generation by Primary Energy Source, 1990 Through 2010'." Retrieved from: http://www.eia.gov/electricity/state/georgia/xls/sept05ga.xls (Accessed July 2012).

Reliance on fossil fuels, particularly imported non-renewable sources such as coal, results in environmental, economic, and social impacts. The burning of coal for fuel has well-documented negative impacts to air, water, and land. Its combustion contributes to atmospheric emissions of pollutants like mercury, lead, nitric oxides, sulfur dioxides, and carbon dioxide and is the main contributor to Atlanta's frequent ground level ozone violations. [6] Furthermore, coal and nuclear plants require massive amounts of water to generate power. Georgia's electricity sector withdraws more water from our rivers than any other sector of our economy. Since Georgia imports almost all of its primary energy from other states such as Kentucky and West Virginia and from countries such as Columbia, Egypt and Nigeria, [7] [8] about half of what consumers pay for electricity leaves the state. Importing energy also makes the State especially vulnerable to energy supply disruptions.

Historically, Atlanta has benefitted from Georgia's comparatively low energy prices. However, prices for electricity have been on the rise in recent years. Between 2005 and 2011, Georgia Power residential rates increased 54.5 percent per kilowatt hour and commercial rates increased by 38.7 percent per kilowatt hour.[9] These rate hikes are primarily the result of system upgrades such as nuclear plant construction, conversion to natural gas generation, and distribution grid improvements. [10] These are long-term projects and the associated price increases from the capital investments will be experienced over many years. Fortunately, fuel costs have recently declined but do not come close to offsetting the capital cost increases.

While investing in energy efficiency in buildings has proven to be a cost-effective way to lower energy costs, access to capital continues to be a limiting factor, particularly for smaller commercial buildings. Building operating funds are typically not adequate to finance meaningful energy retrofits and many commercial lenders are reluctant to provide funding for building retrofits with payback beyond three years.[11]

[6] EPA. Environmental Protection Agency. 2012. "Coal." Retrieved from: http://www.epa.gov/cleanenergy/energy-and-you/affect/coal.html (Accessed July 2012).

[7] EIA. Energy Information Administration.2011. "Annual Coal Distribution Report 2010." Retrieved from: http://www.eia.gov/coal/distribution/annual/pdf/acdr_fullreport2010.pdf (Accessed July 2012).

[8] EIA. Energy Information Administration.2012. "Georgia International and Interstate Movements of Natural Gas by State." Retrieved from: http://www.eia.gov/dnav/ng/ng_move_ist_a2dcu_sga_a.htm (Accessed July 2012).

[10] Georgia Power. 2012. "Residential Rates and Service." Retrieved from: http://www.georgiapower.com/pricing/files/rates-and-schedules/2.10_R-18.pdf (Accessed July 2012).

[10] Georgia Power.2012. "Residential Rate Advisor." Retrieved from: http://www.georgiapower.com/pricing/residential/pricing/get-the-facts.asp (Accessed July 2012).

[11] Climate Change, Land Use, and Energy 2010. Urban Land Institute. Retrieved from: http://www.uli.org/~/media/Documents/ResearchAndPublications/Reports/Sustainable%20Development/2010CLUE.ashx (Accessed July 2012).

OPPORTUNITIES

Commercial building energy efficiency retrofits provide the best opportunity to reduce energy demand and lower energy costs. Given the challenges associated with energy generation and distribution along with the reduction in energy demand resulting from efficiency measures, Midtown can consider energy efficiency an investment in local, sustainable energy sources. With energy costs expected to continue to rise even further, energy efficiency strategies will result in higher returns on investment than in the past and continued rate increases will make those investments even more valuable over time. Based on an analysis by the American Council for an Energy Efficient Economy (ACEEE), the average utility cost for efficiency in the U.S. is 2.5 cents per kilowatt hour.[12] This is considerably lower than the cost of obtaining electricity from any other energy source.

Energy efficiency measures are a particularly cost-effective option for commercial building owners. Urban Land Institute's 2009 Climate, Land Use, and Energy report found that major investors, bankers, and asset managers are all now looking at energy efficiency as they underwrite new acquisitions and investments. While the market is responding as evidenced by the significant growth in LEED and Energy Star certified buildings, many cities are taking more aggressive steps to accelerate efficiency and meet sustainability goals through stronger energy codes, legislation that mandates green building certification, energy use disclosure, energy audits, and retro-commissioning (an engineering practice that ensures a building is operating at peak performance for its current use and equipment).

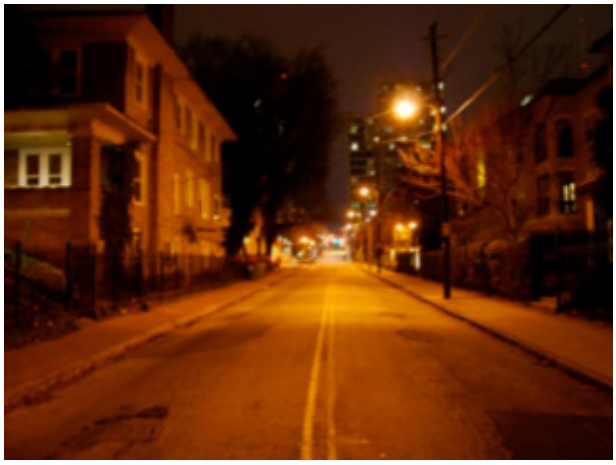
Businesses and residents, the users of buildings, are key contributors to the amount of energy consumed in a building. Their behaviors – whether they leave lights on, turn computers off, pull shades down, install efficient lighting, purchase efficient equipment – often dictate the energy performance of a building. This fact reveals a significant opportunity for Midtown Alliance to actively engage businesses and residents in education and awareness strategies that focus on reducing energy consumption.

There are distinct opportunities to reduce energy usage in public spaces such as Midtown's recent transition to LED bulbs in traffic and pedestrian signals. Nationally, 22 percent of all energy generated is used for lighting with eight (8) percent of that used for public outdoor lighting.[13] The electricity used to power streetlights can represent a significant portion of a city's power bill as well as a major source of greenhouse gas (GHG) emissions. Replacing streetlights and other public space lighting with more energy efficient lamping can be an important and cost-effective strategy for reducing energy and maintenance costs, improving public safety through better visibility, and reducing GHG emissions. The technology for high efficiency

[12] Friedrich K., M. Eldridge, D. York, P. Witte, and M. Kushler. 2009. "Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved through Utility-Sector Energy Efficiency Programs." Retrieved from: http://www.aceee.org/research-report/u092 (Accessed July 2012).

[13] Hartley D, Jurgens C, Zatcoff E, and Bilec M, Marriott J (advisors). 2009."Lifecycle Assessments of Streetlight Technologies" University of Pittsburgh, Pittsburgh PA. Retrieved from: www.pitt.edu/news2010/Streetlight_Report.pdf (Accessed July 2012).

street lighting, LEDs in particular, is rapidly advancing and costs are dropping significantly. A successful small scale demonstration project was conducted on 8th Street between Piedmont Avenue and Juniper Street in 2011 by Georgia Power where the existing high pressure sodium lamps were replaced with LEDs. Upgrades to lighting should be routinely incorporated into Midtown Alliance's capital improvement projects – particularly within streetscape projects and when developing pocket parks and other public spaces.



Traditional Lighting

LED Lighting

Looking longer term, there are a number of technologies and ideas that Midtown could benefit from in the energy sector. Midtown is uniquely positioned to benefit from the pairing of information technology and energy distribution. Often called "smart grid," the technology allows consumers greater control of their energy consumption and energy producers more reliability and efficiency in their distribution grid. The high speed communications installations at Technology Square showcase the possibilities of smart grid. By actively monitoring and managing energy demands of building equipment, managers can take advantage of the variety of utility pricing structures such as "time of use" and "critical peak pricing." Smart grid technology will also allow greater adoption of renewable energy supplies, district energy solutions and peak shaving technologies. With more information, utilities are able to forecast demand at a smaller scale, theoretically allowing them to model the economics of smaller scale generation technologies such as photovoltaic solar, micro turbines powered by natural gas and energy storage technologies that reduce peak demand such as ice storage. Further, despite Midtown's dense urban development, many underutilized land tracts remain. Continued development of large scale projects creates the opportunity for district energy solutions where multiple buildings share an energy generation station. Midtown Alliance could facilitate the regulatory and financing changes necessary to expand implementation of these technologies.

MIDTOWN ENERGY ASSETS

Midtown has a number of existing energy assets that are described below and shown in the Energy Asset Map below.

Energy Star Certified Buildings – 17 buildings in Greater Midtown representing 9.5 million square feet of space have been certified as Energy Star buildings since 2005. Energy Star certified buildings typically use 35 percent less energy than average buildings and cost 50 cents less per square foot to operate. Midtown buildings certified for 2012 had an average score of 88.1 meaning they are in the top 12 percent for energy efficiency in the nation compared with similar buildings.

LEED Certified Buildings – 23 buildings in Greater Midtown representing 8.7 million square feet of space currently meet the U.S. Green Building Council standards for design, construction, and operation. An additional 551,000 square feet of interior building space is LEED certified in Midtown. New LEED buildings typically use 25-30 percent less energy than the average use of all commercial buildings.

Renewable Energy Installations – Four (4) buildings in Greater Midtown and one (1) in the Midtown Core employ solar photovoltaic panels to generate electricity.

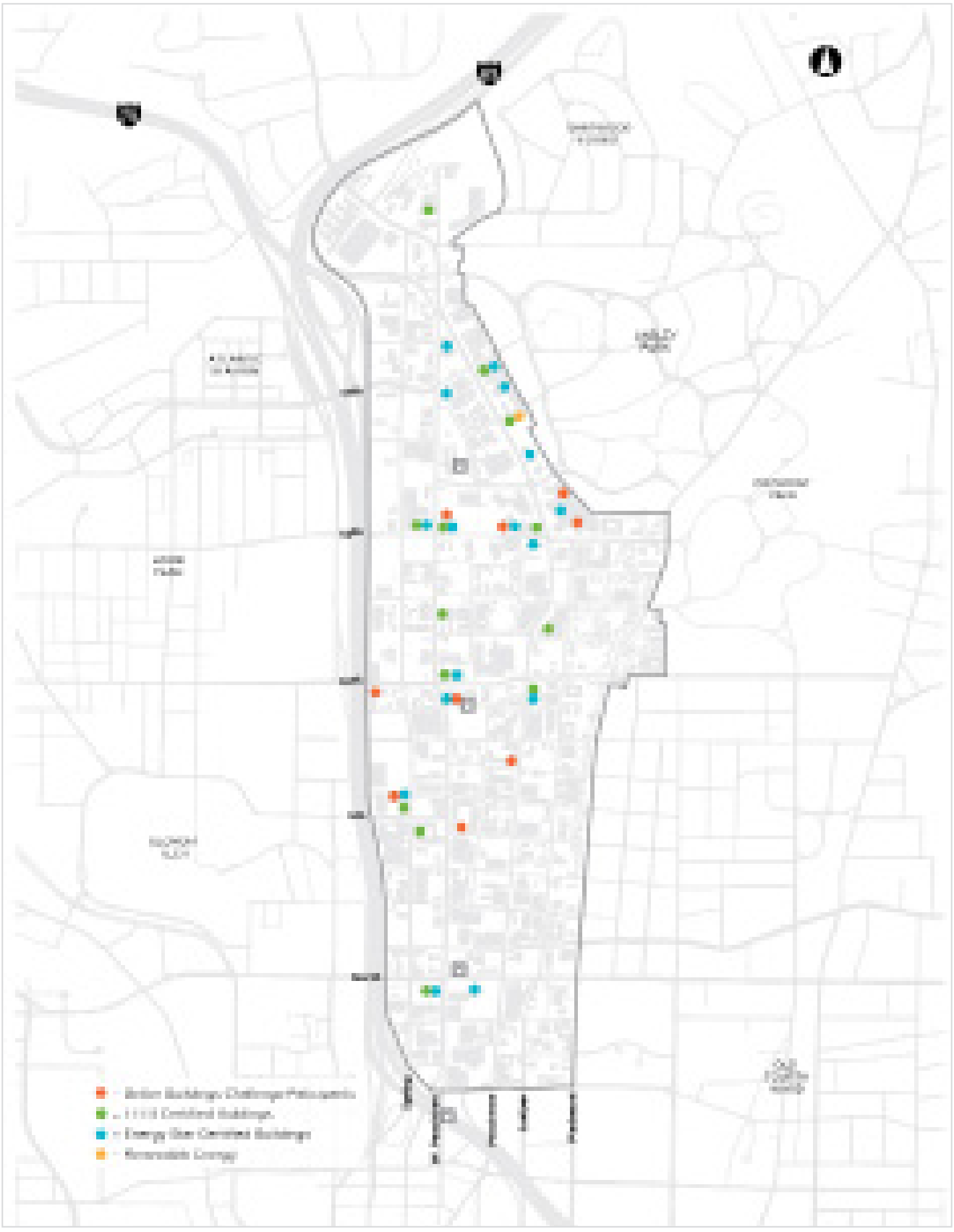
Efficient Lighting in Public Spaces – Traffic and pedestrian signals at 90 Midtown intersections use LED bulbs. Environmental lighting at the Jamestown Community Greenspace also use LED lights.

Electric Vehicle Charging Stations – Six (6) buildings in Midtown have installed electric vehicle charging equipment that can provide charging for a total of 22 vehicles.

Atlanta Better Buildings Challenge Participants – 15 buildings in Greater Midtown representing over 5.7 million square feet of space are currently participating in the Atlanta Better Buildings Challenge. These buildings have committed to implementing building upgrades that result in a 20 percent decrease in energy and water use by 2020.

Georgia Energy Challenge – 15 facilities in Midtown have pledged to participate in this state-wide program. The Georgia Energy Challenge is a program of the Georgia Environmental Finance Authority that encourages businesses and state agencies to commit to a 15 percent energy use reduction by 2020.

[14]Turner C, Frankel M. 2008. "Energy performance of LEED® for New Construction Buildings. New Buildings Institute." Retrieved from: www.newbuildings.org (Accessed July 2012).



ENERGY STRATEGIES & PROGRAMS

Through the Greenprint Midtown planning process, the following Energy strategies were developed and guided the selection of both Tier 1 (priority) and Tier 2 programs/projects. In the future, additional programs and projects can be developed from these strategies.

STRATEGIES

ES1: Promote energy conservation through increased awareness
ES2: Promote energy efficiency in the public and built environment
ES3: Encourage use of alternatively fueled vehicles
ES4: Increase awareness of renewable energy options
ES5: Remove barriers to energy efficiency and conservation

TIER 1 PROGRAMS/PROJECTS

The following Tier 1 programs and projects were identified as priorities and are described in more detail in the next section.

EP1: Energy Efficiency and Conservation in Buildings
EP2: High Efficiency Public Spaces Lighting Retrofit Program

TIER 2 PROGRAMS/PROJECTS

EP3: Renewable Energy Demonstration Project: While the cost of renewable energy is dropping significantly, installations in buildings are best reserved for high performance buildings wishing to approach net-zero energy use. However, Midtown should pursue installation of a renewable energy demonstration project in a highly visible public location for the benefit of increased public awareness.

EP4: Alternative Fuel Vehicle Infrastructure: Alternatively fueled vehicles, particularly electric vehicles, will comprise 20% of worldwide auto sales by 2020. Installation of fueling infrastructure in the near future will facilitate adoption of these more efficient vehicles when they are readily available.

EP5: Multi-Building (District) Energy Feasibility: The efficiency and environmental benefits of district energy solutions are widely recognized. However, regulatory and financing barriers exist. Convening a committee of experts and commissioning a study will help identify solutions appropriate for Midtown.

TIER 1 ENERGY PROGRAMS

EP1: ENERGY EFFICIENCY AND CONSERVATION IN BUILDINGS

Description

The Greenprint Midtown planning process identified a clear opportunity to improve energy efficiency and reduce energy consumption in the built environment through a comprehensive program of awareness, education, and promotion. The Energy Efficiency and Conservation in Buildings Program calls for Midtown Alliance to take an active role in the ongoing Atlanta Better Buildings Challenge (ABBC) and to promote additional resources that encourage energy savings.

ABBC is a national program of the U.S. Department of Energy (DOE) launched by President Obama in 2011 that asks participants to commit to implementing building retrofits that result in a 20 percent reduction in energy and water use by 2020. [15] The City of Atlanta was selected as a participant and the Challenge launched in Downtown Atlanta to capitalize on the robust MUSH (municipal, university, school, and hospital) market. The program has been administered by Central Atlanta Progress (CAP), the community improvement district for Downtown Atlanta. Midtown Alliance signed on as a founding partner in April 2012 and immediately began recruiting Midtown buildings to participate in the program. In exchange for their commitment, building owners receive a complimentary energy and water audit, a detailed report that identifies opportunities for achieving the 20 percent reduction, connections to local vendors and financing options, training opportunities, and recognition as a leader in energy efficiency in the District. Results from a similar program for Atlanta non-profit organizations indicate savings between four and eight percent are possible from the process of assessment and operational changes alone.

[15] Atlanta Better Buildings Challenge. 2012. Retrieved from: www.atlantabbc.com (Accessed July 2012).

The goals of this program are to create a higher level of awareness on the benefits of energy efficiency and conservation, accelerate the existing pace of retrofits, and spur interest and investments in deeper energy retrofits. Midtown Alliance will focus on the following initiatives and services to achieve these goals:

- Atlanta Better Buildings Challenge (ABBC) – Midtown Alliance will aggressively promote ABBC to Midtown building owners and managers through the following activities:

    - Recruit and gain commitments of Midtown buildings – ideal candidates include office buildings, hotels, hospitals, and retail buildings that haven't invested in building retrofits in at least 5 years
    - Educate participants on audit results, financing options, and best practices
    - Participate as a founding partner in committees and marketing activities of ABBC
    - Act as the program liaison for Midtown building participants
    - Track utility data through 2020
    - Publicize the program and Midtown participants through Midtown Alliance's communication channels

- Educate businesses, residents, and building managers that are not participating in ABBC about energy efficiency and conservation best practices such as Retro Commissioning

- Encourage the use of Energy Star Portfolio Manager to benchmark and track building performance

- Develop an energy baseline for Midtown and track progress over time

- Educate property owners and buildings managers about the energy efficiency financing options available to them with a specific focus on small to mid-size commercial buildings. Financing options include but are not limited to the following:

    - PACE – Property Assessed Clean Energy
    - Georgia Green Loans
    - Georgia Power EarthCents
    - Traditional Bank Loans
    - Revolving Loan Funds (RLFs)

IMPACT

Environmental Impact: Reducing fossil fuel combustion through energy efficiency decreases the release of harmful emissions. The ACEEE estimates that by achieving 15 percent electricity savings and 10 percent natural gas savings between 2010 and 2020, Georgia could reduce emissions of carbon dioxide by 15.2 million tons, the equivalent of taking approximately 2.8 million cars off of Georgia's roads.[16]

Community Impact: The Energy Efficiency and Conservation Program will establish Midtown as a leader in sustainable practices. The outreach initiatives within the Energy Efficiency and Conservation Program will widen the pool of potential participants and create a community more likely to implement similar measures in all aspects of their lives.

Economic Impact: Energy efficiency measures implemented at the building level will reduce operating costs and help to attract the expanding pool of tenants interested in sustainability. This program will also support many of the architecture and engineering firms that call Midtown home by expanding opportunities for additional business. Generally, businesses in this sector compete locally; therefore, money spent within the program stays local.

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- City of Atlanta: In addition to its policy and regulatory role, the City is the lead agency responsible for the Atlanta Better Buildings Challenge. The City provides leadership, communication, and access to national resources and best practices associated with the ABBC.
- Central Atlanta Progress: Is a founding partner of the ABBC and developed the existing program structure in partnership with the City of Atlanta.
- Southface: Provides free energy assessments as well as technical expertise via energy and water efficiency consulting to ABBC participants.
- Georgia Power: Sponsors the ABBC by providing free energy assessments, provides electricity usage data, and offers energy efficiency incentives through its EarthCents program.
- Atlanta Gas Light: Sponsors the ABBC by providing free energy assessments and provides electricity usage data.
- U.S. Department of Energy: Founder and administrator of the national Better Buildings Challenge program, provides technical expertise to the program, offers best practices from building participants, and markets the program nationally.

[16] Furrey, L. A., S. Nadel, and J. A. Laitner. 2009. "ACEEE | Laying the Foundation for Implementing A Federal Energy Efficiency Resource Standard." Retrieved from: http://www.aceee.org/research-report/e091 (Accessed July 2012).

COSTS & POTENTIAL FUNDING

Costs to support this program are primarily related to staffing allocations but also include marketing functions and utility tracking expenses. To effectively manage and grow Midtown's participation the ABBC (through 2020), promote energy efficiency resources, and track progress over time, Midtown Alliance should allocate ~25% of an existing Midtown Alliance staff member. This allocation will likely decrease as building participants move from the assessment phase to implementation. To track monthly utility data for Midtown participants, Midtown Alliance should budget $1,500/yr initially with a gradual increase in following years depending on the number of buildings participating.

While the BBC is a program of the U.S. DOE, there currently is no funding associated with participation. ABBC is currently supported through foundation grants, in-kind services, sponsorships, contributions from CIDs, and volunteers. As the ABBC program continues to grow in popularity, resource needs also grow.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Owners and managers of buildings that are already performing efficiently may be hesitant to commit to the ABBC due to costs of making deep retrofits.

> Potential Solution: The ABBC could be structured in such as way that recognizes those buildings that are already high performing. For example, ABBC could create another layer of recognition for those buildings that reach the highest levels of performance as measured in Energy Star. While these buildings may not be included in the data sent to U.S. DOE, they can still be recognized as making a commitment to energy and water efficiency. Midtown Alliance can also identify opportunities to recognize these high performing buildings in ways separate from the ABBC.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Atlanta Better Buildings Challenge		
Square Footage of Commercial Bldg ABBC Commitment	5.4 M	10 M Sq Ft by 2015
Green Building Certification[17]		
Square Footage of Green Certified Bldg	15.7 M	22M Sq Ft by 2020

[17] High-performance green building certification with third party or professional verification includes: LEED, EarthCraft, and ENERGY STAR

EP2: HIGH EFFICIENCY PUBLIC SPACE LIGHTING

Description

Switching from inefficient lighting to high efficiency lighting in public spaces like streetscapes, parks, and plazas provides a significant opportunity to reduce energy use, improve public safety, and reduce ongoing operational and maintenance costs. Communities and entire cities have begun to retrofit street lights with light emitting diodes (LEDs) with great success (see Best Practice in the Appendix). Currently, there are three different types of street lights in Midtown – Type A (tall pendant-style decorative fixture for lighting roadways), Type C (shorter acorn-style fixture for lighting sidewalks), and cobra heads (see figure 1) – and all use high pressure sodium (HPS) lamps. At present, retrofit options for cobra heads are readily available and cost-effective whereas those for Type A and C fixtures are still limited and expensive.

This program outlines two parts – replace existing cobra head lights with high efficiency lights as part of a future streetscape project and specify and install high efficiency lighting in existing and future parks and plazas. Midtown Alliance has developed a "green street" concept for Juniper Street between 14th Street and North Avenue that includes a barrier separated bicycle facility, wide sidewalks, a reduction in vehicular travel lanes, shade trees, and bioswales. This project was awarded a Livable Centers Initiative (LCI) grant through the Atlanta Regional Commission and is currently in the design phase. The current design calls for adding 65 cobra head street lights. Incorporating high efficiency lamps in the cobra head lights as an element of this project would add significantly to the "green street" concept and would be the City's first corridor with LED lighting. If proven successful, Midtown Alliance should explore opportunities to retrofit all cobra heads in Midtown with LED fixtures.

Figure 1 – Midtown Street Lights – Cobra head, Type A, Type C

As part of Midtown Alliance's efforts to add more active open spaces in Midtown, high efficiency lighting should be utilized whenever lighting is incorporated. Midtown's newest open space, the Jamestown Community Greenspace at 18th and West Peachtree Street, incorporates LED lighting for the fixtures designed to highlight the trees and landscaping.

This program includes the following activities:

- Partner with appropriate departments of the City of Atlanta and with Georgia Power to implement the high efficiency lighting project on Juniper Street and for future street lighting projects.
- Identify the appropriate lighting fixtures by utilizing the U.S. Department of Energy's municipal solid-state street lighting consortium. This online resource provides best practices, technical information, and a forum for learning from others.
- Identify funding to implement the program.
- Track energy savings as well as operation and maintenance costs savings. Track user satisfaction through a survey that asks about light quality and perceptions on public safety. This data should be used to inform future lighting retrofit projects.

IMPACT

Environmental Impact: The highest efficiency lighting product on the market is the LED light. Currently, LEDs use between 50 and 90 percent less energy and last two (2) to three (3) times longer (approximately ten (10) years) than conventional light sources. This increase in efficiency and extended lifespan has positive environmental impacts to air, water, and waste. As shown in figure below, switching from HPS to LED lamps on Juniper Street and throughout the Midtown core results in significant emissions, water.

In Georgia, approximately 0.57 gallons of fresh water is consumed by thermoelectric power plants for every kilowatt hour (kWh) of electricity that is produced.[18] Replacing all existing streetlights in Midtown would result in saving approximately 477,500 gallons of water a year. A demonstration retrofit project at Juniper Street results in saving approximately 20,600 gallons of water a year. LEDs do not contain hazardous waste as some lights do and are completely recyclable.

MIDTOWN ATLANTA HIGH EFFICIENCY LIGHTING RETROFITS *Estimated Annual Savings	NOX EMISSIONS REDUCTION (LBS.)	SOX EMISSIONS REDUCTION (LBS.)	WATER USE REDUCTION (GALLONS)
Juniper Street	70	310	20,600
Midtown Core	1,600	7,170	477,500

[18] Footnote missing

Community Impact: LED lights can improve public safety in a community due to increased visibility. As a directional light source, LEDs limit light pollution and ensure that light lands where it is needed. LEDs also provide a very high quality light that is more visible at nighttime due to its bluish tint.

Economic Impact: While the upfront cost for an LED street light fixture is slightly higher than traditional lighting, high efficiency lighting will reduce both operating and maintenance costs in Midtown. It is estimated that replacing all existing street light fixtures in Midtown would save $78,000 annually. Retrofitting only the fixtures on Juniper Street would save $3,300 annually. [19] Because LEDs last 30 to 70 percent longer than conventional light sources, labor time and material costs associated with replacing lamps in Midtown is also reduced. [20] Using maintenance cost estimates from other cities, the City could save around $16,000 annually if every fixture in Midtown were retrofitted and $3,300 for just those fixtures on Juniper Street.

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- City of Atlanta, Office of Sustainability and Department of Public Works: partner for Midtown Alliance to identify the appropriate street light fixtures and measure impacts.
- Georgia Power: may need to partner with Midtown Alliance if a future retrofit project involves street lights that are leased from Georgia Power to the City of Atlanta.
- U.S. Department of Energy Municipal Solid-State Street Lighting Consortium: a resource to learn more about best practices, assessing financial feasibility, and accessing technical resources for street light retrofit projects.

COSTS & POTENTIAL FUNDING

Costs to support this program are primarily related to the cost of the LED fixtures and an allocation for staff time to manage and track the project. The incremental cost to utilize an LED street light fixture is approximately $200 per light pole. Therefore, the cost to upgrade all sixty-five (65) cobra head lights planned for Juniper Street is approximately $13,000. The cost to manage this project and measure results can be incorporated into existing staff/consultant allocations. If Midtown Alliance decides to upgrade the remainder of cobra head lights in the District, the cost to purchase and install those lights would be approximately $155,000 (assuming 387 cobra heads at $400/each).

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Georgia Power owns the street light fixtures attached to its wooden poles and leases the lights to the City of Atlanta. Since the City does not currently experience a financial benefit for reducing the energy consumption of these lights, these lights may not be good candidates for a retrofit until the City negotiates a new rate structure with Georgia Power. The majority of these poles are on smaller east-west streets.

> Potential Solution: Encourage City officials to renegotiate their lease with Georgia Power so energy savings can be experienced.

Challenge: Because LED lighting is a relatively new technology, there are not sufficient standards to ensure all LED fixture manufacturers produce quality products that live up to their claims. Identifying an appropriate high quality product can be a challenge.

> Potential Solution: A growing number of resources and experiences are available for researching appropriate, high quality products. Midtown Alliance should join DOE's municipal solid-state lighting consortium to review technical resources and research best practices.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
High-Efficiency Lighting		
Number of High Efficiency Cobra head Fixtures	4	69 by 2015 100% by 2020
Number of A & C Fixture Type Retrofits	0	100% by 2020
New Public Space High-Efficiency Lighting Installations	0	100% by 2020

"City life is undergoing a renaissance. But as more people trade the green, leafy suburbs for the concrete and convenience of city life, the demand for urban green space is growing. For cities to achieve true quality of life, they need to provide residents with outdoor places to play, roam, and grow gardens"

- Trust for Public Land, ParkScore Website

3.2 Open Space

OPEN SPACE OVERVIEW

People who live in urban settings consume less energy and water and produce less air pollution than their suburban counterparts. Dense communities also consume less land allowing more to be preserved. In short, the largest positive impact that we can have on our natural environment is encouraging more options for living and working in dense urban districts. Thus, if one of the ultimate goals of Greenprint Midtown is to decrease the ecological footprint of the district, Midtown must be a place where people want to live and work. In this context of sustainability, parks and other forms of open space are critical for attracting residents and businesses to Midtown. Open space is often overlooked in the development of dense urban districts but it is a fundamental ingredient in nurturing a livable, environmentally conscious community. The Midtown community itself has voiced a strong desire to add open space. In the Greenprint Midtown Community Survey, when asked to choose which strategies would have the greatest impact on making Midtown more sustainable, over 65 percent of respondents selected "adding greenspace."

For the purposes of this plan, the term "open space" is used to more broadly describe all land that is left intentionally devoid of buildings. This large umbrella includes parks, plazas and landscaped areas but also the streets that, when viewed collectively, make up the largest open space in any city. While streets don't fill the exact same role as parks or plazas, they do provide some of the same utility. In addition to their function for transportation, streets provide a place to run or stroll, sit and relax, play games and music and create art. If closed to vehicular traffic, streets can even serve as temporary plazas.

In addition to regional ecological benefits from land preservation, open space also impacts the ecosystem on a local scale. Vegetated areas such as parks, landscaped areas and trees that line streets provide an opportunity for stormwater runoff to be redirected and infiltrated into the soil rather than being directed into underground stormwater infrastructure. Trees in particular have a major impact on

OPEN SPACE GOALS

- Provide for additional open space so that every resident of Midtown has access to an open space within a three minute walk and an open space larger than an acre within a ten minute walk.
- Design and program interesting and appealing open spaces that encourage community vitality and cohesion.
- Preserve and enhance Midtown's tree canopy and landscaped areas.

cleaning the air we breathe. According to a recent study from the Lancaster Environment Centre that analyzed the impact of trees planted in "street canyons" (streets bordered by buildings), trees reduce street level concentrations of nitrogen dioxide by up to 40% and particulate matter by up to 60%. [1] Trees and other types of vegetation are also effective at absorbing and dissipating the sun's energy—cooling the air temperature in the immediate area and, collectively, across the entire city. Parks and other landscaped areas also provide habitat for a variety of plants, insects, birds, and small mammals—putting urban inhabitants in direct contact with nature.

Open space provides more than environmental benefits and opportunities for recreation and leisure. Parks enhance property values and, as a result, local tax revenues. According to a study aimed at analyzing the value of open space, homes located immediately adjacent to a park are worth an average of 24% more than national averages (see Figure 2).

Figure 2: Park Proximity Sales Premium

Distance to Park (in feet)	Distance to Park (in miles, approx.)	Round-Trip Walk (in minutes)	Sales Premium
100	1/50	1	24%
300	1/16	2.5	15%
600	1/8	5	5%
1300	1/4	10	Insignificant

Source: Miller, Andrew Ross, "Valuing Open Space: Land Economics and Neighborhood Parks."

[1] Environ Sci Technol. 2012 Jul 17;46(14):7692-9. Epub 2012 Jun 28.

The concept of leveraging open space to create real estate value is not new and was the focus of a recent article in July/August 2012 issue of Urban Land. Citing examples in New York, the article focused on the direct payoff from parks. For example, real estate with views of Bryant Park has outperformed other New York City submarkets in times of both recession and expansion. And this bump in value is not limited to commercial space. Commenting on the city's much lauded High Line, Amanda Burden, New York's planning director, remarked in a June 2011 New York Times article that apartment prices in one building bordering the park have doubled since it opened. Similarly, the parkside premium for apartments adjacent to Central Park is "more than double that for apartments in surrounding neighborhoods," according to a May 2012 article in the Wall Street Journal.

Admittedly, New York's density creates a pent-up demand for open space that may not translate in less crowded urban areas. Yet it is clear that parks not only add value to existing assets, but great public spaces also create better development opportunities. This can have a meaningful impact on retail development as well. Fundamentally, a high quality public realm can attract more people, which translates into more shoppers and revenue. Specialty retail thrives on emotion, on the ability of shops to convince a shopper to spend their precious time and money in their place of business. According to Nick Egelanian, president of SiteWorks retail, an Annapolis-based retail consulting form, Good public spaces evoke a strong emotional reaction. This is the key to retail and is why retailers should consider the value of public spaces in differentiating their real estate and making it the chosen destination over the countless other options vying for consumers' time.

Parks and open space can also improve mental health by providing a retreat from a fast-paced, often chaotic urban environment. According to a 2008 study published in Psychological Science "...simple and brief interactions with nature can produce marked increases in cognitive control. To consider the availability of nature as merely an amenity fails to recognize the vital importance of nature in effective cognitive functioning." [2] Perhaps the most prominent impact of parks and open space is their influence on community. Different from a coffee shop or a restaurant, open space is accessible to all people regardless of social class. Parks are the quintessential "third places" where people go to congregate and socialize with their neighbors.

[2] Jaffe, Eric. How Urban Parks Enhance Your Brain. The Atlantic Cities. 16 July 2012. Web. 20 July 2012.
[3] City of Atlanta. Project Greenspace Draft Summary Report: City of Atlanta, 2009.

While there is need to add new parks and plazas, the potential to reactivate existing spaces should not be overlooked. Underutilized spaces such as parking lots and private landscaped areas may benefit from the insertion of new uses and programs aimed at enlivening these spaces. Vehicular travel lanes might be closed and activated on a temporary basis with festivals and events to serve the greater needs of the community. There are many potential tactics that may be employed in the activation of existing spaces—each suited to the unique situation presented by the site.

Atlanta is unique from other cities by virtue of its expansive tree canopy which covers 27% of the city. [3] This has earned Atlanta the nickname, "The City in a Forest." The tree canopy is critical to the quality of life in Midtown. In addition to the environmental benefits just described, trees form the backbone of a successful open space network. Trees provide shade from the brutal summer sun and provide a buffer from vehicular traffic, making sidewalks a place that people want to inhabit. Through diligent maintenance of the existing tree stock and continued additions to the District's tree inventory, Atlanta's image as "The City in a Forest" can be bolstered while the District's inhabitants reap the benefits.

Given the focus on increasing density in Midtown, the creation of non-occupiable landscaped areas will be limited to those sites that cannot be developed for productive use. These include areas such as highway access ramps and retaining walls. These spaces can be enhanced through landscaping to provide aesthetic value while adding additional vegetation.

OPEN SPACE ASSETS

Public Parks & Plazas - Midtown is located adjacent to Piedmont Park, the largest public park in Atlanta. At 189 acres, Piedmont Park caters both to the needs of Midtown residents and workers as well as to visitors from across the city and region. Other nearby significant public parks include:

- Winn Park (10.3 acres) and Yonah Park (1.9 acres) located northeast of Midtown's urban core in the Ansley Park neighborhood
- Renaissance Park (5.4 acres) and Central Park (17.4 acres) to the southeast in the Old Fourth Ward

Smaller public parks and plazas located within the district include:

- Pershing Point Park
- Fifth Street Plaza Bridge
- World's Athlete's Monument
- Arts District Plaza
- Ponce Triangle Plaza

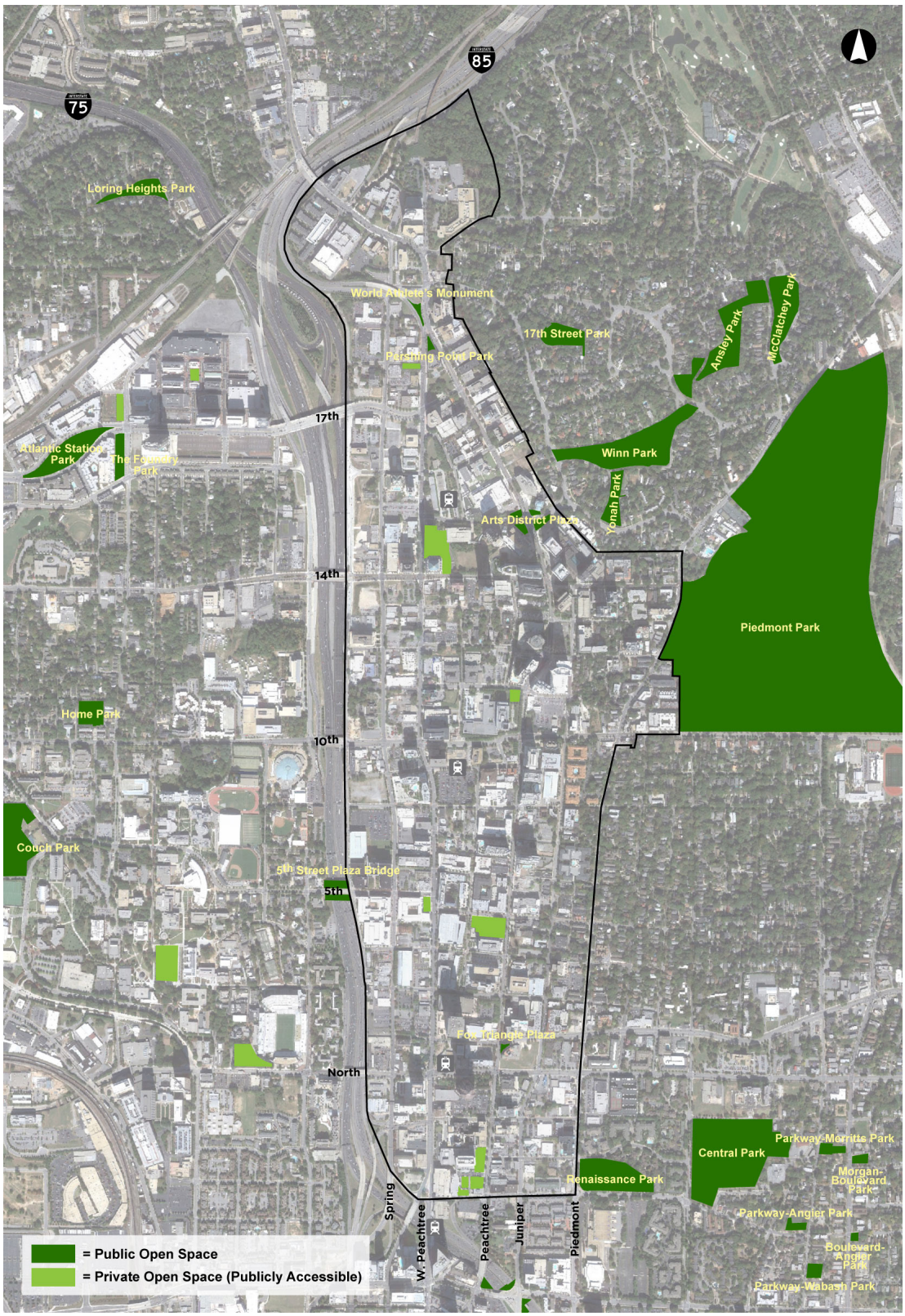
It should be noted that the Midtown Alliance, with funding from the Midtown Improvement District (MID), was responsible for major renovations to the last three plaza spaces—delivering on a mission to improve access to open space for Midtown residents, workers and visitors.

Public Open Space - Arts District Plaza

Private Open Space - In addition to public open spaces, there are a number of additional open spaces that are publicly accessible but located on private property throughout Midtown. These spaces range from immaculately landscaped gardens to urban plazas to pocket parks. Since they were intentionally created as places for the public to enjoy, these private open spaces are viewed in the same light as their public counterparts in the context of this report. The main difference between these two is that, in the case of private open space, there is no guarantee of their permanence since they may be redeveloped at some point in the future. There are also numerous landscaped areas and mini-plaza spaces associated with other developments throughout the District—especially around class-A office buildings. For the most part, these areas serve to aggrandize the buildings they surround rather than provide functional public space. These spaces attract few visitors since they read as privately controlled spaces and are largely unprogrammed aside from casual seating. They are not considered as publicly accessible open spaces in this report.

Publicly Accessible Private Open Space - Technology Square

Existing Open Space



Tree Canopy - A high quality, first-class travel experience for pedestrians and cyclists is critical to the success of open space in an urban setting. To that end, the current zoning code requires the installation of a five-foot "street furniture and tree planting zone" between the vehicular lanes and the sidewalk for all new development projects. This zone serves as a buffer from traffic and provides room for pedestrian amenities such as benches, trash cans, bicycle racks and shade trees. Midtown Alliance, with support from the MID, has been aggressively streetscaping major corridors in Midtown since 2001—adding nearly 700 trees throughout the District. These have augmented the Midtown Core's robust tree canopy which includes 2,070 street trees, as identified in a recent survey. The first street trees planted by Midtown Alliance are now reaching 15 years of age—a critical time to assess the health of the trees and adopt measures that assure their continued longevity.

CHALLENGES & OPPORTUNITIES

ACCESS TO A DIVERSITY OF OPEN SPACES

In his recent book entitled Sustainable Urbanism, renowned architect and planner Douglas Farr, states that all residents should have access to a high-quality open space within a three minute walk of their home. [4] For the purpose of the Greenprint, this metric will be used a benchmark for open space goals in Midtown. Thus, taking into consideration all publicly accessible parks and plazas within in the District, many Midtown residents lack convenient access to open space within a short walk from their homes.

However, walking access to open space of any kind does not address a key issue—one could live near multiple pocket parks or plazas and never have access to a space large enough to accommodate more intensive uses, such as playgrounds, weekend markets, musical performances or active recreation. Thus a second, more stringent criteria for open space access is needed.

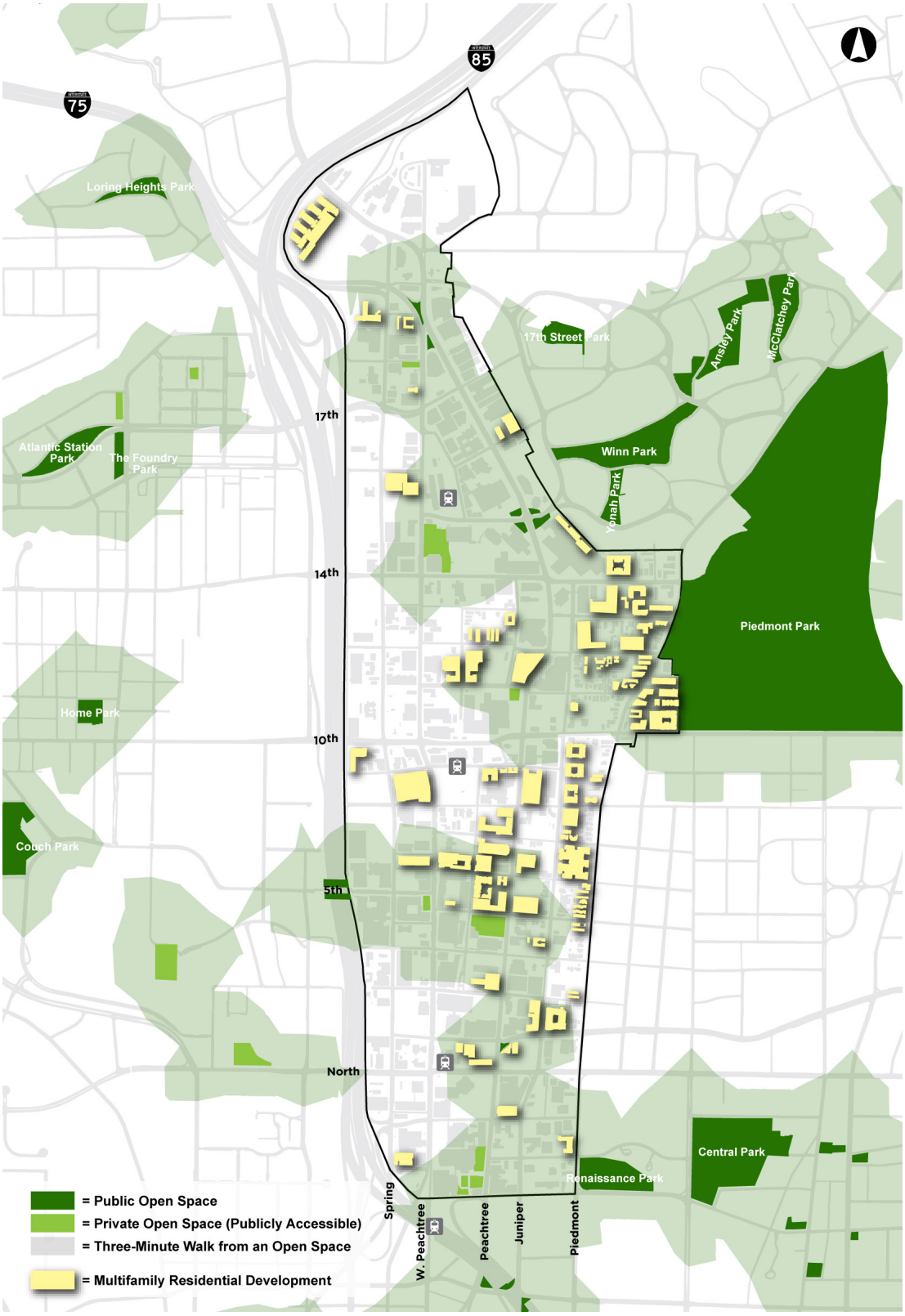
According to the Trust for Public Land (TPL), every resident should live within a ten minute walk of a park or greenspace. [5] While TPL doesn't explicitly detail the size or function of these spaces, it is implied that they cater to the needs and interests of residents within its general vicinity. In order for an open space to meet the recreational needs of a neighborhood, it should be at least one acre in size. Applying this standard, we see that walking access to substantial open space is lacking for many Midtown residents. For example, though there are a number of substantial public open spaces located just outside the eastern boundary of the District (Central Park, Winn Park, Piedmont Park), for many residents living in the west side of the District, there are no significant public open spaces within a convenient walking distance.

While high land costs in Midtown preclude the construction of a large scale park within the urban core, it is reasonable to look for smaller open space opportunities that would fit within Midtown's existing framework. The City of Atlanta Parks 2009 Project Greenspace plan calls for the development of "civic squares" in Midtown. These are defined as "public gathering spaces that function as a focus of community activity and civic identity. As such, they should be strategically located and designed to facilitate programmed festivals and events." The plan does not recommend a minimum size for civic squares, but states that a typical city block is a reasonable scale. In Midtown, a typical block is approximately three acres, establishing a logical maximum size to be pursued in the creation of civic squares in the Midtown District. However, three acres is a lofty goal given the difficulty of acquiring large tracts of land in Midtown due to high land costs.

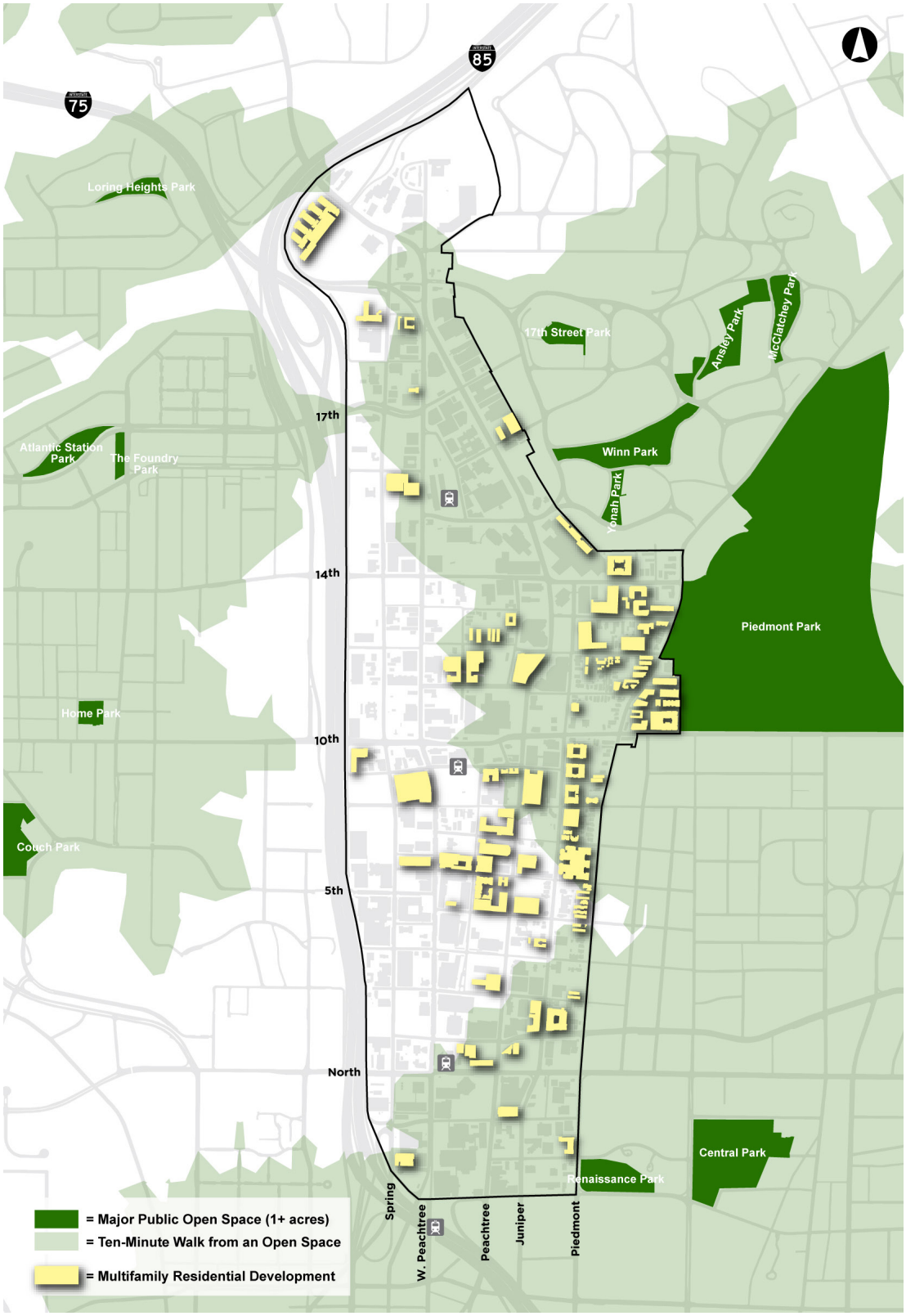
Recently constructed national examples of successful urban open spaces, such as Jamison Square and Tanner Springs Park in Portland's Pearl District, demonstrate that civic squares can be built on land that is even less than an acre (0.94 and 0.92 acres respectively). The size of these two spaces was dictated by Port-

[4] Douglas Farr, Sustainable Urbanism: Urban Design With Nature (New Jersey: John Wiley & Sons, Inc., 2008), 170.
[5] TPL. Cities Ask: What's Our ParkScore? Trust For Public Land. 12 June 2012. Web. 16 July 2012.

Three Minute Walkshed Analysis: All Open Space



Ten Minute Walkshed Analysis: Major Public Open Space



land's block size and they were designed to work in tandem to provide a diversity of amenities for Pearl District residents. While Jamison Square provides space for children to play and hosts concerts and evening movie screenings, Tanner Springs Park offers a natural setting for quiet contemplation and respite from the urban environment. [6] Midtown Alliance will pursue a similar approach to providing open space given the constraints imposed by Midtown's established urban context. In order to make Midtown truly livable, residents must have access to open spaces offering a variety of different functions all located within convenient reach.

Aerial image of Tanner Springs Park (Top) and Jamison Square (bottom), Portland, Oregon

[6] Easton, Valerie. Nature, Artfully Embraced. The Seattle Times. 5 November 2006. Web. 8 August 2012.

REGULATORY FRAMEWORK

The City of Atlanta zoning code requires open space to be provided onsite along with every new development (defined as "Usable Open Space Requirements"). Yet, despite Midtown's sustained residential growth, the development of publicly accessible open space has been neglected. This has happened for several reasons.

First, the open space requirements were never adjusted along with the creation of the SPI-16 and 17 zoning districts. Approved in 2001, the SPI zoning ordinance allows for higher density in return for a mix of uses and additional attention to design. With this rise in permitted density, the amount of open space required onsite rose to unrealistic levels. As a result of the burden of these requirements, it has become common for the Midtown Development Review Committee (DRC), which reviews development in the District, to recommend approved reductions in usable open space requirements to accommodate the type of high quality, high density development that is desired in the District.

Second, the open space requirements are based on arbitrary calculations and do not include standards to ensure that the designated area functions as meaningful open space that is publicly accessible. For example, rooftop terraces and internal courtyards count towards the usable open space requirement even though they are only usable by residents of the building. On street parking and street trees also count towards meeting these requirements. In the end, developers are able to satisfy these requirements without ever having to produce an open space that is sizable and publicly accessible.

Finally, while it is technically permissible to transfer a portion of the required open space off-site to create a single consolidated park serving multiple developments rather than numerous marginal open spaces spread across several parcels, no mechanism is in place to facilitate this transfer. In order for this mechanism to function as intended, appropriate sites for such parks must be identified in a small area plan for Midtown and that plan must be adopted into the City of Atlanta's Comprehensive Development Plan. A corollary issue relates to the need for a method of determining the monetary value of open space requirements so that a "cash-in-lieu-of open space" provision could be implemented. This would be useful in cases where the open space requirement cannot be met on-site and it makes more sense to secure funding to help establish a park in an off-site location. Finally, a dedicated open space fund would need to be established to receive and hold funds if they were set aside for a future transfer.

The goal of creating a high-density urban district does not have to conflict with the parallel goal of creating publicly accessible open space. It would be short-sighted to require developers to construct a park or plaza on every development site since that would result in underutilized spaces and too many gaps in the urban fabric. Instead, aggregating open space into a few strategic locations is more affordable, sustainable and impactful to the overall quality of life in Midtown. In the end, UOSR requirements provide the best regulatory method for delivering substantial open spaces, and thus revising these

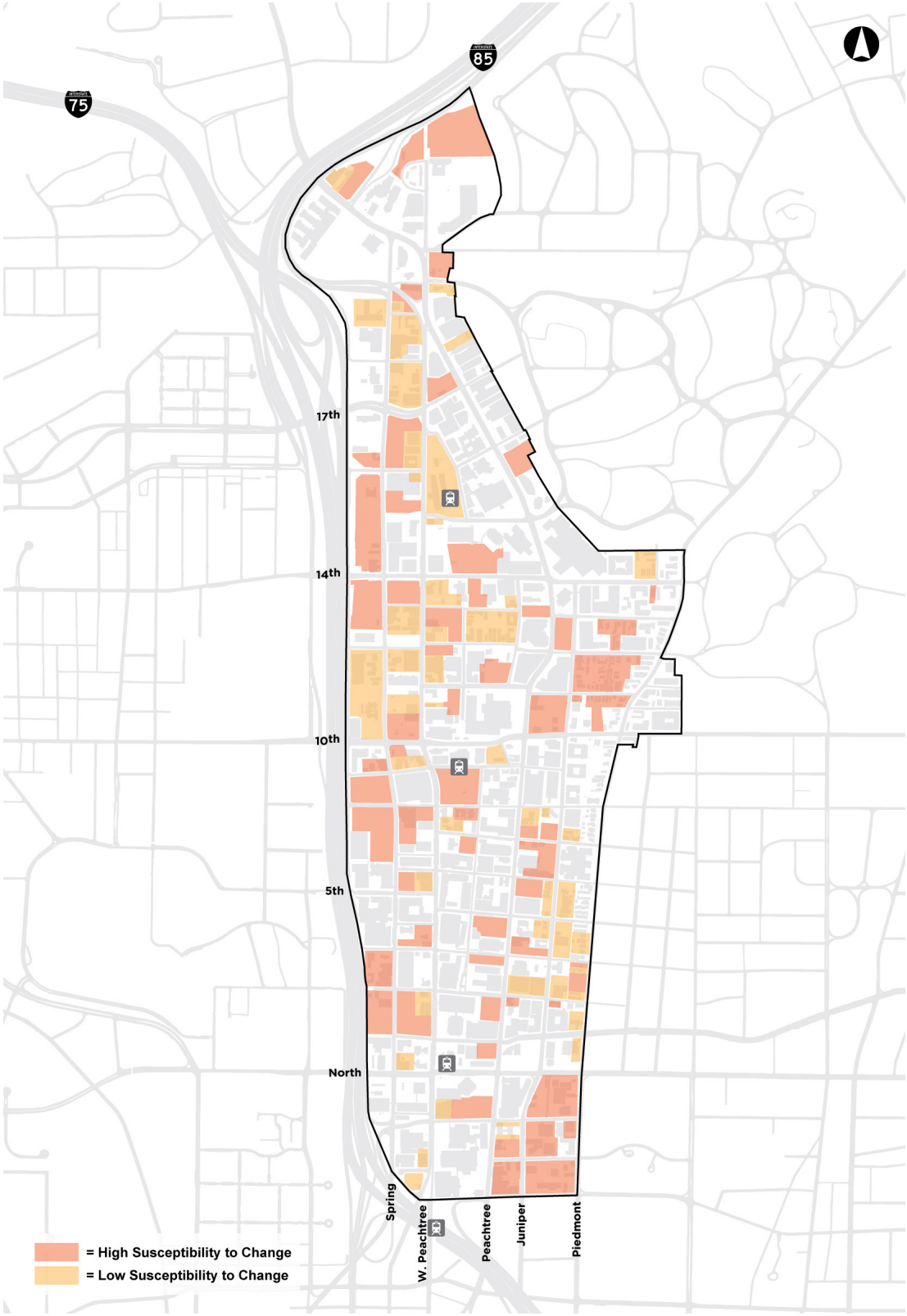
regulations to address the goal of allowing the transfer of open space requirements should be a priority for Midtown Alliance.

Given Midtown Alliance's previous work with the City of Atlanta in planning and zoning, the organization is well positioned to facilitate updates to the zoning code to address the challenges outlined above.

LAND COSTS

Relative to other urban areas in Atlanta, such as Downtown and Buckhead, the price of land in Midtown is relatively high, ranging from $80-$100 per square foot. With the cost of an acre somewhere between $3.5 and $4.5 million, the outright purchase of land within Midtown's urban core for new parks is financially challenging. Acquiring and developing a new civic square would require a multi-million dollar investment that would necessitate some level of public-private partnership. The City of Atlanta's current financial state makes it unlikely that they would be in a position to assist in the purchase or development land for parks in Midtown. While the Midtown Improvement District could be a source of funding, this source could not be relied upon to fund an entire project. If acquisition and development cannot be funded mostly through development requirements, additional funding sources will need to be identified.

Susceptibility to Change



OPPORTUNITIES IN HIGH DEMAND AREAS

Even with the fast pace of development in recent years, Midtown still has significant vacant and underutilized land that could be transformed into a public amenity through conversion into various types of open space. Parcels that are either vacant, used for surface parking, contain dilapidated buildings or are not utilized to their highest and best use are generally deemed "highly susceptible to change" and represent real opportunities for future parks, plazas or civic spaces. In the Midtown District, approximately 19% of the land fits this description.

PERMANENT CIVIC SQUARES

Properties that are highly susceptible to change pose as potential locations for new permanent civic squares. A concentration of vacant or underutilized land in Midtown is evident on the west side of the District near the Interstate. With numerous large scale surface parking lots, undeveloped parcels and underutilized buildings, when market demand for development returns, this swath of Midtown will likely become host to a large number of new residents. When existing residential development is layered over the Ten Minute Walkshed Analysis and Midtown Susceptibility to Change Map, a number of sites that might be utilized to serve the needs of both new and existing residents can be identified.

TEMPORARY PARKS & PLAZAS

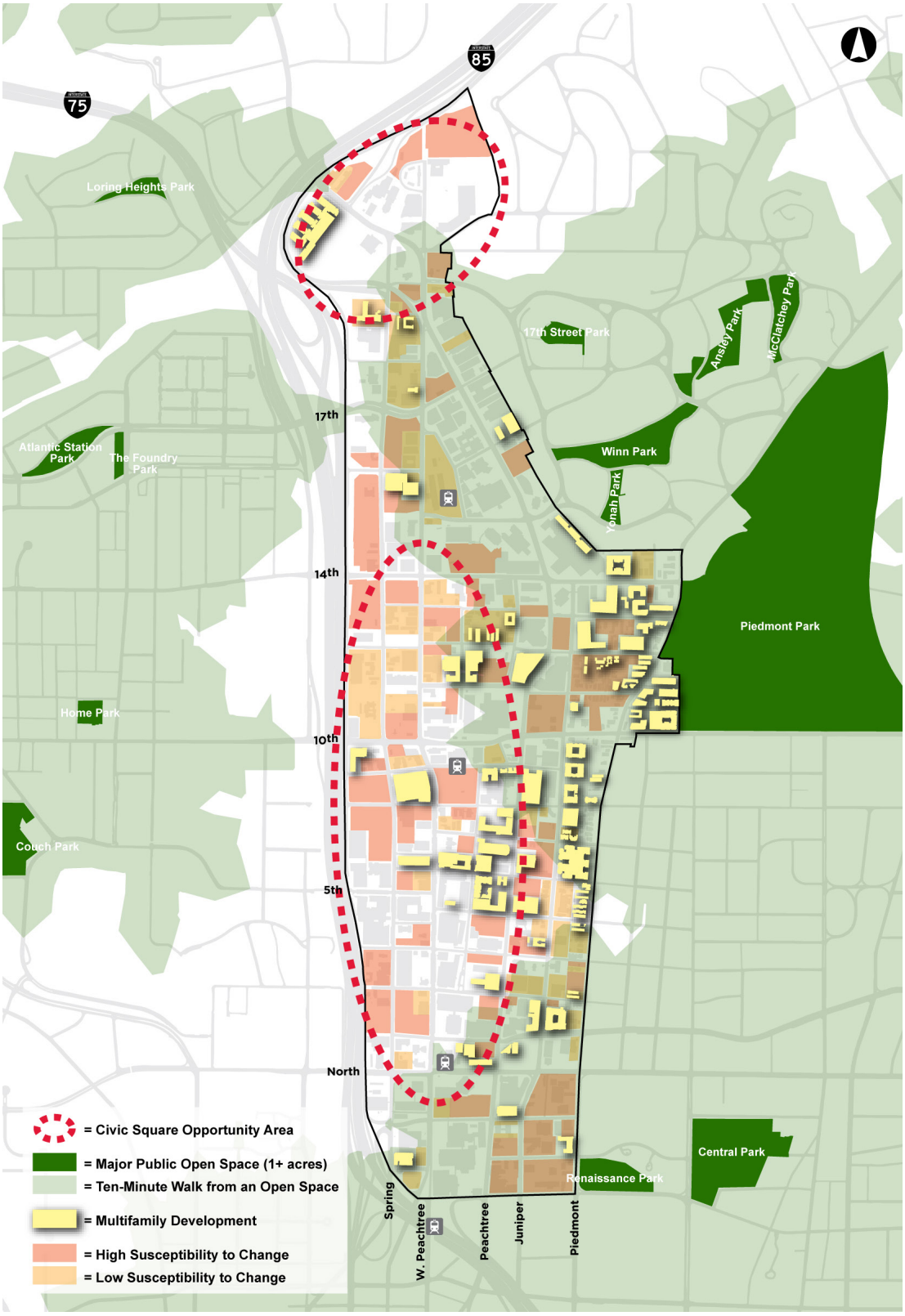
Many properties once slated for immediate redevelopment are now in a holding pattern due to the slow pace of economic recovery. This underscores the need for creative ways to implement "in the meantime" activities that productively utilize spaces that would otherwise remain vacant until the next development cycle. Transforming vacant parcels into temporary pocket parks creates an interim public benefit on sites that are often blighted by weeds, chain-link construction fencing, trash and graffiti. A temporary pocket park can have the added advantage of increasing the property values of adjacent sites as well as elevating the public perception of the area as one that is vibrant and maintained.

Temporary parks allow for flexibility and experimentation with various types of active uses that may be too risky for long-term investment, such as lawn games, community gardens and temporary art installations. Yet they are also viable venues for more typical park amenities such as playground/fitness equipment, outdoor seating and dog parks. Special attention must be paid in the design of these temporary spaces to avoid the perception that they are private spaces and not open to the public.

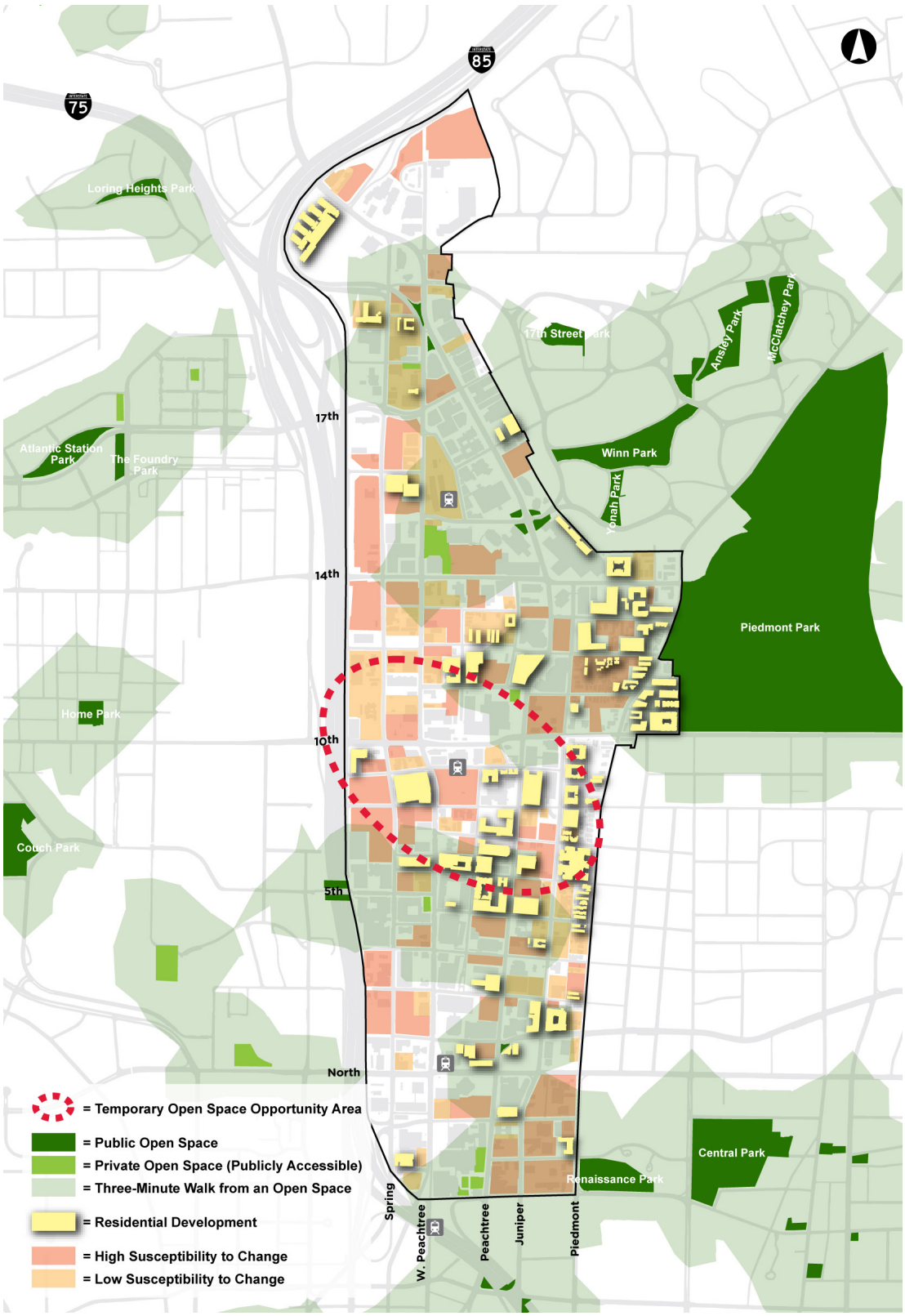
Temporary parks can serve an important role in enhancing livability by providing access to open space for current residents. The Temporary Open Space Opportunities map shows an overlay of existing residential density over the Three Minute Walkshed and Midtown Susceptibility to Change Map. This reveals the areas of greatest opportunity to fill gaps and provide existing District residents with access to open space within a three minute walk of their homes.

Temporary park spaces can also help fill the gaps along some of Midtown's major corridors and have immediate positive impacts on surrounding properties. In this instance, adjacency to existing residential development is not critical. Rather it may be enough of a benefit to create an active use where there was none before, connecting the dots along Peachtree Street for example. Such places can provide lunchtime gathering spots for local office workers and provide an attractive setting for casual interaction or programmed events such as outdoor musicians, fitness classes, or cultural programs sponsored by local arts organizations.

Civic Square Opportunities



Temporary Open Space Opportunities



ENERGY STRATEGIES & PROGRAMS

Through the Greenprint Midtown planning process, the following Open Space strategies were developed and guided the selection of both Tier 1 (priority) and Tier 2 programs/projects. In the future, additional programs and projects can be developed from the following strategies.

STRATEGIES

OS1: Acquire, develop, and maintain land for new permanent open space.

OS2: Develop appropriate physical and programmatic interventions that serve to activate existing open spaces.

OS3: Review and update zoning codes and other regulatory ordinances to encourage the creation of publicly accessible open space.

OS4: Incorporate ecologically sustainable design practices into open space development.

OS5: Identify opportunities to increase Midtown's tree canopy, particularly in public spaces, and develop a comprehensive maintenance program for existing trees.

TIER 1 PROGRAMS/PROJECTS

The following Tier 1 programs and projects were identified as priorities and are described in more detail in the next section.

OP1: Acquisition and Development of Civic Squares

OP2: Temporary Park and Plaza Development

OP3: Open Space Activation

OP4: Landscape Enhancement

TIER 2 PROGRAMS/PROJECTS

OP5: Community Gardens – Community gardens provide a place for local residents to gather to grow foods that are produced in an ecologically sound manner. These gardens offer another option for programming a pocket park space or a portion of neighborhood larger park. Other park amenities such as seating areas can be integrated with these spaces to take advantage of the unique aesthetic beauty of these garden spaces.

OP6: Urban Tree Nursery – These spaces can be designed to incubate trees in above ground planter boxes so that can then be planted throughout the District at a later date. The trees can provide shade and when combined with other amenities such as benches or public art, can be used to create temporary park space.

TIER 1 OPEN SPACE PROGRAMS

OP1 – ACQUISITION AND DEVELOPMENT OF CIVIC SQUARES

Description

Midtown Alliance will explore opportunities to acquire and develop land to create permanent parks, hereafter referred to as civic squares, in strategic locations throughout the Midtown District. This process will begin with an analysis of the existing inventory of publicly accessible parks and plazas in the District. Using the Ten Minute Walkshed Analysis, gaps in open space will be identified and evaluated in light of the Susceptibility to Change Map. Based on this and other research, a specific strategy for acquiring various sites will be developed using a set of mechanisms outlined below in the "Acquisition Toolkit." A palate of materials will be recommended for use in the development of these permanent public spaces based on best practices in sustainable design.

The design of civic squares in Midtown will be consistent with the definition stated in the City of Atlanta's Project Greenspace: "The design of squares should incorporate open lawn areas and/or open paved areas to accommodate these events. The functions of squares vary according to the context. For example, in commercial and mixed-use settings (where land availability is restricted), squares can support larger events while providing much-needed greenspace for surrounding residents and employees. In residential neighborhoods squares provide informal greenspace for surrounding residents while accommodating smaller scale, more neighborhood-oriented activities and events. Squares should be programmed to include amenities that attract multiple age and demographic groups and create activity throughout the day and seasons. They could also be located at street level above underground parking decks."

Land acquisition methods for civic squares will vary depending on the specific circumstances of current ownership. In some cases it may be appropriate for Midtown Alliance to be the entity that holds title to the land, while in others a land trust may be a more appropriate short-term vehicle. In either case, the goal for any civic square will be to transfer ownership to the City of Atlanta so the space is permanently preserved in the public domain. Ultimately, all permanent acquisitions are destined to become bonafide City of Atlanta public parks. However, given the limits of the City budget, the Midtown Alliance would likely maintain the parks in perpetuity.

The Midtown Alliance will continue to develop an open space acquisition and development plan with the goal of delivering new permanent civic squares. Midtown Alliance will dedicate staff resources to facilitate the following program implementation activities:

- Utilize the Ten Minute Walkshed Analysis to form the basis for the identification of areas in need of permanent civic squares.
- Develop toolkits of mechanisms for civic square acquisition and development.
- Acquire property, design, and develop permanent civic squares.
- Develop a "Midtown Public Space Plan" for adoption into the City of Atlanta Comprehensive Development Plan.
- Conduct surveys of potential park users to identify appropriate use and programming.
- Utilize sustainable materials and elements in the development of park spaces.
- Update development design guidelines to incorporate best practices in ecologically sustainable park design.

ACQUISITION TOOLKIT:

- Ten Minute Walkshed Analysis – Used to identify areas lacking access to a permanent civic square.

- Susceptibility to Change Map – This map identifies parcels that are likely to be developed in the short-term. It will be used to identify parcels of land that may be acquired for the purpose of creating civic squares. It will also be useful for identifying areas of future redevelopment that may require park access.

- Public Space Plan/Transferable Open Space Requirements – As stated earlier, Midtown's SPI zoning code allows for a property owner to relocate up to 60% of a development's required Usable Open Space Requirement to an offsite parcel within the District provided the parcel is identified in the "Midtown Public Space Plan." This plan must be formally adopted into the City of Atlanta Comprehensive Development Plan. Today no such plan exists, thus Midtown Alliance would need to spearhead the effort to create a plan and shepherd it through the City Council review and approval process. The Ten Minute Walkshed Analysis and the Susceptibility to Change Map would be used as the core criteria in the development of this plan.

- Open Space Conservation Easements – A conservation easement is a legally binding agreement between a property owner and a second party (the easement holder) that restricts the type and amount of development and use that may take place on a property. Conservation easements, which are voluntary in nature, can complement government acquisition programs, land use regulations, and structural controls to protect significant natural resources including open space.

  By entering into a conservation easement, a landowner ensures that his land will be protected for future generations while remaining in private hands. There may be financial benefits as well. If the landowner gives the easement in

perpetuity for conservation purposes recognized by the IRS (i.e. outdoor recreation, preservation of open space, etc.), he/she may be able to deduct the value of the easement from his/her personal federal and state income taxes. High estate taxes may be similarly decreased through the use of conservation easements satisfying the Internal Revenue Code. If a property owner restricts the use of his property through a conservation easement prior to his/her death, the estate tax is assessed on the restricted value of the property. When the landowner bequeaths a conservation easement to a land trust in his/her will, the value of the easement is deducted from the estate.

Property taxes may be decreased as well since restricting various development rights may diminish the fair market value of the land. The public benefits from resource protection afforded by the easements should substantially outweigh the costs in terms of decreased revenue to the local government. Easements protecting open space and scenic views may result in increased property values on adjacent land.

- Open Space Tax Credits – Georgia provides a state tax credit to individuals and corporations donating land or easements for conservation. The tax credit allows taxpayers to claim a credit against their state income tax liability of 25% of the fair market value of the donated property interest, up to a maximum credit of $250,000 for individuals and $500,000 for corporations. The allowed tax credit may not exceed the amount of tax owed for the taxable year, but any unused portion of the tax credit may be carried forward for the next five years.

- Park Impact Fees – The City of Atlanta charges a parks and recreation impact fee on all new residential and commercial development based on the square footage or number of bedrooms per unit. Impact fees are calculated by the Office of Buildings as part of the review and approval process for a building permit. They typically range from a low of $500 per unit to a high of $9,000 per unit and should be periodically updated to address market rates and land values. The fees are used by the City for land acquisition and development (grading, landscaping, utilities, and parking) of parks and recreation facilities. The city is divided into three service areas —Northside, Southside and Westside—and parks and recreation impact fees collected in a service area must be spent in the same service area. Midtown is located in the Northside service area. As a point of comparison, the park fee collections by service area for the period between 2007-2009 are summarized below:

Service Area	Revenue	Percent
Northside	$1,865,580	66%
Southside	$422,622	15%
Westside	$525,528	19%
Total	$2,813,730	100%

Source: Park impact fees collected from July 1, 2007 through September 30, 2009 from City of Atlanta, December 29, 2009

Once a site has been acquired for a neighborhood-scaled park, the following strategies should be implemented during the development phase.

- Secure Park Development and Maintenance Funding – Midtown Alliance should seek government or philanthropic grants to assist in park development. Funds from the MID could be used as match to leverage these funds.
- Conduct a Needs Assessment – In order to identify the appropriate design and programming of a site, Midtown Alliance should seek input from the community through surveys and other methods.
- Utilize Integrated Site Design Process – To inject innovative and sustainable solutions into the development of the site, Midtown Alliance will use a process that encourages input from experts representing multiple disciplines.

IMPACT

Environmental Impact: There are both direct and indirect impacts from the addition of civic square spaces in the Midtown District. If vacant land, surface parking lots and underutilized buildings are transformed into vegetated park areas, there are direct environmental impacts such as reduced stormwater runoff. As mentioned previously, vegetation also reduces airborne particulates and pollutants, air temperature and provide additional habitat for wildlife. Indirectly, adding open space can enhance overall livability, which attracts people to live in an urban environment which is inherently more sustainable.

Community Impact: Civic squares can greatly enhance community cohesion and livability. Parks provide the opportunity for people from all walks of life to come together to share a common space and a common experience. Parks are the quintessential "third place" where neighbors meet to form the social bonds that are the foundation for community. Parks also form a major part of the identity and character of a neighborhood.

Economic Impact: The economic impact of parks is evident by the associated increases in property values. In the case of the Midtown Improvement District, increases in property values from commercial properties leads to an increase in the capital raised through increment taxation, which is then invested back into the District.

There are also less directly tangible economic impacts. Increased quality of life leads to more people living in the District and more businesses and institutions choosing to locate there—both of which yield economic gains in terms of job creation and additional investment from the development community.

POTENTIAL IMPLEMENTATION PARTNERS/RESOURCES

- City of Atlanta Office of Park Design, in the Department of Parks, Recreation and Cultural Affairs – Potential partner with Midtown Alliance to assist with funding, planning, design and development of civic square projects.
- Trust for Public Land - Potentially assist with negotiations for land acquisition as a third party. They also can hold land as a certified land trust.
- Park Pride – In addition to coordinating Friends of the Park groups and organizing volunteer efforts, Park Pride offers grants for park development.
- Piedmont Park Conservancy – Provide insight and expertise in park development, funding and maintenance.

COSTS & POTENTIAL FUNDING SOURCES

A limited amount of staff time will be needed to develop the Midtown Public Space Master Plan and shepherd it through the City's approval process. Additional effort will be needed to research potential acquisition sites, to acquire the sites and manage project design and construction. These tasks can be completed within existing staff resources. The costs related to purchasing and developing land are considerable and not included here since they can vary tremendously depending on the site.

Potential funding sources for land acquisition and development include the Midtown Improvement District, Trust for Public Land, City of Atlanta Opportunity Bond, and Park Impact Fees.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Availability of sufficient funding to acquire and develop open space

Potential Solution: The MID is highly supportive of the open space acquisition and development program and thus is expected to contribute to this program. Additional funding sources have been identified as described above but need to be further vetted.

Challenge: Difficulty to amend existing zoning regulations related to open space provision.

Potential Solution: Midtown Alliance has collaborated with the City of Atlanta Office of Planning in the past on the major task of developing a new zoning ordinance for the District. Creative solutions will need to be devised in response to challenges encountered during this process.

Challenge: Cost and resources required to maintain parks and plazas.

Potential Solution: Midtown Alliance will in all likelihood assume the burden of maintenance for all new parks and plazas. The City of Atlanta's Parks and Recreation budget is stretched thin. Another option, especially suitable for a larger civic square space, would be for the Midtown Alliance to coordinate the creation of a non-profit organization that could raise funds for park management. Midtown Alliance has experience in this domain as they assisted in the establishment of the Piedmont Park Conservancy.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Midtown Public Spaces Master Plan	N/A	Plan adopted by 2013
Acquisition of land	N/A	Land acquired by 2017
Development of land	N/A	Land developed by 2018

OP2 – TEMPORARY PARK AND PLAZA DEVELOPMENT

Description

The goal of this program is to foster the creation of temporary, publicly-accessible open spaces. These spaces are typically being held for future redevelopment, but in the interim, they can be utilized to create parks and plazas to benefit the Midtown community. Temporary spaces will generally take the form of pocket park and plazas but there may also be opportunities to create larger neighborhood-serving parks.
Using the Three Minute Walkshed Analysis, Midtown Susceptibility to Change map, and the existing residential density, Midtown Alliance will identify potential locations for temporary parks and plazas. Midtown Alliance will then work to develop a set of incentives and structures that can be utilized to encourage property owners to collaborate in this effort.

The goals for the temporary open space program are threefold:

First, it will be used to enhance access to open space for existing Midtown residents. To this end, Midtown Alliance staff will utilize a combination of the existing residential density, Midtown Susceptibility to Change map, and the Three Minute Walkshed Analysis to strategically identify that are vacant or underutilized and are located within a three-minute walk of underserved residents.

The second goal is aimed at filling gaps along major urban corridors. This process will take on a more pragmatic approach. Midtown Alliance Staff will identify vacant and underutilized lots along major corridors that detract from the existing urban framework. Staff will then develop a tailor-made program for transforming each space into an asset.

Thirdly, in order to create new open spaces to serve the needs of future residents, when a project is reviewed by the Midtown Development Review Committee, the Three Minute Walkshed Analysis will be used to determine whether the Usable Open Space Requirements should be utilized to create a publicly accessible park or plaza on the development site. In the event that an existing open space is already located on or near the development site, the Usable Open Space Requirements would be transferred to a receiving site designated as a future civic square as detailed in OP1.

Given the feasibility of delivering pocket parks and plazas utilizing a temporary development strategy, it is not anticipated that the Midtown Alliance will pursue the acquisition and development of permanent pocket parks and plazas.

Midtown Alliance will dedicate staff resources to facilitate the following program implementation activities:

- Utilize the Three Minute Walkshed Analysis to form the basis for the identification of areas in need of temporary publicly-accessible open spaces.
- Build temporary, publicly-accessible open spaces.
- Use the recommendations of the Midtown Development Review Committee to ensure that publicly-accessible open spaces are included along with all new developments located farther than a three minute walk from an open space.
- Identify appropriate tools to entice property owners to allow temporary use of their land as temporary publicly-accessible open spaces.
- Identify appropriate tools for funding the creation of temporary publicly-accessible open spaces.
- Measure and evaluate program for success.

INCENTIVES AND STRUCTURES:

- Short-Term Land Leases – A lease allows an entity to make improvements and grant public access to the site for a specified period or until such time as redevelopment becomes financially feasible. The lease states that Midtown Alliance will pay a nominal annual fee for the right to enhance the property as a publically accessible open space. Midtown Alliance assumes all responsibility for maintaining the space and monitoring it for public safety. This is accomplished through Midtown Alliance's maintenance team, Midtown Green, and public safety force, Midtown Blue. The lease can be terminated by the property owner after one year. The Midtown Alliance has utilized this structure to develop its first temporary open space, Jamestown Community Park, at the intersection of West Peachtree and 18th Streets.
- Property Tax Reduction – With approval from the City, a property owner can reduce their tax burden by demolishing existing structures on their land to make way for temporary park or plaza spaces.
- Public Safety Memorandum of Understanding – Property owners can enter into an MOU with Midtown Alliance that gives permission for Midtown Blue to remove trespassers and vagrants from private property. This tool takes the burden for policing the spaces off of the private property owner.
- Contributions From Benefitting Parties – There is great potential for adjacent property owners to contribute to the development of temporary open spaces since they realize a tangible benefit from this amenity. In the case of Jamestown Community Park, a law school directly adjacent to the site funded many of the improvements including landscaping and park furniture. This enabled the Midtown Alliance to produce a new publicly-accessible pocket park with limited investment.

IMPACT

Environmental Impact: Park and plaza spaces provide a location to plant vegetation which removes airborne particulates and pollutants, provide opportunities for stormwater treatment, reduces air temperatures and attract wildlife. Open space enhances livability and thus attracts people to live in an urban environment.

Community Impact: Park and plaza spaces provide additional opportunities for members of the community to interact. Whether it is a small seating area, bocce ball court or grassy field, these spaces create an environment ripe for development of inter-personal relationships.

Economic Impact: Park and plaza spaces, even small ones, increase the value of nearby properties. It is also in the interests of developers to provide open space on or near their project sites to entice prospective buyers or tenants.

POTENTIAL IMPLEMENTATION PARTNERS/RESOURCES

- City of Atlanta Office of Park Design, in the Department of Parks, Recreation and Cultural Affairs – The City of Atlanta can assist with permitting spaces, with programming, and potentially with funding.
- Property owners – Midtown Alliance should identify property owners that have don't have immediate plans to develop their sites.

COSTS & POTENTIAL FUNDING SOURCES

Staff time is necessary to identify potential temporary park and plaza sites and to manage design and construction. These tasks can be completed within existing staff resources. The costs related to designing and developing temporary open spaces vary considerably and not included here. Potential funding sources for temporary open space development include the Midtown Improvement District and private property owners.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Since these are temporary and likely short-term spaces, Midtown Alliance risks losing their investment in physical improvements to sites (i.e. trees and landscapes, lighting, etc.).

Potential Solution: Midtown Alliance should explore the possibility of utilizing "plug and play" infrastructure so that once a park is terminated, some of the materials can be reused in another park space. This might involve the creative use of above ground tree wells and other moveable materials.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Number of new temporary parks and plazas	1	5 by 2020

OP3 – OPEN SPACE ACTIVATION

Description

Activating vacant or underutilized spaces can have many positive benefits including increased community vitality, improved public safety, and enhanced visual appeal. Activation may take the form of physical improvements or programmatic insertions—seeking to meet the needs of the community. One example of a physical intervention is "gamification" which involves the insertion of games such as bocce ball, shuffleboard, ping pong or even miniature golf into an existing park or plaza space. Another is adding benches or shade structures in a landscaped area or even a parking lot. An example of temporary activation is street closures or "open streets" initiatives. Closing a street for a limited time to host games, musical performances or neighborhood festivals transforms it into an open space for the enjoyment of all people. Programmatic examples might include creating partnerships with local organizations involved with the arts or the creation of temporary food truck parks. These physical enhancements and programs can change throughout the day, week and season—activating otherwise underutilized park and plaza spaces throughout the year.

A key goal of the tactical interventions should be to enhance the connections between these underutilized spaces and the public realm so they are inviting to members of the Midtown community. Midtown Alliance will dedicate staff resources to facilitate the following program implementation activities:

1. Identify existing underutilized open spaces and parks in need of activation. These would include existing public open spaces, publicly accessible private open spaces, private landscaped areas, vacant lots, and surface parking lots.
2. Factoring in site conditions and community needs, develop and implement physical and programmatic strategies that are low-cost but high impact.
3. Measure and evaluate program for success.

IMPACT

Environmental Impact: Successful, active open spaces encourage more people to choose to live in a more sustainable, urban setting.
Community Impact: Vacant lots and empty parks can become havens for vagrant activity and, at the very least, act as a visual detraction from the community. On the contrary, vibrant active parks and plazas provide a place for the community to congregate.
Economic Impact: A park or open space that is popular can bolster property values whereas vacant and underutilized spaces can do the exact opposite. When neutral or negative spaces are replaced with positive ones, the District becomes more attractive to potential residents, developers, and businesses that might locate in Midtown.

POTENTIAL IMPLEMENTATION PARTNERS/RESOURCES

- Local performing arts organizations such as the Atlanta Symphony Orchestra, the Atlanta Ballet and the Center for Puppetry Arts – these organizations could provide programming to activate new and existing open spaces.
- High Museum, the Savannah College of Art and Design Atlanta, the Museum of Design Atlanta and other local arts organizations – these organizations could create physical art installations such as sculptures or murals to help activate spaces.
- The Atlanta Street Food Coalition – representing local food trucks, this organization could be used to activate spaces.

COSTS & POTENTIAL FUNDING SOURCES

Staff time is necessary to identify appropriate activation strategies and partnerships, and implement programs. These tasks can be completed within existing staff resources.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Since there are many opportunities for activating spaces, Midtown Alliance runs the risk of not being able to maintain and program multiple spaces effectively at one time.

Potential Solution: Aim for quality of activated spaces over quantity.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Number of open spaces activated	1	3 by 2015

OP4 – LANDSCAPE ENHANCEMENT PROGRAM

Description

Enhancing Midtown's street tree canopy and landscaped areas is critical to the comfort, beauty, ecology, and overall livability of the area. This program focuses on trees and landscaping in the public right-of-way, the area in which Midtown Alliance can be most impactful

Street Tree Canopy Maintenance and Expansion

Over the last ten years, Midtown made great progress in establishing itself as urban and green – balancing high intensity development with natural features. This is primarily due to the District's impressive street tree canopy. To compliment Midtown Alliance's streetscaping efforts, a maintenance and expansion strategy for Midtown's tree canopy will be devised. This topic deserves special attention given the widespread impact that trees have on the quality of life in Midtown. Street trees buffer pedestrians from vehicles while providing welcome shade and a pleasant environment in which to walk. They also are a signature feature of the Midtown district and distinguish Midtown from other urban neighborhoods in the city.

In order to maintain the existing tree canopy in the District and identify opportunities and actions to expand, Midtown Alliance will implement the following activities:

1. Continue to expand Midtown's street tree canopy through the implementation of Midtown Alliance's streetscape program.
2. Conduct an audit of all street trees to assess gaps in the tree canopy, species, health, and the age of Midtown's street trees.
3. Amend the streetscape maintenance manual to include best practices associated with urban forestry, including: tree species selection, planting, trimming, mulching, and tree well design. A review of associated streetscape design practices will also be analyzed to identify additional opportunities to bolster the health of street trees.

Landscape Area Development

In addition to the goal of creating additional accessible open spaces in the Midtown Core, Midtown Alliance will also explore potential locations for the creation of new landscaped areas. Significant opportunities for creating such spaces were identified in The Atlanta Connector Plan, completed in 2011. This initiative was undertaken as a collaborative planning effort between the City of Atlanta, Georgia Department of Transportation, Midtown Alliance, and Central Atlanta Progress/Atlanta Downtown Improvement District. The result of the study is a plan that envisions the transformation of the I-75/85 corridor (aka, the Connector) by improving the experience of the more than 300,000 vehicles that travel the Connector daily. In simplest terms, the project seeks to enhance Atlanta's front door in a way that both improves its appearance and creates a positive impact for nearby businesses, institutions and destinations.

In Midtown, the Connector runs along the entire west side of the District. The fragments of land that run along the center and sides of the interstate are either inaccessible or too small to be occupied. Thus, the plan proposes to transform these segments of land into intensively landscaped areas and gateways that would serve as a visual amenity and further define the character of the Midtown District.

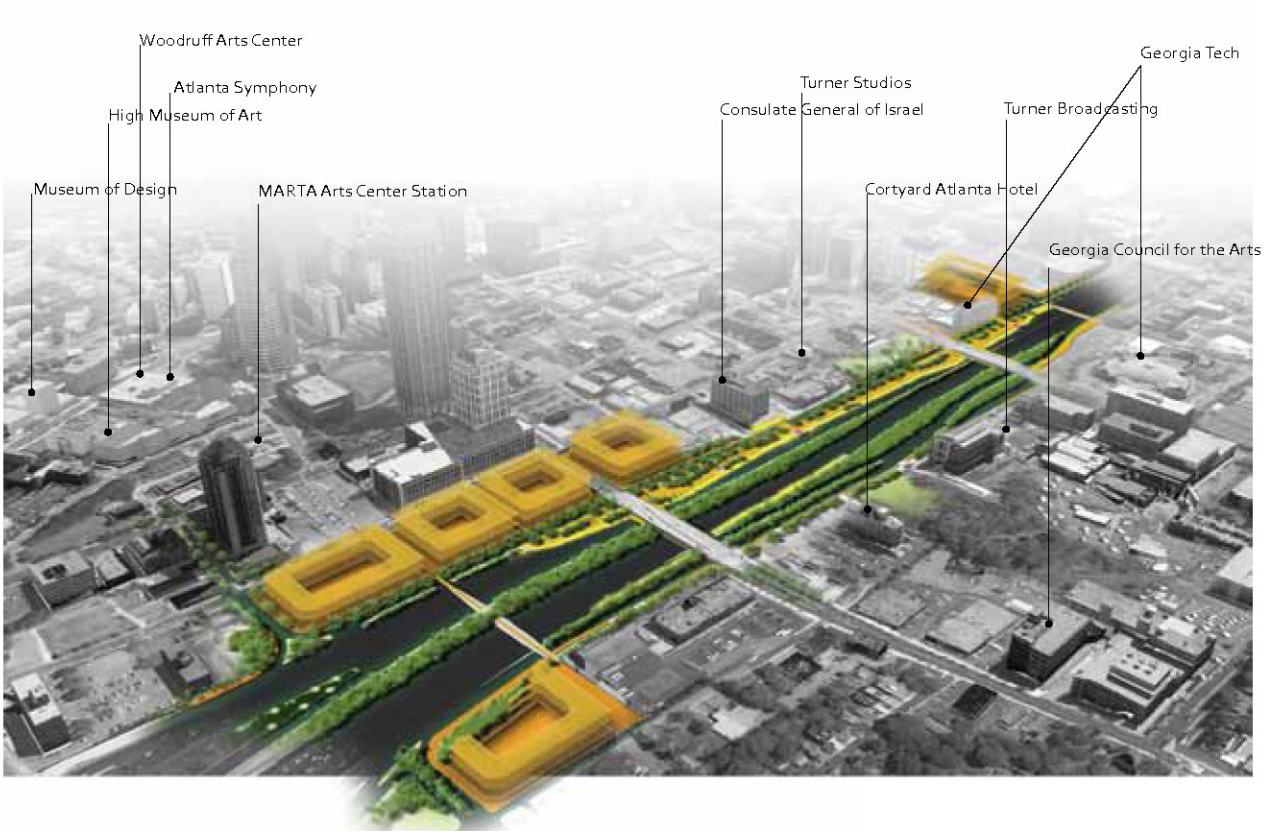
The vision manifests itself through a design approach that includes both landscape and hardscaped elements that have been distilled into six basic concepts (Urban Forest, Vertical Greening, Lighting, Art, Urban Furnishings and Urban Design), two of which have a direct impact on open space in Midtown:

1. Urban Forest – The goal of the urban forest is to create a striking "outdoor room" at each end of the Connector to celebrate arrival into Downtown and Midtown. These gateways combine native plants, exotic species, and light elements to highlight the built infrastructure of the freeway. Rather than replicate a true Piedmont forest, this concept seeks to create a cultured environment that is immediately recognizable as a designed space inspired by nature.
2. Vertical Greening – This strategy is designed to soften the stark, uninviting environment of concrete retaining walls flanking the freeway, to highlight structural elements of interest and to continue the green theme of the urban forests. A horticultural approach will be taken with the selection of plant materials so that the effect is vigorous and visually stimulating as well as environmentally sensitive and sustainable.

In order to add new landscaped areas to Midtown, Midtown Alliance will implement the following activities:

1. Identify funding sources to implement the recommendations provided in the Connector Transformation Plan.
2. Once funding is secured, partner with the appropriate agencies to implement the projects.

VISION PLAN CONNECTOR PLAN ENLARGEMENT MIDTOWN PROMENADE



IMPACT

Environmental Impact: In an urban environment, trees provide shade for pedestrians and parked vehicles and reduce the urban heat island effect. Trees and vegetation also filter particulates out of the air and reduce the quantity of stormwater flowing into Atlanta's combined sewer. Trees and landscaped areas also make the District more livable, which attracts new residents who will lead a more sustainable lifestyle than if they lived in a less resource-efficient location.

Community Impact: By enhancing the quality of the street environment, people are encouraged to walk more and come into contact with their neighbors. Midtown's residents, workers and visitors will also be encouraged to venture to parks and plazas where social interaction occurs.

Economic Impact: Indirectly, trees improve the quality of life in Midtown making the District more attractive for investment.

POTENTIAL IMPLEMENTATION PARTNERS/RESOURCES

- Georgia Department of Transportation – controls the Downtown Connector right-of-way along with several street corridors in Midtown.
- U.S. Department of Agriculture Forestry Service/Southern Region – located just north of Midtown, a resource for information and potentially a source of funding.
- Central Atlanta Progress – Midtown Alliance should continue to coordinate efforts with CAP on the Connector Transformation Plan.
- City of Atlanta – provides policy direction and regulatory authority.
- Trees Atlanta – a local non-profit that plants and maintains trees throughout the City.
- Piedmont Park Conservancy – established as the caretaker of Piedmont Park and a valuable resource for urban forestry and landscaping.
- Atlanta Botanical Garden – can provide expert guidance on landscape design as well as plant selection and maintenance.

COSTS & POTENTIAL FUNDING

Staff time is necessary to research and develop best practices in urban forestry and to conduct the street tree audit. These tasks can be completed within existing staff resources.

The cost to implement The Connector Transformation Project is high given the extensive scope of the project. The plan will likely be implemented over an extended time line of 15-20 years. Near-term projects will include bridge enhancements, lighting, and vertical greening to emphasize the gateway effect and provide the maximum benefit for the funds anticipated to be available in the short term.

Potential funding sources include the Midtown Improvement District, the State Road and Tollway Authority, Georgia Department of Transportation, and local foundations.

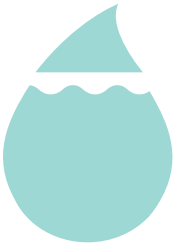
CHALLENGES & POTENTIAL SOLUTIONS

Challenge: The major challenge for The Connector Transformation Project relates to the difficulty securing the funding needed to execute the project.

> Potential Solution: Additional sources will need to be explored and the funding strategy will evolve along with this project.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Tree audit	N/A	Completed by 2014
Bridge improvements	N/A	Completed by 2014
CTP – lighting enhancements	N/A	Completed by 2016
CTP – vertical greening	N/A	Completed by 2016



“All the water that will ever be, is right now”

- National Geographic, 1933

3.3 Water

WATER OVERVIEW

Sustainable water management acknowledges the interdependence among ecological systems and the built environment. In order to meet both basic human needs and the needs of local watersheds, urban areas such as Midtown must reduce potable water demand by reusing and recycling water resources wherever possible, using potable water only for potable needs. [1] This section describes challenges and opportunities for addressing water sustainability in Midtown and outlines strategies and programs that Midtown Alliance can influence and integrate in order to maximize water efficiency and reduce negative water quality impacts.

Clean and readily available water is fundamental to environmental and human health, as well as economic prosperity. However, here in Atlanta and across the United States, demands on surface streams and groundwater resources are increasing. Population growth, regulatory pressures for increased environmental protection, and potential effects of climate change collectively create uncertainty in water availability, costs, and use. The complex impacts of growth and urbanization on water resources are experienced at many scales throughout the country, for example:

- The 2010 Assessed Waters Database from the U.S. Environmental Protection Agency, reports that of the 971,156 assessed stream miles in the United States, 43.3 percent are considered impaired for recreational uses, 44.5 percent are considered impaired for aquatic wildlife, and 25.3 percent are considered impaired for public water supply. [2]

- A 2003 study by the U.S. Government Accountability Office predicted local, regional, or state-level water shortages in thirty-six states, including Georgia, by 2012. [3] These shortages were anticipated even under normal climatological conditions. Drought periods further exacerbate impacts of water shortages, like the exceptional and extreme conditions experienced in multiple regions of Georgia in 2007, 2011 and early 2012. [4]

These studies and indicators reinforce the need for local proactive action to ensure sustainability of water resources. State, regional, and local water plans set the foundation for water resources management in Midtown.

WATER GOALS

- Minimize storm water runoff from impervious surfaces
- Increase water efficiency in buildings
- Reduce potable water consumption

[1] Portland Sustainability Institute. 2011. "The EcoDistricts Toolkit: Assessment." Retrieved from: http://www.pdxinstitute.org/images/posi_publications/Toolkits/assessmenttoolkit_dec11.pdf (Accessed June 2012)

[2] U.S. Environmental Protection Agency. 2010. "Watershed Assessment, Tracking & Environmental Results – National Summary of State Information." Retrieved from: http://ofmpub.epa.gov/waters10/attains_nation_cy.control (Accessed July 2012)

[3] U.S. Drought Monitor. 2012. "Drought Monitor Archive Tables." Retrieved from: http://droughtmonitor.unl.edu/dmtabs_archive.htm (Accessed June 2012)

[4] U.S. Government Accountability Office. 2003. "States' View of How Federal Agencies Could Help Them Meet the Challenges of Expected Shortages" GAO-03-514. Retrieved from: http://www.gao.gov/assets/160/157452.pdf (Accessed June 2012)

GEORGIA STATE WATER PLAN

The Georgia Comprehensive State-wide Water Management Plan (State Water Plan)[5] adopted by the General Assembly in 2008 was the first state-level water resources plan for Georgia. Serving as a far-reaching vision for water resource management, the State Water Plan created ten regional water planning regions to ensure water resources are sustainably managed through at least 2050. The State Water Plan provides for resource assessments, forecasting, and regional water plans. Each regional plan outlines specific management practices necessary to meet regional needs within the capabilities of the resources. The regional plans aim to promote sustainable use, conservation and reuse of water, guard against a shortage of water, and promote the efficient use of the water resource. The regional plans are also based upon detailed scientific analysis of the water resources, the projected future condition of the resources, current demand, and estimated future demands.[6]

METROPOLITAN NORTH GEORGIA WATER PLANNING DISTRICT

The regional water plan for Metro Atlanta is managed by the Metropolitan North Georgia Water Planning District (Metro Water District). The metro planning area covers approximately 4,900 square miles in fifteen counties (including Bartow, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Paulding, and Rockdale counties) and includes parts of six major river basins (Chattahoochee, Coosa, Tallapoosa, Flint, Ocmulgee, and Oconee). Staffed by the Atlanta Regional Commission, the Metro Water

[5] Georgia Water Council. Retrieved from: http://www.georgiawatercouncil.org/Files_PDF/water_plan_20080109.pdf

[6] Georgia Department of Natural Resources, Environmental Protection Division. Retrieved from: http://www.georgiawaterplanning.org/(Accessed June 2012)

District works with local governments, water and wastewater utilities, and stakeholders to implement three regional water resources plans, which include specific measures for water supply and conservation, wastewater, and watershed management.[7] Fulton County and the City of Atlanta are active participants in Metro Water District planning activities, and can guide and influence water sustainability for the region.

WATERSHED CHARACTERISTICS OF MIDTOWN

Midtown is located in the highly urbanized southern portion of the Peachtree Creek watershed in the Upper Chattahoochee River basin. Two Peachtree Creek sub-basins – Clear Creek and Tanyard Creek – flow as surface water along the northwestern and eastern boundaries of the Midtown core. Peachtree Street is generally the ridgeline between the two sub-basins; areas to the west of Peachtree Street drain to Tanyard Creek, while areas east of Peachtree Street drain to Clear Creek. The majority of other streams within Midtown and Atlantic Station are channeled in underground culverts. Due to its proximity to Atlanta, the Chattahoochee River is the most heavily used water resource in Georgia.[8] Water management actions in Midtown and the Peachtree Creek basin directly impact the wide variety of uses of the Chattahoochee River, including the quality and availability of the drinking water supply for millions of Georgia citizens.

CHATTAHOOCHEE RIVER USES

Water Supply

Wastewater Assimilation

Agriculture

Recreation

Power Generation

Navigation

[7] Metropolitan North Georgia Water Planning District. Retrieved from: http://www.northgeorgiawater.org/index.htm. (Accessed June 2012)

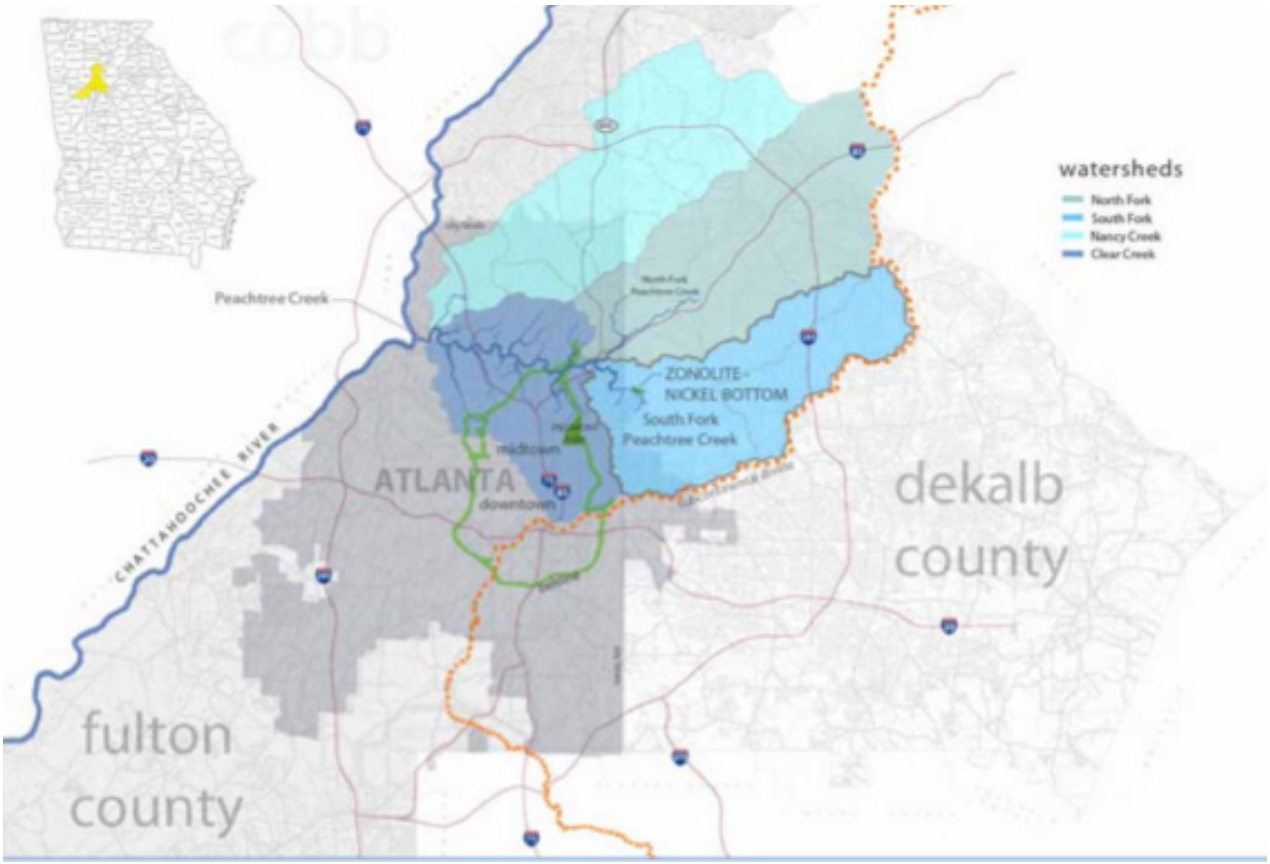
[8] United States Geologic Survey. 1995. "Water Resources Investigations Report 95-4278." Retrieved from: http://pubs.usgs.gov/wri/1995/4278/report.pdf (Accessed June 2012).

City of Atlanta Water System

The City of Atlanta Department of Watershed Management (DWM) provides stormwater, drinking water and wastewater services to Midtown. Water is withdrawn from the Chattahoochee River, treated at the Chattahoochee and Hemphill water treatment facilities and then supplied directly to businesses and residents. Wastewater conveyance and treatment is provided at the R.M. Clayton Water Reclamation Center located west of Midtown. Stormwater is combined and conveyed with sanitary sewer lines and treated at either the water reclamation center or local Combined Sewer Overflow (CSO) facilities.

Combined Sewer System

Areas of Atlanta operate on a combined sewer system, which carries both wastewater and stormwater through the system to water reclamation centers for treatment and eventual discharge into a river or stream. In dry weather, all flow goes to a wastewater treatment plant. During wet weather, some flow may be diverted to CSO treatment facilities for storage and/or treatment. In heaviest rainfall, combined sewage flow may be discharged directly to streams. The Clear Creek CSO Treatment Facility is located on Monroe Drive near Piedmont Park and provides treatment for stormwater and wastewater flows from Midtown and Downtown Atlanta.



WATER CHALLENGES

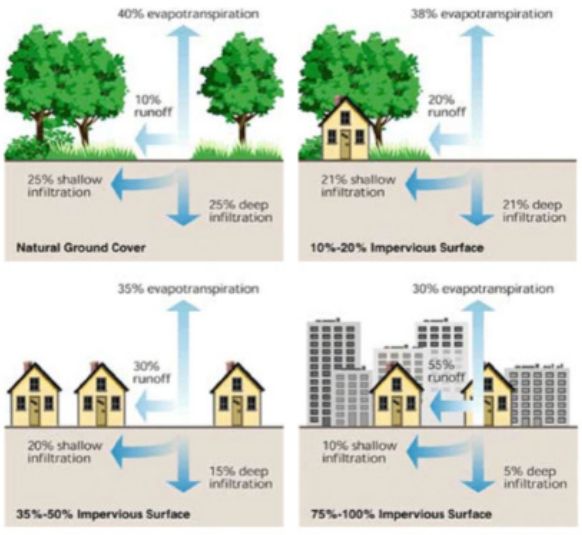
The urban characteristics of Midtown present multiple challenges to sustainable water resource management. Because land, and the water that runs over and through it, are intimately connected, a watershed approach is vital to understanding and addressing water supply and quality impacts. By definition, a watershed approach is "a coordinating framework for environmental management that focuses public and private sector efforts to address the highest priority problems within hydrologically-defined geographic areas, taking into consideration both ground and surface water flow."[9] A watershed approach will consider all challenges that can be addressed in order to help ensure water sustainability in the Midtown.

STORMWATER POLLUTION

Atlanta receives nearly 50 inches of rain per year on average [10] providing the Midtown Core with over 1.1 billion gallons of rainwater annually. Due to the increasingly high level of imperviousness in Midtown, the majority of this rainfall leaves the Peachtree Creek watershed as stormwater runoff. Because environmental regulations have become relatively effective at controlling point source pollution from industry and wastewater treatment plants, non-point source pollution (stormwater runoff) is now the leading cause of water quality problems. As land in Midtown

[9] U.S. Environmental Protection Agency. 1996. "Watershed Approach Framework." Retrieved from: http://www.epa.gov/owow/watershed/framework/ (Accessed July 2012).
[10] National Weather Service Weather Forecast Office. 2010. "Rainfall Scorecard" Retrieved from: http://www.srh.noaa.gov/ffc/?n=rainfall_scorecard (Accessed June 2012)

has developed, natural areas were converted to impervious surfaces such as streets, sidewalks, buildings and parking lots. Approximately 78% of the Midtown Core is currently impervious. The level of imperviousness in a dense, urban area typical falls in the range of 75%-100%. As Midtown continues to grow, so will its level of imperviousness. Stormwater that would normally soak into the ground becomes runoff. While some stormwater runoff is normal, the increased volume of runoff associated with impervious surfaces can cause streambank erosion, flooding, and property damage. In urban areas like Midtown, this runoff picks up silts, oils, heavy metals, and other pollutants from roads, sidewalks, and other hard surfaces and deposits them directly in streams. Addressing stormwater challenges through strategic green infrastructure and other sustainable practices will allow Midtown to reduce negative impacts to resources in the watershed.



LIMITED WATER SUPPLY

Water resources challenges in Midtown and the Peachtree Creek basin can be exacerbated by the overall hydrologic conditions of the Chattahoochee Basin. The headwaters of the Chattahoochee River, which drain into Lake Lanier north of Atlanta, comprise the smallest drainage area that provides a major portion of water supply for any metropolitan area in the country. [11] The upper portion of the Chattahoochee River supplies more than 70 percent of drinking water for metro Atlanta – an annual average of about 450 million gallons per day – enough to fill 681 Olympic swimming pools. The small size of the watershed limits the amount of water that is available for human uses because of the need to maintain in-stream flows for assimilating wastewater and for aquatic and wildlife habitat.

In addition to hydrologic limitations, the Chattahoochee Basin faces legal and regulatory challenges regarding rights to withdraw water for drinking purposes. Georgia's ongoing negotiations with Florida and Alabama may limit water supplies until a permanent agreement for the equitable allocation of water among the three states can be reached.

The State Water Plan and the Metro Water District plans both estimate that additional water supplies will have to be developed in the basin – through new reservoirs or other storage – to meet future demands. Conservation and increased water efficiency is also a planned strategy to meet potable water demands of the growing population. Strategic programs to reduce potable water use in buildings and open space projects can enable Midtown to be a leader and positive example of how water supply challenges can be addressed at watershed and neighborhood scale.

[11] Upper Chattahoochee Riverkeeper. Retrieved from: www.chattahoochee.org/river-facts.php. (Accessed June 2012).

AGING INFRASTRUCTURE

Water quality and quantity challenges are further complicated when considering the infrastructure – and energy – required to treat stormwater and wastewater and deliver water to consumers. The City of Atlanta owns and operates complex and aging systems – some in the ground for more than 100 years – that are critical for basic sanitation, public safety, economic development, and other necessities. Basic repairs to these systems, such as fixing leaks, replacing older pipes, and maintaining meters, were delayed for multiple decades. The City is now required to comply with two federal consent decrees and a state consent order to improve water quality, secure drinking water facilities in accordance with national homeland security guidelines, and provide more integrated management of water resources. The City adopted an aggressive capital improvement program in 1993 that will invest billions of dollars in wastewater and sewer system improvements by the year 2027.[12]

These water and wastewater system improvements are costly to the City and to consumers, who shoulder the costs of infrastructure improvements through high water and wastewater rates. According to a 2009 national study of water and wastewater rates, City of Atlanta customers paid the second highest wastewater and seventh highest water rates in the country.[13] Finding equitable ways to finance future infrastructure improvements while encouraging conservation will continue to challenge the City and ratepayers in Midtown.

[12] Atlanta Department of Watershed Management. "Clean Water Atlanta". Retrieved from: http://www.atlantawatershed.org/cwa/ (Accessed June 2012)

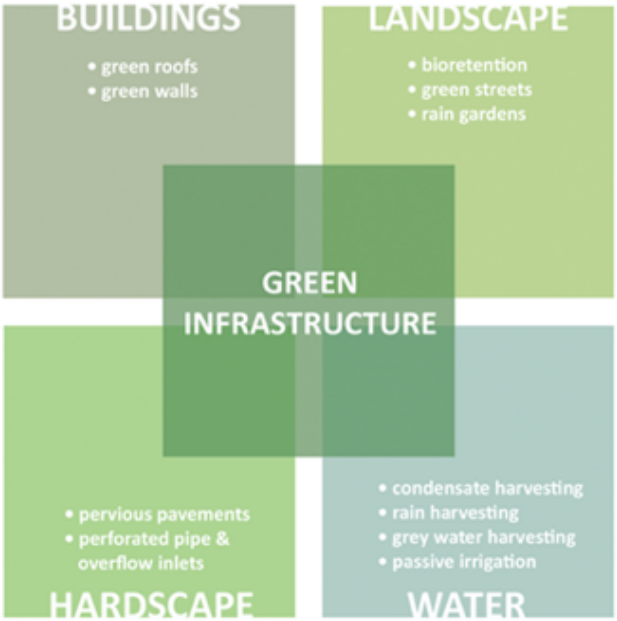
[13] Black & Veatch. 2009. "50 Largest Cities Water/Wastewater Rate Survey."

WATER OPPORTUNITIES

Though Midtown contributes to stormwater pollution and limited water supplies, the District is well situated to address these challenges. Diverse water demands from commercial and residential buildings provide many options to increase efficiency and conserve resources.

GREEN INFRASTRUCTURE

Green infrastructure is an emerging stormwater best management practice to reduce impacts to local streams, enhance overall environmental quality, and provide utility services. Green infrastructure approaches use natural or engineered systems that mimic natural processes, to infiltrate, evapotranspire, and/or recycle stormwater runoff. [14] By mimicking natural hydrologic functions, these approaches prevent stormwater from flowing into surface waters or overburdened sewer systems. Green infrastructure approaches are scalable – from small projects on individual buildings to larger elements that span entire watersheds – and potentially cheaper than traditional stormwater approaches. Communities across the country have used green infrastructure as a cost-effective way to supplement or replace traditional stormwater management practices (see Best Practices Appendix). Additionally, green infrastructure has been found to enhance community aesthetic experiences for residents, and improved quality of life and property values in communities that have widely adopted green infrastructure solutions. [15] Green infrastructure approaches offer great opportunities for Midtown to more sustainably address stormwater challenges as buildings and streetscapes are developed and redeveloped in the District.



Credit: Green Infrastructure Digest

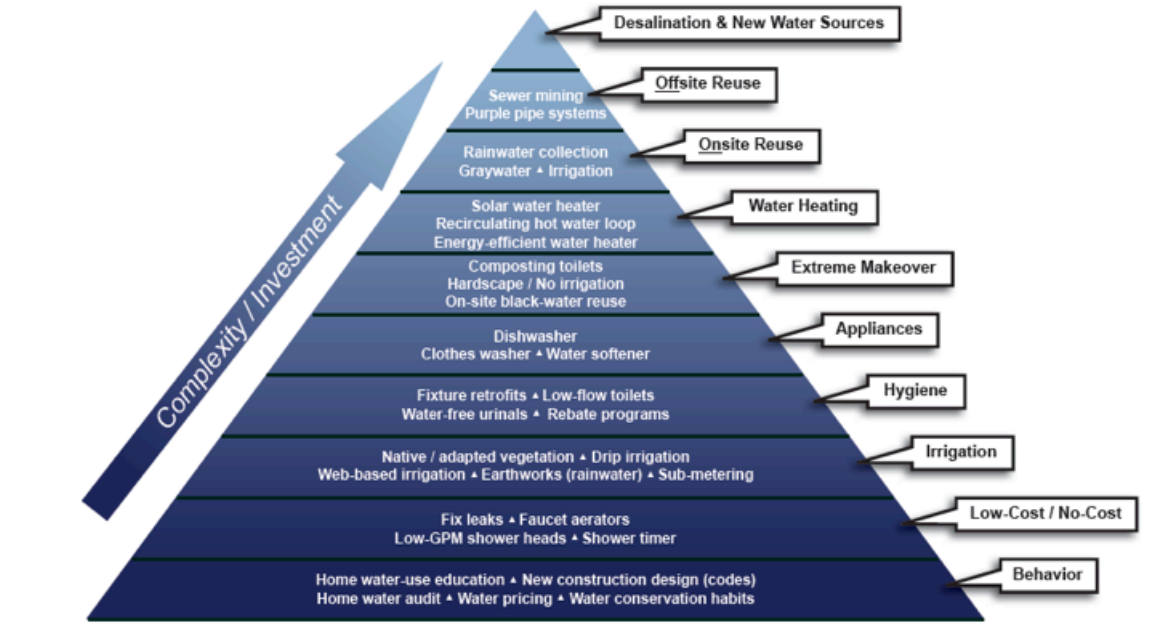
[14] U.S. EPA. Retrieved from: http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm

[15] American Rivers. 2012. "Banking On Green: A Look At How Green Infrastructure Can Save Municipalities Money and Provide Economic Benefits Community-Wide." Retrieved from: http://www.americanrivers.org/assets/pdfs/reports-and-publications/banking-on-green-report.pdf (Accessed June 2012)

WATER EFFICIENCY AND CONSERVATION

Less water going down the drain means more water available in the lakes, rivers and streams used for human and environmental needs. [16] Georgia's state and regional water plans all require increased water efficiency and conservation in order to meet future water needs of the state. Conservation and efficiency measures may offer low-cost, low-impact opportunities to help close the water supply gap by reducing water demands of businesses and homes in Midtown, particularly in high water-using buildings such as restaurants, hotels, and multifamily buildings.

The Pyramid of New Water Sources developed by Yudelson Associates, a leading international green building consulting firm, graphically depicts options for developing new water sources. [17] This pyramid highlights measures that could be implemented at various scales – with increasing complexity and costs – in the District to reduce water demand. Education and behavior changes have the widest applicability and are the lowest cost options; Midtown Alliance is well positioned to educate a wide variety of water users and the potential for real water savings is high. As greater levels of water efficiency are achieved through education, other water supply projects should be considered in order to maximize water sustainability potential in the District.



Pyramid of New Water Sources

[16] U.S. EPA. "WaterSense: Why Water Efficiency" Retrieved from: http://www.epa.gov/watersense/our_water/why_water_efficiency.html (Accessed June 2012)

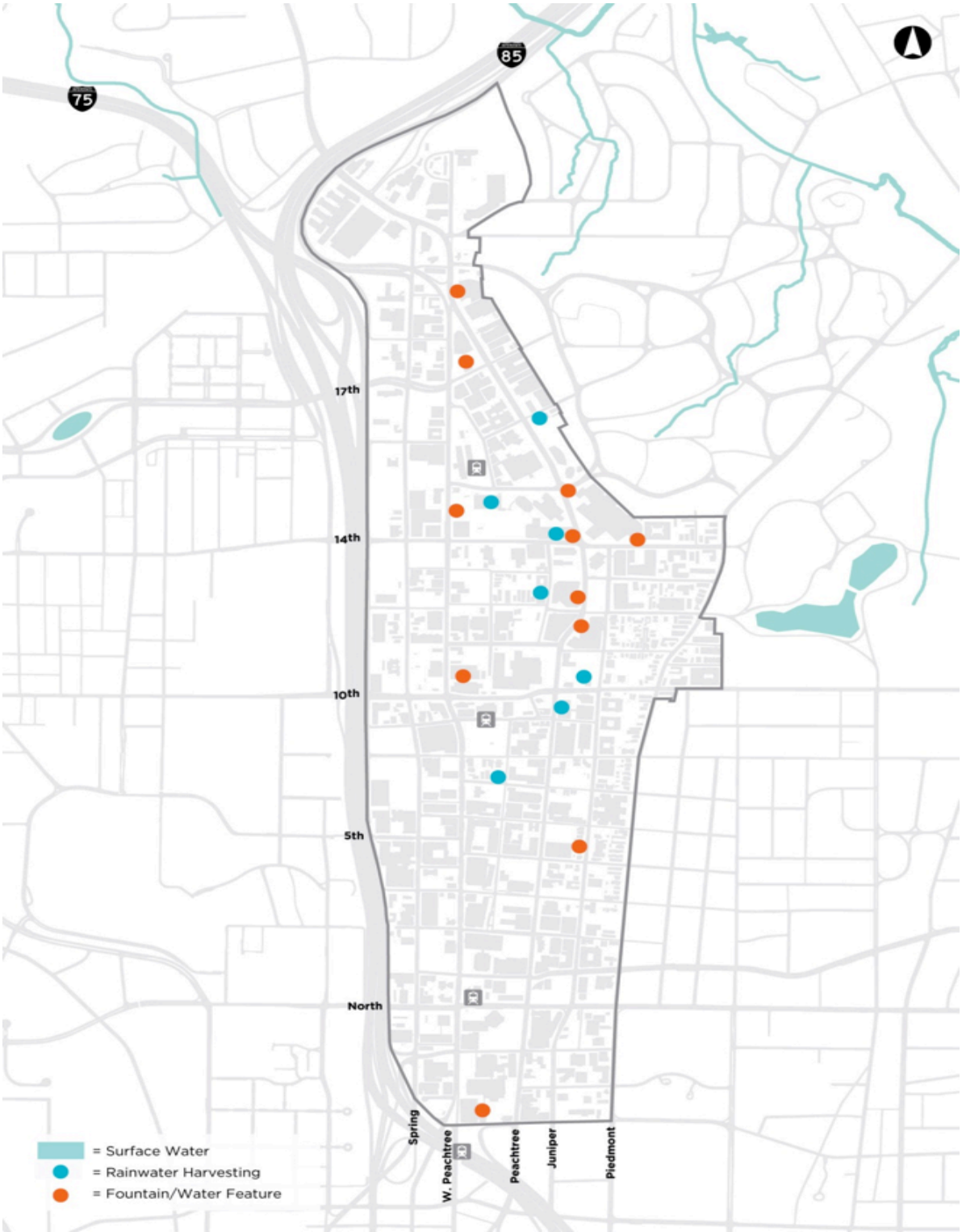
[17] Yundelson Associates. 2011. "Pyramid of New Water Sources." Retrieved from: http://www.greenbuildconsult.com/pdfs/pyramid-handout.pdf (Accessed June 2012)

MIDTOWN WATER ASSETS

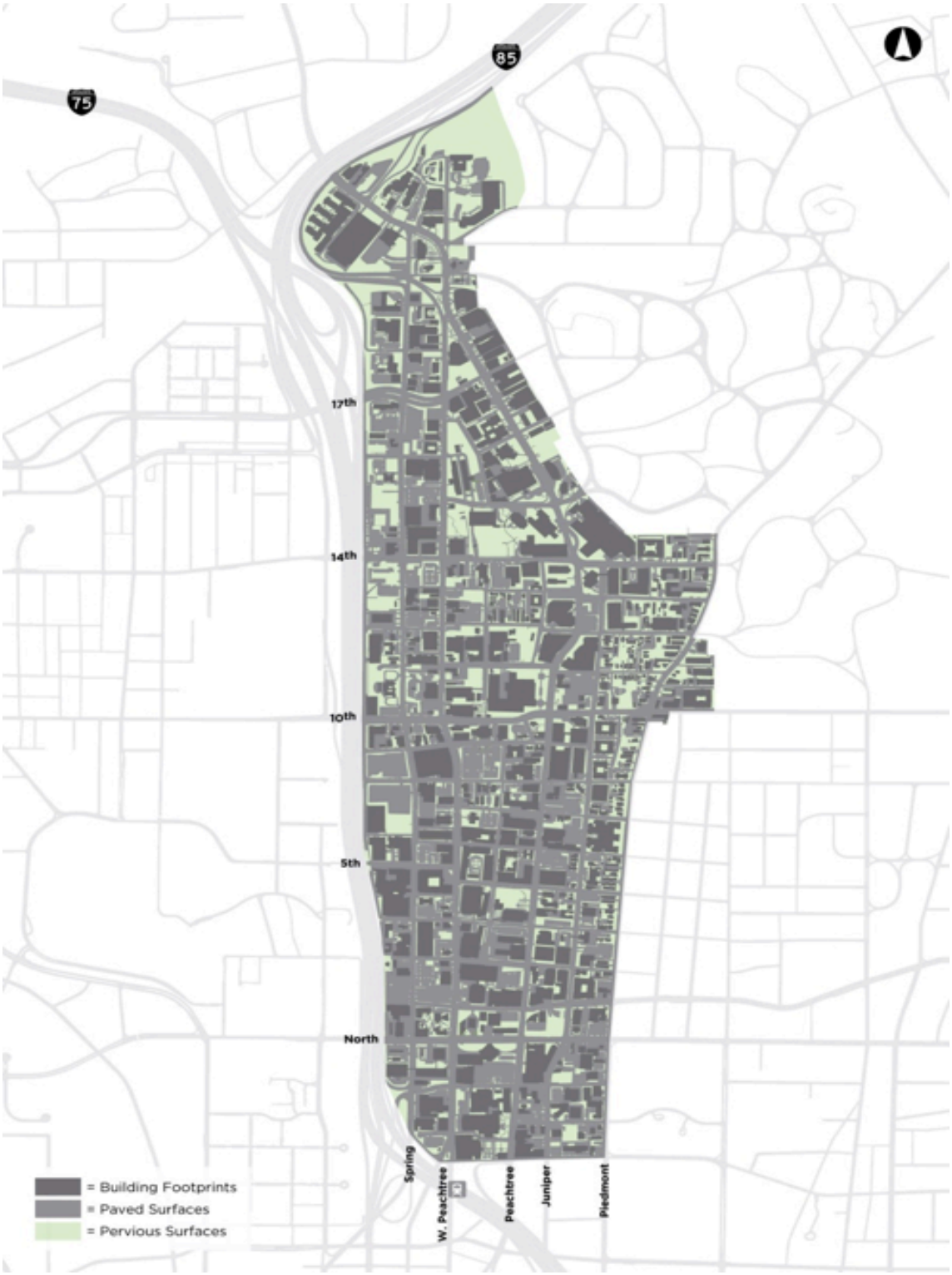
Midtown has excellent assets for supporting a sustainable water system including a clean and safe water supply, newly replaced infrastructure, and a regional plan for conservation. Water resources data is often unavailable at the community scale. Ongoing coordination with the City and individual building owners will be required to obtain a complete inventory of water assets in Midtown. Existing water assets include:

- Rainwater Harvesting Systems
  - Midtown Alliance
  - Southface
  - Perkins + Will
  - Lure
  - Ecco
  - 999 Peachtree Street
  - Promenade II
  - 1180 Peachtree
- Buildings participating in the City of Atlanta Multifamily Toilet Rebate Program
  - Arts Center Tower
- Restaurants with low-flow spray rinse valves (as identified by survey)
  - Midtown Tavern
  - Highland Bakery
  - Jason's Deli
  - Gordon Biersch Brewery
  - 5 Napkin Burger
  - Campagnolo
  - Apache Cafe
  - Escorpion
  - The Peachtree Club
  - Hudson Grille Midtown
  - Babs Midtown

Midtown Water Assets



Impervious Surfaces



WATER STRATEGIES & PROGRAMS

Through the Greenprint Midtown planning process, the following Open Space strategies were developed and guided the selection of both Tier 1 (priority) and Tier 2 programs/projects. In the future, additional programs and projects can be developed from the following strategies.

STRATEGIES

WS1: Encourage and implement green infrastructure features in public and private development.

WS2:Educate Midtown water users about changes in operations, behaviors, and fixtures that reduce water use.

WS3: Promote rainwater harvesting and other on-site non-potable water supplies to meet outdoor and process water needs.

WS4: Encourage water efficient landscapes to reduce outdoor water use.

TIER 1 PROGRAMS/PROJECTS

The following Tier 1 programs and projects were identified as priorities and are described in more detail in the next section.

WP1: Green Stormwater Infrastructure Program

WP2: Restaurant Water Efficiency Outreach

WP3: Multifamily Water Efficiency Outreach

WP4: Rainwater Harvesting Outreach

TIER 2 PROGRAMS/PROJECTS

WP5: Water Efficiency Outreach to specific building types - The majority of buildings in Midtown are relatively new, but continuing water efficiency outreach to prominent building types such as commercial office buildings and hotels will be an important step to reducing overall water use in the MID. Outreach efforts create opportunities to cultivate a culture of sustainability among Midtown workers and visitors.

WP6: Infrastructure Retrofits for Parking Lots - The amount of impervious surface and heavy automobile use associated with surface parking lots makes them a significant source of stormwater runoff and pollutants. Incorporating green infrastructure strategies in privately owned parking lots and decks are a logical extension of the sustainable community design practices begun in street scape and open space projects as part of the Green Stormwater Infrastructure Program.

WP7: Outdoor Water Use Policies & Practices - Watering schedules, landscaping guidelines, and non-potable water use policies can reduce potable water use and elevate the importance of water stewardship in Midtown.

TIER 1 WATER PROGRAMS

WP1 – GREEN STORMWATER INFRASTRUCTURE PROGRAM

Description

Urban infrastructure such as roads, bike lanes, driveways, sidewalks, and curbing are necessary for community access, safety, and mobility. However, much of this infrastructure also contributes to high levels of imperviousness, which results in surface runoff that can pollute streams and rivers. Midtown Alliance has a significant opportunity to lessen the impacts by incorporating green infrastructure best practices in the design of its streetscape and open space projects. In addition, Midtown Alliance can educate the private development community about the benefits of incorporating green infrastructure.

Through this program, Midtown Alliance will incorporate green infrastructure approaches, such as bioswales, rain gardens, and permeable pavement in future streetscape and open space projects. This program will complement and therefore should be coordinated with Transportation and Open Space programs.

The following program implementation activities will help further water sustainability goals in Midtown:

- Revise the Midtown Development Design Guidelines to incorporate green infrastructure best practices in the Public Spaces, Site Planning and Parking sections of the guidelines. Guidelines should focus on strategies that minimize the quantity of stormwater entering combined sewers through design treatments and plant materials in order to improve water quality and reduce flooding. The revised guidelines should include standards for permeable pavement, tree planter boxes, bioswales, rainwater harvesting and complete streets (see Transportation Impact Area).

- Specify green infrastructure approaches in all Requests for Proposals for streetscape and open space projects. Include multi-year maintenance and training into construction contract.

- Educate the development community on the design guideline revisions through outreach events and trainings as appropriate, such as during Midtown Development Review Committee meetings.

- Participate as an active stakeholder in the review and update of related City of Atlanta ordinances, for example, the Standard Details and the Post-Development Stormwater Ordinance, to ensure symmetry on all green infrastructure design standards.

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- City of Atlanta Department of Public Works (DPW) – DPW has permitting authority and reviews all public and private development.
- City of Atlanta Department of Watershed Management (DWM) – DWM is responsible for protecting Atlanta's urban waterways and for providing safe drinking water.
- The Conservation Fund – a national nonprofit that offers tools and training on green infrastructure that could serve as a resource for the Green Stormwater Infrastructure Program. [18]

IMPACT

Environmental Impact: Green infrastructure approaches use site design, natural vegetation, and engineered materials to increase water infiltration and capture runoff. Stormwater runoff and the associated volume of combined sewer overflows can be reduced through green infrastructure, which results in cleaner water and enhanced water supplies. Trees and vegetation incorporated in green infrastructure projects can filter airborne pollutants and create shade that can lead to cleaner air and reduced urban temperatures. [19] These studies have also demonstrated that green infrastructure incorporated on and around buildings can increase energy efficiency by shading and insulating buildings.

Community Impact: Green infrastructure projects show a visual commitment to protecting water resources and can help raise awareness about water issues. Trees and plants improve urban aesthetics and community livability by providing recreational and wildlife areas. Studies show that property values are higher when trees and other vegetation are present.

Economic Impact: Green infrastructure can potentially have more expensive up-front costs than traditional infrastructure due to differences in materials and labor costs. However, the investment can save money over time by reducing capital costs of additional stormwater detention and lowering operational expenses of pumping and treating stormwater and combined wastewater flows. Green infrastructure can also help prevent costly repairs from damage caused by stormwater and pollution, such as streambank restoration.

[18] The Conservation Fund. "The Conservation Fund and Green Infrastructure." Retrieved from: http://www.conservationfund.org/green_infrastructure (Accessed July 2012).
[19] U.S. EPA. 2008. "Managing Wet Weather with Green Infrastructure Action Strategy." Retrieved from: http://water.epa.gov/infrastructure/greeninfrastructure/upload/gi_action_strategy.pdf (Accessed June 2012).

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Siting effective green infrastructure projects can impede on rights of ways, easements, and underground utilities.

> Potential Solution: Involve the City of Atlanta, utility owners, and the public as early as possible to determine appropriate site size and whether permanent easement or land acquisition is desired or necessary. Future plans of adjacent roads, buildings, and other infrastructure should also be considered when siting projects.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Green Infrastructure		
Number of Private Projects Incorporating Green Stormwater Infrastructure Design	11 [20]	20 by 2020
Number of Public Projects Incorporating Green Stormwater Infrastructure Design [21]	1 [22]	5 by 2020

[20] Results from USGBC.org LEED Projects & Case Studies Directory

[21] Green Infrastructure according to the EPA includes: downspout disconnection, rainwater harvesting, rain gardens, planter boxes, bioswales, permeable pavements, green alleys & streets, green parking, green roofs, urban tree canopy, and land conservation.

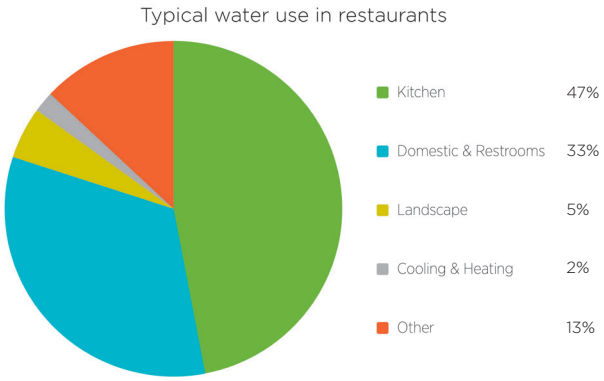
[22] Juniper Streetscape project

WP2 – RESTAURANT WATER EFFICIENCY OUTREACH PROGRAM

Description

Water plays a crucial role in restaurants – from cooking and cleaning to aesthetics and ambiance. Home to more than 150 restaurants and drinking establishments, Midtown is a top dining destination in Metro Atlanta. On average, restaurants use 5,800 gallons of water per day,[23] nearly the average amount of water used by an Atlanta household per month. [24] The majority of water is used in the kitchen and for domestic (cleaning) and restrooms. [25] In Atlanta, this amount of water usage can cost well over $4,000 per month, a significant operating expense.

A July 2012 survey of Midtown restaurants revealed significant opportunities to conserve water and save money. Less than one-third of the respondents utilized low-flow pre-rinse spray valves, low-flow or waterless urinals, or high efficiency or dual-flush toilets. [26] Increasing water efficiency at Midtown restaurants can help improve their bottom lines, the environment, and the perception of the District as a place for sustainable businesses.



[23] Southwest Florida Water Management District. 1997." ICI Conservation in the Tri-County Area of the SWFWMD." Retrieved from: http://www.swfwmd.state.fl.us/conservation/waterwork/checklist-restaurant.html (Accessed July 2012)
[24] City of Atlanta Department of Watershed Management. "Water and Sewer Rate Information." Retrieved from: http://www.atlantawatershed.org/custsrv/water_and_sewer_rates.htm (accessed July 2012)
[25] East Bay Municipal Utility District. 2008.WaterSmart Guidebook: A Water-Use Efficiency Plan-Review Guide for New Businesses. Retrieved from: http://www.allianceforwaterefficiency.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=2836 (Accessed July 2012)
[26] Midtown Alliance. "Midtown Restaurant Survey" July 2012.

Through this program, Midtown Alliance will educate and assist new and existing food service facility owners and managers with establishing and maintaining a water conservation and efficiency program, including information about operational changes and plumbing and equipment retrofit options that can reduce water consumption. These outreach efforts can be a stand-alone initiative or be incorporated as part of the Green Business Recognition Program.

Midtown Alliance will implement this program through the following activities:

- Partner with the City of Atlanta Office of Water Efficiency to develop marketing and communications materials to educate restaurant managers and employees. Materials should include information on the following water efficiency measures:
    - Low-flow fixtures: aerators, low-flow pre-rinse spray valves, toilets
    - Water efficient kitchen equipment: dishwashers, icemakers, coolers/freezers, disposals, steamers, ice cream/yogurt machines
    - Water efficient landscaping: water only when needed, mulch around plants, water reuse for fountains
    - Water saving practices and policies: train employees, turn off continuous flows used to clean drains, thaw food in refrigerators rather than in running water.

- Distribute educational materials to all Midtown restaurants and food service facilities.
- Provide training/educational workshops to Midtown restaurants on the benefits and importance of water efficiency. Full service sit-down restaurants that serve two or more meals per day should be target attendees.
- Create, maintain, and distribute a referral list of local distributors and manufacturers of water efficient products and equipment.
- Monitor and track outreach and efficiency efforts.

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- City of Atlanta Office of Water Efficiency (OWE) – OWE can provide technical review of outreach materials and can assist Midtown Alliance with tracking water savings from restaurants that retrofit fixtures.
- National Restaurant Association/Georgia Restaurant Association – national and state-level restaurant professional associations can provide resources on the value of water efficiency in restaurants. The national ConSERVE Sustainability Education Program is an online resource designed by restaurant professionals to help advance water and energy efficiency in the industry.

IMPACT

Environmental Impact: Increasing water efficiency ensures water supplies will be available for all human, community, and ecological uses. Using less water in businesses contributes to healthier flows in local streams and rivers. Adequate in-stream flows protect aquatic ecosystems, can help reduce negative impacts of pollution and stormwater runoff, and ensure water availability for downstream and future users.

Community Impact: Sustainability is increasingly becoming a key influencer of consumer purchasing and buying decisions. According to the Greenprint Midtown Community Survey, 81 percent of respondents are more likely to support restaurants or businesses that make a strong commitment to sustainability. Restaurants engaging in water efficiency practices can promote their initiatives to attract more customers. Increasing the number of food service facilities that use water efficiently can also enhance the District's image. Encouraging food service facilities to adopt water conservation policies also has potential to promote civic pride by giving restaurants and food service facilities a meaningful way to engage in the Midtown EcoDistrict.

Economic Impact: The City of Atlanta has some of the highest water and wastewater rates in the country. Reducing water use can have a meaningful impact on restaurants' profitability. On average, a restaurant in Midtown could save approximately $5,000 each year by reducing their water use by just 10 percent. Efficient water use in food service is additionally important because many high water volume applications (i.e. dishwashers and steamers) are generally using hot water. The energy required to heat that water can be significant. The reduction of hot water consumption can therefore lower water and energy bills.

COSTS & POTENTIAL FUNDING

The costs to support this program are estimated to consume about 5% of a FTE and would include staff expenses to conduct outreach and educate restaurant and food service facilities. If this program is included as part of a Green Business Recognition Program described later in this report, efficiencies could be experienced.

Potential funding sources include the Midtown Improvement District, the Metro North Georgia Water Planning District, and foundations.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Restaurant managers and owners may be hesitant to invest in new technology due to the associated upfront capital costs. Managers and employees may not feel empowered to make policy and behavioral changes.

> Potential Solution: Education materials should emphasize the role of both restaurant managers and employees in making positive environmental, economic, and community benefits through water efficiency actions.

TRACKING & MEASUREMENT

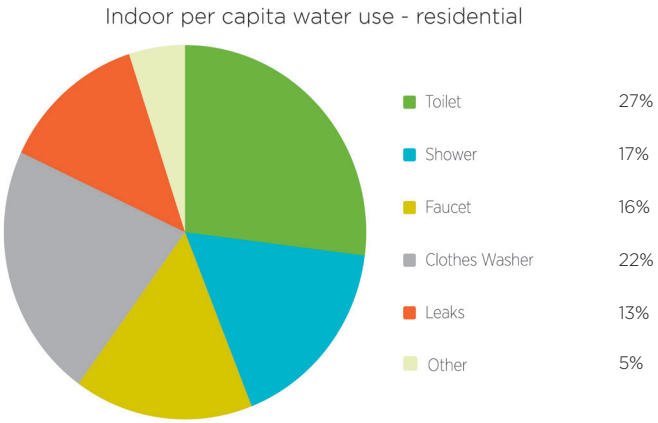
METRIC/INDICATOR	BASELINE	TARGET
Outreach		
Number of Restaurants Using Low-Flow Fixtures [27]	17	35 by 2017
Number of Restaurants Using Water Efficient Equipment [28]	11	20 by 2017
Number of Restaurants Adopting Water Saving Policies	0	10 by 2017
Number of Restaurants Using Water Efficient Outdoor Practices [29]	1 [30]	10 by 2017

[27] Waterless urinals, low-flow/high-efficiency toilets
[28] Low-flow pre-rinse spray valve or other equipment
[29] Rainwater harvesting for fountain or landscaping
[30] Midtown Alliance. "Greenprint Midtown Restaurant Survey." July 2012.

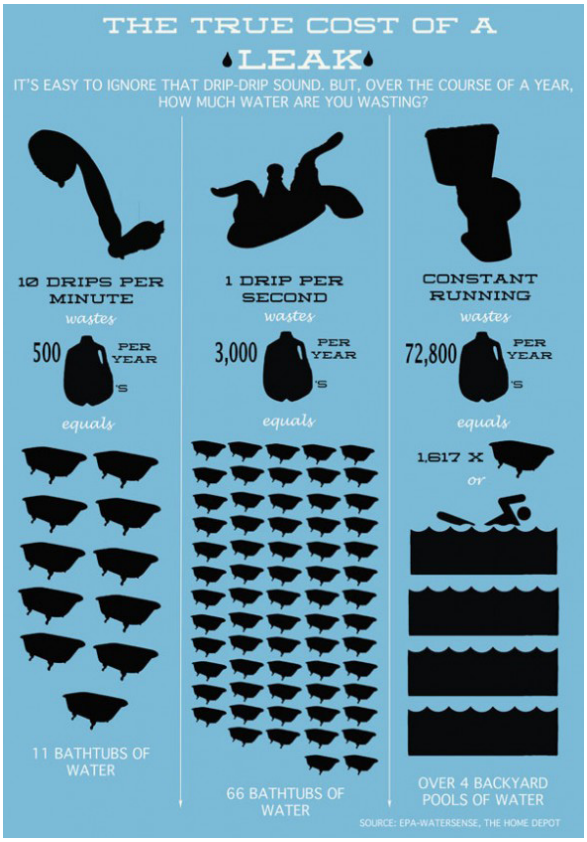
WP3 – MULTI-FAMILY WATER EFFICIENCY
OUTREACH PROGRAM

Description

Condominiums and apartments are the predominant housing type in the Midtown Core; however, the majority of multi-family residents –59 percent of condo/townhome owners and 64 percent of renters who responded to the Greenprint Midtown Community Survey – have not installed low-flow plumbing fixtures. Plumbing fixture replacement programs have been a staple of the water industry's water efficiency efforts since the late 1980s. [31] These programs often focus on toilet retrofits because toilets ar the main source of residential indoor water use The City of Atlanta currently offers a $100 rebate for each toilet replaced with a low-flow toilet within multi-family buildings. Beginning in July 2012, a new ordinance requires new residential and commercial buildings install high efficiency toilets (1.28 gpf or less). Plumbing retrofits provide a significant opportunity to save water, electricity and money. The U.S. EPA estimates that a homeowner who retrofits a bathroom with WaterSense (low-flow) fixtures can save 7,000 gallons of water, 200 kilowatt hours of electricity, and $80 in utility costs. [32]



Source: American Water Works Association Research Foundation, "Residential End Uses of Water," 1999



[31] Alliance for Water Efficiency, Toilet Fixtures Introduction. Retrieved from: http://allianceforwaterefficiency.org/toilet_fixtures.aspx (accessed June 2012)
[32] U.S EPA. " Dreaming of a Better Bathroom" Retrieved from: http://www.epa.gov/watersense/pubs/bathroom.html

Through this program, Midtown Alliance will educate and assist building managers, homeowners, and homeowners associations about plumbing retrofit options and other opportunities to reduce water consumption. This program could be a stand-alone program or offered in conjunction with the Multi-family Building Recycling Program (see Waste section).

Midtown Alliance will implement this program through the following activities:

- Partner with City of Atlanta to create a water conservation best practices guide and distribute to all multifamily building owners and managers. At a minimum, the guide should include information on the following water efficiency measures:

    - Leak detection (dye tablets, and water pressure testing)
    - Fixture and equipment retrofits (toilets, low-flow shower heads, low-flow faucet aerators, dishwashers, and clothes washer)
    - Outdoor water use (watering rules, seasonal schedules, rain sensors)
    - Billing and sub-metering

- Educate apartment managers and condominium homeowners associations about plumbing retrofit options that result in reduced water consumption, with a particular emphasis on buildings constructed prior to 1994.

- Partner with the City of Atlanta to increase participation in the City's Multi-family Toilet Rebate Program. Serve as a liaison between building owners and the City to encourage participation in the toilet rebate program.

- Provide "train-the-trainer" workshops and collateral for building owners and managers so that they can, in turn, educate their tenants on the benefits and best practices for water efficiency.

- Maintain a list of water efficiency organizations and/or suppliers that can assist with building audits and/or bulk purchasing of fixtures and fittings.

- Monitor and track outreach efforts.

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- City of Atlanta Office of Water Efficiency (OWE) – OWE can provide technical review of outreach materials and can assist Midtown Alliance with tracking water savings from buildings that retrofit fixtures. As funds are available, the City offers rebates to qualifying multifamily buildings for toilet retrofits. [33] OWE also provides "Water Saver Kits" to its water customers. [34]
- TOTO – Atlanta-based plumbing products manufacturer plans to offer discount pricing and in kind donation of products to Atlanta Better Buildings Challenge participants. The company may be willing to offer similar product discounts and technical assistance to Midtown multifamily buildings.

IMPACT

Environmental Impact: Replacing inefficient toilets and other plumbing fixtures with low-flow models will conserve water. Increasing water efficiency ensures water supplies will be available for all human, community, and ecological uses. Using less water allows water flows in local streams and rivers to stay at healthy levels. Adequate in-stream flows protect aquatic ecosystem, can help reduce negative impacts of pollution and stormwater runoff, and ensure water availability for downstream and future users.

Community Impact: According to the Greenprint Midtown Community Survey, 69 percent of respondents indicated that incentives and rebates for water saving fixtures would most encourage them to use less water. Increasing participation in existing rebate programs and retrofit activities can be a meaningful way for residents to engage in the Midtown EcoDistrict.

Economic Impact: The City of Atlanta has some of the highest water and wastewater rates in the country. Reducing water use can have a meaningful impact on bills for individual residents and homeowners associations.

[33] City of Atlanta Office of Water Efficiency. 2012. "Multi Family Toilet Rebate Program." Retrieved from: http://www.atlantawatershed.org/conservation/multi-family-toilet-rebate.htm (accessed June 2012)
[34] City of Atlanta Office of Water Efficiency. 2012. "Water Saver Kits." Retrieved from: http://www.atlantawatershed.org/conservation/water-saver-kits.htm (accessed June 2012)

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Funding for the City of Atlanta Multi-family Toilet Rebate program is limited.

Potential Solution: Buildings that are eligible for the program should be prioritized for outreach. Given the relatively small number of older multi-family buildings in the core of Midtown, it will be possible to contact every building by the end of 2012.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Engagement/Recruitment		
Number of Buildings Participating in Plumbing Retrofit [35]	3 [36]	5 by 2017
Number of Buildings Completing Water Education Training [37]	0	5 by 2017
Number Buildings Distributing Water-Saver Kits	0	5 by 2017
Number of Buildings Adopting Water Saving Policies [38]	0	5 by 2017

[35] Multi-family buildings constructed prior to 1994 are eligible for toilet retrofit rebate through the City of Atlanta, plumbing retrofit program includes all fixture types
[36] Midtown Alliance. "Greenprint Midtown – Multi-family Residence Survey." July 2012.
[37] To be developed by Midtown Alliance
[38] Outdoor & indoor water use policies

WP4 – RAINWATER HARVESTING
OUTREACH PROGRAM

Description

As water resources become more limited in Metro Atlanta and stormwater pollution becomes increasingly recognized as a serious problem, rainwater and in some cases air conditioner condensate, can play a significant role in providing water for particular needs. State code currently allows commercial properties to use rainwater for outdoor uses and for specific non-potable indoor uses with appropriate plumbing (toilet flushing and clothes washing). Rainwater cisterns can be located above ground or below ground depending on space constraints or aesthetic considerations. Harvested rainwater can meet many non-potable water demands such as landscape irrigation, fountains and other water features. Atlanta's hot and humid climate makes air conditioner condensate recovery and reuse a significant opportunity for water savings. Typically, condensate water is drained into the sewer. Condensate is very pure water and can be used for irrigation needs or for cooling tower make-up water. Using rainwater and condensate to meet particular water needs can involve more complex building design and require more up-front investment than using municipally-supplied water supplies. [39] Therefore, education on the benefits of the practice will be necessary to increase adoption in the District.

Courtesy of Perkins + Will

[39] Yundelson Associates. 2011. "Pyramid of New Water Sources." Retrieved from: http://www.greenbuildconsult.com/pdfs/pyramid-handout.pdf (Accessed June 2012)

Through this program, Midtown Alliance will educate property owners and managers on the benefits of collecting rainwater and condensate and will demonstrate feasibility in various settings through a tour of existing systems in the District, and potentially through a demonstration project. This program will complement multiple Greenprint Midtown initiatives, including the Green Stormwater Infrastructure Program, the Civic Square Acquisition and Development program, and the Temporary Park and Plaza Activation program. Midtown Alliance will implement this program through the following activities:

- Educate building owners and managers about the benefits and opportunities of rainwater and condensate capture. Buildings with appropriate end water uses should be targeted, particularly properties with large outdoor irrigation needs, cooling towers, and/or water features such as fountains and pools.
    - Develop outreach materials to educate building owners and managers about the benefits and uses of rainwater harvesting and condensate capture. Materials should include information on the following:
        - Uses and feasibility of various systems, including system sizing and types of systems appropriate for different end uses
        - Technical components for harvesting and treatment
        - State and local building codes and guidelines related to rainwater harvesting
    - Develop in-person or video tour of existing rainwater harvesting systems operating in Midtown. Partner with building owners to document success stories and generate publicity/acknowledgement for buildings using rainwater harvesting for non-potable water needs.
- Install a demonstration project with a significant education and innovation component within the District. Potential projects may include:
    - Retrofit the Arts District Plaza fountain to be supplied by rainwater
    - Install a rainwater harvesting system for irrigation at the new Jamestown Community Greenspace
    - Consider a rainwater harvesting system for irrigation at any proposed community food gardens

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- Southeast Rainwater Harvesting Systems Association – Rainwater harvesting professional association that can provide oversight of educational materials and technical assistance and consulting for a demonstration project. [40]

IMPACT

Environmental Impact: Rainwater harvesting and condensate capture lessens demand on rivers and streams by replacing municipally supplied potable water with an on-site source. This eliminates the energy and chemical use associated with treating and pumping water supplies. These systems have also been shown to reduce negative impacts of stormwater flows.

Community Impact: Rainwater harvesting tanks can be a strong visible indicator of sustainability. By increasing rainwater harvesting in Midtown, employees, residents, and visitors to Midtown will be able to be proud that their community invests in sustainable water infrastructure.

Economic Impact: While rainwater harvesting systems can require substantial upfront costs, systems often have a short return on investment due to resulting lower water and wastewater bills. Installing a rainwater collection system is often less expensive than drilling private wells. [41] Community savings can also be realized through the stormwater management functions of rainwater harvesting systems; for example, potential costs of damage caused by runoff and flooding can be lessened or mitigated altogether.

COSTS & POTENTIAL FUNDING

The costs to support this program are estimated to consume about 5% of a FTE and would include staff expenses to conduct outreach and educate building owners and managers. The cost to implement a demonstration project could cost up to $10,000.

Potential funding sources include the Midtown Improvement District, the Metro North Georgia Water Planning District, foundations, and in-kind contributions from rain harvesting companies.

[40] Southeast Rainwater Harvesting Systems Association. 2011. Retrieved from: http://www.serhsa.com/ (Assessed July 2012)
[41] Southeast Rainwater Harvesting Systems Association. 2011. Retrieved from: http://www.serhsa.com/ (Assessed July 2012)

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Building owners and managers may be hesitant to invest in new technology due to the associated upfront capital costs.

> Potential Solution: Education materials should emphasize the role buildings can have in making positive environmental, economic, and community benefits through water efficiency actions.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Outreach		
Number of Buildings Using Rainwater Harvesting	8	25 by 2020
Number of Buildings Using Condensate Capture	TBD	25 by 2020
Number of Views/Attendees of Rainwater Harvesting System Tour	0	200 by 2020

“Restore human legs as a means of travel. Pedestrians rely of food for fuel and need no special parking facilities.”

- Lewis Mumford

3.4 Transportation

TRANSPORTATION OVERVIEW

A major focus of Greenprint Midtown is to provide a sustainable transportation system that maximizes environmental, economic, and community benefits. The function, convenience, comfort, and safety of our transportation system has a significant effect on quality of life, the environment and the economic health of regions and communities. In urbanized areas, the time dedicated to travel and the costs of owning, maintaining and operating cars make up a significant portion of each household's available resources. The use of these resources and the cost of congestion have an impact on disposable income and economic productivity.

Optimizing the functionality of the transportation system relies on efficient use of the capacity of the transportation network, creating the opportunity for walking, transit use, cycling and carpooling, and building communities with a mix of uses and densities that are conducive to all of these types of travel. Historically, the Atlanta region has pursued growth with few considerations for optimizing transportation efficiency or choice. The incredibly rapid expansion of the regional footprint over the past thirty years has continued to overwhelm the regional roadway network. On average, Metro Atlantans drive 30.2 miles per day [1] and 83% of all trips are made by automobile. [2] At the same time, the forces behind the region's growth have led to an abiding orientation toward new jobs, investment and growth in population in the urban centers of the region.

TRANSPORTATION GOALS

- Improve access and mobility to, from, and within Midtown
- Decrease single-occupancy vehicle (SOV) trips to, from, and within Midtown
- Reduce vehicle miles traveled

Midtown is experiencing the benefits of a national demographic shift and other market forces. After peaking in 2004, vehicle miles traveled (VMT) per capita in the U.S. has been steadily decreasing. This trend is led by Generation Y. Young people are driving less, increasing their use of transportation alternatives, living in walkable communities, and are driven by environmental concerns. [3]

[1] 2011 Transportation Fact Book. Atlanta Regional Commission.
[2] Regional Travel Survey Final Report, November 2011. Atlanta Regional Commission.

[3] Transportation and the New Generation: Why Young People are Driving Less and What it Means for Transportation Policy. Frontier Group and U.S. PIRG Education Fund. April 2012.

With four MARTA rail stations, exceptional Interstate access, a connected grid of streets and sidewalks, Midtown is well-positioned for future growth. The success of Midtown in attracting quality commercial and residential buildings and capitalizing on transportation, cultural, and institutional assets makes it a model of regional, if not national significance for new urban development. Midtown Alliance will continue to play an important role in attracting quality development by advocating for regional connections that provide utility and benefit to Midtown, connecting Midtown to adjacent districts, implementing demand side strategies, and most importantly, further enhancing local transportation infrastructure. The Greenprint Midtown programs outlined in this section are designed to better connect the neighborhoods in the Midtown area with each other and to other regional activity centers through the combined use of transit, bicycle transportation, improved walkability, improved traffic control, and other "complete streets" strategies. Complete streets are roads designed with all users in mind, so that motorists, bicyclists, pedestrians, and transit riders can safely and effectively travel on the roadway. This will lead to greater connectivity and mobility, increased access to jobs, economic development, reduced non-renewable energy consumption and greenhouse gas emissions, improved health and more equitable transportation choices.

As evidenced by the Greenprint Midtown Community Survey results, this community recognizes the connection between transportation and sustainability. When asked what strategies would be most impactful in making Midtown more sustainable, 85% of respondents identified transportation improvements as the top strategy.

CHALLENGES AND OPPORTUNITIES

Midtown Alliance's role in regional transportation decision-making and stewardship of the local transportation network presents a few challenges and opportunities. Transportation is a topic that has numerous economic, environmental and quality of life implications. A meaningful response to these challenges will result in a transportation system that provides improved energy security and price stability, environmental quality, health and well-being for community members, and economic efficiency. The challenges within those topic areas are highlighted below.

TRANSPORTATION ENERGY

Transportation energy efficiency is a vitally important component of sustainability because it typically makes up more than 30% of a region's total energy use. [4] Heavy reliance upon individually-owned, petroleum-powered vehicles has numerous problems and side effects. Petroleum is a finite natural resource that is not renewable. There is a significant amount of science and recent trends in worldwide oil production that indicate we are at the all-time peak of worldwide oil production. This is particularly troubling for the United States, which imports more than half of its oil from other countries. While there is some growth in electric and CNG powered vehicles, oil provides over 95% of our transportation fuel and is a vital component of every other sector of the economy from agriculture to industry. [5] The availability and price of oil will be extremely uncertain as the next decades unfold.

Strategies that emphasize reductions in VMT and adoption of transportation alternatives can help to mitigate this challenge. Midtown presents one of the best opportunities to continue to push for supplying the right type of multimodal infrastructure and transit services and raising awareness about the importance of behavioral change. The feedback gleaned from the public during the Greenprint Midtown planning process demonstrates their understanding and desire to move towards more energy efficient mobility options.

ENVIRONMENTAL AND HEALTH IMPACTS

Despite the relatively high level of transit, walking, and bicycling access in Midtown, approximately two-thirds of Midtown employees commute via single occupancy vehicle. [6] As a region, the drive alone rate is significantly higher at 82%. [7] Our travel choices contribute significantly to the region's air quality, public health, and other environmental concerns. The Atlanta region has one of the worst traffic congestion and highest VMT rates in the country. Our reliance on vehicular travel results in the release of greenhouse gas (GHG) emissions, which contribute to climate change and the formation of harmful ground-level ozone. In Metro Atlanta, half of all smog-forming emissions come from auto-

[4] U.S. Department of Transportation, Bureau of Transportation Statistics; Table 4-4: U.S. Energy Consumption by the Transportation Sector. http://www.bts.gov/publications/national_transportation_statistics/html/table_04_04.html

[5] National Conference of State Legislatures; Transportation Energy for the Future: A Guide for Policymakers. http://www.ncsl.org/issues-research/energyhome/transportation-fuels-report.aspx

[6] Center for Transportation and the Environment; 14th Street Bridge Construction Mitigation and Employee Travel Survey Technical Report, 2009.

[7] The Clean Air Campaign. Metro Atlanta's State of the Commute: 2010 Metro Atlanta Regional Commuter Survey. The Clean Air Campaign, State of the Commute. http://www.cleanaircampaign.org/Your-Air-Quality-Transportation/State-of-the-Commute

mobiles. [8] In 2011, Metro Atlanta exceeded federal ozone standards on forty (40) days and standards for particulate matter on three (3) days. [9]

From a health standpoint, poor air quality can lead to, or exacerbate, asthma and other respiratory conditions as well as serious cardiovascular issues. Populations most at risk are young children, the elderly, and those with existing respiratory, heart, or cardiovascular conditions. Atlanta was ranked 24th worst out of 100 cities in the 2012 Asthma Capitals report published annually by the Asthma and Allergy Foundation of America.

In addition to poor air quality, motor vehicles also contribute to polluted streams and rivers. As vehicles are driven, they leave behind oil, antifreeze, grease, and metals on streets, which eventually can be swept into and contaminate the water supply. Vehicles also contribute to noise pollution which not only can damage your hearing but can also contribute to increased anxiety, nausea, headaches, emotional instability, and elevated blood pressure. Creating a more sustainable transportation network will reduce air, water, and noise pollution, lead to cleaner air, and a promote a better quality of life for Midtown residents, employees and visitors.

ECONOMY AND PRODUCTIVITY

The time and money spent on transportation in the Atlanta region has negative effects on our economy and our productivity. While Midtown has one of the lowest transportation costs in the region as a percent of average median income at 14%, as a region we spend a significant amount of our income on transportation. [10] The 2011 Urban Mobility Report by the Texas Transportation Institute estimated the amount of gasoline wasted while automobiles idle in traffic congestion. In the 439 urban areas studied, 1.9 billion gallons of fuel were wasted in 2010 by cars sitting in traffic. The urban areas with populations greater than 3 million accounted for 1.6 billion gallons of wasted fuel, almost 70% of the total. In Atlanta this totaled over 53 million gallons of wasted fuel. [11]

Traffic congestion also contributes to reduced productivity. In the same 2011 study, the Texas Transportation Institute estimated that Atlanta wasted almost $2.5 billion in time and fuel due to traffic congestions. The average annual cost per auto commuter in Atlanta was $924.
The cost of healthcare to treat illnesses and conditions due to poor air quality can also have a negative effect on our local economy.

Shifting even a small portion of motorists to transit, bicycling, or walking will result in large reductions in wasted fuel. Expanding and improving the transportation options for Midtown residents will generate economic savings for travelers and businesses.

[8] Exceedances of Federal Air Quality Standards 2011, Ambient Monitoring Program. Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch. http://www.georgiaepd.org/air/amp/

[10] Center for Neighborhood Technology, H+T Affordability Index, 2008.
[11] Texas Transportation Institute, 2011 Annual Urban Mobility Report. http://mobility.tamu.edu/ums/

MIDTOWN TRANSPORTATION ASSETS

Considering the size of the area of the core business district, Midtown has a set of transportation assets that could be the envy of other large communities. The availability of transportation capacity and choice, largely due to the Interstate system and MARTA rail service, has fueled and supported the high-density growth in the recent past. The capacity of the system as a whole can support significantly more growth. The following list and maps show the existing key components of Midtown's multimodal network:

MARTA Rail Transit - 4 transit stations including Arts Center, Midtown, North Avenue and Civic Center Station

MARTA Bus – 10 local fixed bus routes

Regional and Express Bus Service - provided by Cobb Community Transit, Georgia Regional Transportation Authority and Gwinnett County Transit

Circulator and Shuttle Service - operated by Georgia Tech, Atlantic Station, Emory University and Savannah College of Art and Design

Sidewalks - exist on almost all streets, many with extensive streetscape improvements

Bicycle Facilities - including striped lanes, shared facilities, and racks for parking

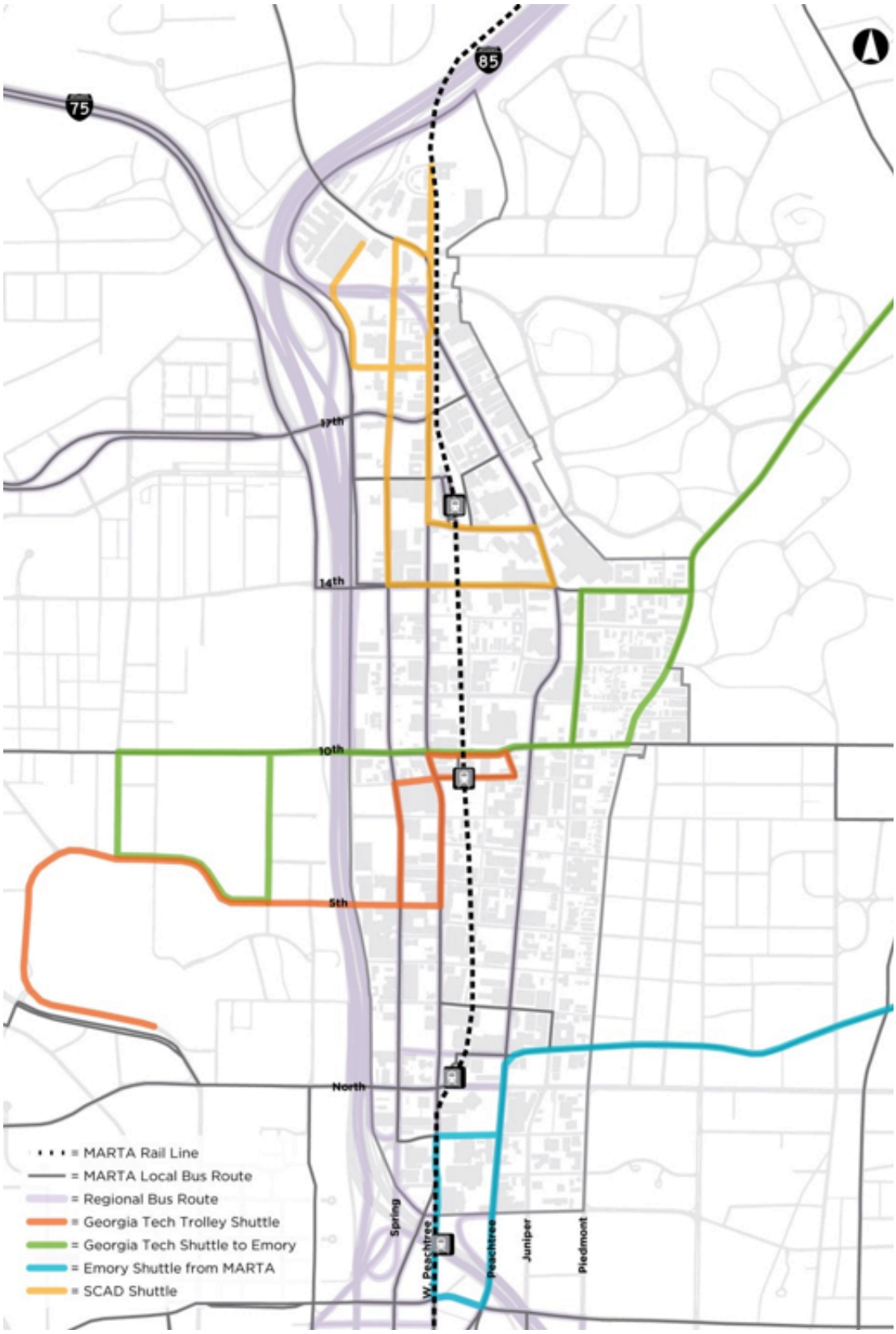
Transportation Demand Management Programs - a program of Midtown Alliance

Zipcar - 34 cars available for sharing

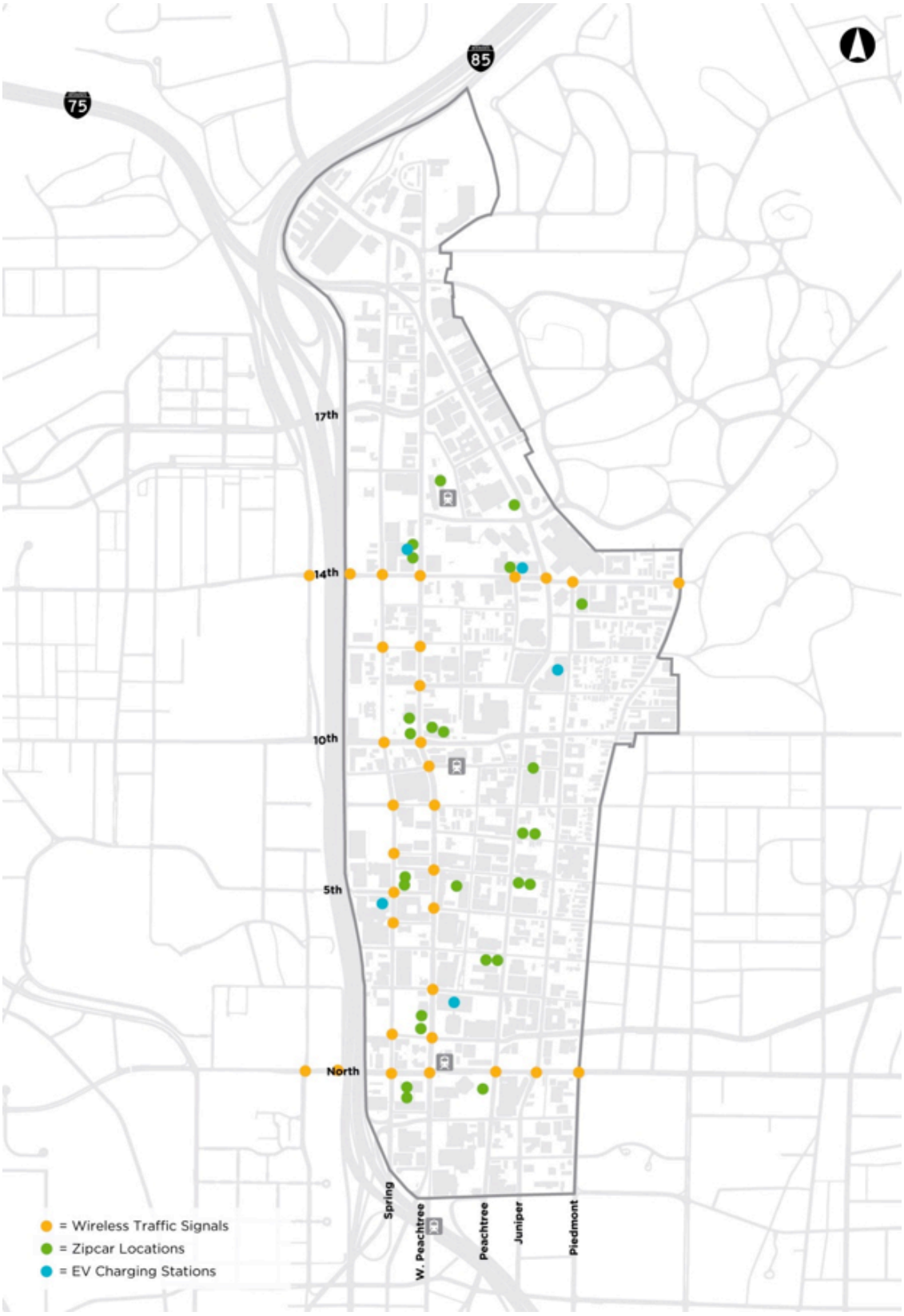
Electric Vehicle Charging Stations – 6 charging locations available for public or private electric vehicles

Wireless Signalization and Active Management – 31 traffic signals currently being transitioned to wireless communications. In addition, new signal timing plans will be deployed; signal and detector equipment upgraded; and signals will be actively managed and maintained.

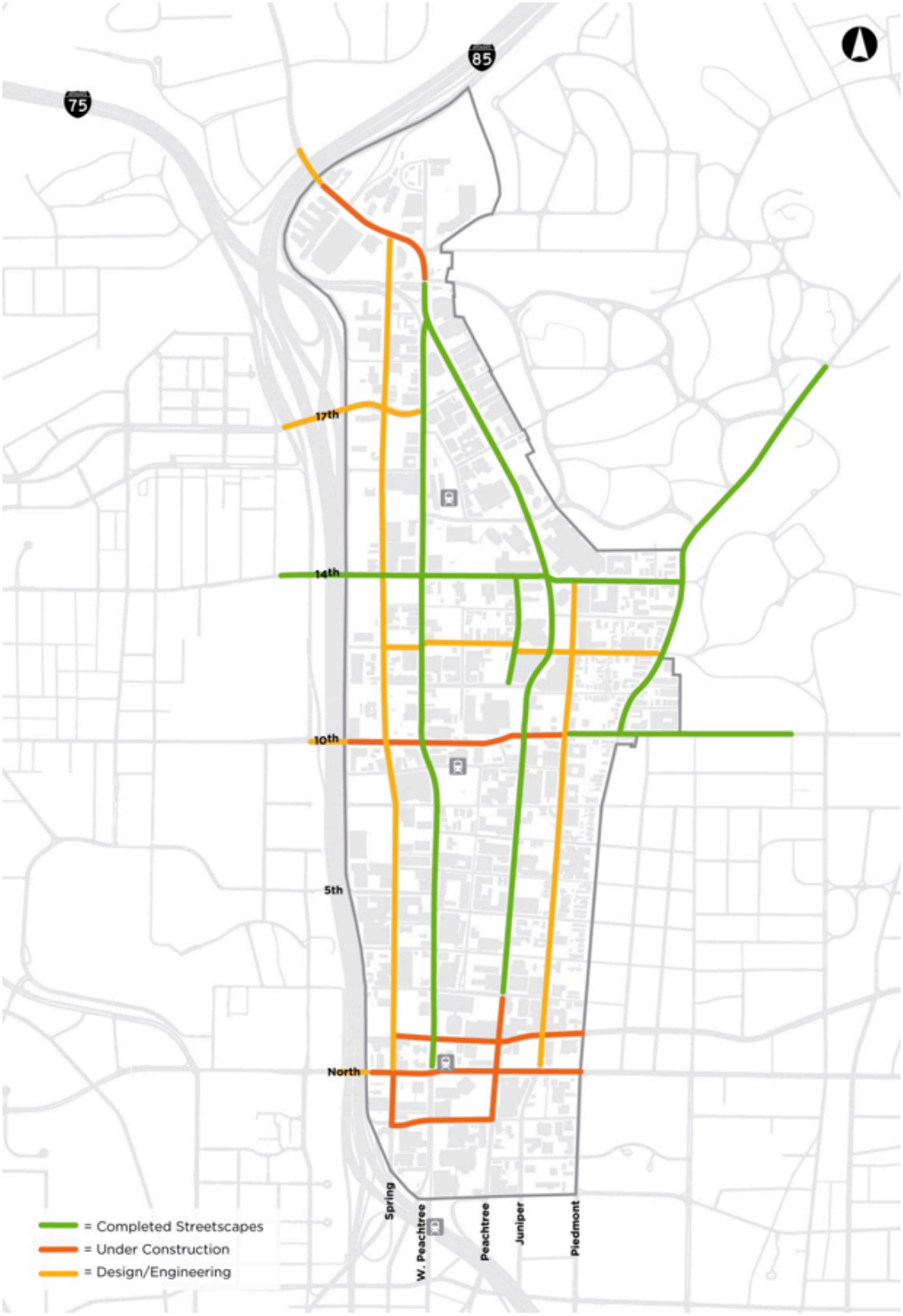
Transit


75
85
17th
14th
10th
5th
North
Spring
W. Peachtree
Peachtree
Juniper
Piedmont
= MARTA Rail Line
= MARTA Local Bus Route
= Regional Bus Route
= Georgia Tech Trolley Shuttle
= Georgia Tech Shuttle to Emory
= Emory Shuttle from MARTA
= SCAD Shuttle

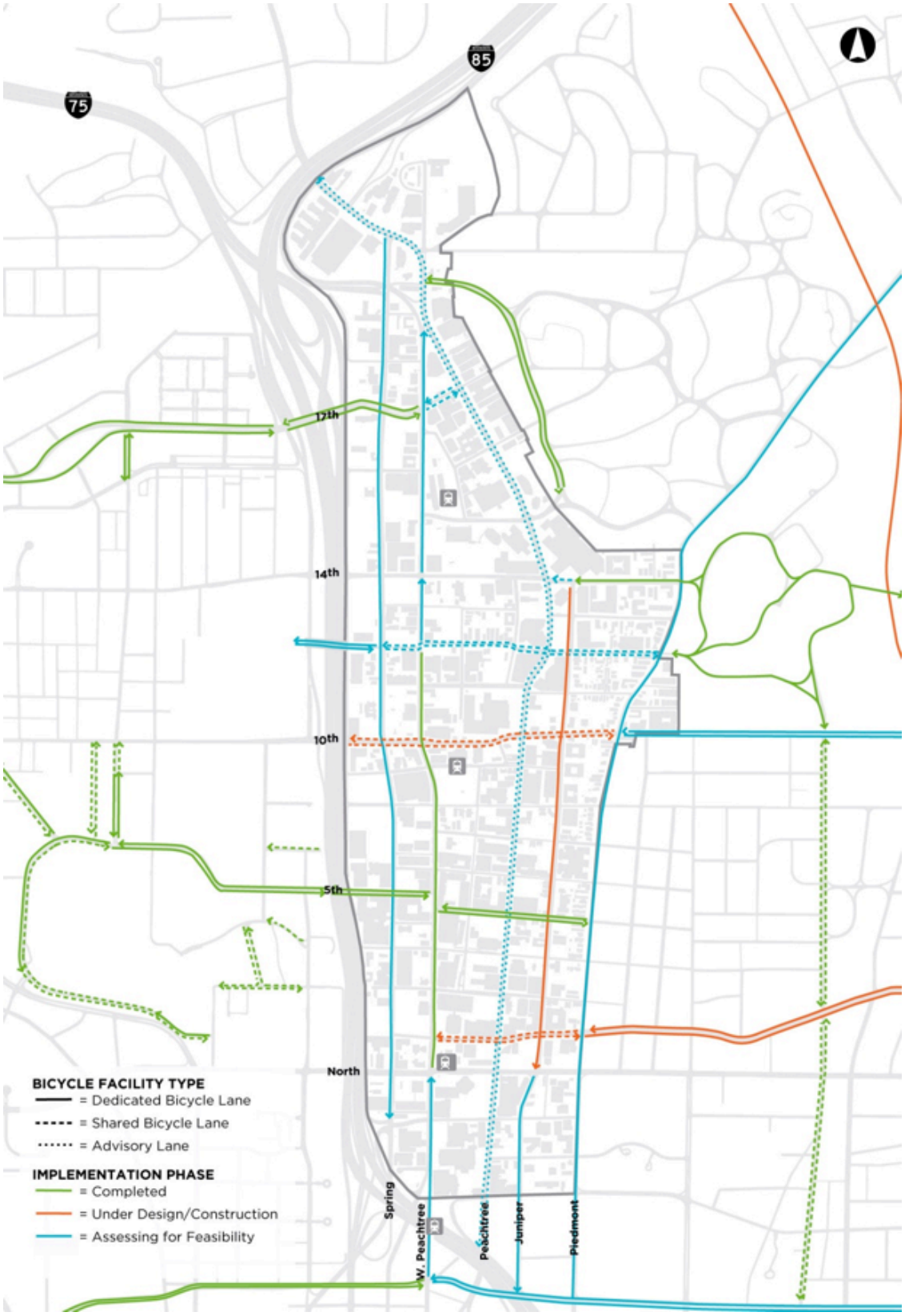
Traffic Signals, Car share, EV Charging



Streetscapes



Bicycle Facilities



TRANSPORTATION STRATEGIES & PROGRAMS

Through the Greenprint Midtown planning process, the following Transportation strategies were developed and served to guide the selection of both Tier 1 (priority) and Tier 2 programs/ projects. In the future, additional programs and projects can be developed from these strategies.

STRATEGIES

TS1: Promote the use of non-motorized transportation through physical improvements in the public right-of-way.
TS2: Increase the attractiveness of existing transit service through station area enhancements, technology tools, wayfinding, and multimodal connections.
TS3: Facilitate the use of alternatively fueled vehicles.
TS4: Maximize safety and accessibility for all travelers in Midtown.
TS5: Reduce VMT by optimizing the mix of housing and jobs.
TS6: Increase the adoption of transportation alternatives through demand-side strategies.
TS7: Improve regional access and mobility by pursuing new transit connections to adjacent districts and activity centers.

TIER 1 PROGRAMS/PROJECTS

The following Tier 1 programs and projects were identified as priorities and are described in more detail in the next section.

TP1: Streetscape Program Implementation
TP2: Bicycle Plan Implementation
TP3: Enhanced Transportation Demand Management
TP4: Improved Local Transit and Coordinated Shuttle Services

TIER 2 PROGRAMS/PROJECTS

The following Tier 2 programs and projects were identified as potential future initiatives and are briefly described below.

TP5: Land Use Policies - Travel behavior, especially the choice of how you get from place to place, is significantly affected by land use, urban design, the scale of the street network, and the pedestrian environment. While these topics are long-standing considerations in Midtown, there is the need to reassess the land use and density policies in Midtown.

TP6: Parking Management – This program includes exploring the feasibility of implementing off-peak on-street parking on Peachtree Street to provide an additional buffer for pedestrians and to encourage retail. It also calls for pursuing the development of a smartphone application that provides users with information on parking availability and cost in Midtown.

TP7: Carsharing - It is important to encourage collaborative consumption and the adoption of clean, cost affordable transportation options by supporting the expansion of car sharing. Car sharing programs tend to reduce overall vehicle miles of travel and can help to reduce parking demand. This program calls for Midtown Alliance to identify opportunities with Zipcar or another carsharing company for ways to increase the use and accessibility of this service.

TIER 1 TRANSPORTATION PROGRAMS

TP1: STREETSCAPE PROGRAM IMPLEMENTATION

Description

Midtown is considered by many to be the most pedestrian friendly community in Atlanta. Creating a safe, attractive, accessible, and connected pedestrian environment has been a high priority for Midtown Alliance over the last fifteen years and will continue to be for the foreseeable future. Wide, tree shaded, and well lit sidewalks encourage residents and workers to take trips by foot rather than by car. This provides an environment that supports community interaction, physical activity, and easy access to local businesses. While Midtown Alliance has an aggressive capital improvements program that has led to more than $40 million in streetscape improvements, additional capital projects have been identified but still have not been completed or funded. This provides new opportunities to make those projects more multi-modal and more sustainable.

To fully realize the goal of creating a world-class pedestrian environment, Midtown Alliance should continue to implement Midtown's comprehensive Capital Improvements Program to renovate priority corridors into "complete streets" with improved and more sustainable infrastructure; execute small site specific projects that improve pedestrian safety, accessibility and connectedness; and incorporate "green" standards into streetscape design, materials, and maintenance. These initiatives are described in more detail on the following page:

CONTINUE TO EXECUTE CAPITAL CORRIDOR PROJECTS

As shown in the Streetscape Asset Map, Midtown Alliance to date has completed over fourteen miles of streetscape projects and identified an equivalent amount that has yet to be improved. Sidewalks are designed to meet minimum width requirements as defined in Midtown's Special Public Interest (SPI) zoning codes and will be buffered from vehicular traffic wherever possible with trees, landscaping, and energy efficient lights. Additionally, sidewalks will provide pedestrian amenities such as benches, transit stops, bike racks, and waste/recycling receptacles wherever possible. Intersections will be designed to have the shortest possible street crossing distances through curb extensions or "bump outs." Channelized right turns will be eliminated when possible to improve pedestrian safety. All intersections will have clear crosswalk markings, handicap accessible curbs, energy efficient traffic signals, and countdown-style pedestrian signals.

A "complete streets" approach will be used to consider all users of a street. Within the roadbed, transit service, bike lanes, and parallel parking will all be considered along with traffic mobility and accessibility. As Midtown Alliance and the Midtown Improvement District set priorities for future streetscape projects, the following should be considered when developing criteria:

- Access to MARTA rail stations
- Connections across the Interstate
- Core and secondary bicycle connections
- Access to parks and plazas
- Pedestrian, cyclist, and vehicular safety

Table 1 shows the status of potential future streetscape projects.

STREET	TYPE	EXTENTS
Funded (Design & Construction)		
Juniper Street	Streetscaping	North Avenue to 14th Street
Funded (Design/Local Match Only)		
12th Street	Ped/Bike Improvements	Sprint Street to Piedmont Avenue
Spring Street	Streetscaping	14th Street to Peachtree Street
17th Street Bridge	Streetscaping	Spring Street to 17th Street off-ramp
North Avenue	Streetscaping	Piedmont Avenue to Williams Street
10th Street Bridge	Streetscaping	Williams Street to 10th Street ramps
Unfunded Projects		
Piedmont Avenue	Ped/Bike Improvements	North Avenue to 10th Street
Peachtree Street Bridge	Streetscaping	Buford Highway ramp to Amtrak Station
15th Street Extension	New roadway and sidewalks	Williams Street to Peachtree Street
Arts Center Station Area	Ped Improvements	16th St, Arts Center Way
West Peachtree Street	Streetscaping	12th Street to 14th Street
Spring Street	Streetscaping	North Avenue to 14th Street
8th Street	Streetscaping	Peachtree Street to Juniper Street
5th Street	Streetscaping	West Peachtree Street to Juniper Street
Peachtree Street	Streetscaping	North Avenue to Pine Street
Civic Center Station Area	Ped Improvements	Linden Ave, Pine St, West Peachtree St
Cypress Street	Ped Improvements	Peachtree Place to 3rd Street
Peachtree Walk	Ped Improvements	13th Street to 11th Street
Peachtree Place	Ped Improvements	Williams Street to Peachtree Street
13th Street	Ped Improvements	West Peachtree Street to Piedmont Avenue
11th Street	Ped Improvements	West Peachtree Street to Crescent Avenue

SITE SPECIFIC PROJECT IMPLEMENTATION

Midtown Alliance recognizes the need to address smaller site specific issues in the pedestrian environment in addition to large corridor improvements. To that end, Midtown Alliance has created a budget line item for projects of this nature. Gaps in the sidewalk and bicycle network, poor quality sidewalks, inadequate crosswalk striping, and missing ADA ramps and pedestrian signals will be identified and remedied. Priority will be placed on unsafe and egregious conditions as well as connecting to parks, plazas, and to MARTA rail stations.

Update Streetscape Design, Materials, and Maintenance Manual with Green Standards

A well-designed streetscape program has the potential to optimize lifecycle and performance, reduce carbon emissions, minimize the urban heat island effect, reduce light pollution, improve stormwater quality, reduce waste, and improve human health. To this end, Midtown Alliance will revise its Streetscape Design Manual to incorporate "green" standards for streetscape and pedestrian improvement projects. The development of updated standards will consider the following:

- Sustainable Materials – materials such as pavement and pavers, fencing, and street furniture should be of high quality, durable, and made from recycled materials where possible.
- Tree and Landscape Best Practices – streetscape plantings should employ a variety of species that are adaptive and resistant to drought, disease, and urban pollution
- Energy Efficient Fixtures – utilize high efficiency light fixtures (see Energy Impact Area for details), traffic signals, pedestrian signals, and other fixtures to reduce energy use
- Stormwater – streetscape projects should minimize the quantity of stormwater entering Atlanta's combined sewers through design treatments and plant materials such as bio-swales in order to improve water quality and reduce flooding (see Water Impact Area for details)
- Light Pollution – light pollution can interfere with views of the night sky and stars. It affects wildlife, and can create unsafe conditions for motorists and pedestrians through increased glare. Consideration should be given to light fixtures that minimize light spillage.

Midtown Alliance will continue to be the primary implementer of streetscape projects -- applying for funding and executing capital improvements – in partnership with the Midtown Improvement District and its government partners at the city, state and federal level. Midtown Alliance will:

1. Implement Midtown's comprehensive Capital Improvements Program to renovate all priority corridors into "complete streets" with improved and more sustainable infrastructure and materials.
2. Execute small site specific projects that improve pedestrian safety, accessibility, and connectedness by filling gaps in the sidewalk network, fixing poor quality sidewalks, adding crosswalk striping, and installing ADA ramps and pedestrian signals.
3. Update Streetscape Design Guidelines and educate the development community on what has changed.
4. Track and measure progress against baselines.

IMPACT

Environmental Impact: When streets are more pedestrian and bike friendly, people are more likely to leave their cars at home, which leads to less air polluting vehicular emissions. In addition to filtering air pollutants and producing oxygen, streets that include significant trees and landscaping also help to absorb and filter stormwater.

Community Impact: Sidewalks and bicycle facilities allow for an active lifestyle and encourage physical activity, [12] which inevitably leads to improved public health. Improved facilities provide for increased opportunities for community interaction and social cohesion. Sidewalks encourage more "eyes on the street" and can help to minimize crime.

Economic Impact: Sidewalks, a key component of walkable communities, add monetary value to a community. Studies show that properties in walkable communities experience higher values and income than properties locate in a poor walking environment. [13] Retail shops and services providers in Midtown also benefit from increased foot traffic in the District.

POTENTIAL PARTNERS & RESOURCES

- City of Atlanta – the City provides input on setting priorities through its Connect Atlanta Plan, helps to identify funding, and approves all streetscape plans
- Georgia Department of Transportation (GDOT) – GDOT controls right-of-way on a number of street segments in Midtown and has approval authority for most federally funded projects
- Atlanta Regional Commission – develops regional growth and transportation policies, prioritizes projects, and awards and manages funding for transportation projects.

[12] Eyler, A.A., Brownson, R.C., Bacak, S.J., & Housemann, R.A. (2003). The epidemiology of walking for physical activity in the United States. Medicine & Science in Sports & Exercise, 35(9), 1529-1536.
[13] Pivo, G. and Fisher, J. (2009) Effects of Walkability on Property Values and Investment Returns. Working Paper. Responsible Property Investing Center, Boston College and University of Arizona; Benecki Center for Real Estate Studies, Indiana University.

COSTS & POTENTIAL FUNDING

Midtown Alliance has leveraged funding from the Midtown Improvement District for a total investment of $40 million to develop fourteen miles of new sidewalks. This includes projects that have been completed, are currently under construction, or are funded but not yet under construction. The remainder of the streetscape program is estimated to cost an additional $40 million. Historically, the Midtown Improvement District has allocated a local match, typically 30% of the cost of the project, to use against a potential federal or state grant to implement the project. Given the uncertainty of federal, state, and local funding, Midtown Alliance with the Midtown Improvement District will need to set priorities for the Streetscape program. The program outlined above can be accomplished with existing staff resources.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Capital improvements are costly, complex, and typically take a long time to implement. Given the increasingly competitive environment for limited transportation funding along with the significant amount of funding that has already been awarded to the Midtown district, future government funding is expected to be a significant challenge. Additionally, most of the regionally significant corridors in Midtown have already been renovated and many of the remaining street and sidewalk improvements are on local connector streets, which are a lower priority for government funders.

> Potential Solution: If deemed a priority, the Midtown Improvement District could choose to fund the full costs of projects. Also, the new Federal transportation bill, MAP-21, may offer new opportunities to fund projects from funding categories that were previously not available.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Streetscape Program Implementation		
Miles of streetscape renovated	14	21 by 2018
Number of pedestrians/cyclists in key corridors	To be established	10% increase by 2018
Revised Streetscape Design Guidelines	N/A	2013

TP2: BICYCLE PLAN IMPLEMENTATION

Description

The City of Atlanta has experienced a 386 percent increase in the number of people riding their bicycles to work between 2000 and 2009. This major increase in bicycle riding is clearly evident in Midtown and the area is well-positioned for even greater increases. The Midtown core is surrounded by a number of neighborhoods and the Atlanta BeltLine, is directly adjacent to Georgia Tech, and is at the heart of a significant amount of activity that is within easy cycling distance. When planning bicycle networks and supporting infrastructure such as places to park, it is important to take into account that not all cyclists have the same skills and confidence to navigate busy streets in an urban context. It is also important to think of the different purposes for cycling and the best ways to accommodate them in a safe and inviting way. Many commuters rely on or choose to ride bicycles to work.

Other users ride occasionally or for recreation. The long term goal is to have a complete network of on-street bicycle lanes that provide space for north-south and east-west travel. Connections over the Interstate are challenging but key to a well-designed system. This primary network will be on the major streets of Midtown, those that the City of Atlanta has designated as Core Bicycle Connections. The City of Atlanta will soon develop detailed concepts and funding strategies for two Core Bicycle Connections in Midtown (West Peachtree Street and 10th Street) through its Cycle Atlanta 1.0 study. Where there is not room for bicycle lanes or where lanes are not needed on minor streets, “sharrows” and other signing and striping techniques will be utilized.

Midtown Alliance will continue to take a leadership role in identifying needs for new bicycling infrastructure and implementing projects that build out the bicycling network. Planning, funding, and contractual arrangements will include partnerships with the City of Atlanta, the Georgia Department of Transportation, and other agencies that maintain and operate elements of the local transportation system. Midtown Alliance will:

1. Participate in Cycle Atlanta 1.0 and the feasibility study of an Atlanta bike share program and consider funding a pilot program in Midtown;

2. Consider specific opportunities for and implement protected, striped, and buffered facilities to address safety concerns;

3. Design and construct a bicycle facility network with a focus on connecting existing bicycle facilities to new facilities within Midtown, as well as connecting to MARTA rail stations, adjacent districts, and the Atlanta BeltLine;

4. Apply for and organize funding to execute capital improvements; and

5. Measure and track progress against baselines.

BICYCLE LANES AND ROUTES

Midtown Alliance will continue to lead the development and implementation of specific projects that incorporate facilities and roadway design treatments that balance the needs of bicyclists with motorists and pedestrians. The priority corridors include Juniper Street, Piedmont Avenue, Peachtree/West Peachtree Street, 12th Street, and 10th Street. The existing and planned bicycle facilities are shown in figure X. Midtown Alliance has put together a concept plan for a comprehensive bicycle network as shown in figure x. The following are specific proposals that may need additional study for feasibility, but are the most pressing priorities within the network:

Juniper Street from 14th Street to North Avenue

Upcoming improvements to Juniper Street, a key one-way arterial southbound, are funded by money allocated by the Atlanta Regional Commission as part of the Livable Centers Initiative. This project calls for a reduction of travel lanes and construction of 10' wide sidewalks with a 5' furniture zone, crosswalks, and a southbound bike lane and on-street parking where possible. In addition to adding needed transportation facilities, the project will implement green infrastructure strategies. Project details include:

- Protected/buffered southbound bike lane for entire length of project, which may include mountable concrete median or granite curbing with intersection plantings
- Bike turning facilities (a.k.a. bike boxes) at key intersections: 14th, 12th, 10th, 5th, and Ponce de Leon Avenue

10th Street from Monroe Drive to Piedmont Avenue

This project seeks to connect the Eastside Trail of the BeltLine to the core of Midtown with a barrier separated two-way cycle track adjacent to Piedmont Park on the north side of 10th Street. This project would provide exceptional bicycle access to the heart of Midtown through a safe and inviting facility. This would require the removal of one lane of traffic.

Spring Street from Peachtree Street to North Avenue

Midtown Alliance will investigate the potential for adding bicycle facilities on Spring Street in addition to enhancing or expanding the pedestrian realm with streetscape improvements. The corridor presents a set of challenges due to existing buildings being near or on the right-of-way, relatively narrow sidewalks, lack of landscape and lighting, narrow travel lanes, and high volumes of traffic. Bicycle lanes on Spring Street would provide the companion southbound facilities to the lanes that currently exist on West Peachtree Street. Recent traffic studies of the corridor show that one travel lane can be removed on Spring Street between 10th Street and 14th Street without degrading vehicular level of service and that additional right-of-way exists between 18th Street and Peachtree Street. The section of Spring Street between 14th Street and 18th Street has yet to be studied but presents significant challenges due to the high volume of traffic during peak periods. Connecting Peachtree Street to 10th Street via Spring Street would fix a critical gap in Midtown's bicycle network. If the Peachtree connection is not possible, 17th Street would be a logical terminus for the facility. Bike facilities between 10th Street and North Avenue may not be feasible due to existing traffic, although connecting to 5th Street and Georgia Tech is an important consideration. Project details include:

- Add on-street bicycle lane, if feasible, to connect to existing and planned east-west facilities
- Requires re-striping Spring Street with three travel lanes and turn lanes at select locations

West Peachtree Street from North Avenue to 17th Street

Midtown Alliance will explore three alternatives for improving bicycle facilities on West Peachtree Street. The first option is to keep the existing facility which currently terminates at 12th Street and extend it to 17th Street. This would make the most sense in the long term if a bicycle lane were determined feasible on Spring Street. The second alternative would be to re-stripe West Peachtree Street and install a two-way protected cycle track, which would require taking a travel lane. The third alternative is to remove on-street parking on the east side of West Peachtree Street to accommodate the width of the protected cycle track. This option would result in the removal of the existing bulb outs and necessitate a reconfiguration of storm-water drainage. The extension to 17th Street for any of the alternatives would require a solution for providing continuity of facility through the 14th Street intersection. Project details include:

- Extended bicycle lane from 12th Street to 17th Street
- Bicycle turning lanes at 3rd, 5th, 10th, 14th, 17th Streets

- Consider a two-way cycle track from North Avenue to 10th Street or 17th Street
- Mainline and side street approach signing and markings for operational safety if two-way cycle track is implemented

Piedmont Avenue from North Avenue to 14th Street

Piedmont Avenue is currently a one-way northbound facility with two travel lanes and on-street parking on both sides of the street. By adding a bicycle facility to Piedmont Avenue, you are able to complement the southbound facility on Juniper Street. Adding a bicycle lane would eliminate off-peak parallel parking on the east side of the road. This facility would connect to the popular 5th Street bicycle facility. Project details include:

- Protected/buffered northbound bike lane on east side of roadway
- Potential sharrows at intersections where extra turning capacity is needed
- Bicycle turning lanes at 10th Street and 14th Street

Peachtree Street from North Avenue to Spring Street

Even though the roadway is spatially constrained and traffic volumes are unlikely to support dedicated bike lanes, Peachtree Street will always remain an intuitive bicycle connection through Midtown. As such, bike facilities should be considered in some form for Peachtree Street. Midtown Alliance will continue to investigate options that may include advisory bike lanes (dashed/striped areas within existing vehicular lanes that heighten driver awareness towards cyclists) or sharrow markings on Peachtree. Opportunities also exist for connecting Peachtree Street with existing dedicated bike lanes on Peachtree Circle through Ansley Park. However, no viable southern connection exists to Peachtree Street or 14th Street.

12th Street from Piedmont Avenue to west of Downtown Connector

12th Street is envisioned as an important bicycle and pedestrian corridor connecting western Midtown to Piedmont Park and the Atlanta BeltLine. Several large developments are currently under construction in this corridor including 650 new residential units. The long-term vision for this corridor includes a new bike/pedestrian bridge over the Interstate that would tie into existing greenspace adjacent to Turner Broadcasting Systems, Home Park, and Georgia Tech. A streetscape project is currently under design to include bike facilities at the intersection of Piedmont Avenue and 12th Street.

- Bicycle lanes or shared lanes
- Potential overpass of Downtown Connector

Ponce De Leon Avenue from West Peachtree Street to Piedmont Avenue

The streetscape project currently underway on Ponce De Leon Avenue includes sharrow striping between West Peachtree Street and Piedmont Avenue. The City of Atlanta has funding through the Atlanta Regional Commission's LCI program to extend this facility further east with dedicated bike lanes between Piedmont Avenue and the BeltLine/Ponce City Market on Ponce De Leon Avenue.

SECONDARY BICYCLE FACILITIES

Midtown Alliance will assist with expertise, analysis and implementation of specific policies and programs to support cycling. These include, but are not limited to secondary facilities and amenities such as bicycle parking, shower facilities, and better access to buildings. The bicycle and transportation provisions in the Midtown Special Public Interest Zoning District (SPI) should be updated to include best practices for bicycle access and parking. Bicycle parking is needed in private parking facilities, public parking areas, and on street. In addition to the SPI update, the streetscape program will be assessed for its success in providing bicycle parking and best practices will be identified. Current and future projects will include the recommended best practices for parking.

BICYCLE SHARING PROGRAM

Bicycle sharing programs allow users to check out a bicycle from a bike share station for a small fee and return the bicycle to any station around the city or community in which the program is implemented. Bike share programs are being implemented in hundreds of cities worldwide because they are a cost-effective, environmentally friendly way to promote multi-modal travel. Midtown Alliance will actively participate in citywide efforts to institute a bicycle sharing program. A feasibility study of bike sharing is currently underway and Midtown Alliance is actively participating as a stakeholder in the study. The Greenprint Midtown process revealed the need to identify the prospective target user groups and consider the cycling conditions that exist for those groups prior to further developing and implementing the program. Many participants in the Greenprint process thought that safer bicycling facilities were needed prior to instituting a bike sharing program. The casual, tourist, or recreational user may be less likely to use bike sharing due to current cycling conditions. Midtown streets are busy, often lack bicycling facilities or signed routes, and can be intimidating for novice cyclists. However, there are a number of groups of potential users that would have a reason to take advantage of the service. The most obvious are commuters and students who have local business to attend to, but have no bicycle or have left their bicycle at home. Another group would be residents who do not have a bicycle, but are familiar with the territory.

BICYCLE PARKING SUPPLY AND INVENTORY

There are a number of bicycle racks available in Midtown; however, there is demand for more. Midtown Alliance will continue to work with developers and existing building managers to provide new racks and to continue to incorporate racks or secure parking opportunities into streetscape projects. While many locations of bicycle parking are known by the general public, not all are. Midtown Alliance will complete, and keep up to date, a bicycle parking inventory that will be available online.

IMPACT

Environmental Impact: People are more inclined to travel by bicycle when adequate bicycle infrastructure is available. When commuters choose to bike to work or other destinations instead of drive, the number of cars on the road is reduced, along with harmful air pollutants from vehicle emissions. This also reduces the consumption of oil, a non-renewable energy source.

Community Impact: Bicycle facilities provide opportunities for physical activity, improved health, and community interaction. Improving the quantity and quality of bicycle infrastructure increases the safety of bicyclists on the roadway and may lead to more people choosing to bike to their destinations instead of drive. Bicycle lanes also provide safety benefits on the roadway network, improving site lines and the ability for large vehicles to navigate turning movements at intersections. Bicycle facilities and bicycle sharing programs also facilitate greater community interaction by getting residents out of their cars and interacting with their environment and neighbors.

Economic Impact: Those who travel by bicycle save money on gas, parking, car insurance, and other inherent costs associated with owning and driving a vehicle. More bicyclists instead of motorists on roadways also decrease the cost to the community by reducing the frequency of road resurfacing projects. A bicycle-friendly Midtown will attract destination riders who are taking longer recreational trips to or from Piedmont Park, the Atlanta BeltLine, and other locations. This has obvious benefits for local retail establishments.

IMPLEMENTATION PARTNERS & RESOURCES

1. City of Atlanta – provides policy and planning direction for bicycle facilities.
2. Georgia Department of Transportation - GDOT controls right-of-way on a number of street segments in Midtown and has approval authority for most federally funded projects.

COSTS & POTENTIAL FUNDING

The cost of bicycle facilities can vary considerably. The most cost effective and expedient way to put in bicycle lanes is to install them concurrent with roadway resurfacing or streetscaping projects. Two-way cycle tracks can also be done inexpensively, but may have added costs depending on whether a physical barrier is in place. Bicycle lanes can be extremely expensive to install if they require moving curbs and relocating stormwater and other utility infrastructure. These types of projects often do not pencil out as standalone projects and tend to encroach on the existing or potential pedestrian realm. Because of these factors, it is unlikely the approach of moving curbs back will be taken in Midtown to accommodate bicycle lanes. Bicycle signing and parking are relatively inexpensive and not typically cost prohibitive elements of implementing complete facilities. The program outlined above can be accomplished with existing staff resources.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: In general, it is difficult to match grant funding with the installation of bicycle facilities. There are not many programs that support this type of investment and it is difficult to construct them as standalone projects. While standalone projects qualify under some Federal funding programs, they have a lot better chance of getting funded if implemented concurrent with other roadway improvement projects such as resurfacing, widening, or streetscape projects. Federal transportation grant funding is available for streetscape projects, but it can take a long time to secure, program, and administer these types of funds. Local funds dedicated to maintenance are constrained and difficult to dedicate for bicycle lanes as well.

> Potential Solution: Midtown Alliance has been successful in developing bicycle facilities by putting project funds together from different sources, including the Midtown Improvement District. Since many of the planned facilities are on the state system, Midtown Alliance will work with GDOT on identifying workable concepts to figure out how to put facilities in place concurrent with larger projects.

Challenge: Since bicycle lanes often require narrowing or removing vehicle lanes, there is a natural tension between the facility and the loss of width or capacity. Design standards and traffic engineering practices are often employed to maximize the benefits for vehicles, without adequate consideration of the needs of non-motorized users.

> Potential Solution: In order to transcend these dynamics, Midtown Alliance will conduct traffic analyses to determine the effect of new bicycle facilities and extensions where there is a potential loss of vehicle capacity or operating conditions. While not all bicycle projects will need this level of attention, it will be required to move certain projects forward.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Streetscape Program Implementation		
Miles of streetscape renovated	14	21 by 2018
Number of pedestrians/cyclists in key corridors	To be established	10% increase by 2018
Revised Streetscape Design Guidelines	N/A	2013

TP3 – ENHANCED TRANSPORTATION DEMAND MANAGEMENT

Description

As growth in Midtown and the region continues, traffic congestion becomes a greater concern for the employers, employees, and residents of Midtown. In addition to the stress caused by traffic congestion, a greater number of vehicles in Midtown leads to increased vehicular emissions, which adversely affect public health and the environment. The importance of Transportation Demand Management (TDM) to the Atlanta region is well documented in the State of Georgia's strategic transportation plan - IT3, and ARC's regional blueprint for growth - Plan 2040. Plan 2040 projects that an additional 2.7 million people will live in the region by 2040. With limited funds for new transportation infrastructure, demand management is an increasingly important tool for reducing congestion and VMT.

Because Atlanta is considered a non-attainment area under the federal guidelines of the Clean Air Act, the Georgia Department of Transportation (GDOT) receives Congestion Mitigation and Air Quality (CMAQ) funds to address the issue at a local level via targeted programming designed to provide congestion relief and air quality improvements. [15] The Atlanta Regional Commission (ARC) administers these funds through their TDM division. [16] Midtown Alliance partners with ARC to implement TDM strategies on a local level in Midtown via a program entitled Midtown Transportation Solutions (MTS). [17] The goal of MTS is to decrease vehicle miles traveled (VMT) primarily from commute trips.

[15] United States Department of Transportation, Federal Highway Administration; Air Quality: Congestion Mitigation and Air Quality Improvement (CMAQ) Program http://www.fhwa.dot.gov/environment/air_quality/cmaq/.
[16] Atlanta Regional Commission; Commute Options http://www.atlantaregional.com/transportation/commute-options.
[17] Midtown Alliance; Transportation Solutions: Overview http://www.midtown-alliance.org/MTS_overview.html.

This program focuses on increasing commuter participation in the MTS program and incorporating more sustainability education into the current infrastructure of the program. MTS encourages the usage of alternative forms of transportation in Midtown via education, incentive programs, and employer-based marketing. While educating and assisting commuters is an important component of the MTS program, the employer-targeted approach typically yields the greatest results by concentrating efforts at a higher level to receive more widespread response to MTS programming. Implementing a program, such as telework, at the employer level potentially achieves more VMT reduction than reaching out to individual commuters one by one.

The current programs supported by MTS are as follows:

- Employer Programs:
    - Discounted transit pass sales
    - Alternative Work Arrangement consulting
    - TDM program development
    - Idle-Reduction consulting
    - Measurement and reporting tools
    - Recognition program
- Commuter Programs:
    - Commuter Rewards – monetary incentives
    - Bike/Walk Incentive
    - Commuter recognition
    - Online commute trip logging tool
    - Ridematching service
    - Guaranteed Ride Home
    - Personalized Commute Planning
    - Free Transit “try-it” passes
    - Smog alerts

In addition to these existing programs, Midtown Alliance will consider implementing the following additional programs/services to reduce VMT, improve access, and increase mobility:

- Outreach to Midtown Residents - Opportunities exist to conduct outreach to Midtown residents in addition to Midtown employers/employees. VMT can be decreased in the District by encouraging commuting residents to either work from home more often or consider alternative transportation options whenever possible.
- Non-Commute Trips - Midtown Alliance should consider additional strategies aimed at non-commute trips. These strategies can target employees and residents.
- Revised Communications - More sustainability-focused messaging will be developed to educate the general public on the effects of vehicular emissions.
- Regulatory Assessment - The existing SPI zoning acknowledges the importance of TDM and contains certain requirements to support reduced VMT, however, there are provisions that need to be assessed for effectiveness and others that could be added.

IMPACT

Environmental Impact: By encouraging use of alternative transportation, fewer cars will be on the road on a daily basis during peak travel times; therefore, vehicle emissions will be reduced as a result. Vehicular emissions include nitrogen oxides (NOx), which lead to ground-level ozone, and particulate matter (PM). According to the United States Environmental Protection Agency (EPA), the greater Atlanta area is deemed non-attainment for current standards of particulate matter [18] and ozone [19]. Successful implementation of this program will assist the Atlanta region in achieving attainment status.

Economic Impact: On average in Atlanta, it is estimated that individual commuters will save 50 cents per mile for every mile not driven. Additionally, local businesses can save on operating and facilities costs by implementing cost-effective TDM programs. Participation in TDM strategies often leads to improvements in workplace productivity.

Community Impact: An effective TDM program will educate the general public on alternative transportation options in the District and raise awareness of vehicular emissions as a contributing factor when it comes to air quality. Improved air quality leads to increased public health, specifically for those that are sensitive to air pollution.

COSTS & POTENTIAL FUNDING

The majority of funding for Midtown Alliance's TDM program currently comes from a Congestion Mitigation and Air Quality (CMAQ) grant through the Atlanta Regional Commission. This is a two-year grant (2012-2013) that is currently limited to reimbursement of staff and limited overhead costs and only those costs related to specific regional programs and services. Historically, this grant required a 20% local match, however, the current contract does not require such a match. Expenses outside of this must be paid for locally and the MID has been providing that funding since the program began in 2001. This program can be supported within existing staffing levels.

[18] EPA Map; PM-2.5 Nonattainment Areas (1997 Standard) http://www.epa.gov/oar/oaqps/greenbk/map/mappm25.pdf.
[19] EPA Map, 8-Hour Ozone Nonattainment and Maintenance Areas (1997 Standard) http://www.epa.gov/oar/oaqps/greenbk/map8hrnm.html.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Funding for non-staff costs are not allowable through the existing funding provided by the Atlanta Regional Commission (ARC). Locally targeted marketing materials and incentives must be funded by Midtown Alliance.

Potential Solution: By contributing local funding, Midtown Alliance has more freedom to expand the current programs/services as outlined by ARC/GDOT.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Enhanced Transportation Demand Management		
Commuters Registered in Commuter Rewards Program	11,171	15,000 by 2020
Vehicle Miles Reduced	58,594,065	80 million by 2020
Tons of air pollution reduced	46,416	62,524 by 2020
Money Saved from Fuel & Maintenance	$29,297,032	$40 million by 2020

TP4 - IMPROVED LOCAL TRANSIT AND COORDINATED SHUTTLE SERVICES

Description

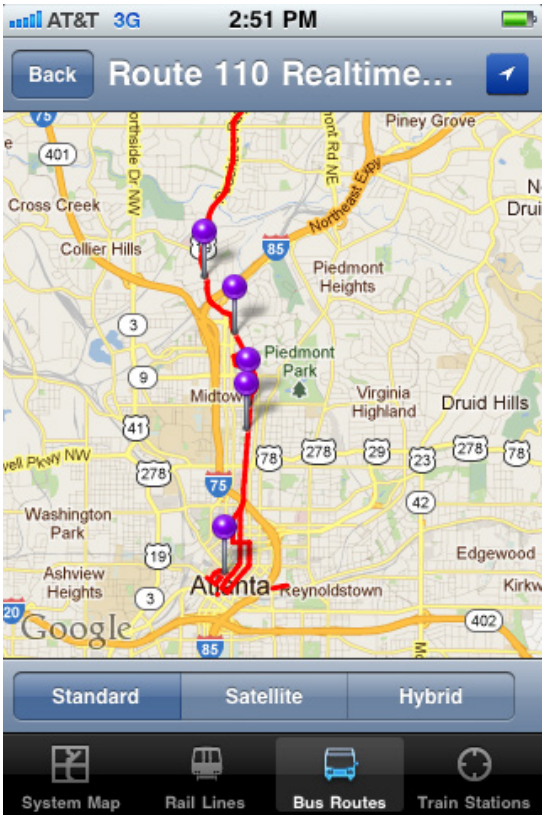
While Midtown's transit access to adjacent districts and regional activity centers is considerable, there remain significant opportunities to further enhance existing transit service and better connect disparate systems. Somewhat related, there also exist opportunities to improve the utility and perception of existing transit services in Midtown.

Two transit projects currently in the planning phase could have a major impact on local and regional connections and mobility. Cobb County is currently studying a high capacity transit route (bus rapid transit or light rail transit) from the Acworth/Town Center area to Midtown. The City of Atlanta is studying an east-west streetcar route through Midtown that would connect the Atlanta BeltLine to Midtown and MARTA rail via North Avenue or 10th Street. Midtown Alliance is supportive of these projects and is engaged with the project sponsors.

Midtown Alliance will continue to identify, assist in implementing, and promote strategic improvements and additions to transit service and infrastructure. Select priority transportation improvements will be identified based on current planning initiatives. Midtown Alliance will:

1. Continue to advocate for new transit solutions that serve to improve connections to adjacent districts and to the region.
2. Coordinate with local and regional transit providers and other Midtown stakeholders to undertake a transit circulation feasibility study.
3. Catalyze the development of a mobile transit trip planning application and improve pedestrian-oriented wayfinding to increase ridership.

In addition to MARTA rail and local and regional bus service, there are several privately operated circulator shuttles that are available to the public. However, these services are not well integrated into the system. Midtown Alliance will partner with the shuttle operators to explore opportunities to enhance or expand on the existing routes. A district level travel analysis was conducted to better understand where opportunities exist for new circulation routes. Twenty-four districts were included in the travelshed analysis, which determined the number of people commuting to and from Midtown on a daily basis for work trips and other trips that start at home, such as shopping or entertainment trips. For each variable mapped, the person trips for the analysis districts were normalized by dividing the person trips by the total acreage of each district to achieve a trip density number of trips per acre. This analysis identified a potential opportunity to connect the Midtown Core with the area east of Peachtree Street between Ponce de Leon Avenue and 10th Street. This potential need requires a deeper level of analysis through a feasibility study.



Efforts to create a more seamless and appealing local transit system are likely to result in higher transit ridership. This could involve the creation of a mobile transit trip planner application that provides schedule and real-time arrival and departure information for all transit services in Midtown. This tool would need to be created through a regional partnership but should be advocated for by Midtown Alliance. "Low tech" solutions should also be employed. Midtown Alliance will coordinate with MARTA and the other transit service agencies to install thermoplastic sidewalk wayfinding arrows that point pedestrians to MARTA rail stations. Sidewalk stickers implemented for this purpose prior to the 1996 Olympics have since worn off or been replaced with new sidewalks.

IMPACT

Environmental Impact: In addition to walking and bicycling, using transit for commuting and everyday travel reduces the number of vehicles on the roadway and the harmful environmental pollutants they emit. The use of non-renewable resources is also decreased by substituting a more energy-efficient method of transportation.

Economic Impact: Greater use of circulator shuttle services and transit options in Midtown will reduce the number of vehicles driving through the area and thus, the amount of harmful air pollutants, which affect respiratory health. The use of transit also promotes walking and bicycling, further promoting physical activity and improving health.

Community Impact: Improving transit access to and within Midtown will allow for increase access to destinations and points of interest in Midtown. Both of these actions may draw more students, faculty, staff and visitors to Midtown and better support its retail and other businesses.

IMPLEMENTATION PARTNERS & RESOURCES

- Georgia Tech, Atlantic Station, SCAD and Emory University - operate existing circulator services and will be engaged in district-wide discussions.
- MARTA – operates regional rail and bus service
- Atlanta Regional Commission - coordinates the regions transit agencies through the Regional Transit Committee and can help facilitate discussions about service gaps and service coordination.

COSTS & POTENTIAL FUNDING

Expenses for this program include staffing costs, consulting fees, and graphic design and printing costs. The cost of the feasibility study and service coordination strategy depends on the extent to which outside consulting services are used. The cost of partial to full support would range from $25,000 to over $100,000 depending on the level of ridership analysis and forecasting that is included. The cost for additional transit wayfinding would depend on the level of complexity. A low-tech project to add new sidewalk directional arrows would likely cost less than $3,000 while a higher tech solution such as “next bus” arrival LED displays would be significantly more expensive. This program can be supported within existing staffing levels.

Potential funding sources include the Midtown Improvement District, the Atlanta Regional Commission, MARTA, and the shuttle providers.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Working with a number of institutional stakeholders will require buy in and time commitment by other staff. There is also the need to define the best way to make existing service open to the public without compromising the primary user focus of service provision.

> Potential Solution: Midtown Alliance will promote creative solutions to coordinating service that could include potential route consolidation, cost sharing, and innovative marketing.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Improved Local Transit		
Completed Transit Circulation Study	N/A	2014
Implemented Transit App/Wayfinding	N/A	2014

“You can tell how high a society is by how much of its garbage is recycled”

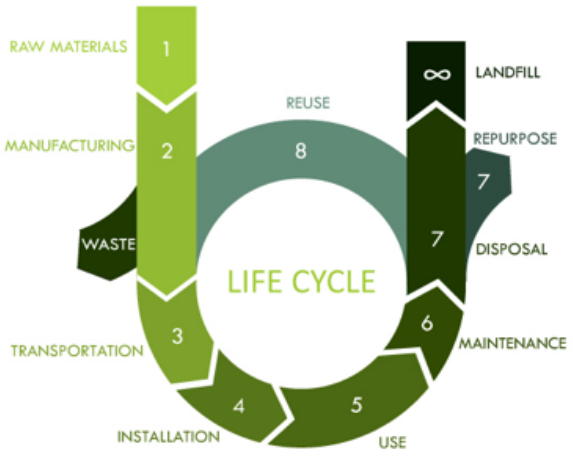
- Dhyani Ywahoo

3.5 Waste

The quantity and makeup of Midtown's waste reflects its density and diversity of uses. On a daily basis, Midtown generates a significant amount of waste from office users, residents, restaurants, hotels, hospitals, and construction sites. Given the number of public and private haulers, there is no easy way to quantify the amount of waste generated in Midtown, nor is there an easy way to identify how much waste is being diverted from landfills due to recycling, reusing, or composting. The research conducted as part of Greenprint Midtown shows that there are significant individual, business, and building level efforts currently taking place to reduce the amount of waste sent to landfills. It also showed that significant opportunities exist to further reduce our waste stream by moving from traditional solid waste management to sustainable solid waste management.

Traditional methods of solid waste management such as landfilling and incineration are a cost to municipalities, and can pose risks to human health and the environment. Sustainable solid waste management, however, addresses the value and impacts of materials throughout its full life cycle. This approach begins with environmentally responsible acquisition of materials, and source reduction. Materials are then reused when at all possible, and lastly recycled when a product has reached the end of its useful life (see figure x). Sustainable solid waste management practices would recognize the inherent value of Georgia's waste stream.

A key component of a sustainable waste management strategy is available markets for recycled material. Home to major carpeting, paper, and aluminum companies, Georgia has one of the strongest markets in the U.S. for recycled materials. However, due to Georgia's abundant landfill space and the relatively low tipping fees (the cost per ton that landfills charge to accept waste), the economics of recycling can be challenging. Consequently, Georgia municipalities collectively pay more than $100 million annually to landfill waste, a substantial portion of which could have generated income if recycled. [1] The following section describes the challenges and opportunities in sustainable solid waste management, as well as programs and strategies that Midtown Alliance can develop, facilitate, and implement in order to slow the depletion of natural resources, protect our water supply, and drive economic growth.



Source: Strathmann Research Group, University of Illinois at Urbana-Champaign. Life Cycle Assessment.

WASTE OVERVIEW

Nearly all of a community's activities contribute to the waste stream. Industrial and agricultural processes that produce the goods consumed generate hazardous and non-hazardous waste. Households and businesses that consume these goods in turn also produce hazardous waste and non-hazardous, everyday garbage. Hazardous waste is particularly dangerous as it can be toxic, reactive, ignitable, and corrosive. The disposal of hazardous waste is therefore strictly regulated. Non-hazardous, municipal solid waste (MSW) includes recyclable items such as bottles, food scraps, newspapers, cardboard, and construction and demolition debris that can be diverted from landfills through reuse, recycling and composting. The District's municipal solid waste that is not recycled is disposed in one of fifty-five (55) Georgia MSW landfills, a structure built into or on top of the ground in which natural (clay) and synthetic liners are used to protect groundwater. [2] As the landfill waste slowly decomposes, methane (a potent greenhouse gas) is emitted into the atmosphere. According to the Georgia Environmental Protection Division (EPD), only ten (10) of Georgia's MSW landfills currently capture the methane released from their landfill for sale as fuel. [3]

In fiscal year 2011, Georgia's per-capita disposal rate fell significantly for a third straight year. Excluding waste imported from out-of-state, the amount of waste entering municipal solid waste in FY 2011 was 5.43 pounds per person per day---the lowest in a decade. [4] While this reduction is a good trend, it is still higher than the national average of 4.4 pounds daily (in 2010). [5] Passed in 1990, the Georgia Comprehensive Solid Waste Management Act laid the groundwork for waste diversion in the state by setting a statewide per capita solid waste reduction goal of 25 percent by July 1, 1996, with 1992 as the base year (the state did not meet this goal by the target, but efforts continue to meet the goal). Since the Act was adopted, the state's waste reduction goal has been modified twice. Currently the law simply says "It is the intent of the General Assembly that every effort be undertaken to reduce on a state-wide per capita basis the amount of MSW being received at disposal facilities."

WASTE GOALS

- Reduce the amount of solid waste generated by maximizing reuse, recycling, and composting.

[2] Georgia Dept. of Community Affairs. 2011." FY2011 Solid Waste Management Annual Report." Retrieved from: http://www.dca.ga.gov/development/Research/programs/swar2011.asp (Accessed July 2012)

[2] Georgia Dept. of Community Affairs. 2011." FY2011 Solid Waste Management Annual Report." Retrieved from: http://www.dca.ga.gov/development/Research/programs/swar2011.asp (Accessed July 2012)

[3] Georgia Environmental Protection Division. 2012. "Open Solid Waste Disposal Facilities with Landfill Gas Energy Systems." Retrieved from: http://www.gaepd.org/Documents/swp_map01.html (Accessed July 2012)

[4] Georgia Dept. of Community Affairs. 2011. "State of Georgia FY 2011 Solid Waste Annual Report." Retrieved from: http://www.dca.ga.gov/development/Research/programs/downloads/FY%202011%20Solid%20Waste%20Annual%20Report.pdf (Accessed July 2012)

[5] United States Environmental Protection Agency. 2012. "Wastes – Resource Conservation – Reduce, Reuse, Recycle." Retrieved from: http://www.epa.gov/osw/conserve/rrr/reduce.htm (Accessed July 2012)

Georgia's 2011's Senate Bill 157 also significantly modified solid waste management planning in Georgia. [6] Under the bill, solid waste management plans are still required, but the Georgia Department of Community Affairs (DCA) is no longer required to review them, and local governments do not have to meet DCA's minimum planning standards. [7] This easing of planning standards and lack of oversight could result in less effective efforts to reduce landfill waste.

According to the Georgia Statewide Characterization Study of 2005, over 3 million tons of MSW waste was disposed of in the 10-county Atlanta Region representing roughly 47 percent of the state's total waste. [8] That's enough waste to fill a caravan of dump trucks, lined bumper-to-bumper around the I-285 perimeter---nine times over. In 2008, the City of Atlanta was ranked 29th out of 50 U.S. cities for solid waste diversion. The City's goal is to reduce, reuse and recycle 30 percent of its residential waste by 2013, 50 percent by 2015, and 90 percent by 2020. [9] City of Atlanta Mayor Kasim Reed believes that achieving these goals will support long-term economic growth and improve the quality of life for Atlanta citizens. In a recent survey of Midtown residents, workers, and businesses, 89 percent agreed that pursuing sustainability initiatives such as recycling and waste diversion are instrumental in improving the overall quality of life in the District. Additionally, 47 percent of Midtown survey respondents stated that

waste reduction through increased recycling and composting should be a top strategy in making the District more sustainable. [10] In response to this need, in June 2012, Midtown Alliance purchased and installed fifty (50) recycling cans on the sidewalks throughout Midtown. The first program of its kind in Atlanta, the City partnered with Midtown Alliance to collect the recyclables on a weekly basis as part of its regular residential collection service. Observations of the program to date indicate that the containers are being used extensively and the amount of waste in the sidewalk trash cans is decreasing.

[6] State of Georgia. 2011. "Senate Bill 157." Retrieved from: http://www1.legis.ga.gov/legis/2011_12/pdf/sb157.pdf (Accessed July 2012)
[7] Georgia Dept. of Community Affairs. 2011. "2011 Solid Waste Management Annual Report." Retrieved from: http://www.dca.ga.gov/development/Research/programs/swar2011.asp (Accessed July 2012)
[8] Georgia Dept. of Community Affairs. 2005. "Georgia Statewide Waste Characterization Study." Retrieved from: http://www.dca.ga.gov/development/EnvironmentalManagement/publications/GeorgiaMSWCharacterizationStudy.pdf (Accessed July 2012)
[9] City of Atlanta. 2010. "Power to Change." Retrieved from: http://atlantasustainabilityweek.org/ATLSustainPlan..pdf (Accessed July 2012)
[10] Midtown Alliance. "Greenprint Midtown Community Survey." May 2012.

CHALLENGES

The complex and rapidly changing recycling industry presents a challenge to the public education and awareness that are critical to the success of waste diversion programs. Due to the increasing demand for recycled materials, the reach of the recycling industry has rapidly grown beyond domestic markets and now supplies 40 percent of the global raw material needs. [11] As a result of this demand, the types of materials that can be recycled and the processes used to recycle them are evolving. Although the public has a general understanding of the process and benefits of waste reduction, ongoing education will be critical to the success of diversion programs. During the Greenprint Midtown Interactive Visioning Session, participants frequently cited the need for an "overarching education campaign" and initiatives to "raise awareness" regarding waste reduction strategies in the District. [12]

Another barrier to waste reduction is that recycling in Georgia provides few economic incentives. Georgia has one of the nation's lowest landfill tipping fees, which are charged for each ton of waste deposited in a landfill. As of 2011, Georgia had enough permitted landfill space to accommodate current MSW disposal rates for another 34 years. [13] For most residential and commercial buildings, recycling represents a cost neutral solution to reducing waste. The money saved by reducing their tonnage of waste is often offset by the cost for recycling services. Overcoming this lack of economic incentive for waste diversion with economic development opportunities is part of systemic change. Still, even without clear economic incentives, 84 percent of respondents of the Greenprint Midtown Interactive Visioning Session indicated that they recycle because "it is the right thing to do." [14]

Finally, the City of Atlanta provides curbside recycling services for single-family homes but does not mandate the provision of recycling services for offices, restaurants and other commercial establishments. The City's 2007 amended recycling ordinance for multi-family dwellings does, however, require that owners of buildings with five or more units provide commercial containers for the collection of recyclables. [15] There is currently no penalty for non-adherence and as evidenced in the Greenprint Midtown Multi-family Building Residents Survey, some building owners do not provide recycling services. [16] For residents and tenants of the District's multi-family and commercial buildings without access to on-site collection services, recycling is much less convenient than garbage disposal. Educating building managers about the benefits of providing recycling services is critical.

[11] Bureau of International Recycling. 2012. "The Industry." Retrieved from: http://www.bir.org/industry/ (Accessed July 2012)
[12] Midtown Alliance. "Greenprint Midtown Interactive Visioning Session." April 2012.
[13] Georgia Dept. of Community Affairs. 2011. "2011 Solid Waste Management Annual Report." Retrieved from: http://www.dca.ga.gov/development/Research/programs/swar2011.asp (Accessed July 2012)
[14] Midtown Alliance. "Greenprint Midtown Interactive Visioning Session." April 2012
[15] City of Atlanta. 2007. "Ordinance #07-O01335 Recycling for Multi-family Dwelling." Retrieved from: http://www.atlantarecycles.com/documents/multi-famresolution.pdf (Accessed July 2012)
[16] Midtown Alliance. "Greenprint Midtown Building Owner Survey." May 2012

OPPORTUNITIES

In Georgia, the waste stream contains materials that are needed by more than thirty-one (31) manufacturers who rely on recycled content containing waste material that can be reprocessed into what's referred to as feedstock. For example, Interface, an international carpet manufacturer headquartered in LaGrange, Georgia, reclaims vinyl backed carpets to provide feedstock to produce their trademarked high recycled content backing. [17] Additionally, a third of all "#1 plastic" bottles recycled in North America are repurposed by Georgia's carpet industry.

Additionally, manufacturers including Interface, SP Newsprint Co., and Novelis make more than $4.5 billion in annual revenue and employ more than 7,000 Georgians directly in the manufacture of recycled content products. [18] The state's paper industry recycles almost eight (8) percent of all the paper consumed in the U.S. Georgia also boasts sixteen (16) paper mills that use recycled content, nine of which rely exclusively on recycled fiber. Novelis, one of the world's largest aluminum recyclers, processes used beverage cans in Greensboro, Georgia. Although it would be cheaper for these companies to collect feedstock locally, they typically pay to import materials from across North America. And as evidenced by a 2010 Southeast Recycling Development Committee (SERDC) study on recycling in the southeast United States, if Georgia recycled 10% of discarded recyclables, it would create approximately 1,200 new jobs.

Figure 4. Results from a 2010 SERDC study to map demand for recycled feedstock in the southeast U.S.

[17] Interface. 2002. "The Interface Reclamation Program." Retrieved from: http://www.interfaceflooring.com/sustain/ReEntry.pdf (Accessed July 2012)
[18] SERDC. 2010. "A Profile of Georgia's Recycling Economy." Retrieved from: http://www.serdc.org/Resources/Documents/2012%20State%20Cards/GA%20Card.pdf (Accessed July 2012)
[19] Georgia Dept. of Community Affairs. 2011. "State of Georgia FY 2011 Solid Waste Annual Report ." Retrieved from: http://www.dca.ga.gov/development/Research/programs/downloads/FY%202011%20Solid%20Waste%20Annual%20Report.pdf (Accessed July 2012)

There is also opportunity to divert electronics, cell phones, and batteries from entering landfills. According to the United States Environmental Protection Agency (EPA), approximately 438 million electronic products were sold in 2009 in the United States, double the amount sold in 1997. Although these items only represent approximately two (2) percent of the municipal solid waste stream, it accounts for 70 percent of toxic waste found in landfills. [20] Diversion of these materials will reduce the possibility of air, water, and soil contamination from heavy metals like lead and mercury. Because consumers often do not know that electronics can be recycled, or they don't know where to recycle their electronics, there is also a considerable amount of obsolete electronics in storage that could be reused or repurposed. In 2009, the EPA estimates that roughly 5 million tons of products were in storage, and another 2.37 million tons were ready for replacement/disposal, representing an increase of more than 120 percent since 1999. [21] Given Midtown's large office sector and the community's penchant for technology, there is great potetial for diversion programs that target e-waste.

As with electronic waste, there is significant opportunity for the diversion of organic waste within the District. According to the Georgia Statewide Characterization Study of 2005, food waste is the largest single (in tons) component of the region's waste stream. [22] Restaurants are contributors to this waste stream, each producing on average 100,000 pounds of garbage a year. In a national survey conducted by the National Restaurant Association (NRA), 60 percent of consumers reported that they prefer to patronize restaurants that recycle, and 51 percent of consumers indicated that they are willing to pay more at restaurants that recycle. [23] Additionally, in the Greenprint Midtown Community Survey, 81 percent of participants said they are more likely to support restaurants that make a strong commitment to sustainability. [24] The diversion of food waste can make a large and immediate

[20] United States Protection Agency. 2012. Retrieved from: http://www.epa.gov/osp/regions/emerpoll/swift.ppt (Accessed July 2012)
[21] United Stated Environmental Protection Agency. 2008. "Electronics Waste Management in the United States." Retrieved from: http://www.epa.gov/wastes/conserve/materials/ecycling/docs/app-1.pdf (Accessed July 2012)
[22] Georgia Dept. of Community Affairs. 2005. "Georgia Statewide Waste Characterization Study." Retrieved from: http://www.dca.ga.gov/development/EnvironmentalManagement/publications/GeorgiaMSWCharacterizationStudy.pdf (Accessed July 2012)

[23] National Restaurant Survey. 2011. "Recycling For All the Right Returns." Retrieved from: http://www.restaurant.org/sustainability/restaurantsrecycle/ (Accessed July 2012)
[24] Midtown Alliance. "Greenprint Midtown Community Survey" May 2012

environmental impact. When food scraps are disposed in a landfill it quickly decomposes and becomes a major source of methane, a greenhouse gas with great global warming potential. [25] The District, which is home to more than 150 restaurants, can benefit significantly from waste reduction programs targeting food waste.

Georgia's waste stream also has potential to drive job creation. On a per-ton basis, sorting and processing recyclables yields ten (10) times more jobs than landfilling or incineration. [26] Additionally, recycling is a knowledge-based industry that holds accurate sorting, pricing, and inventory management in high regard. As a result, wages at recycling facilities are often higher than the national average. [27]

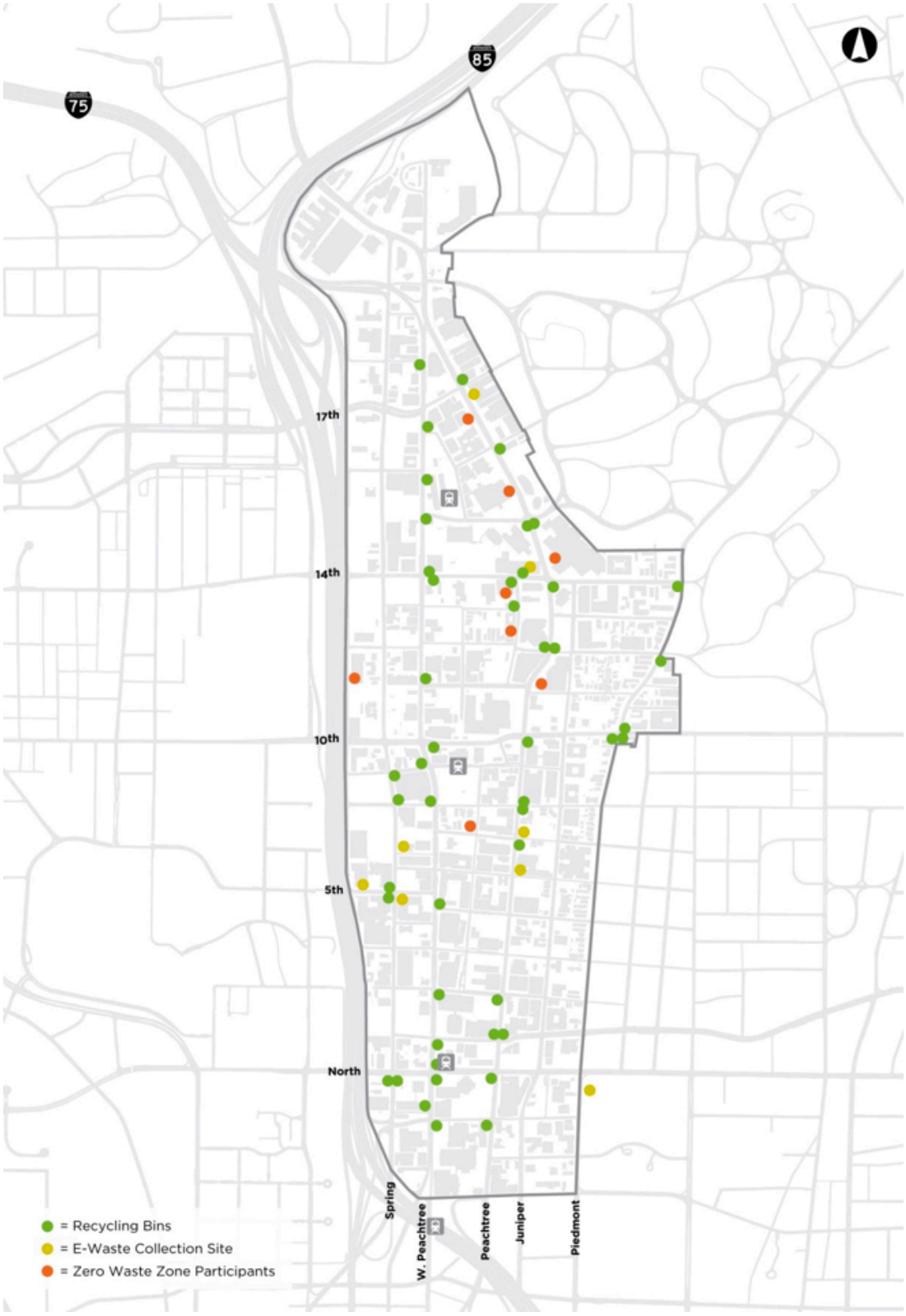
MIDTOWN WASTE ASSETS

Midtown offers the following recycling assets:

- 6 Zero Waste Zone Participants
- 48 buildings with existing recycling programs (based on survey responses)
- 50 public recycling bins
- 7 e-waste collection locations
- 50 public recycling bins in Piedmont Park

[25] United States Environmental Protection Agency. 2012. "Basic Information about Food Waste." Retrieved from: http://www.epa.gov/osw/conserve/materials/organics/food/fd-basic.htm (Accessed July 2012)
[26] Grassroots Recycling Network. 2000. "Wasting and Recycling in the United States." Retrieved from: http://www.grrn.org/assets/pdfs/wasting/WRUS.pdf (Accessed July 2012)
[27] King County Solid Waste Division. 2009. "Recycling and Economic Development." Retrieved from: http://your.kingcounty.gov/solidwaste/linkup/documents/recycling-economic-development-review.pdf (Accessed July 2012)

Waste Assets



WASTE REDUCTION STRATEGIES & PROGRAMS

Through the Greenprint Midtown planning process, the following waste strategies were developed and serve to guide the selection of both Tier 1 (priority) and Tier 2 programs and projects. In the future, additional programs and projects can be developed from the following strategies:

STRATEGIES

WsS1: Create sector-specific programs to reduce waste
WsS2: Encourage increased electronics recycling
WsS3: Explore community collection of compostable material
WsS4: Encourage purchasing policies that will promote products that are readily accepted at District recycling and composting facilities
WsS5: Promote construction and demolition waste programs among District building owners, managers, and contractors

TIER 1 PROGRAMS & PROJECTS

The following Tier 1 programs were identified as priorities and are described in more detail in the next section.

WsP1: Restaurant Waste Reduction Outreach Program
WsP2: Multi-family Building Recycling Outreach Program
WsP3: Electronics Recycling Outreach Program

TIER 2 PROGRAMS & PROJECTS

WsP4: Construction & Demolition Waste Reduction: Encourage building and demolition contractors to reuse and recycle construction and demolition waste rather than disposing of it in landfills. The recession of 2007 lead to a continuous decline in construction activity and ultimately a reduction in the amount of construction and demolition waste heading to landfills. Upon recovery from the recession, waste reduction strategies could allow this trend to continue.
WsP5: Office Waste Reduction Campaign: Encourage businesses to target materials that are abundant in their waste stream and can easily be diverted from landfills. This program should be implemented in tandem with the Green Business Recognition Program.
WsP6: Sustainable Procurement Officer Network: Facilitate the creation of a peer network that provides resources, best practices, and opportunities to exchange information in order to support responsible procurement. This should be implemented in tandem with the Green Business Recognition Program.

TIER 1 WASTE REDUCTION PROGRAMS

WSP1 – RESTAURANT WASTE REDUCTION OUTREACH PROGRAM

Description

Every day, restaurants and food service facilities are faced with the challenge of managing the volumes of waste their establishments generate. Annually, the average restaurant produces 100,000 pounds of garbage, and while roughly 95 percent of this waste could be recycled or composted, nearly 98 percent ends up in landfills. [28] Food waste in landfills quickly breaks down and becomes a major source of methane, a powerful greenhouse gas that contributes to climate change. [29]

Waste reduction and diversion programs could have a significant impact in the District, which is home to more than 150 restaurants, of which only 6 are enrolled in a formal waste reduction program. [30] The Restaurant Waste Reduction Outreach Program will encourage food service facilities to adopt waste reduction and diversion policies through a food service sustainability awareness and education campaign that outlines the benefits and best management practices of environmentally preferred purchasing, recycling grease, cardboard, paper, glass, plastic and metals, and composting and donation of food residuals. [31] These outreach efforts can complement the Green Business Recognition Program and the Restaurant Water Efficiency Program.

Midtown Alliance will facilitate the following program implementation activities:

- Partner with sustainable food service industry professionals to develop a series of educational collateral and workshops that will outline the benefits of waste reduction and diversion and introduce best management practices.
- Engage all known District restaurants and food service facilities, and recruit their owners, managers, and staff to attend the workshops.
- Partner with sustainable food service industry professionals to introduce District food service facilities to sustainable food service certification programs, and encourage participation. [32]
- Measure program success and report results.

[28] Dine Green. 2012. "Six Reasons to Become A Certified Green Restaurant." Retrieved from: http://dinegreen.weebly.com/waste.html (Accessed July 2012)
[29] United States Environmental Protection Agency. 2012. "Basic Information about Food Waste." Retrieved from: http://www.epa.gov/osw/conserve/materials/organics/food/fd-basic.htm (Accessed July 2012)
[30] Midtown Alliance. "Greenprint Midtown Restaurant Survey." July 2012
[31] Elemental Impact. 2011. "Zero Waste Zone Brochure." Retrieved from: http://www.zerowastezones.org/Resources (Accessed July 2012)
[32] Elemental Impact. 2001. "Zero Waste Zone Brochure." Retrieved from: http://www.zerowastezones.org/Resources (Accessed July 2012)

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- Elemental Impact (EI): a national nonprofit organization and founder of the Zero Waste Zone program, whose mission is to bring sustainable operating practices to the foodservice industry. EI could support the development of best practices, workshop curriculum and collateral, and marketing and communications materials.
- National Restaurant Association (NRA): represents nearly 400,000 restaurants, suppliers, educators and non-profits. NRA has partnered with EI on the Zero Waste Zone program and also created ConSERVE, an initiative that promotes sustainable food service operations. NRA could recommend industry best practices.
- Current Zero Waste Zone participants: The Zero Waste Zone program's goal is to divert the maximum amount of recyclable items and organic matter from landfills and back into the production cycle. Participating restaurants and food service facilities can provide programmatic experience and guidance to potential program participants.

IMPACT

Environmental Impact: Waste reduction and diversion policies that include recycling and composting can slow the depletion of natural resources, protect our water supply, and conserve energy. Additionally, waste reduction and diversion reduces methane and other greenhouse gas emissions produced by waste disposed in landfills. Restaurant waste reduction and diversion policies that encourage composting also have the added benefit of creating nutrient-rich soil that could potentially be returned for use within the District. Furthermore, spent grease can also be recycled for reuse as bio-fuel, an alternative energy source that burns cleaner than petroleum-based diesel and emits less air pollutants. [33]

Community Impact: Sustainability is increasingly becoming a key influencer of consumer purchasing and buying decisions. According to the Greenprint Midtown Community Survey, 81 percent of respondents are more likely to support restaurants or businesses that make a strong commitment to sustainability.[34] Restaurants with waste reduction and diversion policies can promote this through their communication channels. Increasing the number of food service facilities that employ waste reduction and diversion policies can also enhance the District's image. Encouraging food service facilities to employ waste reduction and diversion policies also has the potential to promote civic pride by giving restaurants and food service facilities a meaningful way to engage in the Midtown EcoDistrict.

Economic Impact - While most buildings and businesses do not see significant cost savings by recycling, there are opportunities to avoid costs by reducing the frequency of collection trips, reducing the volume, and reducing the amount of waste sent to landfills. These savings can offset the cost of providing recycling and composting services. Waste reduction and diversion policies could also allow food service facilities to write off donations to food banks and charities in their tax filings. Response to consumer demand for more sustainable food service options could potentially lead to increased patronage at District restaurants. Additionally, recycling and composting supports Georgia's thriving end-use markets for recyclable material, which directly employs more than 7,000 Georgians. [35]

[33] United States Environmental Protection Agency. 2012. "Learn About Biodiesel." Retrieved from: http://www.epa.gov/region9/waste/biodiesel/questions.html (Accessed July 2012)
[34] Midtown Alliance. "Greenprint Midtown Community Survey." May 2012

COST & POTENTIAL FUNDING

The costs to support this program are estimated to consume about 5% of a FTE and would include staff expenses to conduct outreach and educate restaurant and food service facilities. If this program is included as part of a Green Business Recognition Program described later in this report, efficiencies could be experienced.

Potential funding sources include the Midtown Improvement District and foundations.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Greenco, Georgia's only commercial composting facility is not currently operating due to permitting issues.

> Potential Solution: Until there is increased access to commercial composting facilities in Georgia, the program will encourage the use of smaller services such as Waste Wagon, as well as self-composting.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Engagement/Recruitment		
Number of Restaurants Composting	2	8 by 2017
Number of Restaurants with comprehensive recycling program*	5	20 by 2017
Number of Restaurants Enrolled in Waste Reduction Program**	6	24 by 2017

* Recycling of glass, plastic, and aluminum in addition to cardboard, paper, and cooking oil
** Zero Waste Zone or similar program

WSP2 – MULTI-FAMILY BUILDING RECYCLING OUTREACH PROGRAM

Description

Multi-family dwellings are the predominant housing type in the District and will continue to be for the foreseeable future. Although the City of Atlanta does not currently offer recycling services to multi-family dwellings, the City's 2007 ordinance addresses this need by requiring multi-family building owners to provide commercial containers for the collection of recyclables. [36] While some private waste haulers provide recycling services for multi-family buildings they service for garbage collection, there are some multi-family buildings without access to recycling services. In the Greenprint Midtown Multi-family Residence Survey, 91 % of respondents (multi-family building owners and managers) report that they provide recycling service to their tenants. [37] While this indicates a high level of access, the community engagement forums revealed that some District residents were unaware that recycling services were provided in their buildings or that the types of materials collected was limited.

The Multi-family Building Recycling Program will engage District building owners, building managers and residents and educate them on the benefits of recycling. The program will also help building owners and managers, particularly those of buildings with space restraints, to overcome barriers to complying with the ordinance. The program will also explore the potential for developing a multi-building cooperative hauling agreement for waste management services. This program could be a stand-alone program or offered in conjunction with the Multi-family Plumbing Retrofit Outreach Program.

[36] City of Atlanta. 2007. "Ordinance #07-O01335 Recycling for Multi-family Dwelling." Retrieved from: http://www.atlantarecycles.com/documents/multi-famresolution.pdf (Accessed July 2012)
[37] Midtown Alliance. "Greenprint Midtown Multi-family Residents Survey." July 2012.

Midtown Alliance will facilitate the following program implementation activities:

- Engage District multi-family building managers and owners and inform them of the City of Atlanta's ordinance requiring the provision of commercial containers for the collection of recyclables in multi-family dwellings. Specifically target the smaller buildings that are less likely to provide recycling services.

- Address barriers to compliance with the City's ordinance, and assist building owners and managers in overcoming these obstacles by using resources and tools provided in Building Multi-family Building Recycling Programs in Georgia, a toolkit developed by Atlanta Recycles in 2010 to guide property owners, managers, residents and local recycling program managers in setting up effective and sustainable recycling programs for multi-family residential and mixed use properties in Georgia. [38]

- Communicate the benefits of recycling to District building owners and managers.

- Provide "train-the-trainer" workshop and collateral for building owners and managers so that they can, in turn, educate their tenants on the benefits and best practices for recycling.

- Investigate the feasibility of creating a District-wide cooperative hauling agreement by employing the services of a waste management broker.
- Measure program success and report results.

[38] Georgia Dept. of Community Affairs. 2010. "Building Multi-Family Recycling Programs In Georgia." Retrieved from http://www.dca.ga.gov/development/EnvironmentalManagement/programs/downloads/MultiFamRecycle2010.pdf (Accessed July 2012)

IMPACT

Environmental Impact: Multi-family dwellings are the predominant housing type in the District. As recycling services become more accessible to residents of District multi-family dwellings, the potential for significant waste diversion will also increase. Increased waste diversion will slow the depletion of natural resources, protect our water supply, and conserve energy. Additionally, waste diversion decreases methane and other greenhouse gas emissions. Should a cooperative buying agreement be incorporated into the program, the use of a single hauler could reduce the number of collection trips, vehicle miles traveled (VMT), and the associated greenhouse gas emissions.

Community Impact: Providing convenient recycling services also has potential to promote civic pride by giving residents a meaningful way to engage in the Midtown EcoDistrict. Additionally, the establishment of a District-wide cooperative hauling agreement for multi-family buildings will be a first for Atlanta, and the program could serve as a best practices model for other similarly situated communities. The program can provide the development of building management partnerships that can be leveraged for future sustainability initiatives.

Economic Impact: There are opportunities to avoid costs by reducing the frequency of collection trips, reducing the volume, and reducing the amount of waste sent to landfills. These savings can offset the cost of providing recycling and composting services. Should the program be expanded to include a cooperative hauling agreement, building owners and managers could benefit from economies of scale. Additionally, increased recycling supports Georgia's thriving end-use markets for recyclable material, which directly employs more than 7,000 Georgians. [39]

Potential Implementation Partners & Resources

- Atlanta Recycles: Atlanta Recycles is a coalition of governmental, corporate, and environmental entities with a shared mission to promote recycling and improve the collection infrastructure for recyclable materials. The organization can assist with developing and implementing a recycling education and awareness campaign geared towards multi-family building owners, building managers, and residents.
- City of Atlanta Office of Sustainability: The Office of Sustainability works with all city departments to balance Atlanta's economic growth with environmental protection while being mindful of social justice. The office can identify potential program participants through its business license office, and expand awareness of the program to new District businesses applying for licenses.

[39] SERDC. 2010. "A Profile of Georgia's Recycling Economy." Retrieved from http://www.serdc.org/Resources/Documents/2012%20State%20Cards/GA%20Card.pdf (Accessed July 2012)

- Keep Atlanta Beautiful: Keep Atlanta Beautiful is the local affiliate of Keep America Beautiful, Inc., and develops and implements public education and community improvement programs that make a cleaner and greener Atlanta. The organization can assist in the development and implementation of education, awareness, and outreach campaigns.
- Georgia Recycling Coalition: Georgia Recycling Coalition is an advocacy organization that coordinates, promotes, and enhances reduction and recycling programs throughout the state. The organization can provide waste reduction and recycling training to District multi-family building owners, managers, and residents.

COST & POTENTIAL FUNDING

The costs to support this program are estimated to consume about 5% of a FTE and would include staff expenses to conduct outreach and educate multi-family building managers and residents. If this program is included as part of a Green Business Recognition Program described later in this report, efficiencies could be experienced.

Potential funding sources include the Midtown Improvement District and foundations.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: Perceived lack of space due to buildings not being designed originally for recycling could deter program participation

> Potential Solution: The use of single stream collection and the need for only one collection container has resolved many space concerns of building owners and managers.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
Engagement/Recruitment		
Number of Multi-family Buildings Offering and Promoting Recycling*	20	100% by 2017

*Promoting: ongoing active encouragement

WSP3 – ELECTRONICS RECYCLING OUTREACH PROGRAM

Description

Electronic waste, or "e-waste," is a term generally applied to consumer and business electronic equipment that is either near or at the end of its useful life, or is unwanted by the original consumer but is in good working order and can be repurposed or reused by others. According to the Consumer Electronics Association, the average American household owns roughly twenty-four (24) electronic products. [41] In 2009, more than 2 million tons of these electronics were ready for end-of-life management, yet only 25 percent were collected for recycling. [42] According to Global Futures Foundation, e-waste accounts for 70 percent of toxic waste found in landfills. [42] Although e-waste, when appropriately managed, presents a lower immediate risk to human health and the environment than hazardous waste, it contains toxic heavy metals like lead and mercury that can contaminate air, water, and soil when incinerated or disposed in landfills. [44]

Because consumers often do not know that electronics can be recycled, or they don't know where to recycle their electronics, they end up either throwing them away or storing them. The Electronics Recycling Outreach Program will educate District residents and businesses on the benefits of electronics recycling and reuse, encourage building managers to offer e-waste collection, and sponsor District-wide e-waste collection events.

Midtown Alliance will facilitate the following program implementation activities:

- Develop a comprehensive list of e-waste recycling locations and promote through typical communications channels.
- Encourage building managers to offer onsite e-waste collection opportunities.Design an e-waste community education and outreach campaign and develop marketing and promotional collateral to support the effort.
- Partner with others to offer a District-wide e-waste collection event.
- Track, monitor and analyze outreach campaign metrics, and collection metrics.

[40] Midtown Alliance. "Greenprint Midtown Multi-family Residents Survey." July 2012.
[41] Consumer Electronics Association. 2008. "Market Research Report: Trends in CE Reuse, Recycle and Removal." Retrieved from: http://www.epa.gov/epawaste/conserve/materials/ecycling/index.htm#_ftnref1 (Accessed July 2012)
[42] United States Environmental Protection Agency. 2012. Statistics on the Management of Used and End-of-Life Electronics. Retrieved from: http://www.epa.gov/epawaste/conserve/materials/ecycling/manage.htm (Accessed July 2012)
[43] United States Environmental Protection Agency. 2012. Retrieved from http://www.epa.gov/osp/regions/emerpoll/swift.ppt (Accessed July 2012)
[44] United States Environmental Protection Agency. 2008. "Electronics Waste Management in the United States." Retrieved from: http://www.epa.gov/wastes/conserve/materials/ecycling/docs/app-1.pdf (Accessed July 2012)

IMPACT

Environmental Impact: Diverting e-waste from landfills for recycling and/reuse will reduce air, water, and soil contamination from leaching elements within e-waste like lead, mercury and cadmium. Recycling e-waste also saves energy and conserves natural resources by reducing the need to extract additional raw materials from the earth.

Community Impact: Increasing awareness of electronics recycling services has potential to promote civic pride by giving residents a meaningful way to engage in the Midtown EcoDistrict. E-waste recycling also addresses a stated community need - roughly 85 percent of Greenprint Midtown Community Survey respondents said they would participate in waste diversion programs such as electronic waste recycling if the service was available in the District. [45]

Economic Impact: The diversion of electronic waste can result in lower waste handling and disposal fees by decreasing the volume of waste going to landfills. This may produce savings to offset the cost of providing recycling services. When properly managed, e-waste can be source of valuable precious metals such as copper, gold, and zinc. Recycling e-waste domestically creates jobs for professional recyclers and refurbishers.

[45] Midtown Alliance. "Greenprint Midtown Community Survey." May 2012.

POTENTIAL IMPLEMENTATION PARTNERS & RESOURCES

- City of Atlanta Office of Sustainability: The Office of Sustainability develops and initiates programs to balance Atlanta's economic growth with environmental protection. Midtown Alliance could seek to establish a partnership for e-waste education and collection efforts.

- Keep Atlanta Beautiful: Keep Atlanta Beautiful, an affiliate of Keep America Beautiful, Inc., develops and implements public education and community improvement programs that make a cleaner and greener Atlanta. Midtown Alliance may seek to partner with KAB to develop an e-waste collection event.

- Georgia Recycling Coalition: GRC is an organization that coordinates, promotes and enhances reduction and recycling programs throughout the state.

- Atlanta Recycles: Atlanta Recycles provides educational and awareness around waste and recycling opportunities.

- Keep Atlanta Beautiful: Keep Atlanta Beautiful is the local affiliate of Keep America Beautiful, Inc., and develops and implements public education and community improvement programs that make a cleaner and greener Atlanta. The organization can assist in the development and implementation of education, awareness, and outreach campaigns.

- Georgia Recycling Coalition: Georgia Recycling Coalition is an advocacy organization that coordinates, promotes, and enhances reduction and recycling programs throughout the state. The organization can provide waste reduction and recycling training to District multi-family building owners, managers, and residents.

COSTS & POTENTIAL FUNDING

The costs to support this program are estimated to consume about 5% of a FTE and would include staff expenses to conduct outreach and educate District residents, employees, and employers. Expenses related to developing and promoting collection events are expected to be less than $3,000/year.

Potential funding sources include the Midtown Improvement District, event sponsors, and foundations.

CHALLENGES & POTENTIAL SOLUTIONS

Challenge: There is a diverse audience within the District for electronics recycling communication and outreach. Residents, businesses, and the daytime working population are all critical stakeholders to reach, but each may require customized messaging and resources.

> Potential Solution: Midtown Alliance will partner with existing electronics recycling programs and providers to leverage resources for marketing and outreach.

Challenge: E-waste is regularly exported from the U.S. and other developed countries to developing ones. However, not every electronic collector/recycler follows environmentally sustainable recycling practices and international law. E-waste generated in Georgia is often exported to countries that employ dismantling practices that are harmful to people and the environment.

> Potential Solution: Responsible e-waste recyclers and refurbishers can now become certified through independent third party criteria and verification. Programs events should always use certified and local recyclers.

TRACKING & MEASUREMENT

METRIC/INDICATOR	BASELINE	TARGET
E-waste Outreach		
Number of buildings offering e-waste recycling	TBD	20 by 2020
Number of Electronics Recycling Events in Midtown	0	1-2 Events/Year by 2013

SECTION 4

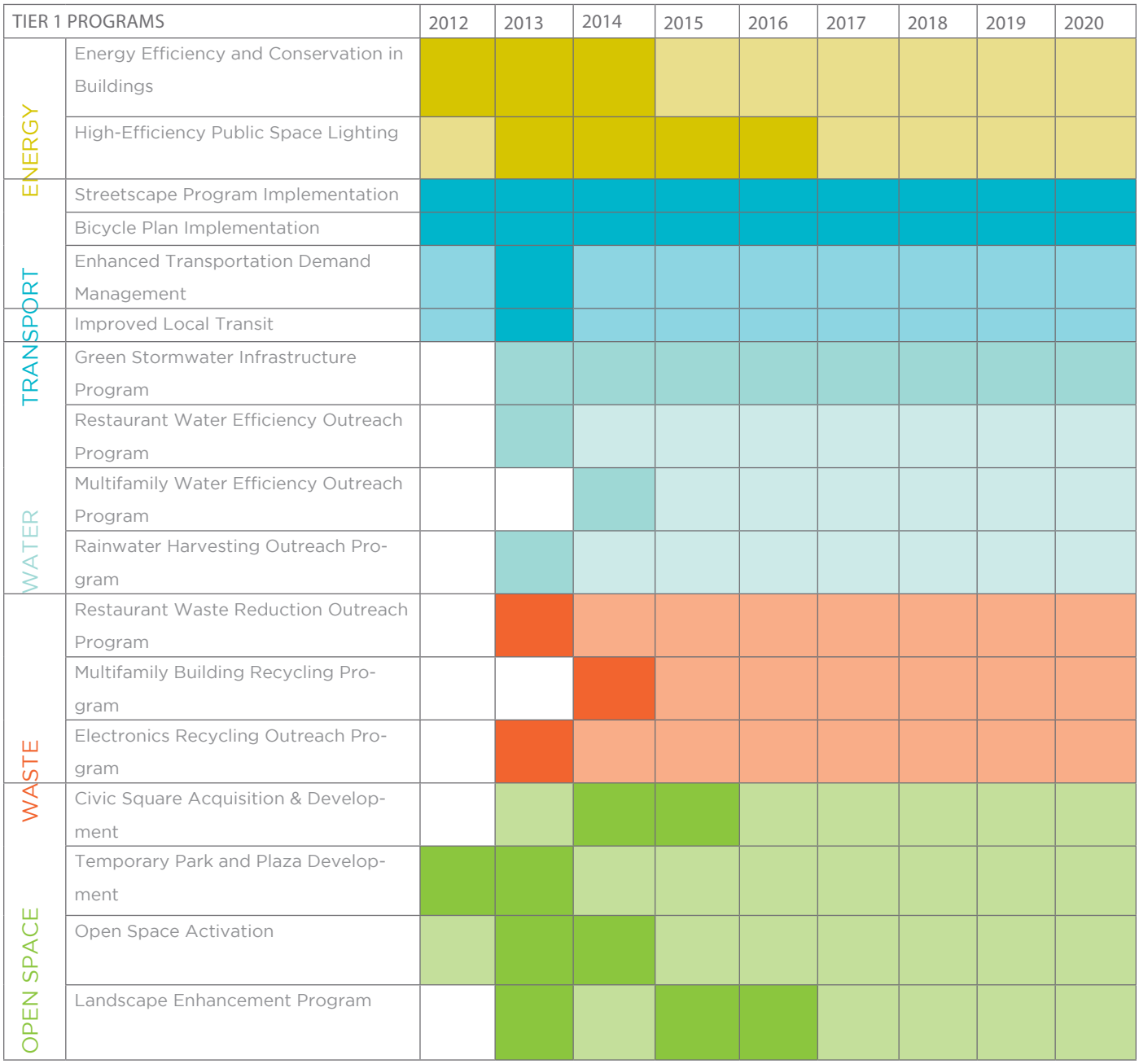
implementation

Greenprint Midtown was designed with an emphasis on action. The recommended programs outlined in Greenprint Midtown will be further developed by Midtown Alliance staff and prioritized by Midtown Alliance and the Midtown Improvement District for implementation. There are clear opportunities to combine certian programs either by sector (i.e. restaurants) or by function (i.e. water efficiency). This section includes a projected implementation timeline for Tier 1 Programs, offers several near-term implementation opportunities, and outlines potential barriers to implementation.

4.0 Implementation Timeline

Midtown Alliance will focus near term implementation efforts that include fine-tuning programs, combining programs where appropriate, developing tools to educate and inform the community, cultivating partnerships with key stakeholders, and establishing tracking and measurement tools. Tier 1 Programs will be implemented as resources and partners are secured.

A proposed timeline for implementing programs is shown below:



4.1 Near-term Opportunities

Near-term opportunities to transition Greenprint Midtown from a planning process into implementation can come through the development of partnerships, continued community engagement, and initiatives that recognize existing sustainability success stories. It is critical that the momentum created during the development of Greenprint Midtown carries on into implementation. Midtown Alliance has already begun to implement some new smaller scale projects that benefit the District including the provision of public recycling bins, the installation of a rainwater cistern, and the development of a new temporary public park.

Specific approaches that will help move Greenprint Midtown into the implementation phase include collaborative efforts with key stakeholders, the development of the Midtown EcoDistrict brand, and the launch of the Green Business Recognition Program.

PARTNERSHIPS

There are a number of opportunities for Midtown Alliance to partner with others to advance sustainability programs in Midtown. An opportunity to expand on an existing partnership is with Georgia Tech. Through the Greenprint Midtown planning process and a parallel planning effort to create a Midtown Innovation Zone, a new partnership with Georgia Tech is being developed. The innovation zone concept is a place-based economic development strategy led by Midtown Alliance to enhance Midtown's technology assets and promote the significant assets and innovators that already exist in Midtown. There are clear opportunities to link innovation and sustainability with Midtown becoming the "sand box" for technology innovations that solve energy, water, and transportation challenges.

MIDTOWN ECODISTRICT

The term "ecodistrict" is used by a growing number of communities in the U.S. and internationally to describe their commitment to responsible growth through a brand. The Portland Sustainability Institute (PoSI), the creator of the EcoDistrict Framework that Greenprint Midtown roughly mirrors, describes an ecodistrict as a neighborhood or district with a broad commitment to accelerate neighborhood-scale sustainability by committing to performance goals, guiding and investing in solutions, and tracking results over time. Midtown Alliance has adopted the ecodistrict term based on its commitment to pursuing sustainability at the district level and intends to develop a Midtown EcoDistrict brand. This brand could be used by Midtown Alliance and other stakeholders to show that they have invested and are contributing to the sustainability of Midtown. The brand can also be used to create awareness and educate residents, employees, and visitors about sustainability projects, programs, or initiatives in Midtown.

GREEN BUSINESS RECOGNITION PROGRAM

Another opportunity to develop an awareness of the existing businesses that have already made a commitment to sustainability is to create a certification and recognition program. This would serve several purposes. First, it would respond to the survey results that showed a high level of interest in supporting businesses that were more sustainable. Second, it would provide positive reinforcement to the many businesses in Midtown that are already taking action and would serve to inspire other businesses to engage in sustainable actions. Third, it would support the buildings that are participating in the Atlanta Better Buildings Challenge. And finally, it would present Midtown as a place that has a high concentration of sustainable business.
One conceptual model for this program is the San Francisco Green Business Program. The SF Green Business Program is part of a statewide program and operated at the local level by the City of San Francisco. The program is offered to a number of sectors including offices, hotels, restaurants, and retailers among others where participants must engage in a certain number of sustainability actions from a checklist and those actions are subject to verification by program administrators. The program provides participants with best practices, consulting, and opportunities for recognition. A similar program in Atlanta might start out in Midtown as a pilot and then be expanded to the rest of the City or even the region if successful.

4.2 Policy &Regulatory Barriers To Implementation

The programs recommended in this plan are based on best management practices and on similar programs that have been successfully implemented in other communities around the country. However, implementation in Midtown may still be slowed due to public policy or regulatory barriers. The Consultant Team evaluated such potential barriers for the Midtown Alliance and they are summarized below.

IMPACT AREA/PROGRAM	POTENTIAL BARRIERS
ENERGY	
Energy Efficiency & Conservation in Buildings	Potential influx of permit applications due to ABBC program could result in delays due to lack of capacity at City of Atlanta. The PACE financing mechanism, enabled at the State level, has yet to be established in the City of Atlanta.
High Efficiency Public Lighting	Lack of financial incentive for City of Atlanta to retrofit street lights due to tariff structure with Georgia Power.
TRANSPORTATION	
Bicycle Plan Implementation	Disconnect between City of Atlanta's recommended bicycling priorities and the need to mitigate adverse effects to motor vehicle level of service.
Improved Local Transit & Coordinated Shuttle Services	Real-time transit data limited and not being released to the public.
Streetscape Implementation Program	ParkAtlanta contract could prevent new free on-street parking on Peachtree Street or the removal of existing spaces. Updated streetscape materials may not be on the Department of Public Works approved materials list.
Enhanced Transportation Demand Management	Current CMAQ funding does not allow for outreach to residential community
WATER	
Green Infrastructure Program	Green infrastructure not contained within the City of Atlanta's Standard Details for Construction guide.
Restuarant Water Efficiency	State and County codes may dictate types of efficiency upgrades.
Rainwater Harvesting Outreach & Grant Program	Current code does not allow for rainwater to be used for potable uses in commercial buildings.
Multi-family Plumbing Retrofit Outreach Program	Limited to residential buildings constructed before 1993 with toilets >1.6 gpf.
WASTE	
Restaurant Waste Reduction Program	County nuisance, solid waste, and food service regulations require food scraps to be collected at least twice per week.
Multi-family Building Recycling Program	Responsibility of enforcing recycling ordinance unclear.
Electronics Recycling Outreach Program	No barriers identified.
OPEN SPACE	
Civic Square Acquisition & Development Program	Open space transfer mechanism in zoning not operational.
Existing Open Space Activation	No barriers identified.
Temporary Park and Plaza Development	No barriers identified.
Landscape Enhancement Program	No barriers identified.

SECTION 5

measurement + reporting

Measuring performance is essential to the long-term success of Greenprint Midtown. As programs and projects are developed and implemented, ongoing monitoring will be essential to understand whether the programs being implemented are achieving successful outcomes. This section outlines tracking and measurement methodologies and includes a chart of metrics, baselines, and targets that will gauge the progress of the plan.

5.0 Methodology

Given the limited performance level data currently available at the District scale, Midtown Alliance cannot currently employ precise measures to determine performance. Until data on greenhouse gas emissions, water usage, and other measures are available at the District scale, Midtown Alliance will focus on measuring programmatic success. Aligning Midtown's metrics where possible with the City of Atlanta's Power to Change sustainability plan is useful and important. Longer term, Midtown Alliance should seek opportunities and partnerships to collect more precise performance metrics. The Portland Sustainability Institute has outlined an extensive list of performance measures for gauging the success of eco-districts.

Data should be collected and reported regularly to show the overall value of particular programs. A "dashboard" that presents key performance indicators should be developed and published online to report this information externally. This will not only provide transparency to Midtown's stakeholders, it will serve to educate and motivate the community to take action.

5.1 Performance Measures

TIER 1 PROGRAMS		METRIC/INDICATOR	BASELINE	TARGET
ENERGY	Energy Efficiency and Conservation in Buildings	Square Footage of Commercial Bldgs Signing Commitment	5.4	10 Million Square Feet by 2015
		Building Square Footage Certified Green (LEED or Energy Star)[1]	15.7	22 Million by 2020
	High-Efficiency Public Space Lighting	Number of High Efficiency Cobra head Fixtures	4	69 by 2015 100% by 2020
		Number of A & C Fixture Type Retrofits	0	100% by 2020
		New Public Space High-Efficiency Lighting Installations	0	100% by 2020

[1] High-performance green building certification with third party or professional verification includes: LEED, EarthCraft, and ENERGY STAR

TRANSPORTATION	Streetscape Program Implementation	Miles of Streetscape Renovated	14	21 by 2018
		Number of pedestrians in key corridors	To be established	10% increase by 2018
		Revised Streetscape Design Guidelines	N/A	2013
	Bicycle Plan Implementation	Miles of On-street Bicycle Lanes	2.5	7.5 by 2020
		Number of cyclists in key corridors	To be established	20% increase by 2018
	Enhanced Transportation Demand Management	Commuters Registered in Commuter Rewards Program	11,171	15,000 by 2020
		Vehicle Miles Reduced	58,594,065	80 million by 2020
		Tons of Air Pollution Reduced	46,416	62,524 by 2020
		Money Saved from Fuel and Maintenance	$29,297,032	$40 million by 2020
	Improved Local Transit	Completed Transit Circulation Study	N/A	2014
		Implemented Transit App/Wayfinding	N/A	2014
WATER	Green Stormwater Infrastructure	Number of Private Projects Incorporating Green Stormwater Infrastructure Design [3]	11	20 by 2020
		Number of Public Projects Incorporating Green Stormwater Infrastructure Design	1	5 by 2020

	Restaurant Water Efficiency Outreach Program	Number of Restaurants Using Low-Flow Fixtures [4]	17	35 by 2017
		Number of Restaurants Using Water Efficient Equipment [5]	11	20 by 2017
		Number of Restaurants Adopting Water Saving Policies	0	10 by 2017
		Number of Restaurants Using Water Efficient Outdoor Practices[6]	1[7]	10 by 2017
	Multifamily Water Efficiency Outreach Program	Number of Buildings Participating in Plumbing Retrofit[8]	3 [9]	5 by 2017
		Number of Buildings Completing Water Education Training[10]	0	5 by 2017
		Number Buildings Distributing WaterSaver Kits	0	5 by 2017
		Number of Buildings Adopting Water Saving Policies [11]	0	5 by 2017
	Rainwater Harvesting Outreach Program	Number of Buildings Using Rainwater Harvesting	8	25 by 2020
		Number of Buildings Using Condensate Capture	TBD	25 by 2020
		Number of Views/ Attendees of Rainwater Harvesting System Tour	0	200 by 2020
WASTE	Restaurant Waste Reduction Outreach Program	Total Number of Restaurants Composting	2	8 by 2017
		Total Number of Restaurants Recycling [12]	5 [13]	20 by 2017
		Total Number of Restaurants Enrolled in Waste Reduction Program [14]	6	24 by 2017

[3] Waterless urinals, low-flow/high-efficiency toilets
[4] Low-flow pre-rinse spray valve or other equipment
[5] Rainwater harvesting for fountain or landscaping
[7] Results from Greenprint Midtown – Restaurant Survey
[8] Multi-family buildings constructed prior to 1994 are eligible for toilet retrofit rebate through the City of Atlanta, plumbing retrofit program includes all fixture types
[9] Results from Greenprint Midtown – Multi-family Residence Survey, respondents using low-flow toilets
[10] To be developed by Midtown Alliance
[11] Outdoor & indoor water use policies

	Multifamily Building Recycling Program	Total Number of Buildings Offering and Promoting Recycling [15]	20 [16]	100% by 2017
	Electronics Recycling Outreach Program	Number of Electronics Recycling Events	0	1-2 Events/Year by 2013
OPEN SPACE	Civic Square Acquisition & Development Program	Midtown Public Spaces Master Plan	N/A	Plan adopted by 2013
		Acquisition of Land	N/A	Land acquired by 2017
		Development of Land	N/A	Land developed by 2018
	Temporary Park and Plaza Development	Number of New Temporary Parks and Plazas	1	5 by 2020
	Existing Open Space Activation	Number of Open Spaces Activated	N/A	3 by 2015
	Landscaping Enhancement Program	Tree Audit	N/A	Completed by 2014
		Bridge Improvements	N/A	Comleted by 2016
		CTP - lighting enhancements	N/A	Completed by 2016
		CTP - vertical greening	N/A	Completed by 2016

[12] Recycling of glass, plastic, and aluminum in addition to cardboard, paper, and cooking oil
[13] Composting and Recycling results from Greenprint Midtown – Restaurant Survey
[14] 157 food service facilities in Midtown, 6 participate in Zero Waste Zone program
[15] Promoting: on-going active encouragement
Results from Greenprint Midtown – Multi-family Residence Survey

SECTION 6

appendices

APPENDIX A:
Community Visioning + Engagement Summary

APPENDIX B:
Best Practices

APPENDIX C:
Policy + Infrastructure Barriers To Implementation

A.1 Community Visioning + Engagement Summary

Community engagement strengthens planning processes by including all relevant stakeholders in the plan. This engagement fosters a sense of ownership, increasing the level of investment in a plan's success. It also anticipates roadblocks, allowing for proactive, constructive solutions. Building on the success of its Blueprint Midtown process, Midtown Alliance remained committed to collaborative community engagement during the development of Greenprint Midtown. The following methods were used to gather community feedback in order to help shape the vision and planning priorities for Greenprint Midtown.

GREENPRINT MIDTOWN KICK-OFF MEETING

As the first step in community engagement Midtown Alliance introduced Greenprint Midtown to the community, and its associated goals. Attendees provided valuable and informative feedback on their vision for sustainability in the District that would inform later steps of the planning process, particularly the community survey. The results of the input are presented as word clouds with the most frequently used words or phrases appearing larger.

GREENPRINT MIDTOWN COMMUNITY SURVEY

Midtown Alliance invited further comment through an online community survey in which the public was asked about their personal sustainability actions. The survey indicated that the majority of respondents either live or work in Midtown and strongly agree that pursuing sustainability is a key factor in improving Midtown's overall quality of life. The survey also solicited ideas for community-level programs and outcomes.

GREENPRINT MIDTOWN INTERACTIVE

Visioning Session: The community was invited to engage more deeply in the planning process by participating in five rounds of facilitated discussions. Attendees provided feedback on specific sustainability strategies for the plan's five impact areas.

GREENPRINT MIDTOWN BUILDING MANAGERS SURVEY

Building owners and property managers are an important interest group to the Greenprint Midtown process due to their potential impact on many of the plan's strategies. Accordingly, Midtown Alliance solicited this group's input through an online survey that sought to better understand the sustainability measures already practiced in Midtown buildings. The survey indicated that the majority of respondents are actively engaging tenants in developing and/or implementing sustainability projects or programs.

GREENPRINT MIDTOWN RESTAURANT SURVEY

The significant impact restaurants have on the environment from their energy consumption, water use, and waste generation provides a need for a characterization study. Midtown Atlanta has a particularly high concentration of restaurants and it is important to better understand current sustainability practices and aspirations. A survey was conducted of restaurants in Midtown which revealed that less than half of respondents have a comprehensive recycling program or have implemented water efficiency measures. The survey results inform priority program recommendations and baselines for measurement and tracking.

GREENPRINT MIDTOWN MULTI-FAMILY BUILDINGS RESIDENTS SURVEY

Multi-family buildings are the predominant residential building type in Midtown Atlanta. The high concentration of multi-family residences and the lack of publicly available data create the need for a characterization study. A survey was conducted on multi-family residences in Midtown Atlanta to better comprehend sustainability practices. The survey indicated that multi-family condominiums are providing recycling and smaller multi-family apartments either did not respond or do not offer recycling. The survey results inform priority program recommendations and baselines for measurement and tracking.

The following are notes and summaries of the community engagement process.


W.Peachtree Two-Way
Use Walk Score to Optimize Neighborhoods
Remove One-Ways
Bike Traffic Lights
LightRail
Rentable Segways for Businesses
Bike-Share
Increased Frequency for MARTA Bus/Rail
Peachtree Streetcar
Spring St Two-Way
Bike Boulevard Network
Extend Tech Trolley to Peachtree St
Bike Lanes
Electric Vehicle Charging(Solar PV)
Security
Bike Racks
Complete Streets
More Zipcars
Repair Sidewalks
Better Timed Crosswalks
Measure Air Quality
Transportation
PCB Only Zones
Move Streetcar from North Ave to 10th St
Piedmont/Juniper Two-Way
Post Bus/Rail Travel Times
Biker Safety
Give PCBS the "Green"
GPS App
Marta
Enhance Communication of Streetcar Project
Bicycle Incentives for Business/Office-Tax Credit for Shower/Lockers
Buffered Bike Lanes
Natural Gas Station
No-Drive Zones
Install Separated Grades for Cars/PCBS
Fund Infrastructure that Supports Walkability
Increase Mass Transit Connectivity
Alternative Transit
Additional Transit Routes/Service
Overnight/Long-Term Storage for MARTA Commuters
Encourage Drivers to Park in First Available Space
Transportation Improvement with Beltline/MARTA
Bio-Diesel Station
Go Carless-"Dump Pump" Day
Advertise Public Transit in Midtown


Waste
Wastewater Utilization
Restaurants Participate in Zero-Waste Program
Mandatory Policy for Composting in Business/Residential
Require Recycling in Apartments
Compost Used in Midtown
Biodigesters for Biogas Production(Replace Natural Gas)
City-Wide Recycling
No Paper Cups
City-Wide Recycling Policy for Business/Condos
Composting Option for Condos/Apartments
Recycling Bins Throughout Midtown(Solar Compactors)
Improve Communication of Recycling Schedule/Receptacles
Community Composting
Info/Comm Tech to Manage Waste
Incentives for Building Owners to Include Recycling in Lease
Establish Aquaponic System to Collect/Compile Waste
Electronics/Battery Recycling Program
Program to Assist Building's Recycling Program
Compostable Dog Waste Bags
Best Practice for Home Composting


Water
Bioswales
Submetering for Tenants
Best Practice for Home Cisterns
Low Water Use Landscaping
Pass Rainwater Incentives
Rainwater Harvesting
Fix Water Mains
Harvest Rainwater from MARTA Stations/Lots
Rainwater Collection for Piedmont Park/Ansley Park
Education on Water Quality and Alternative Usage
No Potable Water for Outdoor Use
Info/Comm Tech for Water Management
Fine Irrigation Overuse in Summer/Drought
Preserve Water Quality in Piedmont Park
Stormwater Runoff Collection
funding for Rainwater Harvesting
Rainwater for Irrigation
No Irrigation in Winter
Business Use of Waterless Urinals/Low Flow Toilets
Greywater Recycling
Infiltration Requirements for Bioswales
Rainwater for Toilets
Water Treatment in Piedmont Park
Bioswales in Piedmont Park


Greenspace
Grants for Rooftop Gardens
Info/Comm Tech to Monitor Greenspace
Improve Integration of Sidewalks and New Trails
Wildflower Lawn
Landscape Urbanism in Midtown
Reduce Food Deserts
Christmas Tree farm
Service Augification
Consider Temporary Green Leases
Rooftop Gardens
Pop-Up Parks
Urban Farm/Food Garden
Trees Utilize Rooftop Stormwater
Hosebibs for Every Building to Water Trees
Dog Park
Strategies to Protect Migrating Birds from Skyscrapers/High-Rises
Underutilized Space(Parking Lots, Alleyways, etc.)
Continue Piedmont Park Improvements
"Green Highways" Along Connector
Xeriscaping for All Pocket Parks
Support Beltline Trailways to Connect Atlanta/Midtown
Pocket Parks
Landscape with Local Plants
Greenspace Near Fox Theater

A.2 Greenprint Midtown Interative Visioning Session Summary

BACKGROUND

Midtown Alliance hosted the Greenprint Midtown Interactive Visioning Session on Tuesday, April 17, 2012 at the AT&T Conference Center in Atlanta, Georgia. Over 100 attendees participated in five rounds of facilitated discussions and provided feedback on sustainability strategies in the five Impact Areas: energy, open space, transportation, waste and water. Professionals familiar with Midtown and with subject area expertise volunteered as facilitators for the event. This document summarizes feedback from each Impact Area and specific notes on draft strategies.

UNIVERSAL THEMES FOR ALL IMPACT AREAS

- Education and communication to the public and to Midtown stakeholders is critical.
- Viable funding and creative financing options are needed for all strategies and programs.
- Programs should be offered to both commercial and residential buildings.
- Competition and positive recognition can spur interest and participation.
- Metrics must be identified to track progress towards sustainability goals.

ENERGY

Facilitators: Brandon Jones, Diana Burk, Scott Briskey, Mandy Mahoney and John Bracey

HIGHLIGHTS

- Retrofits seem logical; funding and communication to tenants are key to success.
- Energy data is important to understand opportunities but must be aggregated and/or anonymized to protect privacy.
- Alternative fueling stations are a good education opportunity, but not currently a high priority.
- Incentives, not mandates, are strongly preferred for green building certification.
- Demonstration renewable energy project is valuable but it must be highly visible and have an education component.

NOTES

Strategy 1:

Energy Efficient Retrofit Programs

- Funding, PAL, Georgia Power Rebates
- Incentives are important – split between tenants/multi-family
- Engage a diversity of buildings - Fortunate 500 business to Mom & Pop
- Targets Midtown's main source of energy use
- Communicate why this is important
- Establish competition between tenants (via submetering) and between buildings
- Focus on cost effectiveness
- Multi-family buildings offer low hanging fruit
- Potential to have a huge impact that is measurable
- Big selling point for buildings
- Monitoring/immediate feedback assists with behavior change
- Residential should be included in energy efficiency program
- Prioritize oldest buildings

Strategy 2:

Conservation Through Systematic Monitoring of Energy Use

- Providing accountability to see impact, building labeling
- Recognition for high performers
- Provide data post building audit
- Hard to do publically – comparisons need to be anonymous
- Monitoring useful to management
- Benchmarking – how do you compare?
- Reward/recognize /pat you on back
- Competition - show how buildings are meeting goals
- Aggregate data or firms are not going to disclose
- Numbers are gold
- Residential buildings
- Concerns about public/private data
- Volunteer program, not punitive, participatory, voluntary reporting

Strategy 3:

Alternative Fueling Stations

- Electric vehicles still too expensive
- Place stations in greenspaces
- Clean Natural Gas, biofuels, EV is best for non-fleet
- Public awareness needs to happen to build demand
- Need data to show adoption rate
- Plug-ins are recently standardized – fast charge are not
- Cost to charge inexpensive - $1/day
- Important moving forward
- Biofuel and CNG hard to produce

- Gas stations have left b/c of land value – left up to property owners
- Preferred parking requirement in SPI zoning not enforced
- Flex fuel gas station – use existing partners
- Operating cost impacts for buildings with charging stations
- Consider distance between stations
- Lower priority, but planting seed is important

Strategy 4:

Certified Energy Efficient New Buildings

- Market driven – do not need to require
- Corporate/social responsibility helps to create market for green bulidings
- Make permitting easier
- Medium priority – how many new buildings are planned?
- Focus on LEED OB&M and existing projects
- Incentives not mandates due to difficulty of achieving
- Establish a Green District with own requirements
- Worried about continually changing criteria
- Tie to monitoring

Strategy 5:

Renewable Energy Demonstration Project

- Demonstration project - wind turbine
- Education display to answer "Where does energy come from?"
- Needs to be super visible to raise awareness
- Solar powered street lights
- Already have this at Southface and other buildings
- Publish a renewable energy project map
- Good idea - who will pay for demonstration?
- Portable project for education in schools/ businesses

OTHER

- Business innovation is heart of the would-be marketplace
- Offer pre-paid energy cards for users
- Energy efficiency in public domain - is it being used efficiently?
- Improve smart grid technology in District
- Consider strategies to address heat island effect
- Parking structures and solar
- Awareness – waste energy map

OPEN SPACE

Facilitators: Eric Bosman, Aaron Fortner, Eric Kronberg, Greg Ramsey and Eric Bishop

- Greenspaces need to be more welcoming and accessible to overcome perception that spaces on private property are off-limits to the public.
- High interest in connecting/linking existing greenspaces.
- Significant overlap of "features that make a good park" and "programs to activate greenspace."

NOTES

Favorite Open Space in Midtown

- Piedmont Park
- Winn Park
- Arts District Plaza (Peachtree & 15th Street)
- Federal Reserve
- Pocket Parks
- AT&T dog park
- Ansley Park
- Central Park
- Winn Park
- Tech Square Plaza
- 5th Street bridge
- Old Fourth Ward Park
- One Atlantic Center

Key Features that Make a Good Park and Programs to Activate Greenspace

- People
- Places to sit – benches, moveable tables and chairs
- Shade during the day
- Good lighting at night
- Lawns for sitting or laying out
- Places for private, quiet reflection
- Clean environment
- Playground equipment (if I see mothers and children in a park then I know it's safe)
- Public art
- Outdoor music
- Social activities like classes (fitness, yoga, painting, etc.)
- Community gardens
- Skateboarding ramps
- Vendors that would bring local businesses into public open spaces
- Public drinking fountain
- Food and drink
- Active uses

- Dog park
- Festivals/events
- Games - Life size chess board, Bocce ball, Disc Golf
- Reading room
- Live music
- People need to want to be there
- Clean
- Olmstead design
- Need to clearly be for the public
- Food trucks
- Movable seats
- Safety
- Water feature
- Inviting
- Pleasant
- Cool
- Walkable – within it and to it
- Visible, close to transport
- Safe/secured with cameras
- Exercise equipment
- Access for bikes
- Solar plug in for laptops
- Entertainment – music/stages
- Pet friendly
- Wi-Fi
- Farmers Market
- Artistic bike racks
- Connected green places to walk
- More green connection – green roof @ North Ave MARTA station
- Place to walk not in the city
- Link historic sites – walking trail
- Eyes on the street
- Laptop connection to linger
- Fitness events
- Greenway linkage
- Limit auto traffic
- Maintain privacy gradients – public/intimate spaces
- Lots of trees
- Small concerts
- More intimate spaces
- Tie schools to playgrounds, safe for families
- Connect private business spaces to city spaces
- Boundaries are important to create intimacy
- Outdoor Movies
- Parks that don't work – lack of access, no focus

Top 3 preferences for type of open space in Midtown

- Small pocket parks (a few suggested locations – near the Fox Theatre since it is such a high-traffic area for pedestrians, near the food truck venue at Peachtree and 13th Street, along the I-75/85 corridor, near 10th and Juniper)
- Playgrounds and community gardens were mentioned more often that dog parks which were rarely discussed
- The ability to have BOTH quiet, contemplative areas AND active areas within the same space was a priority
- Using food trucks to activate open spaces was mentioned multiple times. There seems to be a need for a more enhanced open space in the vicinity of the food trucks at 13th Street since there is very little opportunity for people to sit and hang out in the parking lot.
- Gaming would be a good way to program open space near Tech Square. For instance if the parking lot at the NE corner of Spring and 5th Street could be activated with foosball, ping pong, min golf, those would stand a good chance of success given the captive audience of students and the high pedestrian traffic at lunchtime.
- Pocket Parks/connections in the proposed locations:
    - Piedmont/Juniper south of 10th
    - 75/85 corridor park and trail
    - 14th/Peachtree
    - Spring Street
    - 12th/Peachtree
    - In front of Noodle
    - Fox Theatre/MARTA – North Ave
    - Bike lane on Williams/Fowler
    - 10th/Juniper/Piedmont
    - Park opportunity on Peachtree
    - Near 5th/Tech Square
    - 12th/West Peachtree
    - 14th Street/proposed symphony hall site
    - Promenade on 10th from MARTA to Piedmont Park
    - Dewberry parking across from Fed
- Private/safe open space – rooftops, etc
- Linear Connections between parks
- Green roofs for MARTA stations
- Family friendly settings by schools
- Green near retail and restaurants
- More active spaces near Tech
- Plaza across the connector
- Linking greenspaces very important
- Living walls – large buildings/parking
- Lots of plazas over MARTA are uninviting
- Need places to walk, need circuits of greenspace
- Convert tops of parking decks to greenspace
- Daylight streams where possible
- Convert parking lots to decks and parks

OTHER

- Sponsor an avenue to make it green
- Greenspaces around schools
- Identify users (bus/res/school) and how underserved – focus groups

TRANSPORTATION

Facilitators: John Maximuk, Amy Goodwin, Kevin Bacon, Robert Reed and Alan Steinbeck

HIGHLIGHTS

- Pedestrian safety is key – put pedestrians first
- More education needed on the concept of "complete streets" and how it can address the wide variety of interests in transportation infrastructure.
- Need a more complete and safer bicycle net work before bike sharing is launched.
- More information wanted on available transit services and options for the "last mile" after leaving transit.
- Concept of "managed parking" was not well understood, but interest was high in addressing parking challenges.
- Safety concerns must be addressed to gain support for bike infrastructure.

NOTES

Strategy 1:

Complete Streets Enhancement Projects

- Focus on connecting/improving sidewalks outside of the MID
- Stormwater problems/strategies
- Rebuilt-state of good repair – include bike paths
- Peachtree as pedestrian mall between 5th-10th Streets
- Redesign Piedmont/Juniper for people
- Pockets of sidewalk: good and bad
- Grade issues
- Close Peachtree on weekend to encourage more walking/biking
- Provide bike access on 10th Street
- Wider sidewalks throughout the district
- Consider water quality and quantity
- Slim down vehicular lanes to make room for bikes
- Maintain crosswalks, bike lanes, bike boxes
- Monroe Road Diet
- See Santa Monica, CA as example
- Example project of complete street
- Need better N-S access for bikes
- Protected lanes are key for cyclists

- More two-way streets – better retail, speeds too fast
- Juniper/Piedmont two-way conversion is needed
- Enhance transit in conjunction with streetscapes
- What is a complete street – need general education
- 3 lanes to 2 lanes ok if traffic times, light synchronized
- Road diet top priority – especially on W. Peachtree
- Speeds unacceptable on Spring and W. Peachtree

Strategy 2:

Bike and Car Sharing Programs

- Consider terrain and bikes
- Need protected bike infrastructure
- Need network first
- People need to feel safe on bike
- Not so much for older residents
- Invest in tandem with bike infrastructure
- Bike share program for Beltline makes sense
- Zipcar is fine should be in the mix but not top priority
- Zipcar is essential – add more cars
- Bike share more touristy – not priority

Strategy 3:

Promotion & Expansion of Public & Institutional Transit Services

- Currently not user friendly
- Need Peachtree Street trolley
- Midtown station bus – last mile problems
- Cost benefit of transit vs. cars
- Fine grain routing application
- Support for transit app
- Expanding rail – wide support
- Last mile connectivity
- Safety issues
- Better bus coordination
- GA Tech Trolley expansion
- Shuttles to park haven't worked – challenging
- Access to local food by transit
- Streetcars, expand transit
- More east-west transit
- Circulators – feel welcome on Tech Trolley but not on Emory shuttle
- Advertise routes and that they have public access
- Expand stops for Emory, expand promotion
- Info on train schedules in stations
- Circulators have good level of service, not top priority to expand

Strategy 4:
Managed Parking Solutions

- Need proper signage
- Close streets for weekends
- Local neighborhood resistance
- Dedicated parking for apt buildings for car share
- Develop parking smartphone app
- Don't let cars in at all – reduce parking
- Shared parking w/ private decks for Zipcars
- Strong support for parking app – people don't know where all the parking is
- Signage/standardization
- More on-street parking
- Don't want to encourage driving with more parking
- Parking too cheap
- Satellite lots for events
- Limit number of spaces per building/ office
- Promote/expand guaranteed ride home
- Need more bike parking
- Would support on street parking if it helps to reduce speeds, support retail

Strategy 5:
Expanded Bicycle Network

- Need better N-S access
- More police on bikes
- Safety is top priority
- Afraid to ride – traffic too fast and distracted
- Prefer dedicated bike lanes
- 3 foot lanes and sharrows are inadequate
- Color lanes to make more visible

OTHER

- Beltline connectivity
- TIA alignment

WASTE

Facilitators: Holly Elmore, Synkai Harrison, Suzanne Burns

HIGHLIGHTS

- Public and multi-family recycling are very desirable programs, but public education is critical for success.
- Need continuous waste services – not just once per month.
- Restaurant waste strategies should be a high priority, but may be difficult due to lack of infrastructure.

NOTES

Strategy 1:
Public Recycling

- Great ideas as long as you can keep it clean
- Metric-How many buildings currently have recycling programs?
- Need an education campaign
- Uniformity in messaging, branding, signage and receptacles is important and should be consistent throughout Midtown
- Metrics-What is being captured already? What is your baseline?
- Easier to implement because part of common practice
- Expected by visitors to the City
- Need intuitive separation/signage
- Barriers: logistics, who separates, source separation
- Not enough – need education and signage
- People don't pay attention to source separation
- Top priority

Strategy 2:
Electronics Recycling Program for Midtown

- Consider quarterly recycling events
- What are the incentives for participation?
- Livable Buckhead has a successful electronics recycling program. Consider reaching out to them to see "how they are doing it"
- Regular collection would be helpful, awareness campaign
- Roll offs a few times a year
- Partner with grocery stores for drop-off
- Need to be transparent about ultimate disposal of components
- Not frequent enough, volume based
- Battery recycling party

Strategy 3:
Food Service Waste Reduction

- Metric: What is the current capacity of facilities accepting food waste?
- Composting is a great idea, facility is key -most difficult strategy
- Grease recycling – add as unique initiative
- Second priority
- Like idea of methane harvesting from compost
- First priority

Strategy 4:
Recycling in Multifamily & Office Buildings

- This would have the greatest impact. Should be moved to number 1.

- This should be ranked equally with public recycling. What is being captured in public recycling verses multi-family/office will determine which to focus on.
- What works and what doesn't – public education campaign is key
- Paper shredding day at condos – perceived as easy to do

Strategy 5:

Construction Waste Reduction

- There is a significant amount being done already
- Could have a lot of impact in Midtown, specifically due to building retrofits

OTHER

- What are the specific overall goals for waste? Tonnage or public awareness? If the goal is diversion (tonnage), then construction waste may have the greatest overall impact. If the goal is to raise public awareness, then strategies that are visible should have a greater impact. (public, multifamily and office building recycling)
- What are the metrics? How will you track progress to set goals?
- Additional Strategy: Consider competition between buildings for waste diversion.
- Implementing recycling programs in older buildings may be challenging.(issues with existing spaces and infrastructure)
- New construction-should be easier to implement programs. What is the incentive to participate?
- Ease of implementation with no additional cost
- Identify which programs have been successful in Midtown.
- Metrics-Identify gaps in recycling efforts. Determine how to fill those gaps.
- Metrics-What type of waste is being generated? (Context: This should influence the types of strategies that are selected)
- What impact does pet waste have?
- What are the economic incentives for each of the strategies? How do each compare considering ease of implementation
- Midtown Alliance could serve as a clearing house providing recommendations, list of preferred contractors, etc.
- The strategy must be easy to implement and participate in.
- Midtown Alliance should reach out to condo associations to inform them about what is required.(referring to city ordinances requiring recycling)
- Emory has been successful in bring vendors to the area (vendors who are looking to take recycled materials). Midtown Alliance should look to Emory as a resource.

WATER

Facilitators: Pam Burnett, Thatcher Young, Lauren Colley, Gray Kelly and Joy Hinkle

HIGHLIGHTS

- Green infrastructure and decentralized stormwater projects have potential to ad dress multiple challenges on both the community and building scale; implement on rolling basis as part of routine maintenance
- More convenient technologies and financial incentives could help increase adoption of rainwater harvesting and gray water reuse
- Concentration of restaurants and hotels presents opportunities for greater impact
- Plumbing retrofits have been widely successful at the single-family level; multi family success is possible with partnership and education

NOTES

Strategy 1:

Green Infrastructure for Streetscape and Greenspace Projects

- Look for small opportunities
- Leverage unused hardscape
- Utilize permeable pavements
- Consider topography and hydrology of Midtown
- Tax structure for permeability
- Too much asphalt – need more permeability
- Daylight streams if possible
- Flooding issues on Juniper – runoff control
- Use greenspaces for water management
- Bust up concrete – incentivize companies to sponsor a street
- Deal with small spaces – retailers would support capturing water in planters
- Identify most practical strategy
- Street designs – plants are above the pavement and not where the water flows
- Will make a huge, positive impact
- Cypress Street – beneficial to have more permeable pavement
- Replacements under a normal maintenance process

Strategy 2:

Decentralized Stormwater Practices for Buildings

- Makes sense on a building level
- Show feasibility
- Green roofs cool buildings
- Why not more rooftop cisterns?
- Wastewater reuse for irrigation
- Need to be staged geographically
- Green roofs at time of construction is critical

- Incentives needed – ROI – cost vs. maintenance
- Owners are short term so no long term interest in products
- Visible cisterns may encourage other to add their own
- Stormwater credits for on-site controls
- Daily use of the water provide quick payback – irrigation longer
- Capture condensate from AC/cooling towers
- Incentivize private property opportunities
- Food to reduce water to combined stormwater system

Strategy 3:

Rainwater and Gray Water Harvesting for Irrigation

- Need real usage measurement, not assimilated
- Scaling to more local distribution
- How to retrofit commercial buildings/code for new constructions for gray water?
- Require at least for irrigation
- Need more storage facilities
- Store water on top of buildings
- Combine with Strategy 2
- Concerns about gray water due to use of chlorine, consumptive use
- Helps with stormwater management
- Will reduce HOA fees by using stormwater in other building uses
- Rebate/incentives needed
- Improved convenience for gray water use
- Systems are still expensive, can be inconvenient

Strategy 4:

Efficiency Assessments and Recommendations for Large Commercial Users

- Data needs to be in your bill
- Show comparison on bills to educate
- Education has to be dollars and cents – show the real numbers
- Commercial is more important – greater potential savings
- Do we know this is a weakness?
- Leak detection for hotels and large buildings
- Visible monitoring of use – peer reviews
- Separation of water and sewer meters
- Take credit for the good water initiatives
- Focus on residential/single family – haven't large commercial buildings already done this to save money?
- Tougher to implement but effective
- Older buildings should be reviewed for efficiency

- Fastest return for enhancing/improving the supply problem
- Generate water with cooling towers
- Concentration of restaurants and hotels present opportunities
- Collect/treat water onsite

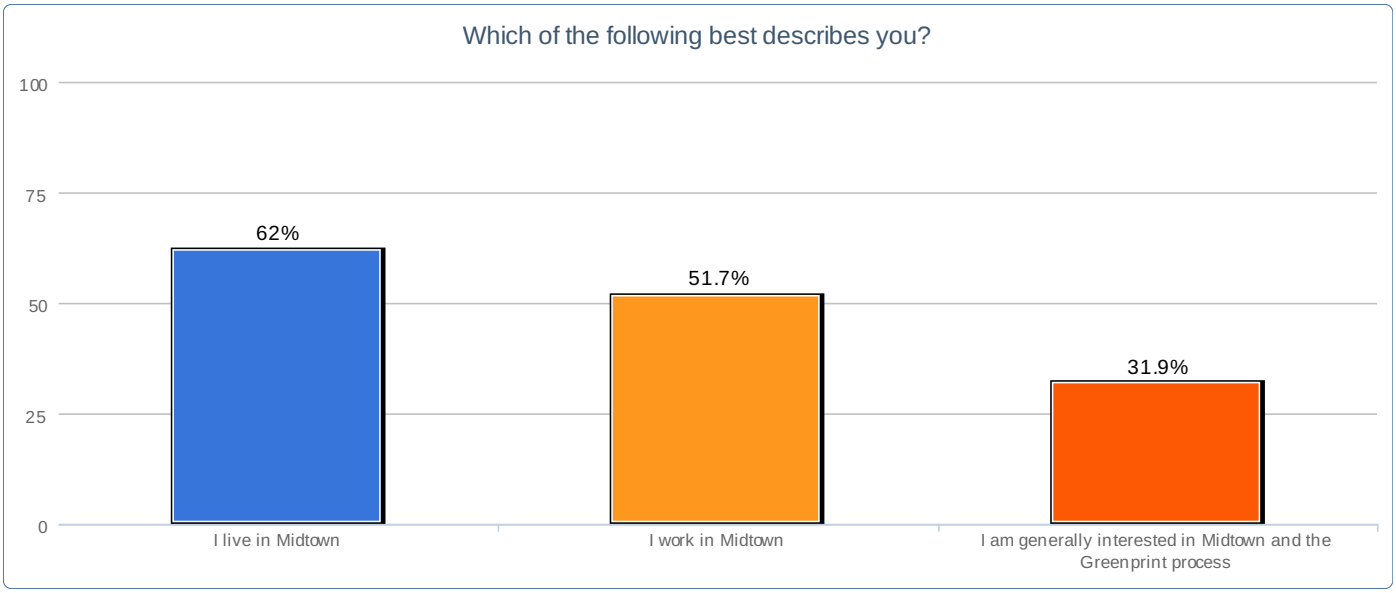
Strategy 5:

Plumbing Retrofits for Multi-family Residences

- Education needed to improve use of current programs
- Good program – simple ideas
- Front loading washer rebates
- Rebates are working well –publicize more
- Plumbing rebates – recycle toilets into foundation materials
- Be more specific about how to implement
- Get volunteer teams to install the dual flush adapters – technical school internships
- Because of triple lease, you don't see savings
- Owners must be engaged

Summary Report - Jul 31, 2012

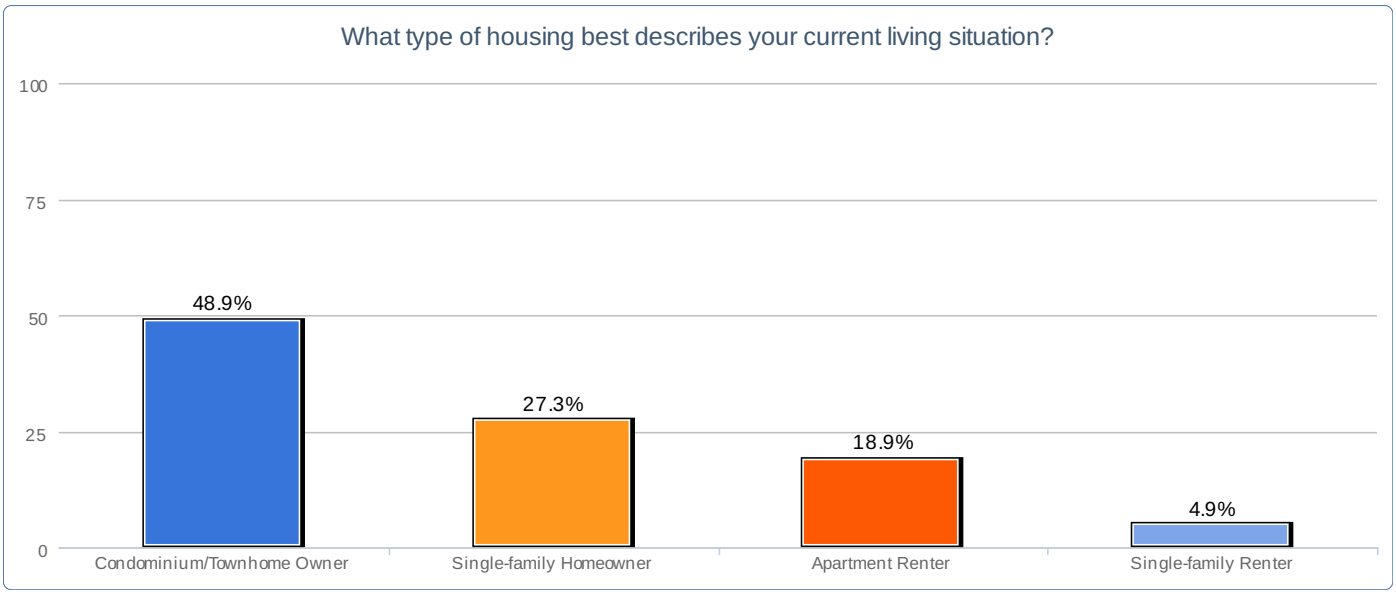
Survey: Greenprint Midtown Community Survey



1. Which of the following best describes you?

Value	Count	Percent %
I live in Midtown	375	62%
I work in Midtown	313	51.7%
I am generally interested in Midtown and the Greenprint process	193	31.9%

Statistics	
Total Responses	605



4. What type of housing best describes your current living situation?

Value	Count	Percent %
Condominium/Townhome Owner	292	48.9%
Single-family Homeowner	163	27.3%
Apartment Renter	113	18.9%
Single-family Renter	29	4.9%

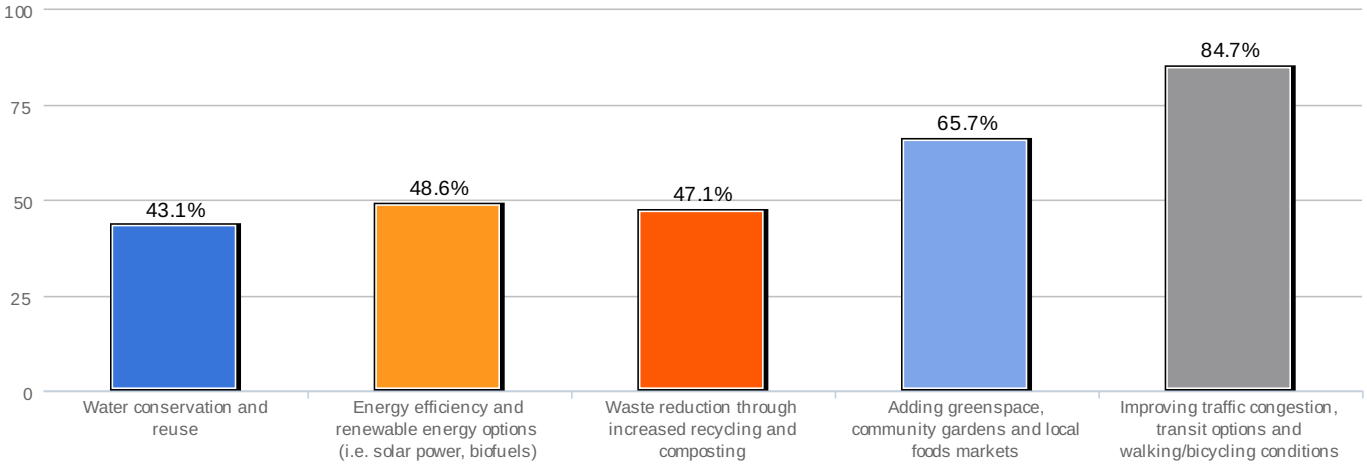
Statistics	
Total Responses	597

5. If you participate in any of the following sustainability actions at home, what inspires you to do so?

	Saves Money	Convenience	Improved performance/quality	It's the right thing to do	Do not participate in this action	Responses
Recycle paper, plastic, glass, aluminum	5.9% 35	11.1% 66	4.9% 29	84.2% 501	11.8% 70	595
Compost food scraps	2.4% 14	2.1% 12	6.3% 37	16.1% 94	79.7% 466	585
Use energy efficient light bulbs	48.0% 285	5.2% 31	19.0% 113	61.1% 363	13.3% 79	594
Lower thermostat in winter; raise thermostat in summer	70.9% 421	2.0% 12	12.6% 75	49.2% 292	9.1% 54	594
Turn off lights when not in the room	72.1% 434	4.0% 24	8.5% 51	64.6% 389	1.0% 6	602
Install WaterSense/low-flow plumbing fixtures	28.8% 169	1.0% 6	6.1% 36	31.1% 182	54.3% 318	586
Purchase ENERGY STAR labeled electronics	45.5% 268	3.4% 20	17.0% 100	47.7% 281	24.8% 146	589
Shop locally and purchase local food and products when available	15.2% 90	24.1% 143	35.9% 213	58.6% 348	13.1% 78	594
Use Zipcars	3.4% 20	10.5% 61	2.1% 12	4.3% 25	87.0% 507	583

6. If you take any of the following sustainability actions at your workplace, what inspires you to do so?

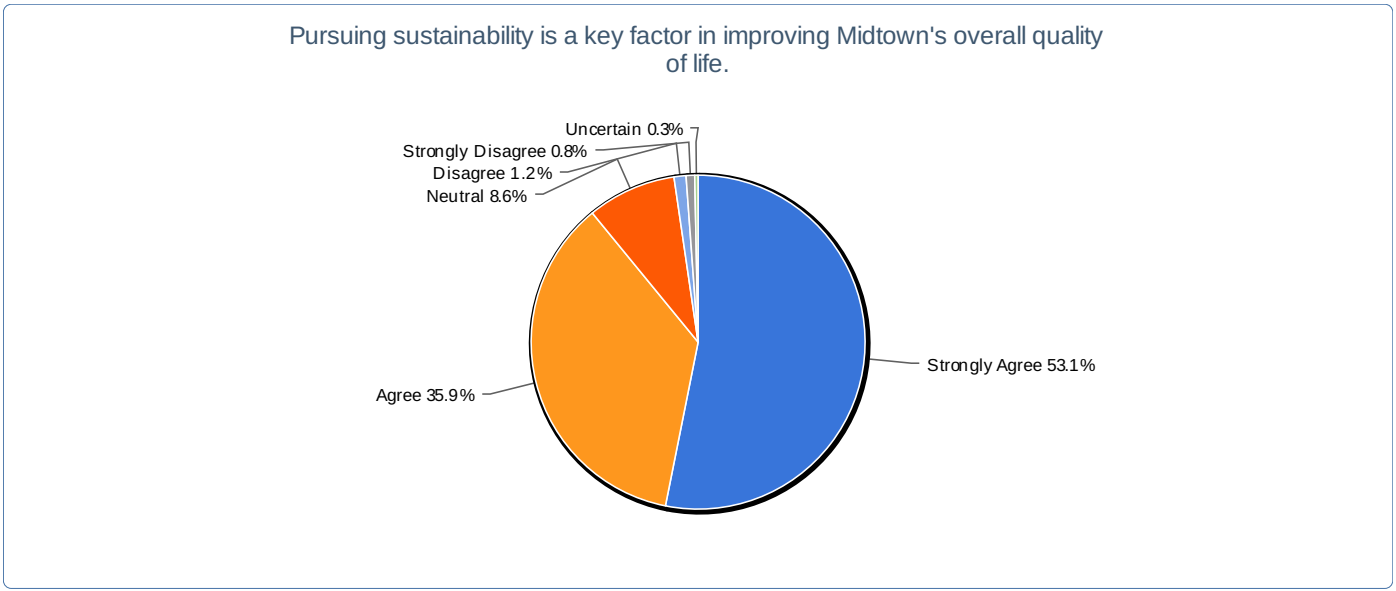
	Company Policy	Personal Habit	Saves Money	Convenience	It's the right thing to do	Do not participate in this action	Responses
Recycle paper, plastic, glass and aluminum	26.3% 151	39.4% 226	5.6% 32	10.6% 61	63.8% 366	12.2% 70	574
Turn off lights when not in the room	14.6% 84	45.1% 260	21.5% 124	4.3% 25	53.6% 309	14.2% 82	576
Shut down computer before leaving at end of day	17.6% 101	38.7% 222	15.7% 90	3.5% 20	41.8% 240	27.7% 159	574
Lower thermostat in winter; raise thermostat in summer	16.4% 93	11.1% 63	13.4% 76	1.6% 9	20.2% 115	58.5% 332	568
Print less or two-sided	18.2% 105	32.3% 186	29.3% 169	9.0% 52	53.8% 310	17.0% 98	576
Use refillable water bottles or reusable mugs	11.8% 68	45.1% 259	22.8% 131	16.4% 94	53.0% 304	15.3% 88	574
Participate on a "green team"	7.4% 42	6.7% 38	2.1% 12	0.9% 5	17.0% 96	76.5% 433	566
Shop locally and purchase local food and products when available	5.8% 33	18.1% 103	4.6% 26	11.6% 66	31.5% 179	50.3% 286	569
Use Zipcars	1.1% 6	2.7% 15	1.4% 8	4.3% 24	4.0% 22	91.0% 506	556



7. Select the top three strategies you believe would be most impactful in making Midtown more sustainable:

Value	Count	Percent %
Water conservation and reuse	260	43.1%
Energy efficiency and renewable energy options (i.e. solar power, biofuels)	293	48.6%
Waste reduction through increased recycling and composting	284	47.1%
Adding greenspace, community gardens and local foods markets	396	65.7%
Improving traffic congestion, transit options and walking/bicycling conditions	511	84.7%

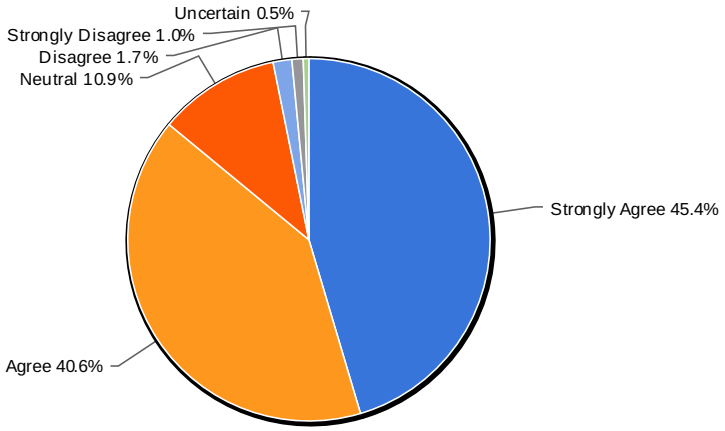
Statistics	
Total Responses	603



8. Pursuing sustainability is a key factor in improving Midtown's overall quality of life.

Value	Count	Percent %
Strongly Agree	321	53.1%
Agree	217	35.9%
Neutral	52	8.6%
Disagree	7	1.2%
Strongly Disagree	5	0.8%
Uncertain	2	0.3%

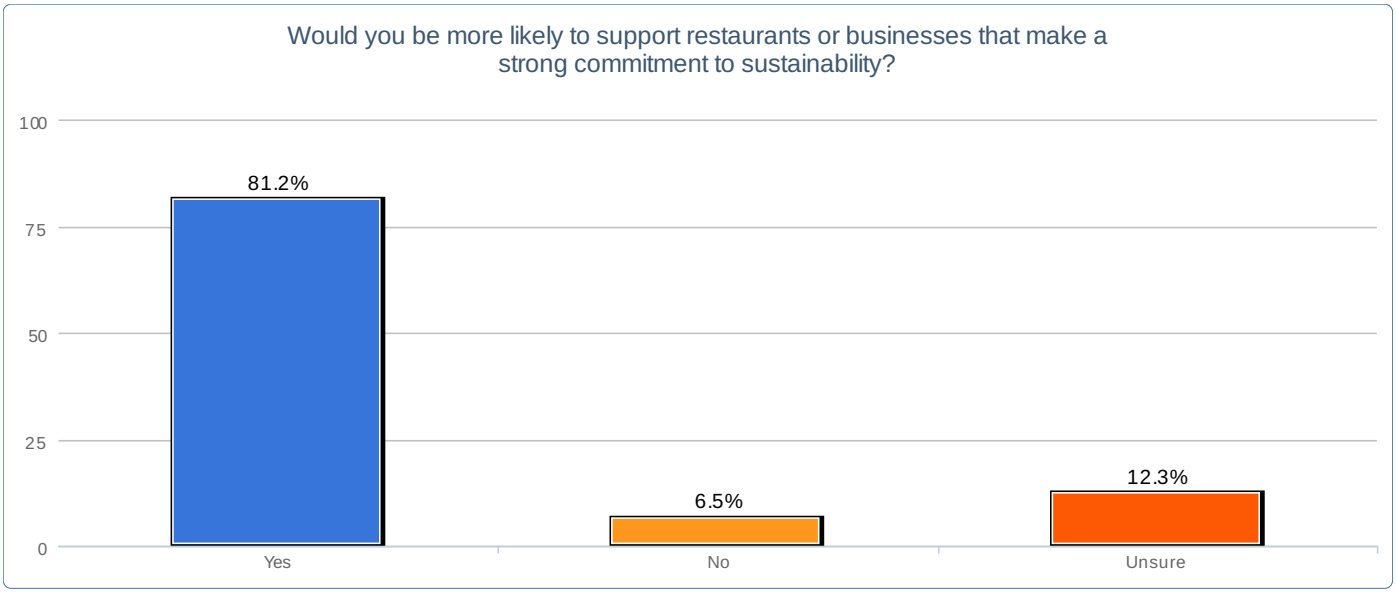
Statistics	
Total Responses	604



9. Pursuing sustainability is important for Midtown's economic success.

Value	Count	Percent %
Strongly Agree	272	45.4%
Agree	243	40.6%
Neutral	65	10.9%
Disagree	10	1.7%
Strongly Disagree	6	1%
Uncertain	3	0.5%

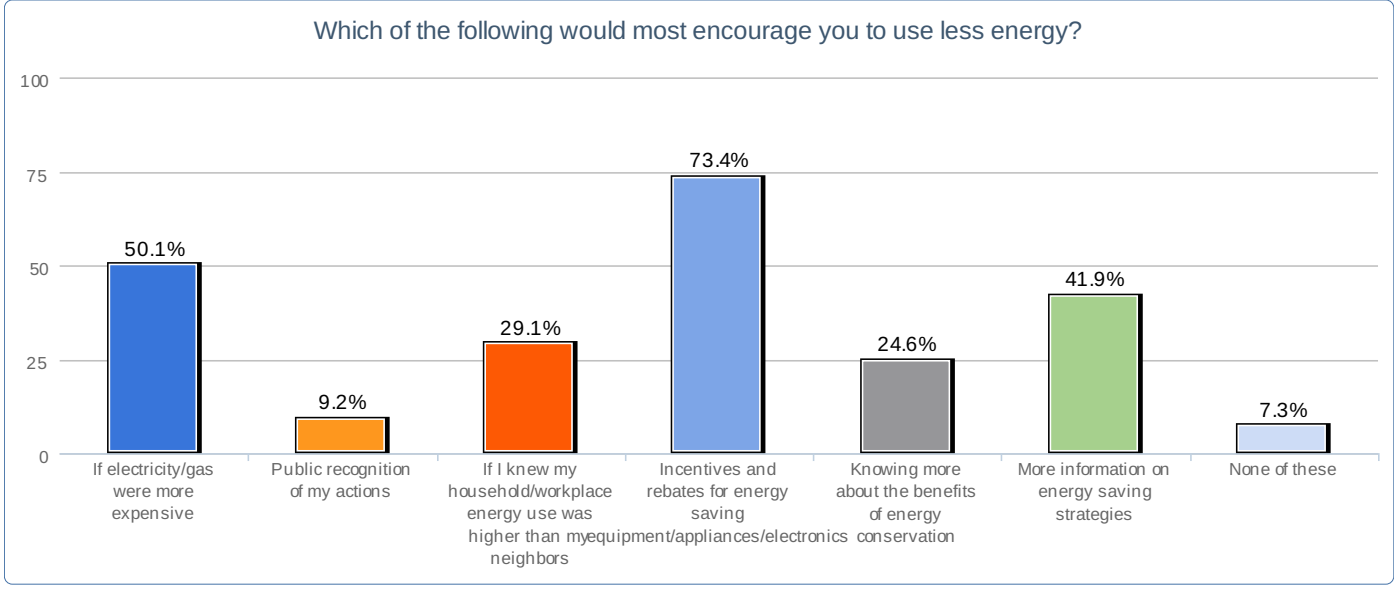
Statistics	
Total Responses	599



10. Would you be more likely to support restaurants or businesses that make a strong commitment to sustainability?

Value	Count	Percent %
Yes	489	81.2%
No	39	6.5%
Unsure	74	12.3%

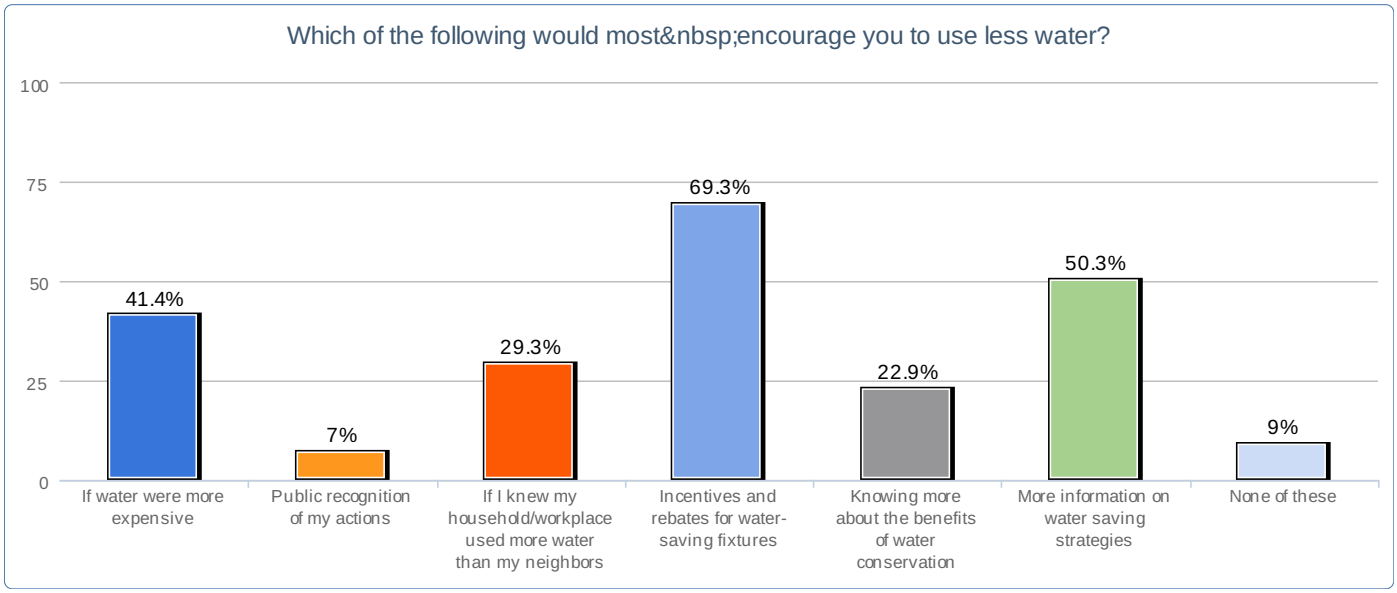
Statistics	
Total Responses	602



11. Which of the following would most encourage you to use less energy?

Value	Count	Percent %
If electricity/gas were more expensive	301	50.1%
Public recognition of my actions	55	9.2%
If I knew my household/workplace energy use was higher than my neighbors	175	29.1%
Incentives and rebates for energy saving equipment/appliances/electronics	441	73.4%
Knowing more about the benefits of energy conservation	148	24.6%
More information on energy saving strategies	252	41.9%
None of these	44	7.3%

Statistics	
Total Responses	601

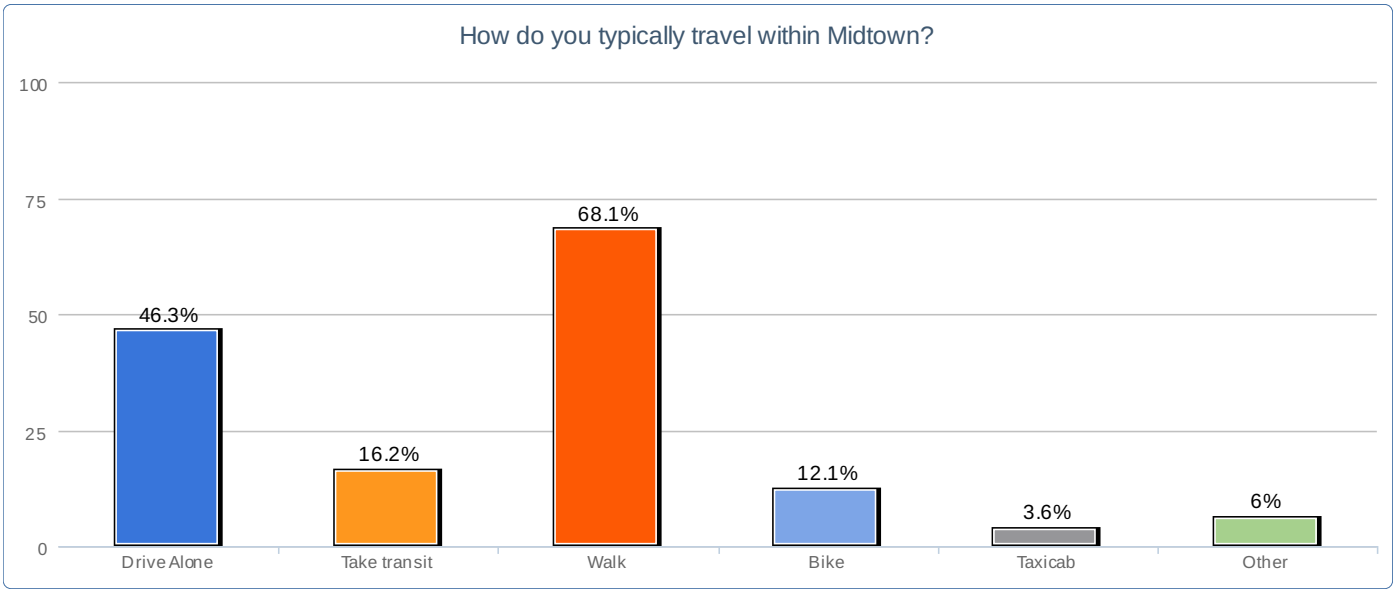


12. Which of the following would most encourage you to use less water?

Value	Count	Percent %
If water were more expensive	247	41.4%
Public recognition of my actions	42	7%
If I knew my household/workplace used more water than my neighbors	175	29.3%
Incentives and rebates for water-saving fixtures	414	69.3%
Knowing more about the benefits of water conservation	137	22.9%
More information on water saving strategies	300	50.3%

Statistics	
Total Responses	597

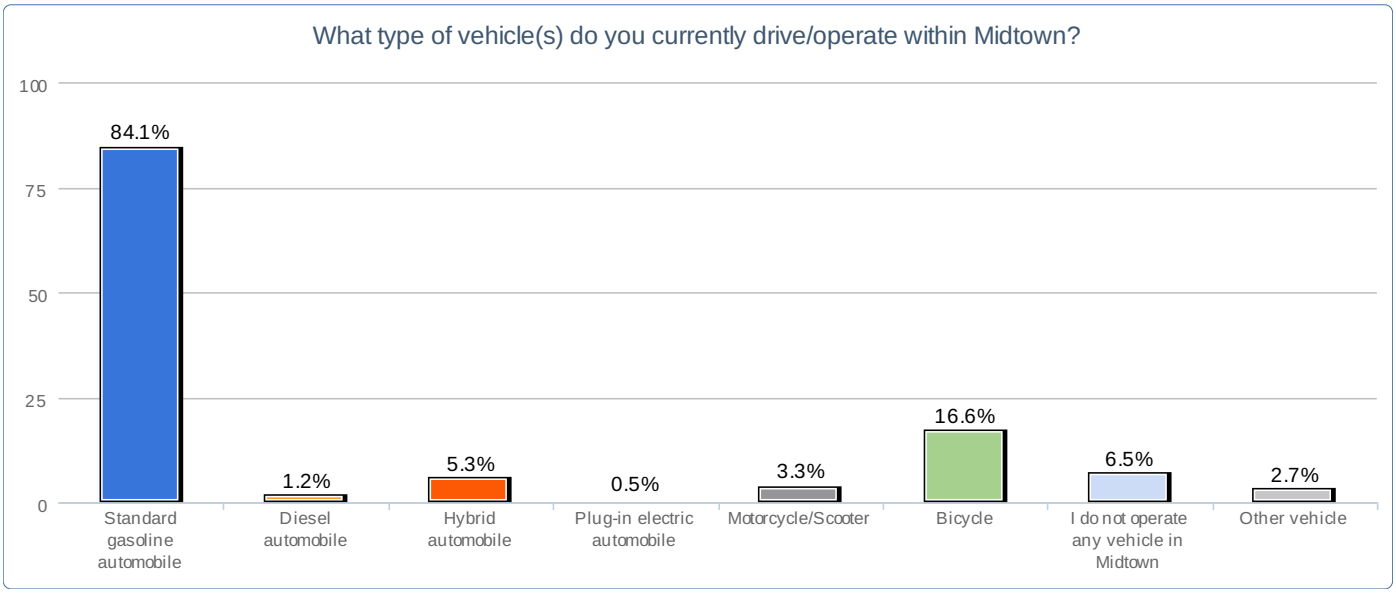
None of these	54	9%



13. How do you typically travel within Midtown?

Value	Count	Percent %
Drive Alone	280	46.3%
Take transit	98	16.2%
Walk	412	68.1%
Bike	73	12.1%
Taxicab	22	3.6%
Other	36	6%

Statistics	
Total Responses	605

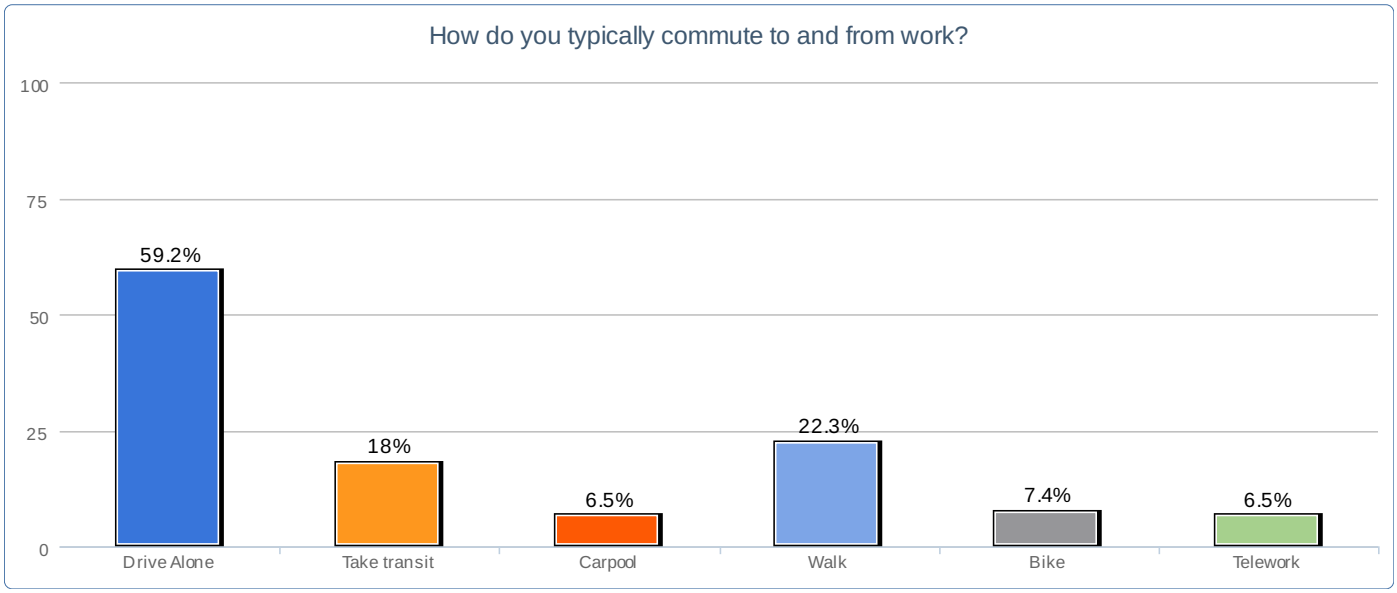


14. What type of vehicle(s) do you currently drive/operate within Midtown?

Value	Count	Percent %
Standard gasoline automobile	507	84.1%
Diesel automobile	7	1.2%
Hybrid automobile	32	5.3%
Plug-in electric automobile	3	0.5%
Natural gas automobile	0	0%

Statistics	
Total Responses	603

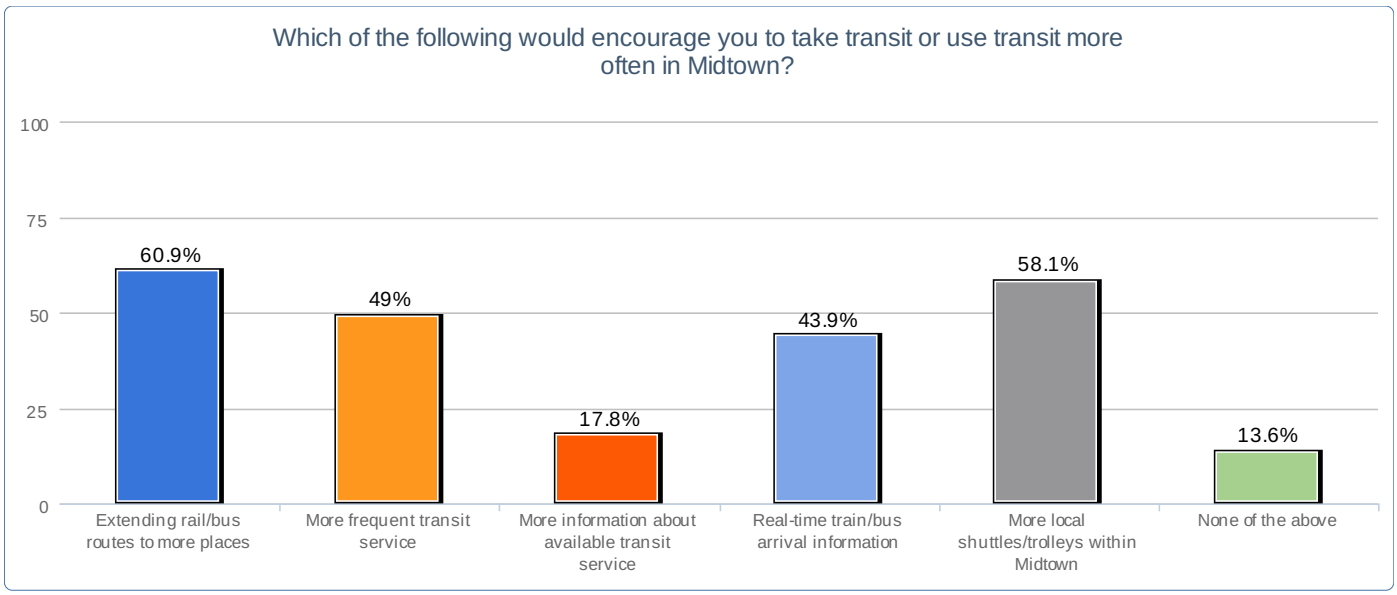
Motorcycle/Scooter	20	3.3%
Bicycle	100	16.6%
I do not operate any vehicle in Midtown	39	6.5%
Other vehicle	16	2.7%



16. How do you typically commute to and from work?

Value	Count	Percent %
Drive Alone	345	59.2%
Take transit	105	18%
Carpool	38	6.5%
Walk	130	22.3%
Bike	43	7.4%
Vanpool	0	0%
Telework	38	6.5%

Statistics	
Total Responses	583

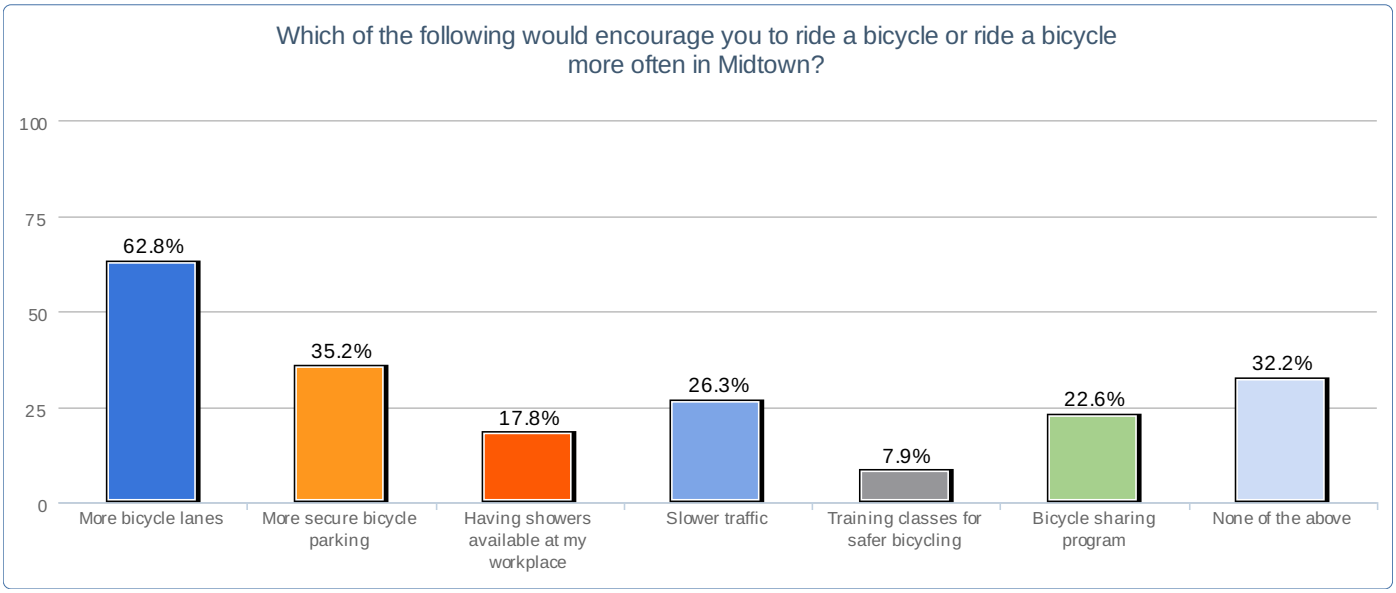


17. Which of the following would encourage you to take transit or use transit more often in Midtown?

Value	Count	Percent %
Extending rail/bus routes to more places	362	60.9%

Statistics	
Total Responses	594

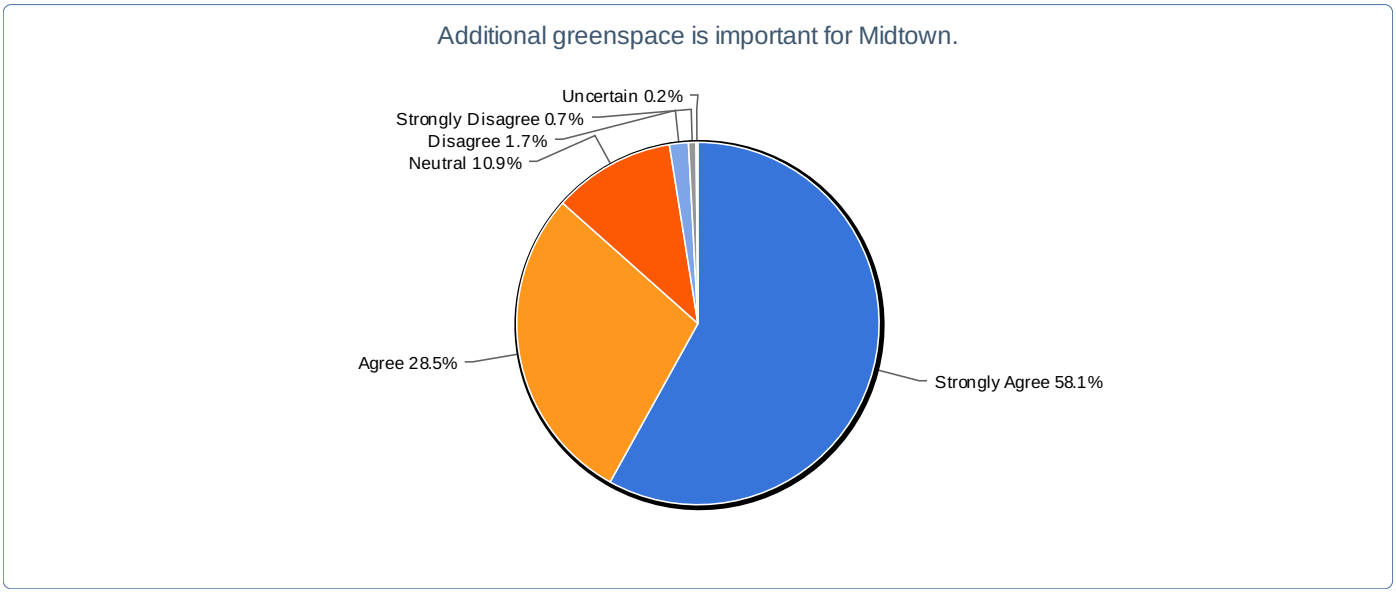
More frequent transit service	291	49%
More information about available transit service	106	17.8%
Real-time train/bus arrival information	261	43.9%
More local shuttles/trolleys within Midtown	345	58.1%
None of the above	81	13.6%



18. Which of the following would encourage you to ride a bicycle or ride a bicycle more often in Midtown?

Value	Count	Percent %
More bicycle lanes	375	62.8%
More secure bicycle parking	210	35.2%
Having showers available at my workplace	106	17.8%
Slower traffic	157	26.3%
Training classes for safer bicycling	47	7.9%
Bicycle sharing program	135	22.6%
None of the above	192	32.2%

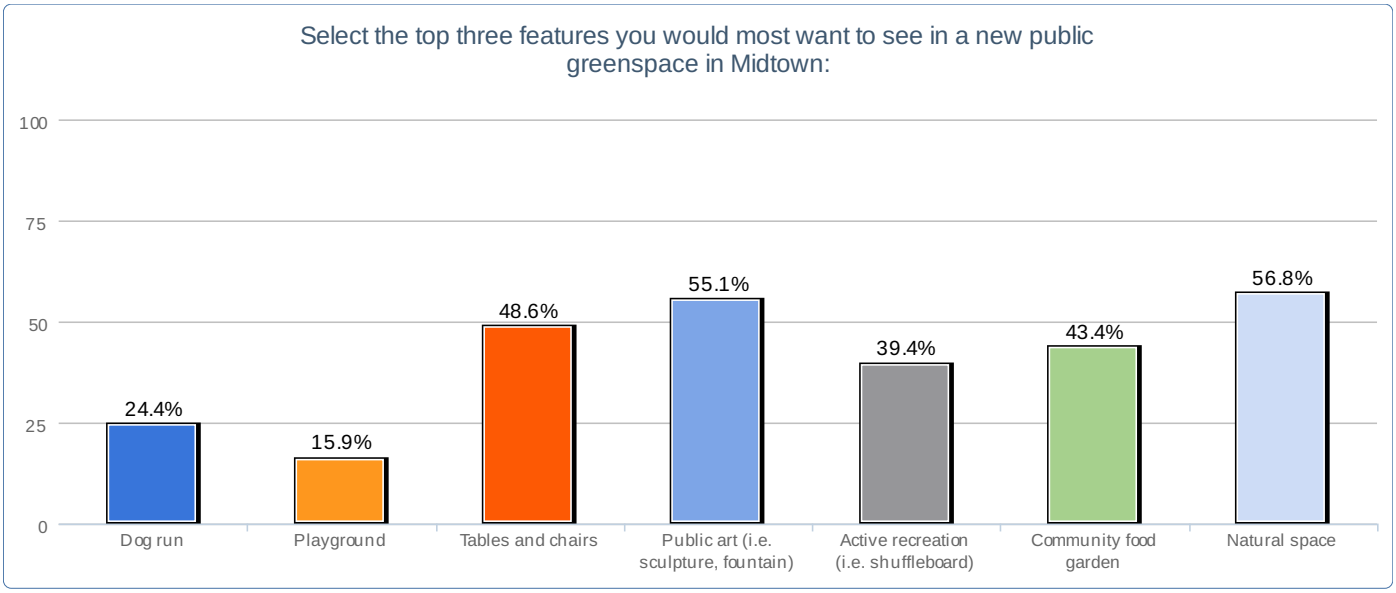
Statistics	
Total Responses	597



19. Additional greenspace is important for Midtown.

Value	Count	Percent %
Strongly Agree	346	58.1%
Agree	170	28.5%
Neutral	65	10.9%
Disagree	10	1.7%
Strongly Disagree	4	0.7%
Uncertain	1	0.2%

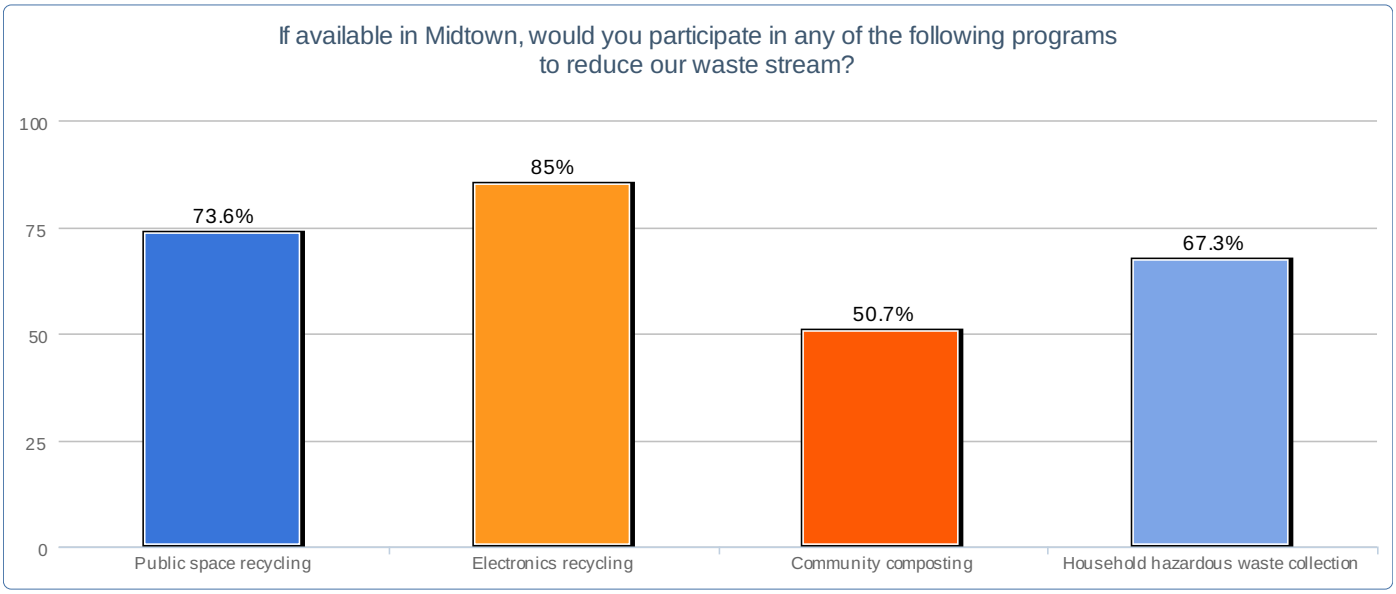
Statistics	
Total Responses	596



20. Select the top three features you would most want to see in a new public greenspace in Midtown:

Value	Count	Percent %
Dog run	146	24.4%
Playground	95	15.9%
Tables and chairs	291	48.6%
Public art (i.e. sculpture, fountain)	330	55.1%
Active recreation (i.e. shuffleboard)	236	39.4%
Community food garden	260	43.4%
Natural space	340	56.8%

Statistics	
Total Responses	599



21. If available in Midtown, would you participate in any of the following programs to reduce our waste stream?

Value	Count	Percent %
Public space recycling	421	73.6%
Electronics recycling	486	85%
Community composting	290	50.7%
Household hazardous waste collection	385	67.3%

Statistics	
Total Responses	572

2. What is your home zip code?

Count	Response
1	20009
1	30004
1	30009
1	30016
2	30022
13	30030
2	30032
6	30033
2	30039
1	30043
1	30044
1	30046
4	30047
1	30064
2	30066
5	30067
1	30068
3	30075
1	30076
4	30078
5	30080
3	30082
3	30084
1	30088
1	3009
2	30101
1	30102
1	30106
4	30127
2	30135
1	30152
1	30157
1	30188
1	30189
2	30214
1	30248
1	30263
1	30268

1	30269
1	30274
1	30281
1	303019
2	30303
9	30305
22	30306
17	30307
131	30308
221	30309
3	30310
1	30311
16	30312
3	30313
14	30316
5	30317
9	30318
7	30319
14	30324
2	30326
5	30328
2	30329
2	30331
4	30332
1	30337
4	30338
2	30339
1	30340
3	30341
2	30342
3	30344
3	30345
2	30363
1	30513
1	30518
1	30548
1	30601
1	330097
1	90068

3. What is your work zip code?

Count	Response
3	0
1	11230
1	17603
1	20009
1	30004
1	30005

1	30009
1	30014
1	30022
4	30030
1	30032
2	30035
1	30044
1	30046
1	30060
1	30062
1	30075
1	30076
2	30084
1	30091
1	30094
1	30096
1	30097
1	30114
1	30117
1	30122
2	30144
1	30189
1	30260
1	30268
1	30297
3	30301
3	30302
52	30303
6	30305
6	30306
3	30307
107	30308
238	30309
1	3030930005
1	3030930303
2	30310
2	30312
5	30313
2	30317
10	30318
7	30319
3	30320
7	30322
5	30324
5	30326
2	30327
8	30328
5	30329
26	30332
1	30333
1	30334

2	30336
1	30337
2	30338
18	30339
1	30340
4	30341
1	30342
1	30345
3	30346
1	30354
2	30360
2	30361
4	30363
2	30366
4	30375
1	30513
1	30601
1	30605
1	30909
1	31901
1	33016
1	33180

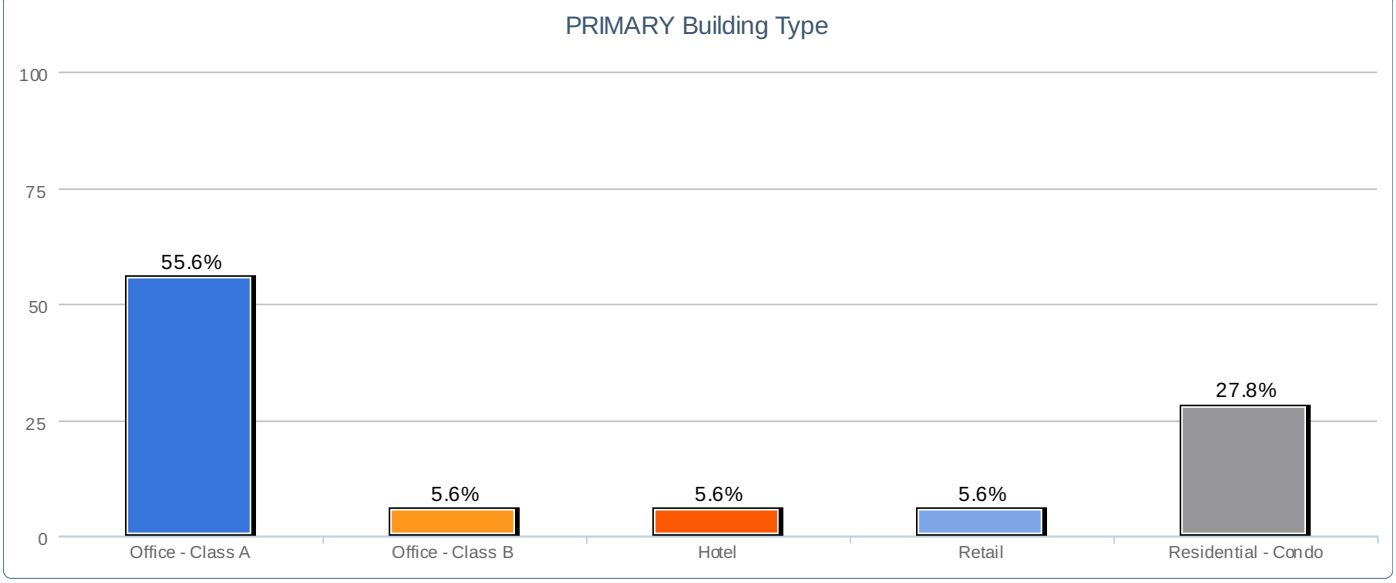
15. How long is your commute to work in miles one-way?

Count	Response
77	0
87	1
24	10
1	100
1	109
11	11
16	12
11	13
8	14
16	15
3	16
2	17
6	18
1	19
73	2
10	20
1	200
2	21
2	22
3	23
2	24
12	25
3	26

3	27
3	28
58	3
9	30
1	31
2	32
2	33
3	35
3	38
26	4
4	40
1	42
2	45
36	5
2	50
1	560
24	6
19	7
13	8
3	9

Summary Report - Jul 31, 2012

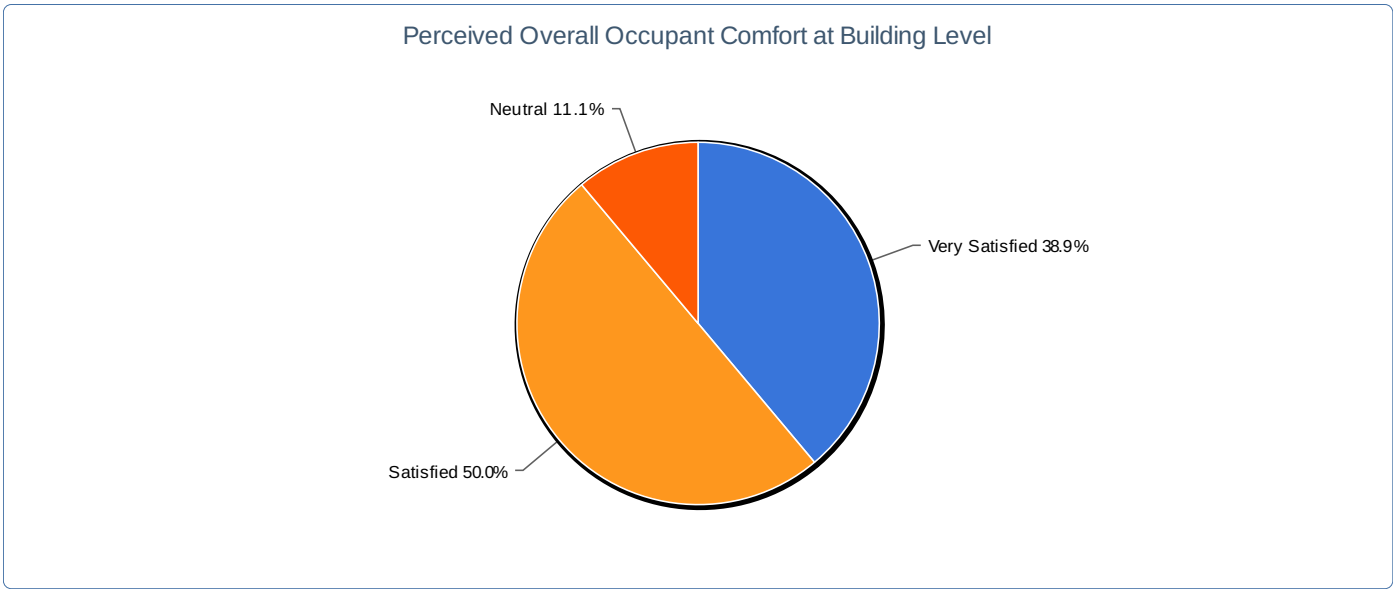
Survey: Greenprint Midtown Building Owners & Managers Survey



3. PRIMARY Building Type

Value	Count	Percent %
Office - Class A	10	55.6%
Office - Class B	1	5.6%
Hotel	1	5.6%
Retail	1	5.6%
Residential - Condo	5	27.8%
Residential - Apartment	0	0%

Statistics	
Total Responses	18



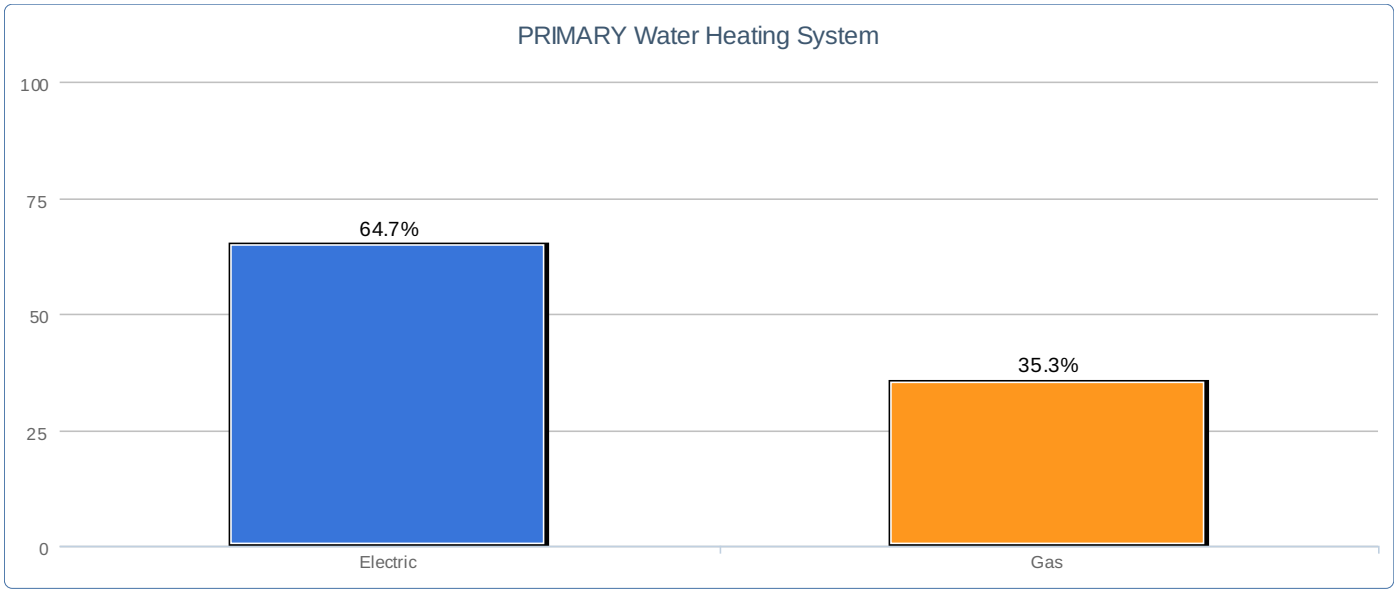
17. Perceived Overall Occupant Comfort at Building Level

Value	Count	Percent %
Very Satisfied	7	38.9%
Satisfied	9	50%
Neutral	2	11.1%

Statistics	
Total Responses	18
Sum	77.0
Average	4.3

Dissatisfied	0	0%
Very Dissatisfied	0	0%

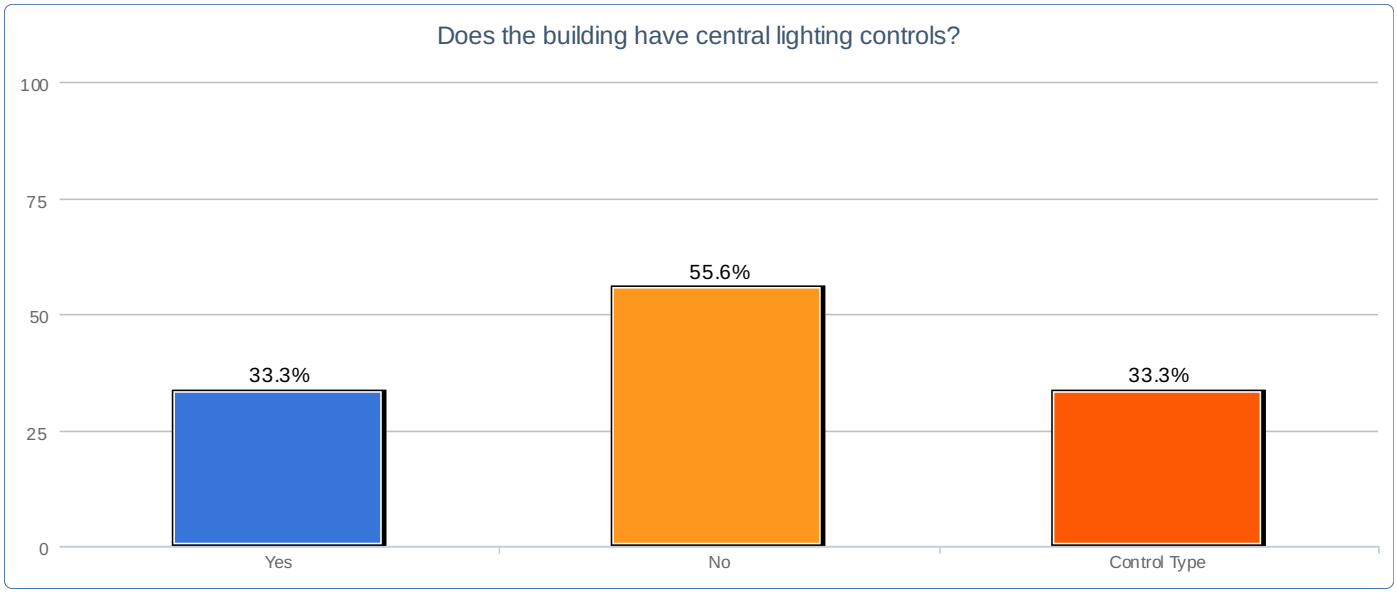
StdDev	0.65
Max	5.0



18. PRIMARY Water Heating System

Value	Count	Percent %
Electric	11	64.7%
Gas	6	35.3%
Other	0	0%

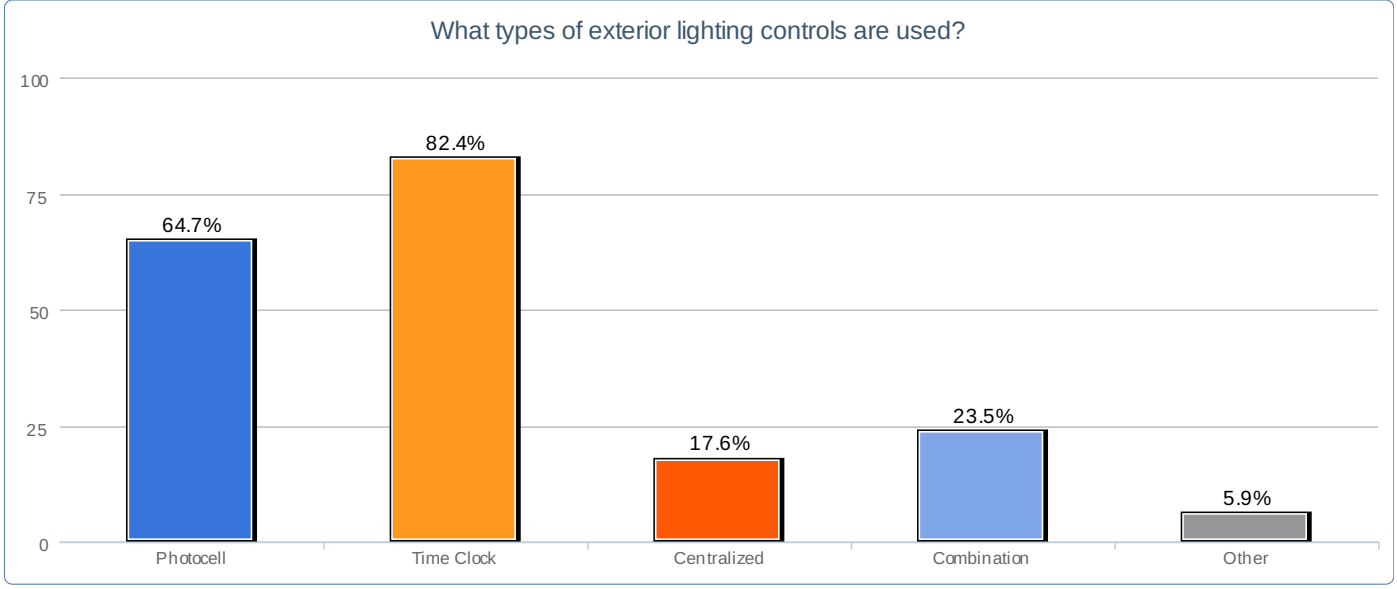
Statistics	
Total Responses	17



20. Does the building have central lighting controls?

Value	Count	Percent %
Yes	6	33.3%
No	10	55.6%
Control Type	6	33.3%

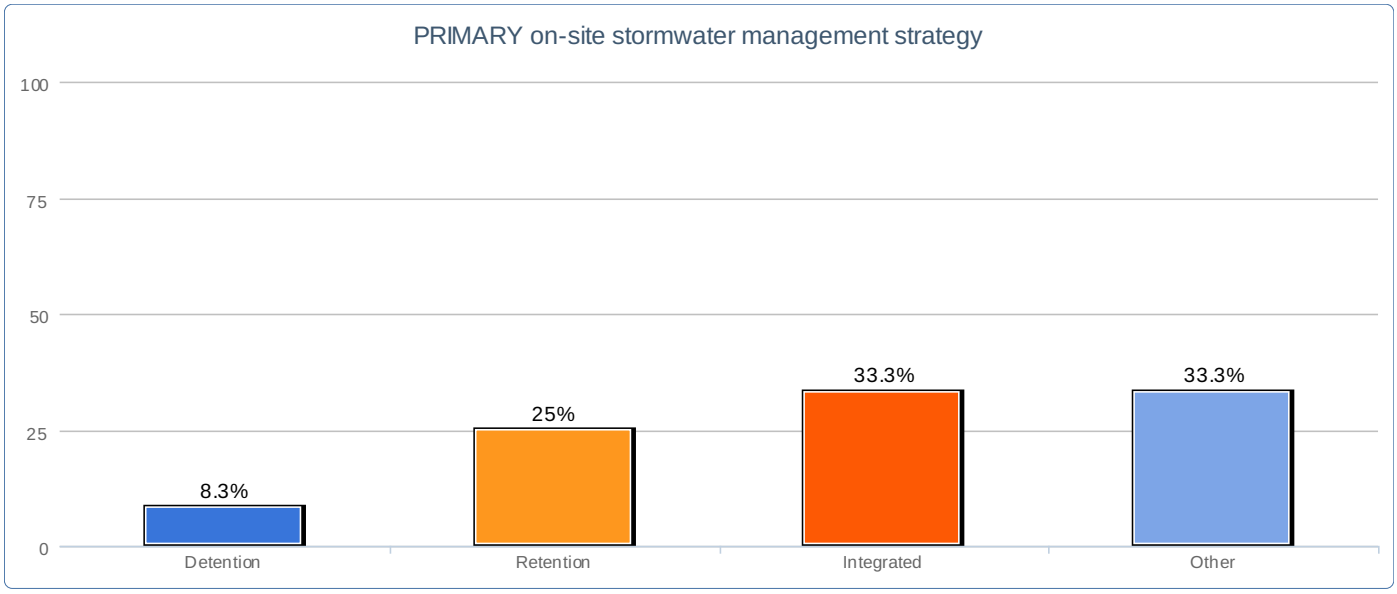
Statistics	
Total Responses	18



22. What types of exterior lighting controls are used?

Value	Count	Percent %
Photocell	11	64.7%
Time Clock	14	82.4%
Centralized	3	17.6%
Combination	4	23.5%
Other	1	5.9%

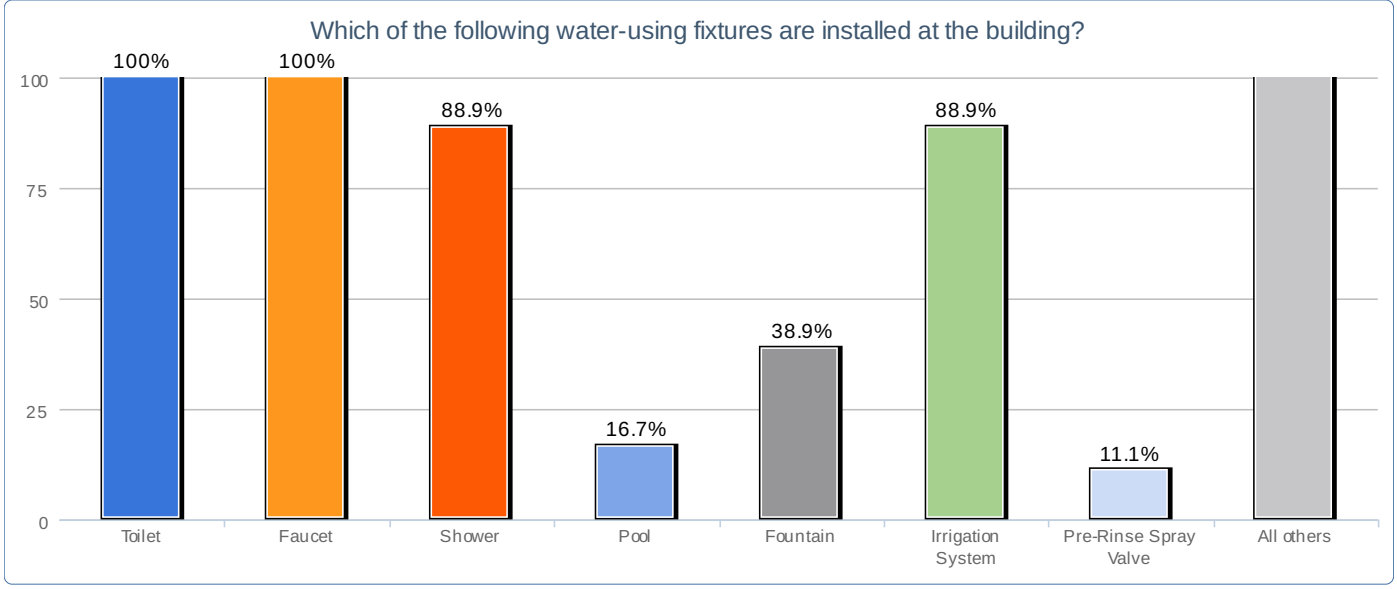
Statistics	
Total Responses	17



23. PRIMARY on-site stormwater management strategy

Value	Count	Percent %
Detention	1	8.3%
Retention	3	25%
Integrated	4	33.3%
Other	4	33.3%

Statistics	
Total Responses	12



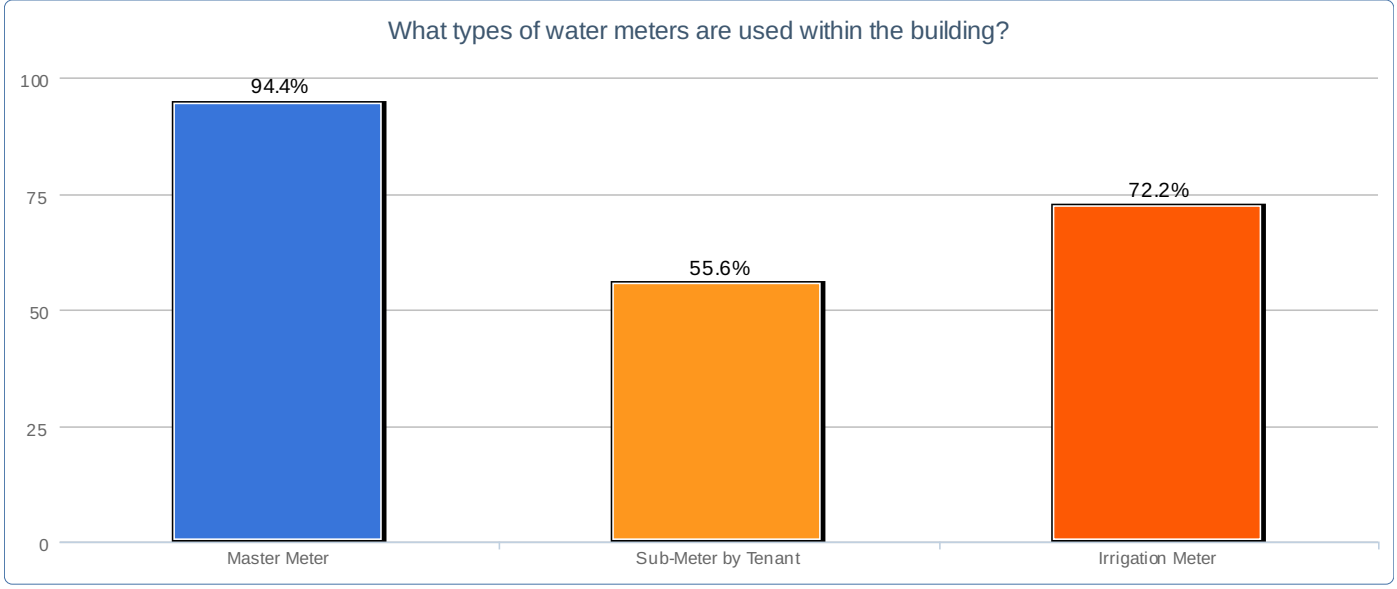
24. Which of the following water-using fixtures are installed at the building?

Value	Count	Percent %
Toilet	18	100%
Faucet	18	100%
Shower	16	88.9%
Pool	3	16.7%
Fountain	7	38.9%
Irrigation System	16	88.9%
Pre-Rinse Spray Valve	2	11.1%
Dishwasher	17	94.4%
Icemaker	15	83.3%
Laundry Facility	7	38.9%
Process Water	1	5.6%
Cooling System (Cooling Tower, Evaporative Cooler, etc)	13	72.2%
Heating System (Boiler, Humidifier, etc)	7	38.9%
Other	1	5.6%

Statistics	
Total Responses	18

25. Are any of the following alternative water sources used at the building?

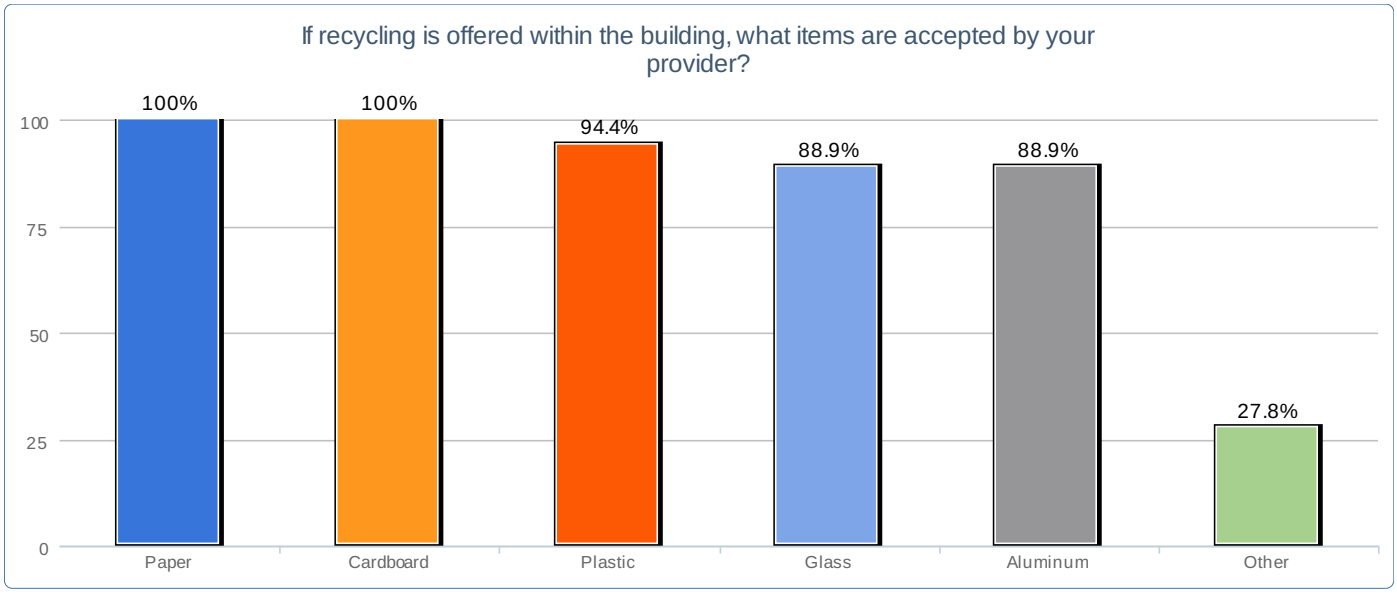
	Rainwater Harvesting System	Grey Water Recycling System	Private Well	Other	Responses
Indoor Use	**0.0%** 0	**0.0%** 0	**0.0%** 0	**100.0%** 1	**1**
Outdoor Use	**50.0%** 3	**0.0%** 0	**33.3%** 2	**16.7%** 1	**6**
Combination	**0.0%** 0	**0.0%** 0	**0.0%** 0	**0.0%** 0	**0**



26. What types of water meters are used within the building?

Value	Count	Percent %
Master Meter	17	94.4%
Sub-Meter by Tenant	10	55.6%
Irrigation Meter	13	72.2%

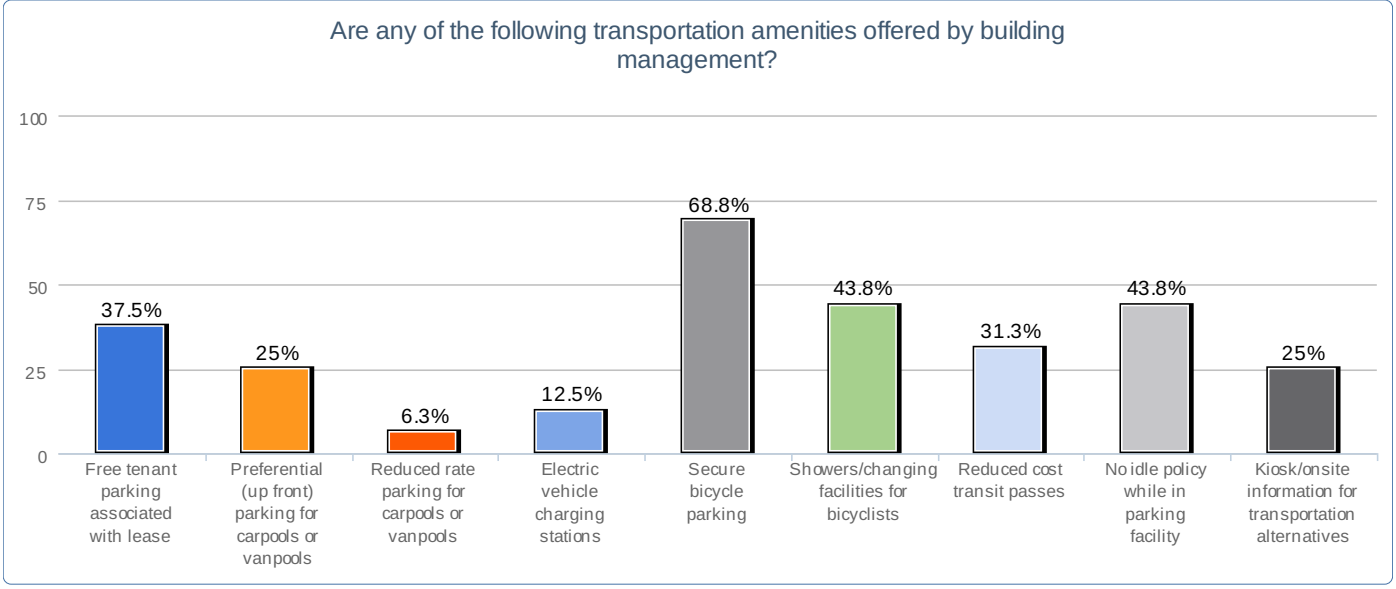
Statistics	
Total Responses	18



29. If recycling is offered within the building, what items are accepted by your provider?

Value	Count	Percent %
Paper	18	100%
Cardboard	18	100%
Plastic	17	94.4%
Glass	16	88.9%
Aluminum	16	88.9%
Other	5	27.8%

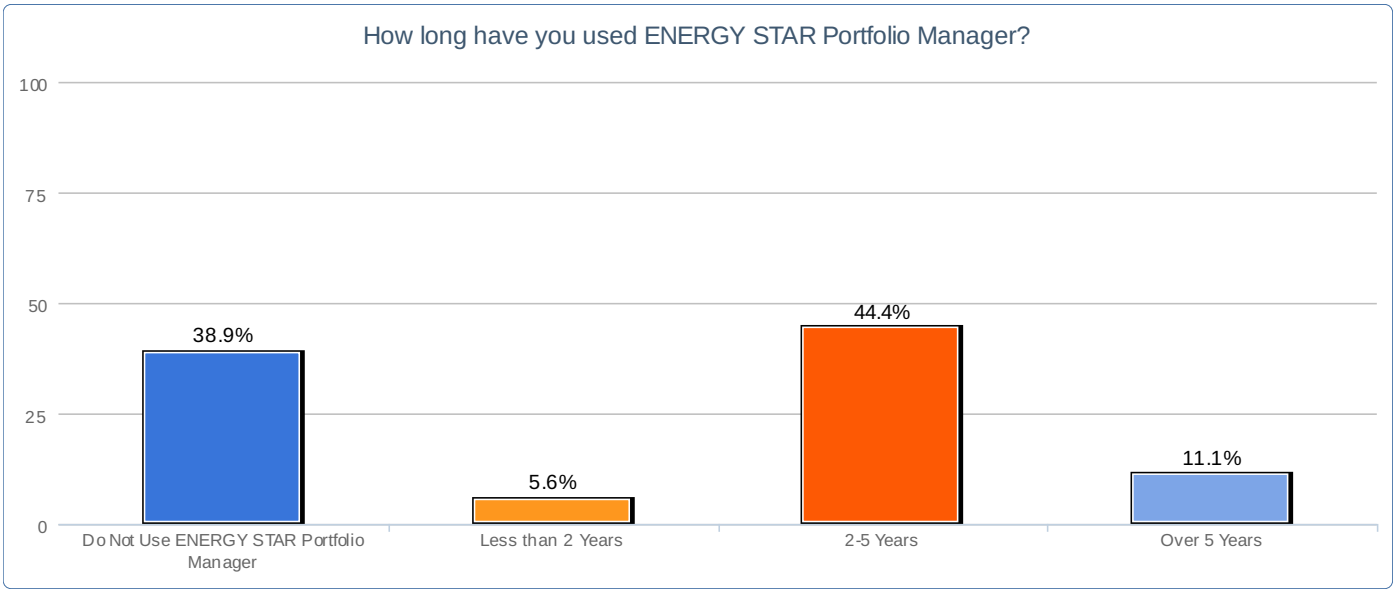
Statistics	
Total Responses	18



30. Are any of the following transportation amenities offered by building management?

Value	Count	Percent %
Free tenant parking associated with lease	6	37.5%
Preferential (up front) parking for carpools or vanpools	4	25%
Reduced rate parking for carpools or vanpools	1	6.3%
Electric vehicle charging stations	2	12.5%
Secure bicycle parking	11	68.8%
Showers/changing facilities for bicyclists	7	43.8%
Reduced cost transit passes	5	31.3%
No idle policy while in parking facility	7	43.8%
Kiosk/onsite information for transportation alternatives	4	25%

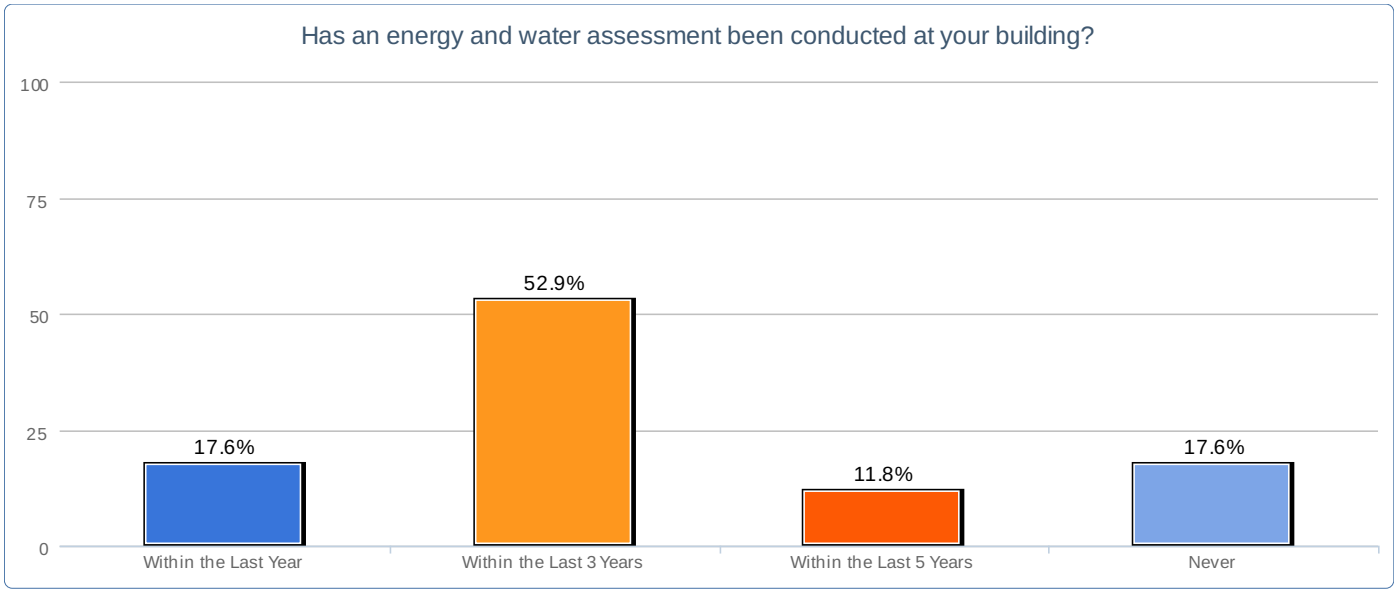
Statistics	
Total Responses	16



31. How long have you used ENERGY STAR Portfolio Manager?

Value	Count	Percent %
Do Not Use ENERGY STAR Portfolio Manager	7	38.9%
Less than 2 Years	1	5.6%
2-5 Years	8	44.4%
Over 5 Years	2	11.1%

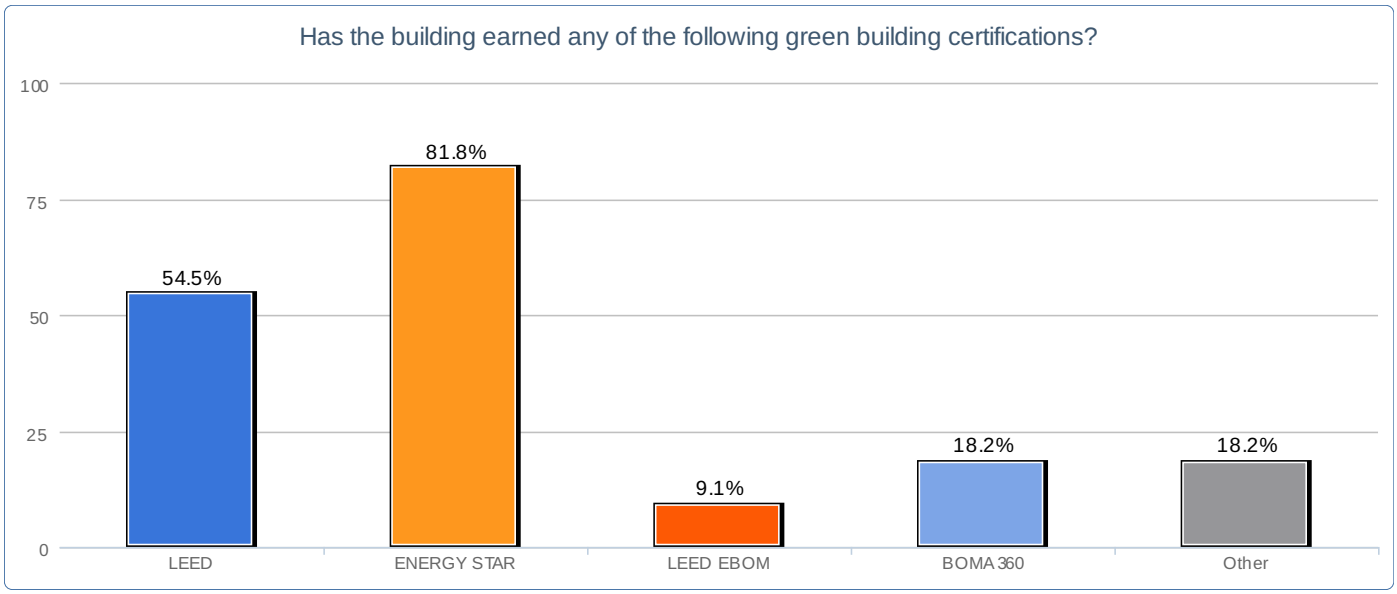
Statistics	
Total Responses	18
Sum	16.0
Average	2.0
Max	2.0



32. Has an energy and water assessment been conducted at your building?

Value	Count	Percent %
Within the Last Year	3	17.6%
Within the Last 3 Years	9	52.9%
Within the Last 5 Years	2	11.8%
More Than 5 Years Ago	0	0%
Never	3	17.6%

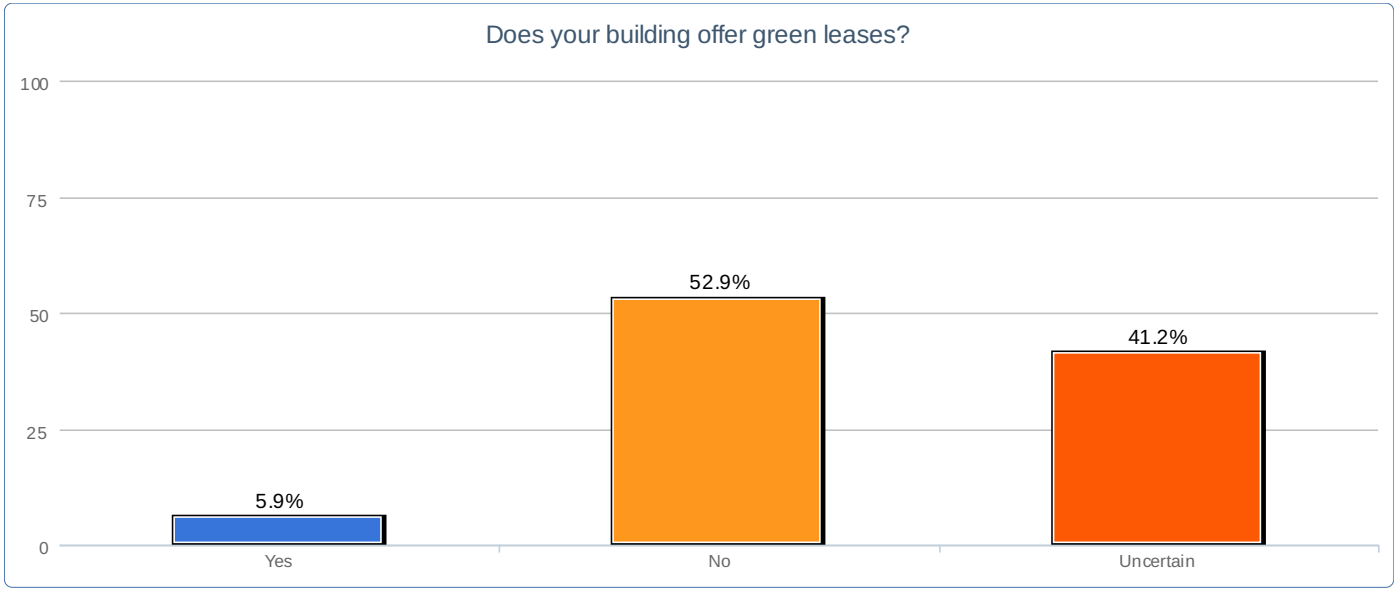
Statistics	
Total Responses	17



33. Has the building earned any of the following green building certifications?

Value	Count	Percent %
LEED	6	54.5%
ENERGY STAR	9	81.8%
EarthCraft	0	0%
LEED EBOM	1	9.1%
BOMA 360	2	18.2%
Green Globes	0	0%
Other	2	18.2%

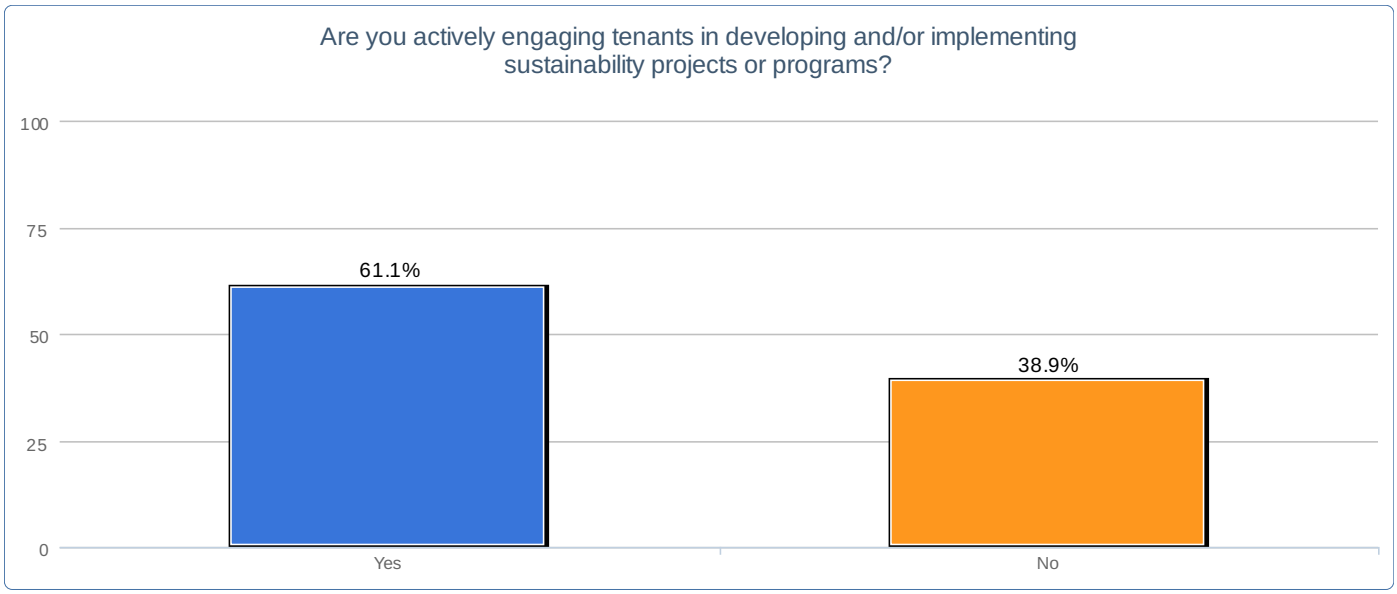
Statistics	
Total Responses	11



34. Does your building offer green leases?

Value	Count	Percent %
Yes	1	5.9%
No	9	52.9%
Uncertain	7	41.2%

Statistics	
Total Responses	17



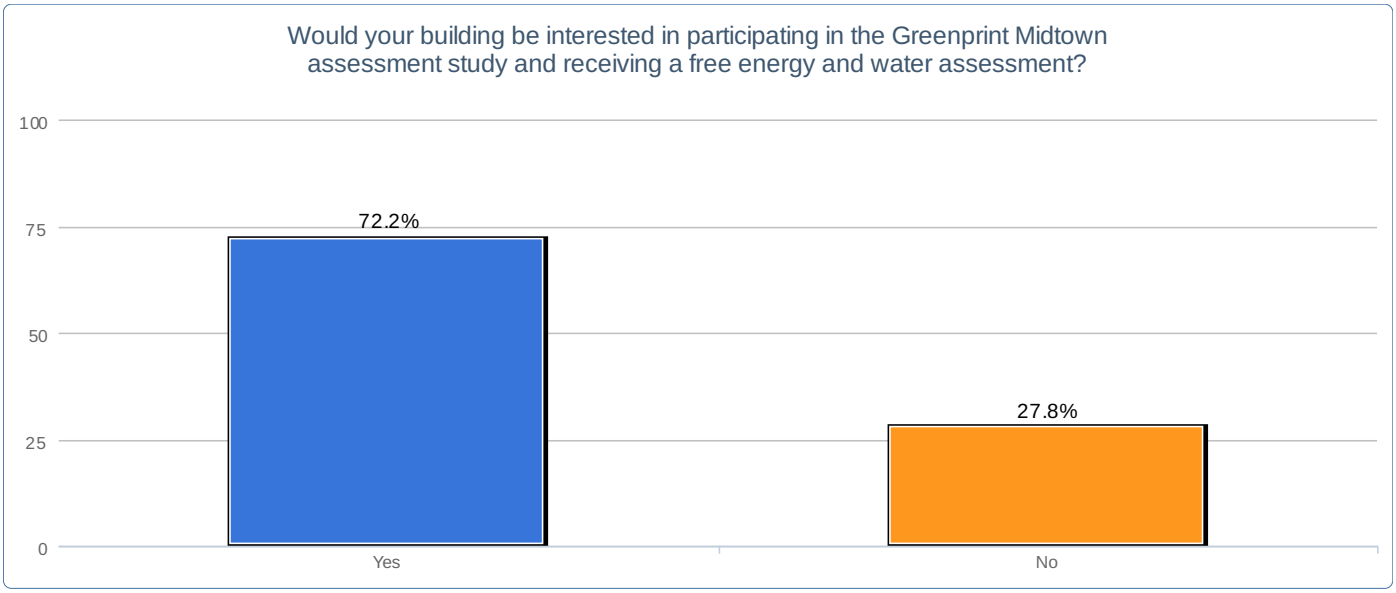
35. Are you actively engaging tenants in developing and/or implementing sustainability projects or programs?

Value	Count	Percent %
Yes	11	61.1%
No	7	38.9%

Statistics	
Total Responses	18

36. Would you be interested in any of the following programs and services?

	Training/Class	Webinar	Participation Guide Publication	Responses
More Information on Portfolio Manager and How to Participate	**40.0%** 2	**60.0%** 3	**80.0%** 4	**5**
More Information on Building Certifications and How to Participate	**33.3%** 2	**33.3%** 2	**83.3%** 5	**6**



37. Would your building be interested in participating in the Greenprint Midtown assessment study and receiving a free energy and water assessment?

Value	Count	Percent %
Yes	13	72.2%
No	5	27.8%

Statistics	
Total Responses	18

1. Building Name

Count	Response
1	1100 Spring
1	1180 Peachtree
1	999 Peachtree
1	Atlantic Center Plaza
1	Biltmore House
1	Colony House Condo Association
1	Colony Square
1	Federal Home Loan Bank of Atalnta
1	Federal Reserve Bank of Atlanta
1	Memorial Arts Building
1	Metropolis
1	One Atlantic Center
1	One Midtown Plaza
1	Peachtree Lofts Condominiums
1	Pershing Point Plaza
1	Piedmont Crest
1	Promenade
1	Renaissance Midtown Hotel

4. Primary Building Type

Count	Response

5. Year Built

Count	Response
1	1924
1	1952
1	1960
1	1968
2	1970
1	1972
1	1984
1	1986
2	1987
1	1990
2	2001
1	2002
2	2006
1	2008

6. Year of Last Major Renovation

Count	Response
1	0
1	1997
1	1999
2	2000
1	2001
2	2006
2	2008
1	2010
2	2011
1	2012

7. Total Square Footage

Count	Response
1	1100312
1	160000
1	223977
1	226293
1	235514
1	271572
1	295000
1	305730
1	410357
1	500380

1	52769
1	621886
1	670700
1	733585
1	774610
1	800000
1	888250

8. Percent of Square Footage by Use

Count	Response
1	100% Office
2	100% Residential
1	100% office
1	100% residential
1	3%
1	50%/50%
1	7% retail, parking 36%
1	80% office/20% retail
1	90% rooms 5% restaurant 5% banquet
1	93% Office / 7% Cash Processing
1	95% Office / 3% Retail / 2% Other
1	95% Office/5% Retail
1	96% office/4% retail
1	97% Office / 3% Retail
2	99% Office, 1% Retail
1	Office 99.99%; less than 1% Retail

9. Number of Floors

Count	Response
2	10
1	11
1	13
1	14
1	20
1	21
1	24
1	2410022400
1	28
1	38
2	4
1	41
1	50
1	7
1	8
1	9

10. Floor Height in Feet

Count	Response
1	10
1	11
2	12
2	13
3	14
1	15
1	20
1	691
4	9

11. Number of Elevators

Count	Response
1	12
1	15
2	2
1	20
2	22
1	24
2	3
1	4
3	5
1	7
2	8
1	9

12. Estimated Number of Occupants

Count	Response
1	1000
1	1170
1	1186
2	1200
1	1630
1	1800
1	212
1	300
1	350
1	375
1	457
1	500
1	650

1	70
1	75
1	800

13. Estimated Percent of Occupants with Computers

Count	Response
6	100
1	1800
1	40
1	400
1	70
4	90
1	98
2	99

14. Primary Mechanical System Type

Count	Response
1	Central Plant - W Hotel
1	Centrifugal Chiller
1	Centrifugal Chillers
1	Chilled Water
1	Chilled water/ electric reheat
1	Chiller plant with 1 AHU/floor
1	Constant Air - Steam/Chilled water purchased from central plant
1	HVAC
1	HVAC, Generators, UPS, PDU's
1	Mechancial Cooling - Boiler heat
1	SWUD
1	Water Source Heat Pumps/Chilled Water loop
1	central variable speed centrifugal chillers, variable speed AHUs, rooftop cooling towers
1	chiller
1	unknown
1	Central chilled water plant with chilled water distribution to single central HVAC distribution per floor with multi-zone PIU/VAV air distribution

15. Year Mechanical System was Last Upgraded or Installed

Count	Response
1	1980
1	1984
1	1996
1	2000
1	2001

Count	Response
1	2002
1	2006
3	2008
2	2010
3	2011
1	2012

16. Are any mechanical system upgrades planned?

Count	Response
2	No
1	Not currently.
5	Yes
1	Yes, condenser water loop for supplemental cooling units
1	maybe
4	no
1	not at this time
1	yes

19. Total Water Heating Capacity

Count	Response
3	0
1	100
1	18
1	2000000
1	30
1	4000000
1	4920000

21. Estimated Percentage of Building with Local Controls

Count	Response
1	0
3	10
1	100
1	2
2	20
1	3
1	30
1	42
2	5
1	60
1	80

27. Are any water system upgrades planned?

Count	Response
1	Low flow restroom fixtures, feasibility study for alternate source of cooling tower makeup water
5	No
1	Yes
1	Yes, low flow toilet installation
1	Yes-new irrigation pump
5	no
1	not at this time
2	yes

28. List the provider for the following waste management services within the building:Solid Waste

Count	Response
1	Advanced Disposal
1	American Recycling
1	City of Atl
1	City of Atlanta
1	Republic Services
10	Waste Management
1	Waste Pro
1	WastePro
1	waste management

28. List the provider for the following waste management services within the building:Recycling

Count	Response
1	Advanced Disposal
1	Air Cycle, Batteries Plus, Southeast Recycling
2	American Recycling
1	B Green Services
3	Conex
1	Conex and American Recycling
1	Republic Services
1	RockTenn, Conex, and Sonoco (depending on material recycled)
1	Through Biltmore Office Bldg
4	Waste Management
1	WastePro
1	waste management

28. List the provider for the following waste management services within the building:Compost

Count	Response

1	GreenCo
1	Greenco
2	N/A
1	None
1	Waste Management
1	greenco
1	unknown

38. Is your building engaged in any other sustainability strategies?

Count	Response
1	Lighting retrofit
1	Not at the moment
1	Yes
1	Yes - Continuos commissioning and energy efficiency modifications / improvements
1	no
1	We currently recycle and we are currently updating our parking deck lights to more efficient bulbs.
1	Yes. The Bank has developed a comprehensive environmental plan that covers all of our environmental impacts. Additional areas that are covered in the plan include: purchasing, transportation, and employee education, among other topics.

1. What is the name of the restaurant or food service establishment that you represent? (Please note that individual business names will be kept confidential and only aggregate data will be published.)

	Response Count
	35
answered question	**35**
skipped question	**0**

2. Do you recycle any of the following? (select all that apply)

	Response Percent	Response Count
Paper	43.5%	10
Plastic	43.5%	10
Glass	47.8%	11
Cardboard	**82.6%**	**19**
Aluminum	26.1%	6
Other (please specify)		6
answered question		**23**
skipped question		**12**

3. Do you collect food scraps for compost?

	Response Percent	Response Count
Yes	8.6%	3
No	**91.4%**	**32**
Don't know	0.0%	0
	answered question	**35**
	skipped question	**0**

4. Do you recycle your used cooking oil?

	Response Percent	Response Count
Yes	**48.6%**	**17**
No	25.7%	9
Do not use cooking oil	22.9%	8
Don't know	2.9%	1
	answered question	**35**
	skipped question	**0**

5. Does your facility employ any of the following water-saving features?

	Yes	No	Don't know	Response Count
Low-flow pre-rinse spray valves to rinse dishes	31.4% (11)	**37.1% (13)**	31.4% (11)	35
Low-flow or waterless urinals	18.8% (6)	**71.9% (23)**	9.4% (3)	32
High efficiency or dual flush toilets	32.4% (11)	**50.0% (17)**	17.6% (6)	34
Rainwater or condensate collection and reuse	3.0% (1)	**93.9% (31)**	3.0% (1)	33
			Other (please specify)	1
			answered question	**35**
			skipped question	**0**

6. Is your restaurant certified "green" through any of the following programs? (check all that apply)

	Response Percent	Response Count
Zero Waste Zone	0.0%	0
Certified Green Restaurant through the Green Restaurant Association	0.0%	0
None of the above	**100.0%**	**35**
	Other (please specify)	1
	answered question	**35**
	skipped question	**0**

Greenprint Midtown - Multi-family Residence Survey

SurveyMonkey

1. What is the name of the residence that you represent?

	Response Count
	33
answered question	**33**
skipped question	**0**

2. Does your building offer recycling for any of the following?

	Response Percent	Response Count
Paper	**90.9%**	**30**
Plastic	84.8%	28
Glass	72.7%	24
Cardboard	75.8%	25
Aluminum	66.7%	22
Other or none of the above (please specify)	12.1%	4
answered question		**33**
skipped question		**0**

Greenprint Midtown - Multi-family Residence Survey

SurveyMonkey

1. What is the name of the residence that you represent?

	Response Count
	33
answered question	**33**
skipped question	**0**

2. Does your building offer recycling for any of the following?

	Response Percent	Response Count
Paper	**90.9%**	**30**
Plastic	84.8%	28
Glass	72.7%	24
Cardboard	75.8%	25
Aluminum	66.7%	22
Other or none of the above (please specify)	12.1%	4
answered question		**33**
skipped question		**0**

3. What is your building type?

	Response Percent	Response Count
Apartment	9.1%	3
Student Housing	9.1%	3
Condominium	**81.8%**	**27**
	answered question	**33**
	skipped question	**0**

4. Does your facility have high efficiency or low flow toilets?

	Response Percent	Response Count
Yes	**33.3%**	**2**
No	**33.3%**	**2**
I don't know	**33.3%**	**2**
	answered question	**6**
	skipped question	**27**

5. Does your facility collect rainwater or condensate for reuse?

	Response Percent	Response Count
Yes	13.8%	4
No	**82.8%**	**24**
I don't know	3.4%	1
	Other water-saving practices? (please specify)	0
	answered question	**29**
	skipped question	**4**

6. Do you have a building-wide green team?

	Response Percent	Response Count
yes	10.7%	3
no	**78.6%**	**22**
don't know	0.0%	0
Other (please specify)	10.7%	3
	answered question	**28**
	skipped question	**5**

7. If a Green Residence certification and/or recognition program were available locally, would you be interested in learning more about it?

	Response Percent	Response Count
Yes	**82.8%**	**24**
No	6.9%	2
Maybe	10.3%	3
	answered question	**29**
	skipped question	**4**

8. Would you be interested in hearing how other residences have "greened up" their operations?

		Response Percent	Response Count
Yes		**93.1%**	**27**
No		6.9%	2
		answered question	**29**
		skipped question	**4**

9. Are there any other sustainable initiatives your building has taken that you'd like to tell us about?

	Response Count
	9
answered question	**9**
skipped question	**24**

B.1 Energy Efficiency Revolving Loan Fund

EP1: ENERGY EFFICIENCY AND CONSERVATION IN BUILDINGS

OVERVIEW & CHARACTERISTICS

An Energy Efficiency Revolving Loan Fund provides financing for projects that reduce energy and resource demand. The payback for the loan is based upon the lender's return on investment (ROI). In other words, a portion of the savings realized goes towards repaying the initial loan for the improvements. The money in the fund is then reinvested to finance other projects. Potential for consistent annual returns ranges from 29 percent to more than 47 percent.[1]

KEY FINDINGS

An Energy Efficiency Revolving Loan Fund:

- removes lack of funding as a barrier for implementing energy efficiency projects,
- reduces operating costs by decreasing energy and water consumption, and
- reduces carbon footprint and green house gas emissions.

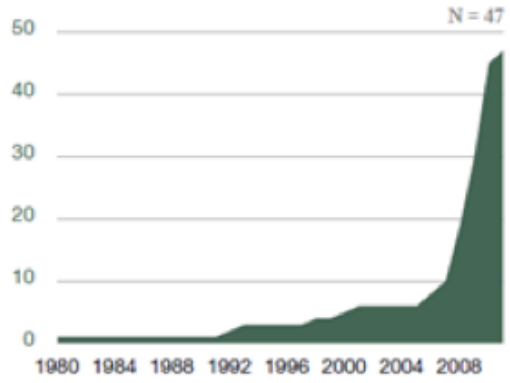
SUCCESS STORIES

Western Michigan State University

Western Michigan University's Quasi Green Loan Fund was established in 1980, and is the oldest of its kind. The university credits the success of the fund to its focus on overall operational cost reduction, as opposed to funding projects on a simple one-time basis. The fund is unique in that it reinvests money from cost-savings, but it also draws capital from campus utilities, maintenance, and other budgets as necessary.

- Fund size: $365,000*
- Number of projects: 101
- Return on investment: 47%[2]

*Because of the specific accounting processes involved in WMU's Quasi GRF, the amount spent on return-based sustainability projects varies per year.



Number of Green Revolving Loan Funds by Year
Source: Sustainable Endowments Institute, 2011

[1]Sustainable Endowments Institute. 2011. "Greening the Bottom Line: The Trend Towards Green Revolving Funds on Campus". Retrieved from: http://greenbillion.org/wp-content/uploads/2011/10/GreeningTheBottomLine.pdf (Accessed July 2012).

[2]Sustainable Endowments Institute. 2011. "Western Michigan State University Quasi-Revolving Loan Fund". Retrieved from: http://greenbillion.org/wp-content/uploads/2011/11/Western_Michigan_Case_Study_2-1.pdf (Accessed July 2012).

Iowa State University

Iowa State University's Live Green Revolving Loan Fund was established in 2008 and offers a combination of an administration-driven initiative with a decentralized implementation structure. To incentivize participation, the university modified its billing process so that campus departments and buildings are individually accountable for their energy consumption. In turn, the cost savings from funded projects directly benefit the respective departments and buildings.

- Fund size: $3,000,000
- Number of projects: 11
- Return on investment: 29%[3]

Harvard University

Harvard University's Green Campus Loan Fund was established in 2001. Originally funded at $1.5 million, the fund is now one of the largest in the nation, and finances high performance campus design, operations, and maintenance projects. The university's Office of Sustainability addresses fund challenges and opportunities by providing guidance consultation to departments interested in pursuing funds.

- Fund size: $12,000,000
- Number of projects: 185
- Return on investment: 30%[4]

[3]Sustainable Endowments Institute. 2011. "Iowa State University Live Green Revolving Loan Fund." Retrieved from: http://greenbillion.org/wp-content/uploads/2012/01/Iowa-Case-Study_v5.pdf (Accessed July 2012).

[4]Sustainable Endowments Institute. 2011. "Harvard University Green Campus Loan Fund." Retrieved from: http://greenbillion.org/wp-content/uploads/2011/10/Harvard.pdf (Accessed July 2012).

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B.2 High-Efficiency Public Space Lighting

EP2: HIGH EFFICIENCY PUBLIC SPACES LIGHTING

OVERVIEW & CHARACTERISTICS

High-Efficiency Public Space Lighting enables public works departments and municipalities to save on energy costs, enhance public safety, improve transportation, direct light to where it is needed, distribute illumination evenly, and enhance the aesthetic value of public spaces via either new installations or retrofits. High-efficiency public space lighting aligns well with city's energy efficiency initiatives, hazardous materials reduction, and other environmental impacts. Outdoor lighting ordinances and codes are now adopting the concept of e-zones which account for energy efficient lighting applications in public spaces to reduce the environmental impact of lighting. Ordinances and local standards will vary by location and local zoning departments should be engaged prior to implementing a public space lighting project.[1]

KEY FINDINGS

- Establish collaborative partnerships with national or local organizations knowledgeable about public space lighting technology, financing, and public private implementation models.
- Fund projects through a combination of energy rebates and a street lighting as sessment fund which could be repaid in less than ten (10) years from savings in energy and maintenance costs.
- Track metrics associated with reductions in energy use, maintenance and energy cost savings, and greenhouse gas emissions.[2]

SUCCESS STORIES

Los Angeles, California

In 2009, the City of Los Angeles in partnership with the Clinton Climate Initiative announced they would develop the most expansive light emitting diode (LED) green street light program ever initiated by a city. The program was started in response to the high energy and operations costs for the 140,000 streetlights in the city. Street lighting receives $42 million annually from the Street Lighting Maintenance Assessment Fund. The fund was intended to cover costs associated with operation and maintenance, energy, material, labor, and fleet expenses. Local policies prohibit the city from adjusting the fund to correspond with inflation and meet operational costs which led to a projected future deficit of $10 million annually. The Bureau of Street Lighting requested a $48.5 million loan for the five (5) year project with the loan being repaid in the eighth year. Retrofitting the street lighting system has resulted in the following reductions:[3]

[1]EPA, and ENERGY STAR.2012 "Lighting." Retrieved from: http://www.energystar.gov/ia/business/EPA_BUM_CH6_Lighting.pdf (Accessed July 2012).

[2]NYC Global Partners, and City of Los Angeles.2011. "Best Practice: Los Angeles LED Street Lighting System." Retrieved from: http://www.nyc.gov/html/unccp/gprb/downloads/pdf/LA_LEDstreetlights.pdf (Accessed July 2012).

[3]NYC Global Partners, and City of Los Angeles. 2011. "Best Practice: Los Angeles LED Street Lighting System." Retrieved from: http://www.nyc.gov/html/unccp/gprb/downloads/pdf/LA_LEDstreetlights.pdf (Accessed July 2012).

- Energy: 57.6% or 68,648,000 kWh
- CO2: 8,674 metric tons
- Costs: $1,297,173 saved[4]

San Diego, California

In 2009, the San Diego Regional Peer-to-Peer Street Lighting Working Group (SLWG) was established with funding from California's Energy Efficiency Public Goods Charge Program and sponsored by San Diego Gas & Electric (SDG&E). The SLWG meets every 2-3 weeks to collaborate and share best practices in sustainability to retrofit 145,000 street lights in the SDG&E service area. The collaboration process provided some valuable lessons for the successful implementation of a street lighting retrofit, which include:

- Staying technology neutral
- Selecting an independent, non-biased group leader
- Appointing a lead stakeholder to develop technology specifications
- Testing the technologies with public input and
- Developing specifications before approaching manufacturers[5]

The first phase of the street lighting retrofit included four cities in SDG&E's service area and accounted for:

- 13,000 retrofits
- $5,000,000 in economic stimulus
- $1,000,000 in taxpayer savings
- 50 new jobs
- 30% reduction in street lighting energy use
- 6,000,000 kWh reduction
- 2,600 tons of CO2 emissions reduced[6]

[4]NYC Global Partners, and City of Los Angeles. 2011. "Best Practice: Los Angeles LED Street Lighting System." Retrieved from: http://www.nyc.gov/html/unccp/gprb/downloads/pdf/LA_LEDstreetlights.pdf (Accessed July 2012); Savings calculated from installing 36,500 LED's as of February 2011

[5]LGC, CleanTECH San Diego, and California Public Utilities Commission.2010. "San Diego Regional Peer-to-Peer Street Lighting Working Group." Retrieved from: http://www.lgc.org/freepub/docs/energy/case_studies/SD_SLWG.pdf (Accessed July 2012).

[6]LGC, CleanTECH San Diego, and California Public Utilities Commission.2010. "San Diego Regional Peer-to-Peer Street Lighting Working Group." Retrieved from: http://www.lgc.org/freepub/docs/energy/case_studies/SD_SLWG.pdf (Accessed July 2012).; Annual figures from LGC, CleanTECH San Diego, and California Public Utilities Commission

B.3 Green Infrastructure

WP1: GREEN STORMWATER INFRASTRUCTURE PROGRAM

OVERVIEW & CHARACTERISTICS

Green infrastructure presents an opportunity for communities to more naturally handle and manage stormwater, with a goal of healthier urban environments and reduced stress on man-made water management systems. Traditional urban settings are made of large areas of impermeable hardscape like roads, sidewalks, and roofs, which are unable to manage excessive water flow during storm events. In some cases, stormwater overflow can cause costly combined-sewer overflows (CSO). Through the integrated use of bioswales, porous pavements, green roofs, rainwater harvesting, land conservation, and a host of other methods, a city can capture the benefits of a green infrastructure system.[1]

The EPA estimates the need for over $105 billion for CSO controls and stormwater management over the next 20 years.

Source: Environmental Protection Agency

KEY FINDINGS

- Integrate stormwater management into capital program
- Incorporate education into green infrastructure projects
- Reach out to the community before designing
- Measure performance

SUCCESS STORIES

Philadelphia, Pennsylvania

The Philadelphia Water Department (PWD) has developed an extensive green infrastructure plan for its stormwater management. The plan includes renovation and construction of existing infrastructure, like streets, parks, schools, homes, and more. City streets account for a large source of impervious surface in Philadelphia, which has the PWD designing and constructing a variety of green street plans that include tree trenches, pervious pavement, and stormwater bumpouts. At the same time, Philadelphia's Green Parks program upgrades parks with green infrastructure while addressing the concerns.[3]

[1]US Environmental Protection Agency. 2012. "Why Green Infrastructure?." Retrieved from: http://water.epa.gov/infrastructure/greeninfrastructure/gi_why.cfm (Accessed July 2012).

[2]Philadelphia Water Department. 2012. "Green Stormwater Infrastructure Programs." Retrieved from: http://www.phillywatersheds.org/what_were_doing/green_infrastructure/programs (Accessed July 2012).

[3]Philadelphia Water Department. 2012. "Green Stormwater Infrastructure Project Map." Retrieved from: http://www.phillywatersheds.org/BigGreenMap (Accessed July 2012).

Portland, Oregon

Portland's Grey to Green infrastructure program was developed to better manage the city's stormwater while also improving air quality and increasing native vegetation and wildlife habitat. Grey to Green includes the use of land acquisition, re-vegetation efforts, ecoroof construction, and green street development in order to reach their specific targets.[4] The program includes goals of adding forty-three (43) new acres of ecoroof, constructing 920 new green street facilities, and the planting of over 80,000 new trees.[5] As of a 2011 report, the Grey to Green program has:

- Green Street Construction: 546 facilities
- Trees Planted: 26,400
- Ecoroof: 6.5 acres, with 90 more projects approved
- Land Conservation: 261 acres[6]

Portland estimates that Grey to Green projects could reduce air particulate levels by more than 17 tons annually, and save 927,000 kWh annually.

Source: Portland Bureau of Environmental Services

[4]City of Portland Bureau of Environmental Services. 2012. "Grey to Green Elements." Retrieved from: http://www.portlandonline.com/bes/index.cfm?c=47203&a=193188 (Accessed July 2012).

[5]City of Portland Bureau of Environmental Services. 2012. "What is Grey to Green" Retrieved from: http://www.portlandonline.com/bes/index.cfm?c=47203&a=321331 (Accessed July 2012).

[6]City of Portland Bureau of Environmental Services. 2012. "What is Grey to Green." Retrieved from: http://www.portlandonline.com/bes/index.cfm?c=47203&a=321331 (Accessed July 2012).

Washington, D.C.

Washington D.C.'s District Department of the Environment (DDOE) has instituted various programs and regulations on green infrastructure. The RiverSmart Homes program provides incentives to homeowners looking to implement green infrastructure projects on their property. Those that qualify can receive up to $1,200 for the installation of shade tree planting, rain barrels, pervious pavers, rain gardens, or bayscaping.[7] Additionally, the Environmental Protection Agency (EPA) approved new performance standards for stormwater runoff controls in Washington D.C. These standards for the District include:[8]

- Green Roofs: 350,000 sq. ft.
- Water Retention: 1.2 inches from a 24-hour storm for development projects of 5,000 sq. ft. or greater
- Trees Planted: 4,150

RESOURCES

US Environmental Protection Agency. (2012). Green Infrastructure. http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm

City of Portland Bureau of Environmental Services. (2010). Portland's Green Infrastructure: Quantifying the Health, Energy, and Community Livability Benefits. Available at: http://www.portlandonline.com/bes/index.cfm?c=52055&a=298042

Philadelphia Water Department. (2012). Green Stormwater Infrastructure. http://www.phillywatersheds.org/what_were_doing/green_infrastructure

[7]District Department of the Environment. 2012. "RiverSmart Homes-Overview." Retrieved from: http://green.dc.gov/service/riversmart-homes-overview (Accessed July 2012).

[8]US Environmental Protection Agency. 2011. "EPA Approves New Performance Standards for D.C. Stormwater." Retrieved from: http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/ac714e4db1dd491c8525792000617a95!OpenDocument (Accessed July 2012).

B.4 Plumbing Fixture Retrofits

WP3: MULTI-FAMILY WATER EFFICIENCY OUTREACH

OVERVIEW & CHARACTERISTICS

Plumbing retrofits improve efficiency standards for water fixtures and outdoor irrigation in residential and commercial settings. This includes toilets and urinals, faucets, showerheads, and pre-rinse spray valves. Updating plumbing fixtures can significantly reduce the amount of water used in residential and commercial buildings. If done nationally, Plumbing retrofits could provide all eight Southeastern states with their entire public water supply which equals approximately 20 percent of the total U.S. public water supply.[1]

KEY FINDINGS

Retrofits should include the following strategies:

- Replace conventional toilets with low-flow or high-efficiency toilets
- Install efficient faucets and/or faucet aerators
- Replace showerheads that have a flow rate greater than 2.5 gallons per minute[2]

SUCCESS STORIES

Asheville Civic Center

A 2009 study by Veritec Consulting, found that the installation of motion-sensor faucets, toilets, and urinals significantly increased water consumption.[3] This is largely attributed to unnecessary flushes caused by motion detection in restrooms. Additionally, faucets often flow for longer periods and at higher pressure when automated in comparison to manual operation.[4] The Asheville Civic Center was equipped with urinals that automatically flush when doors opened. A water audit showed that this system was functioning inefficiently. A two minute delay was set to prevent urinals from flushing after each use during high volume events.

- Fixture Efficiency: Water usage reduced by nearly 90% for urinals
- Water Savings: 600,000 gallons annually from timer installation[5]

[1] Hoffner, Jenny. 2008. "Hidden Reservoir: Why Water Efficiency Is the Best Solution for the Southeast. American Rivers." Retrieved from: http://www.allianceforwaterefficiency.org/uploadedFiles/News/NewsArticles/NewsArticleResources/American_Rivers_Hidden_Reservoir_Oct_2008.pdf. (Accessed July 2012).

[2] Alliance for Water Efficiency. 2010. "Water Saving Tips: For Residential Water Use, Indoors and Out." Retrieved from: http://allianceforwaterefficiency.org/residential-tips.aspx (Accessed July 2012).

[3] Gauley, Bill, and John Koeller. 2010. "Sensor-Operated Plumbing Fixtures: Do They Save Water?" Retrieved from: http://www.map-testing.com/assets/files/Sensor-Operated%20Fixtures%20Final%20Report%20March%202010.pdf (Accessed July 2012).

[4] Gauley, Bill, and John Koeller. 2010. "Sensor-Operated Plumbing Fixtures: Do They Save Water?" Retrieved from: http://www.map-testing.com/assets/files/Sensor-Operated%20Fixtures%20Final%20Report%20March%202010.pdf (Accessed July 2012).

[5] N.C. Department of Environment and Natural Resources. 2009. "Water Efficiency Manual for Commercial, Industrial, and Institutional Facilities." Retrieved from: http://infohouse.p2ric.org/ref/01/00692.pdf (Accessed July 2012).

Houston, Texas

The Houston Department of Public Works and Engineering has implemented water conservation programs due to their large commercial and residential service base and groundwater resources which have been degraded from land subsidence, saltwater intrusion, and flooding. Conservation programs will lower costs and necessity for infrastructure investment. The Texas Natural Resource Conservation Commission required the City to implement a conservation plan to meet state requirements. The conservation program has these elements:

- Education program
- In-house program
- Contract customers program, and
- Conservation planning program

The education program entails outreach and efficiency retrofits for older buildings. The in-house program involves irrigation audits, leak detection and repair of pools and fountains, and analysis of water use. The contract customers program requires billing based on actual water use and penalties for unnecessary water use during peak-demand. The 1994 conservation planning program study was conceived with a Texas Water Development Board grant. The conservation plan was adopted in 1998 and enhanced programs to include residential audits, appliance labeling, commercial indoor audits, cooling tower audits, public indoor and outdoor audits, pool and fountain audits and standards, increased public education, and a "water-wise and energy-efficiency program."[6]

Tampa, Florida

Beginning in 1989, the Tampa Water Department implemented procedures to reduce water usage via water-conserving codes, an increasing block rate structure, public education, in-school education, and other conservation projects. These water conservation programs are in response to Tampa's rapid economic and population growth over the past decades as well as periodic drought conditions. Tampa receives the majority of their water from the Hillsborough River, which is seriously impacted by drought conditions. The City advocates for water efficiency through:

[6] EPA. Environmental Protection Agency. 2002. "Cases in Water Conservation: How Efficiency Programs Help Water Utilities Save Water and Avoid Costs." Retrieved from: http://www.allianceforwaterefficiency.org/uploadedFiles/Resource_Center/Library/Programs/EPA_Case%20Studies.pdf (Accessed July 2012).

- Water use restrictions
- Fines for water violations and
- Plumbing and landscaping codes

Outdoor irrigation is limited to one (1) day per week and new systems are required to install rain sensors. The landscape code restricts the amount of turf grass to 50 percent in new developments. The city amended the plumbing code to require water-efficient plumbing fixtures in all new construction and renovation. The city also began distributing water conservation kits to homeowners in 1989. In 1994, the water department started a toilet rebate program to retrofit existing toilets with high-efficiency toilets (HET), single family, multi-family, and commercial customers are eligible to participate in the program.[7]

RESOURCES

Gauley, Bill, and John Koeller. "Sensor-Operated Plumbing Fixtures: Do They Save Water?" Veritec Consulting Inc., Mar. 2010. Web. 17 July 2012. http://www.map-testing.com/assets/files/Sensor-Operated%20Fixtures%20Final%20Report%20March%202010.pdf.

Hoffner, Jenny. Hidden Reservoir: Why Water Efficiency Is the Best Solution for the Southeast. American Rivers, 22 Oct. 2008. Web. 16 July 2012. http://www.allianceforwaterefficiency.org/uploadedFiles/News/NewsArticles/NewsArticleResources/American_Rivers_Hidden_Reservoir_Oct_2008.pdf.

"Water Efficiency Manual for Commercial, Industrial, and Institutional Facilities." N.C. Department of Environment and Natural Resources, May 2009. Web. 17 July 2012. http://infohouse.p2ric.org/ref/01/00692.pdf.

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EPA. "Cases in Water Conservation: How Efficiency Programs Help Water Utilities Save Water and Avoid Costs." Allianceforwaterefficiency.org. Environmental Protection Agency, July 2002. Web. 2012. http://www.allianceforwaterefficiency.org/uploadedFiles/Resource_Center/Library/Programs/EPA_Case%20Studies.pdf

[7] EPA, Environmental Protection Agency. 2002. "Cases in Water Conservation: How Efficiency Programs Help Water Utilities Save Water and Avoid Costs." Retrieved from: http://www.allianceforwaterefficiency.org/uploadedFiles/Resource_Center/Library/Programs/EPA_Case%20Studies.pdf (Accessed July 2012).

B.5 Office Waste Reduction

GREEN BUSINESS RECOGNITION PROGRAM

OVERVIEW & CHARACTERISTICS

Office Waste Reduction programs are a way for businesses to target those materials that are abundant in their waste stream and easily diverted from landfills. Frequently, this can be accomplished in a cost effective manner through the facilitation of proactive source separation and saves money by conserving resources and reducing disposal costs. In addition to recycling, source reduction is a simple strategy to decrease office waste or institutional and commercial waste (ICW) by limiting the amount of materials which require a waste management policy. Office waste is made up of many materials that are readily divertible, of which the three most common categories,[1] representing almost 90 percent of total generated waste by weight, are as follows:[2]

- Paper products (54%)
- Plastics (12%)
- Organics (23%)

SUCCESS STORIES

Federal Reserve Bank of Atlanta

The Federal Reserve Bank of Atlanta, located in Midtown, adopted a five-year environmental plan which addresses the environmental impacts of nine (9) areas, of which recycling and waste reduction are two (2) that are included in the plan. The plan contains specific goals for recycling and waste reduction including a decrease in paper use and a comprehensive recycling program. The bank received recognition from the State of Georgia for measures taken to green their operations.

- Plan Established: 2010
- Waste Reduction: 20% paper use
- Recognition: 2010 Partnership for a Sustainable Georgia's Silver Award

> High ICW reduction may be easier to achieve than residential waste reduction as ICW tends to be more homogenous and rich in recyclables.
>
> Source: Environmental Protection Agency, 1999

[1] Glass & Metals are not considered common material categories (~3%)

[2] SCI, Sustainable Cities Institute. 2009. "Office Waste Reduction Programs." Retrieved from: http://www.sustainablecitiesinstitute.org/view/page.basic/class/feature.class/Lesson_Office_Waste_Reduction_Program (Accessed July 2012).

[3] Federal Reserve Bank of Atlanta.2010. "The Long Recovery in the Southeast: Federal Reserve Bank of Atlanta 2010 Annual Report." Retrieved from: http://www.frbatlanta.org/documents/pubs/annualreport/10ar.pdf (Accessed July 2012).

San Jose, CA

The City of San Jose, CA has a waste collection and processing system that will enable all businesses in the area to meet the state's mandatory commercial recycling requirements.[4] The city has contracted a single hauler to collect garbage, recycling, and organics from businesses. The waste hauler uses an innovative "wet/dry" system to enhance the waste services system. The binary system views waste as a resource and minimizes the amount of waste sent to the landfill.

- Established: July 2012
- Program Development: 500 businesses participated
- Recycling Rate: Increased from 25% to 80% [5]

[4] City of San Jose-Environmental Services.2012."New Recycling & Garbage Collection Services." Retrieved from: http://www.sjrecycles.org/business/commercial-redesign.asp (Accessed July 2012) ; State law AB341 requires businesses who generate more than 4 cubic yards of waste to recycle.

[5] City of San Jose-Environmental Services. 2012."New Recycling & Garbage Collection Services." Retrieved from: http://www.sjrecycles.org/business/commercial-redesign.asp (Accessed July 2012.

[6] City of Austin, TX.2011. "Summary of Universal Recycling Ordinance." Retrieved from: http://www.austintexas.gov/sites/default/files/files/Trash_and_Recycling/Summary_of_URO.pdf (Accessed July 2012).

[7] Gary Liss & Associates, and Richard Anthony Associates.2008. "Austin, TX Zero Waste Strategic Plan." Retrieved from: http://www.ilsr.org/wp-content/uploads/2012/02/Austin-TX-Zero-Waste-Plan.pdf (Accessed July 2012).

[8] Gary Liss & Associates, and Richard Anthony Associates.2008. "Austin, TX Zero Waste Strategic Plan." Retrieved from: http://www.ilsr.org/wp-content/uploads/2012/02/Austin-TX-Zero-Waste-Plan.pdf (Accessed July 2012).

Austin, TX

The City of Austin has committed to achieving reductions in per capita solid waste disposal to landfills and incinerators, and a more long-term goal of Zero Waste to landfills and incinerators. The Commercial Recycling Ordinance requires businesses and office buildings with 100 employees or more to provide on-site recycling for at least two recyclable materials. The ordinance has been updated and renamed The Universal Recycling Ordinance requires all commercial properties to recycle the following at a minimum: office paper, plastic #1 & 2, cardboard, aluminum, and glass.[6] Businesses and commercial properties are encouraged to go beyond the minimum by participating in the Zero Waste plan. The success of existing policies indicates that the city can continue to enhance its overall sustainability and encourage a green economy.[7]

- Commercial Recycling Ordinance Adopted: 1999
- Universal Recycling Ordinance Adopted: 2012
- Zero Waste Strategic Plan Adopted: 2009
- Zero Waste Diversion Rate Goals: 20% by 2012, 75% by 2020, and 90% by 2040
- Zero Waste Businesses Diversion Rate: 90%
- Commercial Properties: 2,603[8]

RESOURCES

SCI. “Office Waste Reduction Programs.” Sustainable Cities Institute. Sustainable Cities Institute, 2009. Web. 2012. http://www.sustainablecitiesinstitute.org/view/page.basic/class/feature.class/Lesson_Office_Waste_Reduction_Program

EPA. “Cutting the Waste Stream in Half: Community Record-Setters Show How.” EPA.gov. Environmental Protection Agency, Oct. 1999. Web. 2012. http://www.epa.gov/osw/conserve/downloads/f99017.pdf

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City of San Jose. “New Recycling & Garbage Collection Services.” New Recycling & Garbage Collection Services. City of San Jose-Environmental Services, July 2012. Web. 2012. http://www.sjrecycles.org/business/commercial-redesign.asp.content/uploads/2012/02/Austin-TX-Zero-Waste-Plan.pdf.

Federal Reserve Bank of Atlanta. “The Long Recovery in the Southeast: Federal Reserve Bank of Atlanta 2010 Annual Report.” Frbatlanta.org. Federal Reserve Bank of Atlanta, 2010. Web. 2012. http://www.frbatlanta.org/documents/pubs/annualreport/10ar.pdf.

Gary Liss & Associates, and Richard Anthony Associates. “Austin, TX Zero Waste Strategic Plan.” ILSR.org. City of Austin, TX, Dec. 2008. Web. 2012. http://www.ilsr.org/wp-content/uploads/2012/02/Austin-TX-Zero-Waste-Plan.pdf.

City of Austin, TX. “Summary of Universal Recycling Ordinance.” Austintexas.gov. City of Austin, TX, 2011. Web. 2012. http://www.austintexas.gov/sites/default/files/files/Trash_and_Recycling/Summary_of_URO.pdf.

B.6 Electronics Recycling

WSP3: ELECTRONICS RECYCLING OUTREACH

OVERVIEW & CHARACTERISTICS

Electronic waste (e-waste) includes broken or obsolete televisions, computer monitors, central processing units, phones, videocassette recorders, copiers and printers, stereos and speakers, microwaves, and other end-of-life electronic equipment.[1] These materials must be handled differently from typical waste because they contain both hazardous materials and valuable resources. In 2009, 75 percent (17.8 million tons) of the e-waste ready for end-of-life management was not properly handled. It is absolutely critical for this growing problem to be addressed in recycling programs and legislation.

E-waste is both the fastest growing and the largest source of heavy metals and organic pollutants in solid waste produce in the U.S.

Source: Sustainable Cities Institute, 2011; EPA, 2004

[1]Sustainable Cities Institute. 2012. "Electronic Waste Best Management Practices." Retrieved from: http://www.sustainablecitiesinstitute.org (Accessed July 2012).

[2]EPA. Environmental Protection Agency.2012. "Statistics on the Management of Used and End-of-Life Electronics." Retrieved from: http://www.epa.gov/osw/conserve/materials/ecycling/manage.htm (Accessed July 2012).

[3]Electronics Take Back Coalition. 2006. "Washington State's E-Waste Law Will Save Millions for Local Governments." Retrieved from: http://c133251.r51.cf0.rackcdn.com/Case%20Study%20-Washington%20State%20E-Waste%20Law%20SF.pdf (Accessed July 2012).

KEY FINDINGS

To facilitate effective e-waste management plans, organizations should:

- Utilize public outreach campaigns to inform the community of the importance of managing e-waste
- Provide recycling and re-use options, and
- Manage the recycling process in a way that protects both global public health and the environment.[2]

SUCCESS STORIES

State of Washington

As of January 1, 2009, electronics manufacturing companies in the State of Washington became responsible for the cost associated with recycling waste materials from their facilities in accordance with the Electronics Waste Recycling Law. The revenue saved will fund both existing municipal waste collection systems and provide necessary funding for new non-municipal collection sites. Placing the legal responsibility of recycling on electronics companies that are generating the waste alleviates a great budgetary burden from local governments.[3]

- Annual Savings: $550,000 for Snohomish County, Washington
- Waste Hauling: $380,000 saved annually
- E-Waste Collection: 92% of residents have access[4]

ViaTek Solutions

ViaTek is an electronics waste recycling organization headquartered in Tampa, FL with a facility in Lawrenceville, GA. The company is committed to the proper handling of electronics waste and implementing environmentally responsible business operations.

- Public Relations: Top 20 electronic recyclers by Secure Destruction Business
- Certification: E-Steward
- Processing Output: 13 million pounds annually

University of San Diego E-waste Collection Center

In reaction to the terrible environmental and health consequences of electronics waste dumping in Ghana, University of San Diego faculty and students started a program which educates the public on the importance of electronics waste management and utilizing environmentally and ethically responsible recycling practices.

The university provides a drop-off location for the collection of electronics which operates in conjunction with a local San Diego recycling company who deals specifically with the management of e-waste.

- Established: 2011
- E-Waste Collection: 155,000 pounds

RESOURCES

"Electronic Waste Best Management Practices." Sustainable Cities Institute: Web. 12 July 2012. http://www.sustainablecitiesinstitute.org.

"Statistics on the Management of Used and End-of-Life Electronics." EPA. Environmental Protection Agency, n.d. Web. 13 July 2012. http://www.epa.gov/osw/conserve/materials/ecycling/manage.htm.

"Washington State's E-Waste Law Will Save Millions for Local Governments." Electronics Take Back Coalition, 2006. Web. http://c133251.r51.cf0.rackcdn.com/Case%20Study%20-Washington%20State%20E-Waste%20Law%20SF.pdf.

"Electronics Recycling in Washington: A Prodcut Stewardship Solution" Product Stewardship. Product Stewardship Council, Feb. 2010. Web. http://www.productstewardship.net/PDFs/productsElectronicsEcycleGeneralFactSheet.pdf.

[4]Product Stewardship Council. 2010. "Electronics Recycling in Washington: A Product Stewardship Solution" Retrieved from: http://www.productstewardship.net/PDFs/productsElectronicsEcycleGeneralFactSheet.pdf (Accessed July 2012).

"ViaTek Solutions Celebrates 40th Anniversary of Earth Day with Launch of Its New Atlanta Processing Facility" ViaTek Solutions, 31 Mar. 2009. Web. http://www.viateksolutions.com/pdfs/ViaTekPR-Atlanta_eDay09.pdf.

"E-Stewards Certification Introduction." Certification. Web. 12 July 2012. http://e-stewards.org/certification-overview/.

"E-Waste Collection Center." University of San Diego E-Waste Collection. Web. http://www.sandiego.edu/EWASTE/.

B.7 Construction and Demolition Waste Diversion

OVERVIEW & CHARACTERISTICS

Construction and Demolition (C&D) Waste Diversion ensures that the large amount of material waste produced on a construction site is not landfilled. Non-hazardous C&D debris includes brick, aluminum, wood, drywall, and a host of other materials. As it stands, C&D waste constitutes a large amount of solid waste disposal in the country. The US Environmental Protection Agency (EPA) performed an extensive study to estimate the C&D waste from residential and nonresidential projects in 2003 with the following results:

- Residential: 67,000,000 tons
- Nonresidential: 103,000,000 tons
- Total: 170,000,000 tons[1]

In an attempt to reduce this flow of C&D debris to landfills, communities across the country have taken measurements to increase C&D waste diversion rates.

[1]United States Environmental Protection Agency. 2009. "Estimating 2003 Building-Related Construction and Demolition Materials Amounts." Retrieved from: http://www.epa.gov/wastes/conserve/imr/cdm/pubs/cd-meas.pdf (Accessed July 2012).

[2]Alameda County Public Works Agency. 2012. "Construction & Demolition Debris Management Program." Retrieved from: http://www.acgov.org/pwa/about/construction/building/debris.htm (Accessed July 2012).

From Oct 2008-Sept 2009, C&D debris accounted for just over 21% of Georgia's solid waste.

Source: GA Department of Natural Resources

KEY FINDINGS

- Use economic incentives such as permit fee rebates to encourage C&D recycling
- Require reporting as part of permit application
- Educate stakeholders on benefits

SUCCESS STORIES

Alameda County, CA

Alameda County passed an ordinance requiring C&D projects in unincorporated areas to provide a Debris Management Plan. Understanding the difficulties of source sorting C&D debris, the County encourages the use of waste facilities that are capable of sorting the debris after delivery. The Alameda County facilities which accept the mixed C&D waste have shown high diversion rates.

- Debris Management Plan Ordinance: 2009
- Diversion Rate Standards: 75% of inert solids & 50% of other C&D Waste

Charleston County, SC

Charleston County has made a commitment to reduce its waste stream and incineration rates. Part of this plan includes diverting C&D waste from landfills and finding alternative applications for the C&D debris. The County began this process by discontinuing its C&D services for private companies at the Bees Ferry Landfill.[3] Private landfills are charging higher tipping fees for C&D debris than Charleston County, who is in effect incentivizing private companies to recycle, donate, or repurpose their C&D debris. Charleston County has received recommendations from the public to require C&D debris plans and minimum diversion rates for permitted projects.

- County Waste Plan Established: 2008
- Landfill Composition: 39% C&D[4]
- Technical Assistance: Charleston Green Committee

[3]City of Charleston. "Construction and Demolition: Waste Diversion Guide." Retrieved from: http://www.charleston-sc.gov/shared/docs/0/cd%20waste%20diversion%20brochure.pdf

[4]Charleston County and Kessler Consulting. 2009. "Solid Waste Management Study Presentation: Waste Disposal Alternatives." Microsoft PowerPoint Presentation. Retrieved from http://www.charlestoncounty.org/pdfs/CouncilPresentation-031209Final.pdf (Accessed July 2012).

[5]Georgia Institute of Technology Office of Environmental Stewardship. 2007. "Georgia Tech Recycles." Retrieved from: http://www.stewardship.gatech.edu/recycling.php (Accessed July 2012).

[6]Sustainable Endowments Institute. 2010. "The College Sustainability Report Card: Georgia Institute of Technology." Retrieved from: http://www.greenreportcard.org/report-card-2011/schools/georgia-institute-of-technology/surveys/campus-survey#building (Accessed July 2012).

[7]Association for the Advancement of Sustainability in Higher Education. 2012. "Georgia Institute of Technology." Retrieved from: https://stars.aashe.org/institutions/georgia-institute-of-technology-ga/report/2012-05-15/11/51/365/ (Accessed July 2012).

Georgia Institute of Technology

Georgia Tech, located in Midtown Atlanta, has established a variety of institutional practices and policies for waste management, including C&D debris. Typical C&D projects at Georgia Tech recycle over 95 percent of their waste, which adds to the community's strong waste reduction efforts. When combined with other solid waste reduction projects on campus, the C&D debris diversion efforts pushed Georgia Tech's total solid waste diversion rates just past 51 percent.[5]

- Diversion Rate 2009-2010: 98% of C&D[6]
- C&D Waste Diverted 2012: 3,238 tons
- C&D Landfilled 2012: 100 tons[7]

RESOURCES

Alameda County Ordinance. Addition of Section 470 to Chapter 15.08 Building Code: "Construction and Demolition Debris Management." 2009. http://www.acgov.org/pwa/documents/CD_Allen_06_16_2009.pdf

"Zero Waste." Charleston Green Committee. http://www.charlestongreencommittee.com/charlestongreenplan_zerowaste.pdf

"Technical Assistance: Construction and Demolition Debris Management." South Carolina Department of Health and Environmental Control. 2010. http://www.scdhec.gov/environment/lwm/recycle/pubs/c&d_debris.pdf

"Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings." US Environmental Protection Agency. 2000. http://www.epa.gov/epawaste/nonhaz/municipal/pubs/combined.pdf

B.8 Environmentally Preferable Purchasing

GREEN BUSINESS RECOGNITION PROGRAM

OVERVIEW & CHARACTERISTICS

Environmentally Preferable Purchasing (EPP) aims to integrate environmental considerations into all stages of the purchasing process with the goal of reducing the impact on human health and the environment. An EPP can address every transaction that is made by a business or organization for goods and services but typical programs include protocols for:

- Office supplies
- Cleaning materials and cleaning service contracts
- Furniture, fixtures, and equipment
- Employee and supplier vehicles and other transportation
- Meeting materials and food
- Real estate and its construction or lease

Factors considered when determining if products or services are environmentally preferable may include:

- How raw materials are acquired
- The production and manufacturing methods and location
- Product packaging
- Material content and composition
- The means of distribution
- The ability for reuse when the product is obsolete or damaged
- The energy and water efficiency performance of the product
- Operation and maintenance requirements
- A final disposal option when the item is no longer serviceable

SUCCESS STORIES

City of Santa Monica, CA

The City of Santa Monica, California has set a national standard and example for developing an environmental purchasing program within the structure of existing purchasing procedures and policies.

[1]Environmental Protection Agency. 2010. "Basic Information: Environmentally Preferable Purchasing." Retrieved from: http://www.epa.gov/oppt/epp/pubs/about/about.htm (Accessed July 2012).

[2]Environmental Protection Agency. 2010. "Basic Information: Environmentally Preferable Purchasing." Retrieved From: http://www.epa.gov/oppt/epp/pubs/about/about.htm (Accessed July 2012).

[3]Georgia Department of Natural Resources. "Module 2: Environmentally Preferable Purchasing (EPP)." Retrieved from: http://www1.gadnr.org/sustain/toolkit/modules_2_1.html (Accessed July 2012).

It is integrated into all purchasing aspects of a $30 million annual budget. It is a system embraced by multiple operational levels within the local government because it includes the end-user in the decision making process and provides follow-up support on alternative products for evaluation of their effectiveness and additional user-training if required. The city attributes its success to:

- Having support from the top
- Including the end-users in the decision-making process
- Conducting up-front research
- Adopting a customized approach to purchasing
- Creating partnerships between environmental and purchasing staff
- Implementing pilot programs
- Providing hands-on training by experts
- Holding face-to-face meetings with vendors
- Maintaining flexibility
- Evaluating the program and planning next steps

[4]Environmental Protection Agency. 1998."The City of Santa Monica's Environmental Purchasing: A Case Study." Retrieved from: http://www.epa.gov/epp/pubs/case/santa.pdf (Accessed July 2012).

[5]Kaiser Permanente. 2006. "Environmental Stewardship: Case Studies PowerPoint." Retrieved from: http://info.kaiserpermanente.org/communitybenefit/html/our_work/global/our_work_6_casestudies.html (Accessed July 2012).

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EPA. "Basic Information: Environmentally Preferable Purchasing." EPA.gov. Environmental Protection Agency, 2010. Web. 2012. http://www.epa.gov/oppt/epp/pubs/about/about.htm

Georgia Department of Natural Resources. "Module 2: Environmentally Preferable Purchasing (EPP)." P AD. Georgia Department of Natural Resources, n.d. Web. 2012. http://www1.gadnr.org/sustain/toolkit/modules_2_1.html

EPA. "The City of Santa Monica's Environmental Purchasing: A Case Study." EPA.gov. Environmental Protection Agency, Mar. 1998. Web. 2012. http://www.epa.gov/epp/pubs/case/santa.pdf

Kaiser Permanente. "Environmental Stewardship: Case Studies PowerPoint." Kaiserpermanente.org. Kaiser Permanente, 2006. Web. 2012. http://info.kaiserpermanente.org/communitybenefit/html/our_work/global/our_work_6_casestudies.html

B.9 Green Business Recognition

OVERVIEW & CHARACTERISTICS

A Green Business Recognition Program helps businesses in varying sectors implement sustainability measures to their daily operations. Businesses commit to program standards and select measures in areas related to energy, water, waste, pollution, and education to make improvements applicable to their respective business sector and internal capacities. Businesses must commit to program standards and applicable environmental regulations to be eligible for recognition. The program provides a valuable opportunity to:

- implement sustainable business practices,
- receive technical assistance,
- achieve cost savings from resource conservation, efficiency upgrades, and utilities, and
- receive recognition as a green business in the region.

[1]Evans, Pamela, Jo Fleming, and Sushma Bhatia. 2010. "California's Green Business Programs." Retrieved from: http://www.calcupa.org/conference/2010/grand-g/California-Green-Business-Programs.ppt (Accessed July 2012).

According to a recent survey of San Francisco Green Businesses, 42% reported an increase in business since receiving their recognition.

Source: San Francisco Green Business, 2009

SUCCESS STORIES

San Francisco Green Business

San Francisco's Green Business Program was established in 2004 and is a member of the Bay Area Green Business Program, a founding member of the California Green Business Network. The California Green Business Network which began in 2005 is comprised of nineteen (19) programs. The success of the San Francisco Program can be attributed to the partnerships that exist among the state, county, city, utilities, and organizations. Government agencies add credibility to the program and provide access to funding which allows businesses to participate without a fee.

The program received a grant from the California Department of Toxic Substances Control to develop a tool which will be maintained by the San Francisco Department of the Environment to manage environmental data, track business progress, and measure results to demonstrate the positive effects of the California Green Business Network programs, and calculate environmental and fiscal benefits to participants. The metrics tracking tool is available to businesses in the California Green Business Network, results are communicated to the public through program websites, e-newsletters, and local media.

- 2010 Certified Businesses*: 170 in San Francisco, over 2,000 in California[2]
- Partners: SF Environment, SF Dept. of Public Health, SF Public Utilities Commission, City and County of San Francisco
- Funding: $74,500 for metrics tracking[3]
- Savings: $707,500[4]

Charleston Green Business Challenge

Charleston's Green Business Challenge began in 2011 and was established on an annual basis by the City of Charleston in partnership with local and national organizations.[5] The Green Business Challenge developed a scorecard for participants to baseline their operations with regard to eight (8) environmental and social categories and set a target score using the scorecard template.[6] The target score can be achieving a tier on the scorecard through the accumulation of points or a percent reduction on utility bills. The scorecard is modeled after the City of Chicago and ICLEI's Green Office Challenge which is a competition to reduce energy consumption and greenhouse gas emissions from commercial buildings.[7] The Green Business Challenge has a broad scope which enables varying business sectors to use the same scorecard. The scorecard helps the city with metrics tracking and carbon reduction.

[2]Evans, Pamela, Jo Fleming, and Sushma Bhatia. 2010. "California's Green Business Programs." Retrieved from: http://www.calcupa.org/conference/2010/grand-g/California-Green-Business-Programs.ppt (Accessed July 2012).

[3]City of San Francisco City Operations and Neighborhood Services Committee.2010. "City of San Francisco-City Operations and Neighborhood Services Committee-Grant Information and Budget." Retrieved from: http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions10/r0224-10.pdf (Accessed July 2012).

[4]City of Charleston. 2012."City of Charleston, SC Â» Planning & Neighborhoods." Retrieved from: http://www.charleston-sc.gov/dept/content.aspx?nid=2062 (Accessed July 2012).

[5]Energy, Water, Waste conservation savings from Santa Cruz County Program (199 participants).

[6]ICLEI. 2012. "Chicago Green Office Challenge Winners Recognized by Mayor and ICLEI." Retrieved from: http://www.icleiusa.org/news/press-room/press-releases/chicago-green-office-challenge-winners-recognized-by-mayor-and-iclei (Accessed July 2012).

[7]City of Charleston. 2012. "City of Charleston, SC Â» Planning & Neighborhoods." Retrieved from: http://www.charleston-sc.gov/dept/content.aspx?nid=2062 (Accessed July 2012).

The nature of the challenge is to set the bar high and integrate sustainable practices with business operations.

- Challenge Participants: 76 in 2011-2012[8]
- Partners: Charleston Metro Chamber of Commerce, Charleston County, Charleston Green Fair and Best in Green & Local Expo, Lowcountry Local First, The Sustainability Institute, and The Medical University of South Carolina[9]
- Savings: $44,000 by 10 participants[10]

RESOURCES

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Evans, Pamela, Jo Fleming, and Sushma Bhatia. California's Green Business Programs. 2010. Web, San Francisco. http://www.calcupa.org/conference/2010/grandg/California-Green-Business-Programs.ppt

City of San Francisco City Operations and Neighborhood Services Committee. City of San Francisco-City Operations and Neighborhood Services Committee-Grant Information and Budget. San Francisco: City of San Francisco, 18 May 2010. http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions10/r0224-10.pdf

Bay Area Green Business Program. "Working Together." ABAG Green Business Program. State of California, n.d. Web. June 2012. http://www.greenbiz.ca.gov/index.html.

City of Charleston. "City of Charleston, SC Â» Planning & Neighborhoods." City of Charleston, SC Â» Planning & Neighborhoods. City of Charleston, 2012. Web. June 2012. http://www.charleston-sc.gov/dept/content.aspx?nid=2062.

City of Charleston. "Green Business Challenge Information Brochure." City of Charleston-Green Business Challenge. City of Charleston, 2012. Web. June 2012. http://www.charleston-sc.gov/shared/docs/0/gbc%20brochure%20for%202011-2012.11-22.pdf.

ICLEI. "Chicago Green Office Challenge Winners Recognized by Mayor and ICLEI." ICLEI Local Governments for Sustainability USA. ICLEI, 30 May 2012. Web. June 2012. http://www.icleiusa.org/news/press-room/press-releases/chicago-green-office-challenge-winners-recognized-by-mayor-and-iclei.

[9]City of Charleston. 2012. "City of Charleston, SC Â» Planning & Neighborhoods." Retrieved from: http://www.charleston-sc.gov/dept/content.aspx?nid=2062 (Accessed July 2012).

[10]City of Charleston.2012."Green Business Challenge Information Brochure." Retrieved From: http://www.charleston-sc.gov/shared/docs/0/gbc%20brochure%20for%202011-2012.11-22.pdf (Accessed July 2012).

B.10 Temporary Parks

OP2: TEMPORARY PARKS AND PLAZA DEVELOPMENT

OVERVIEW & CHARACTERISTICS

As redevelopment projects stall around the country due to a sluggish economy, many urban areas are looking for creative ways to implement "in the meantime" activities that productively utilize spaces that would otherwise remain vacant until the next development cycle. Transforming vacant parcels into temporary pocket parks creates an interim public benefit on sites that are often blighted by chain-link construction fencing, trash and graffiti. A temporary pocket park can have the added advantage of increasing the property values of adjacent sites as well as providing tangible public health benefits.

A temporary lease offers property owners a low-risk mechanism to convert a site into an attractive public amenity than can enrich the quality of urban life. Lease instruments can be structured for a 3-5 year period based on a nominal fee and typically are terminable at the discretion of the owner, with the provision of a payback for leases cancelled within the first year. Potential site improvements range from simple enhancements such a new landscaping, lighting and outdoor seating, to more programmed schemes which might incorporate fitness/playground equipment, public art installations, dog park, community garden or even lawn games such as bocce, shuffleboard or table tennis.

A community improvement district (CID), such as Midtown Alliance, is uniquely qualified to enhance, maintain, and provide security for temporary parks since they often already provide environmental maintenance and public safety for the area they serve. Further, a CID has the local political influence, strategic relationships with property owners and financial wherewithal to facilitate the conversion of vacant parcels into more productive uses, even if only on a short-term basis.

KEY FINDINGS

- Temporary parks convert underutilized parcels into productive spaces that add immediate beauty and value to a community.
- Due to the fact that they are short-term investments, temporary parks provide unique opportunities to test tactical strategies for activation and they make good demonstration projects.
- Partnerships are an important component in delivering park spaces that meet the specific needs of the community and can help provide user groups that will activate the space.
- Public safety and ongoing maintenance must be priorities and should be addressed within the terms of the lease agreement.

SUCCESS STORIES

Jamestown Community Greenspace, Atlanta, GA

Officially opened to the public in July 2012, Midtown Atlanta's newest green space was made possible by collaboration between Midtown Alliance, Jamestown and John Marshall Law School. This temporary park occupies a quarter-acre at the southwest corner of 18th and West Peachtree Street. Previously the site was blighted by two dilapidated and abandoned structures. The new park is anchored by an old-growth Magnolia tree that shades an inviting seating area surrounded by drought-tolerant native plants. Colorful umbrellas, tables and chairs provide flexible seating and can be relocated easily when no longer needed. Adjacent to the seating area is a large grassy area that provides a platform for events and larger gatherings. The park is open daily from 6am to 11pm and maintenance is provided by Midtown Alliance.

Lent Space, New York, NY

An agreement between a non-profit and a private real estate developer in Lower Manhattan yielded a temporary project know as "Lent Space." Located at the intersection of Canal Street and Sixth Avenue and a block from the Holland Tunnel, the project has transformed an entire city block into a free outdoor cultural space open to the public. A model for citywide land use, this temporary project is made possible by the use of a Trinity Real Estate site. Lower Manhattan Cultural Council is licensed to create and present artistic activities for the vacant site during the summer months. The agreement allows LMCC to provide artistic programming between May and the fall 2012 on Tuesdays, Wednesday, and Thursdays, 11am-3pm.

LentSpace's landscape features a tree nursery that provides shade while incubating street trees that may be planted throughout the Downtown neighborhood at a later date. In addition, a custom operable fence opens and closes the space to encourage a variety of social encounters. Incorporating benches for seating, this fence also acts as a support for the end-to-end graphic design commission. These two elements frame a central event space, which can be used for various activities, including film and performance. When walking across the east/west axis, visitors will pass through each of these zones to create a procession featuring three unique spatial engagements. These encounters continue after exiting as LentSpace is designed to bookend with Juan Pablo Duarte Square to create a larger network of open space.

Pavement to Plazas, New York, NY

Pavement to plazas programs typically start by using temporary, inexpensive materials to re-assign excessive motor vehicle space for the use of pedestrians and/or bicyclists. Because these efforts do not require a large outlay of capital, public spaces are able to appear almost overnight. While the city funds design and construction, partners from the local business or advocacy community are usually asked to operate, maintain and manage the new plazas.

Following the immediate closure of Times Square, the centerpiece of New York's highly successful "Greenlight for Midtown" street improvement project, the leaders of the Times Square Alliance realized that people might want somewhere to sit. So they bought 376 folding chairs for $10 each and "instantly – millions of people have a new way of enjoying the city."

By taking this experimental "pilot project" approach using temporary materials, the City and public-at-large are able to test the performance of each new plaza without wasting scarce public resources. When successful, the plazas transition into a more permanent design and construction phase, which is happening currently in many of New York City's first generation of pilot plazas and sustainable street projects.

Pavement to Parks (Parklets), San Francisco, CA

San Francisco's Pavement to Parks program was inspired by the similar Pavement to Plazas projects carried out in New York City. Using many of the same techniques – moveable tables and chairs, painting asphalt, and the installation of inexpensive planters and repurposed stone blocks, municipal officials were able to quickly establish a formal program that increased the balance of public space. The Pavement to Parks program is a collaborative effort between the San Francisco Mayor's Office, the Department of Public Works, the Planning Department, and the Municipal Transportation Agency. The low-cost "parklets" are now found in more than 20 locations throughout the city.

As in New York, the city officials in San Francisco view each parklet as a laboratory for testing the potential of a more permanently designed public space. The materials are meant to be temporary and the design malleable enough to incorporate changes during the trial period. A typical parklet consists of a platform that sits flush with the sidewalk. Each one is built in the place of two or three parking spaces. In most cases, they include seating and various amounts of greenery and occasionally include bicycle parking and/or tables to serve as outdoor dining areas for nearby restaurants or cafes. The cost is typically covered by an individual business or several businesses that recognize the ability to attract customers.

B.11 Tactical Urbanism

OP3: OPEN SPACE ACTIVISM

OVERVIEW & CHARACTERISTICS

Improving the livability of our towns and cities commonly starts at the street, block or building scale. While larger scale efforts have their place, incremental, small-scale improvements are increasingly seen as a way to stage more substantial investments. This approach allows a host of local actors to test new concepts before making substantial political and financial commitments. Sometimes sanctioned, sometimes not, these actions are commonly referred to as "guerilla urbanism," "pop-up urbanism," "city repair," or "D.I.Y. urbanism." Eventually, the term "tactical urbanism" was inspired by a 2010 blog post that discussed the "Greenlight for Broadway" project implemented by the New York Department of Transportation. It has come to describe a groundswell of other low-cost high-impact interventions to activate spaces in urban areas.

KEY FINDINGS

While exhibiting several overlapping characteristics, "tactical urbanism," is a deliberate approach to city-making that features the following five characteristics:

- A deliberate, phased approach to instigating change;
- An offering of local ideas for local planning challenges;
- Short-term commitment and realistic expectations;
- Low risks, with a possibility of high reward; and
- The development of social capital between citizens, and the building of organizational capital between public/private institutions, non-profit/NGSs, and their constituents.

SUCCESS STORIES

Open Streets, Atlanta's Streets Alive!

Open streets initiatives are increasingly common in cities seeking innovative ways to meet environmental, social, economic, and public health goals. The idea originated in Bogotá, Columbia, where neighborhood activists opened the streets for people to bike, skate, or use any human powered means of transportation, while temporarily closing them to motor vehicles. In Bogotá today, 70 miles of streets are opened to the public from 7 a.m. to 2 p.m. every Sunday. Amazingly, over 800,000 people – young and old, on foot, bike, and every imaginable kind of wheeled device – take part each week.

The organizing sponsors of the Atlanta event include Atlanta Bicycle Coalition, Kwanza Hall and a steering committee filled with civic leaders, business leaders and community leaders. The vision of Atlanta Streets Alive is to encourage Atlanta to develop living streets — streets that appeal to pedestrians, bikers, businesses and neighbors.

Participants in open streets initiatives develop a wider understanding of their city, each other, and the potential for making streets friendlier for people. In this way, open streets are a tool for building social and political capital, while having very real economic impacts for businesses, vendors and organizations along the chosen route.

Chair Bombing, Brooklyn, NY

Whether to rest, socialize or simply watch the world go by, increasing the supply of public seating almost always makes a street and, by extension, a neighborhood, more livable. "Chair bombing" is the act of removing salvageable material from the local waste stream and using it to build public seating. The process requires attention to the design and construction of the seating as well as thoughtful consideration of where the chairs are needed most in order to support existing social activity or serve as a catalyst for community gathering. Chair bombing calls attention to the general lack of public seating in the urban environment. It also can be a good indicator of where further physical improvements may be made by a municipality, property owner, retail tenant, and/or other change agents.

DoTank, a Brooklyn-based interdisciplinary collective, has placed chairs in six locations throughout northern Brooklyn.

While the bombings are often done in conjunction with outdoor events, the first effort has resulted in permanent seating at Blue Bottle Coffee in Brooklyn's Williamsburg neighborhood.

Reclaimed Setbacks, Little Free Library

Setback reclamations intentionally activate the underutilized, semi-public space found between the public right-of-way (typically the sidewalk) and a property owner's principal structure. Setback reclamations range from illegal structure extensions to temporary programming to community gardening. Such tactics help diminish the real and perceived distances found between the structure and the sidewalk. If done well, reclamations can effectively create a more engaging and social neighborhood street environment.

An example of how to activate reclaimed setbacks is demonstrated by a grassroots movement known as the "Little Free Library." This is an idea that has taken root on lawns and in small parks across the country. "Take a book, leave a book" is the basic concept of these miniature libraries and the movement is gaining momentum. Constructed out of salvaged materials, the libraries often look like miniature homes or barns, or simply just a box on a post. Little Free Libraries can be found in at least 24 states and eight countries.

B.12 Street Tree Inventory

OP4: LANDSCAPE ENHANCEMENT PROGRAM

OVERVIEW & CHARACTERISTICS

In order to better understand the benefits of our existing street tree canopy, identify where gaps in coverage exist, and maintain our trees, an inventory of Midtown's trees is essential. A street tree inventory should capture the tree species, age, condition, and exact location. Many cities and communities are conducting tree inventories so that they can better manage these assets. One expert quantified the benefits of a single street tree to be over $90,000 over the lifetime of a tree. The best practices listed below have taken the inventory a step further to include a quantification of the benefits to energy, water, and air quality.

KEY FINDINGS

- Crowd sourcing is a cost efficient way to assist with the inventory and serves to involve the community and educate them about the benefits of trees.
- Use open-source code to create the map. While easier and more cost-effective than starting from scratch, it still requires technical expertise.
- . • While the majority of data submitted by crowd-sourced users has been found to be accurate, quality control and/or training is still needed.
- If tree maintenance is the primary reason for conducting an inventory, utilizing a trained or certified arborist to conduct the inventory will result in more accurate results

SUCCESS STORIES

San Diego County Tree Map

The San Diego County Tree Map was created in order to map every tree in San Diego County. It is sponsored by the California Center for Sustainable Energy (CCSE) and structured as collaboration between non-profits, government agencies, businesses, and the community. CCSE utilized a web-based open-source map called OpenTreeMap that allows for anyone to add a tree to the inventory. The San Diego County Tree Map website provides an online tree species identification resource as well as videos that show how to properly measure the diameter of a tree. Information on the species and tree size is used to estimate the ecosystem services the urban forest provides, including how much energy the trees are helping conserve, how many pounds of air pollutants and greenhouse gases they are absorbing from the atmosphere, and how many gallons of stormwater they're helping to filter.

San Diegans can explore the trees around them, searching by species, location, tree size, and a number of characteristics, such as whether the trees bear edible fruit or nuts, have distinct fall color or especially beautiful flowers, or are native to California. Since the project's public launch in March 2012, over 330,000 trees have been mapped. The project was funded through a natural resources protection grant through the California Department of Forestry and Fire Protection.

Philly Tree Map

The Philly Tree Map was created to better maintain its urban forest and to promote sustainability within the metro area. This map uses the same open source platform that the San Diego County Tree Map uses. It provides a web-based map and database of trees located in the 13-county Philadelphia region with similar functionality as the San Diego Tree Map. Similar to San Diego, the Philly Tree Map is a collaboration between local non-profits, government agencies, and businesses. Philadelphia uses a "reputation" based system to encourage accuracy in how the public submits data. Any individual can register for a free PhillyTreeMap account and add trees to the database or edit existing tree information.

Public users gain reputation points by contributing to the PhillyTreeMap database. After reaching 1,000 reputation points, users may edit additional data fields related to the height and status of the tree. Users with this higher reputation level may also review public edits and provide positive (thumbs-up), neutral, or negative (thumbs-down) responses to the edit. Such actions affect the public user's reputation (i.e. if a more experienced user likes your edit, you get additional reputation points). Reputation points are gained and lost according based on a point system. Since the project's launch, over 51,000 trees have been mapped.

Downtown Atlanta Tree Inventory

In 2011, the City of Atlanta hired Davey Resource Group to conduct a comprehensive inventory of Downtown street trees. This project was initiated by the Department of Planning and Community Development and the Office of Parks, Recreation, and Cultural Affairs. The inventory cost $55,000 and was funded by $20,000 grant from the Urban and Community Forestry Grant Program of the U.S. Forest Service with the remainder coming from the City's Tree Trust Fund. The tree inventory provided the City with information about the species, size, quality, and condition of approximately 9,000 public trees in Downtown Atlanta.

With more funding, the City's goal is to inventory every public tree in the City.

Information from the inventory will help establish management priorities by:

- identifying trees that need to be pruned or removed,
- revealing any systemic problems with pests or disease,
- identifying the distribution of tree species with size, height, and other characteristics, and
- providing an up-to-date report on the overall condition of the trees.

The inventory also identified locations with sufficient space for planting trees, aiding in future planting efforts. The Downtown area that was inventoried was approximately four square miles bounded by North Avenue to the north, Boulevard to the east, Interstate 20 to the south, and Northside Drive to the west. To date, the inventory has not been posted online.

B.13 Green Streets

TP1: STREETSCAPE PROGRAM IMPLEMENTATION

OVERVIEW & CHARACTERISTICS

Green Streets transform impervious street surfaces into landscaped green spaces that capture storm water runoff and let water soak into the ground as plants and soil filter pollutants. Green Streets convert storm water from a waste that can overload stormwater systems, to a resource that nourishes plants and replenishes groundwater supplies. They also create attractive streetscapes and urban green spaces, provide natural habitat, and help connect neighborhoods, schools, parks, and business districts. Green Streets also provide shade, help reduce the urban heat-island effect, and improve air quality. Implementing well-defined green street strategies in Midtown is of particular importance because of combined sewer overflow issues in the city.

KEY FINDINGS

- Curb extensions/Street planters – Traditionally used for traffic calming, curb extensions can also be used to slow, capture, and clean street runoff. Similar to curb extensions, street planters use vegetation and soil to slow, capture, and clean street runoff and stormwater. Funding for curb extensions and street planters can be derived from a portion of the construction budget for projects that involve developing in the public right-of-way.
- City support is crucial in the success of green streets. Cities dedicated to creating green streets are more willing to dedicate municipality funds to support such programs.
- Rain gardens – Rain gardens use captured stormwater and street runoff to grow lush vegetated areas. These can potentially be funded by government grants and private business donations.
- Pervious pavement/materials – Porous pavement and materials allow stormwater to percolate into the ground rather than overload sewer systems or flow into bodies of water. This allows stormwater to be filtered and cleaned before recharging groundwater.
- A public/private partnership between a city and its residents can be a beneficial way for a city to increase the number of trees planted along its streets. The city provides the initial costs of planting while the resident provides the necessary watering in the first couple of years of the tree's life.

SUCCESS STORIES

Portland, OR

The City of Portland is a leader in implementing Green Street strategies. In April 2007, the Portland City Council approved a Green Street resolution, report, and policy to implement Green Streets in public and private development. Since then, Portland has created seven Green Streets, with others in the works, and won several awards. The city collects 1 percent of the construction budget of project in the public right-of-way, which is put into Portland's 1 percent for Green fund that helps fund Green Streets projects.

New York City

New York City implements its Greenstreets program through the Central Forestry and Horticulture department, which was first launched in 1996. Mayor Bloomberg's PlaNYC 2030 includes a budget of $8.5 million for the construction of Greenstreets from 2007 to 2017. As of 2010, there were 2,468 Greenstreets citywide comprising a total of 204 acres, with 2,760 Greenstreets planned by 2017.

Puyallup, Washington

The City of Puyallup's Rain Garden Program has educated hundreds of citizens on stormwater pollution prevention, green infrastructure techniques, and has disconnected over 1 million gallons of stormwater. Since the program began in 2009, sixty-two (62) rain gardens have been created in seven clusters throughout the City with grant funding from the Department of Ecology and business donations. The program offers a Rain Garden Handbook which provides guidance on design, installation, and upkeep of rain gardens.

University of Rhode Island Permeable Parking Lots

The University of Rhode Island installed two parking lots during 2002 and 2003 using permeable asphalt. Both parking lots have porous pavement due to the fact that they are located within the Pawcatuck sole source aquifer, within the town of South Kingstown's groundwater protection overlay district, and within the wellhead protection area for the University's wells.

The porous asphalt is installed over a 1" layer of chocker course rock and bed of uniformly graded, clean washed crushed rock that is usually 18-36" deep. A layer of geotextile fabric separates the crushed rock from the underlying soil to prevent any fine soil particles from moving up into the storage bed. The bottom of the recharge bed is excavated to a level surface and is not compacted to allow the water to distribute and infiltrate evenly over the entire bottom bed area. The permeable asphalt helps to control runoff of pollutants to surface waters and protects groundwater supplies. Due to concerns of potential groundwater contamination and compaction of the porous bituminous asphalt, commercial and industrial vehicles are not permitted to park in these lots.

Berkeley Street Tree Plantings

The City of Berkeley has gained over 4,470 street and park trees since 2000. The Parks Recreation and Waterfront Department plants more than 800 new and replacement trees in the parkway strip, area between the sidewalk and curb, each year.

There is no added cost to the adjacent property owners who want the tree planting, but the City does require the property owner to water the tree once a week for the first two (2) years after planting. The City covers any associated costs for necessary concrete removal. The species of tree to be planted on a specific street, along with the planting location is determined by the City. If a species has not been designated for a specific street, staff will work with the neighborhood in selecting an appropriate species.

B.14 Transit Station Area Development

TP5: LAND USE POLICIES

OVERVIEW & CHARACTERISTICS

Encouraging development around transit stations can lead to improved sustainability and promotes economic development. There are many innovative policies that help to optimize the mix and density of residential, retail, and employment surrounding transit stations.

Some of these policies include:

- Transit Revitalization Investment Districts (TRID)
- Transit-oriented development (TOD) bond programs
- TOD grant or loan programs

While Midtown already has its own Special Public Interest District, which encourages appropriate development and aesthetic treatments around MARTA stations, additional policies can supplement the existing zoning district.

KEY FINDINGS

- A district-based tax increment financing mechanism allows for the encouragement of transit-oriented development without the requirement of "blight" in the area.
- Government funding to encourage development around transit stations can result in more housing, retail, and employment which create a more mixed-use environment.
- Development in designated transit improvement areas can create the passenger ridership numbers needed to justify rail in a municipality.
- Housing incentive zones can help spur higher-density residential development near transit stations. However, the budget for these housing zones is critical to the success of the program.
- Education/outreach is a crucial step in getting the public to understand the importance of infill and redevelopment in downtown areas near transit stations.
- Grant/loan incentives for TODs should be directed towards the improvement of residential development, enhancing pedestrian and bicycle pathways to stations, and acquiring land around stations that are essential to redevelopment.

SUCCESS STORIES

Pennsylvania

In 2004, Pennsylvania passed the Transit Revitalization Investment District (TRID) Act, which is designed to encourage transit-oriented development by enabling the use of a district-based tax increment financing mechanism.

It captures increases in property values near transit stations and keeps the money for use within the district. It is unlike tax-increment financing because it does not require "blight" in the district. Many cities have taken advantage of the passage of the Act for planning purposes; Philadelphia completed a TRID master plan in 2008 that led to improvements in a number of neighborhoods before the TRIDs have even been implemented.

Massachusetts

The Massachusetts Executive Office of Transportation and Public Works and the Department of Housing and Community Development created the Transit Oriented Development Infrastructure and Housing Support Program (TOD Bond Program) to provide financial support to the design and construction of TOD projects. The TOD Bond Program provides grants ranging from $50,000 for design to $500,000 for bike and pedestrian improvements to $2 million for housing and parking projects around transit stations. One outcome of the TOD Bond Program is Concord Common development, surrounding the historic Concord Center commuter rail station (pictured), which comprises three mixed use buildings with retail space, office space, a 180 seat restaurant, 20 rental apartments, spaces for shared parking amongst the different uses, and dedicated spaces for commuter parking. Residents living in the apartments have a landscaped pathway from Sudbury Road to the platform, creating a pleasant pedestrian access way.

Twin Cities (Minneapolis and St. Paul)

The City of Minneapolis, Hennepin County, the Metropolitan Council, and the state of Minnesota have a variety of TOD and affordable housing programs available throughout the region. TOD grants include the Livable Communities Act (LCA) Transit Oriented Development (TOD) program, the Tax Base Revitalization Account (TBRA), and the Liveable Communities Demonstrations Account (LCDA) programs. These programs provide funding for development in a Transit Improvement Area (TIA) or TIA-eligible station areas located along light rail, commuter rail or bus rapid transitways, are within one-quarter mile of any spot along high frequency local bus lines, or within a one-half mile radius of bus stops or stations on high-frequency express routes where significant passenger infrastructure is in place.

Also, projects and developments that exhibit compact and efficient use of available space, contain a diversity and mix of uses with daily conveniences and support pedestrian-friendly physical design including access for people with physical disabilities. TIA funding helped build Minnesota's first light-rail line, Hiawatha (pictured), in June 2004. In the first five years of operation, customers boarded the Hiawatha line 42.9 million times. In 2010, ridership totaled 10.5 million.

Connecticut

The Connecticut Office of Policy and Management created a Housing for Economic Growth Program in April 2008 that provided technical assistance and financial incentives for municipalities to create housing incentive zones, which had to be near transit stations or in existing developed locations. The zones had to allow for higher-density development than surrounding areas and set aside 20 percent of new residential units for those making up to 80 percent of the Area Median Income (AMI). The state paid municipalities $2,000 per multi-family unit and $5,000 per single-family unit for each building permit issued in the zone. Thrity-five (35) applications were received initally. Each municipality received up to $50,000. An additional fifteen (15) grant applications were approved before the temporary suspension of the program. Each of those approved municipalities received up to $20,000. As of February 2012, there are 112 acres of development devoted to incentized housing zones with many municipalities still in the process of adopting their incentive housing zones.

Oregon

Oregon's Metro Transit-Oriented Development (TOD) Program is designed to provide incentives, primarily in the form of modest funding grants, to private developers to build higher-density, mixed-use projects located near transit. The TOD Program's activities include direct investment in development projects, limited acquisition and banking of property near transit, supporting the addition of neighborhood amenities such as fixed tenant improvements that promote commercial activities and providing education and outreach to local jurisdictions, developers, and citizens throughout the region about TODs. One educational/promotional activity is the "Get Centered" program which is a series of quarterly half-day workshops educating key members of the public on urban centers and the importance of promoting infill and redevelopment.

California

California's Department of Housing and Community Development Transit-Oriented Development (TOD) Housing Program offers grants and loans to cities, counties, transit agencies, and developers to encourage higher density uses in close proximity to transit stations. Funds may be used for costs of the housing development; infrastructure necessary to the housing development; capital improvements that enhance public pedestrian or bike access from the housing development(s) to the nearest transit station; and/or land acquisition by a redevelopment agency during the predevelopment period. The first round of Transit-Oriented Development (TOD) grants ($145 million) went to sixteen (16) projects in the State.

B.15 Streetscapes

TP1: STREETSCAPE PROGRAM IMPLEMENTATION

OVERVIEW & CHARACTERISTICS

An inviting and safe streetscape environment can encourage more people to walk instead of drive and improve the character of a neighborhood. Midtown already has a robust streetscape program, called Midtown Cityscapes, with more than $21 million invested to generate $430 million in public and private funds for streetscape improvements. Over the past few years, Midtown Alliance has enhanced over fourteen (14) miles of streetscape sidewalks, installed 730 new streetlights, planted 700+ shade trees, and installed three (3) new public plazas. The overarching goals of Midtown Cityscapes is to create a walkable pedestrian realm by improving sidewalks, adding lights, trees and benches, creating urban parks and green space, and promoting pedestrian use.

KEY FINDINGS

- Pavement to Parks program helps create environments that are more pedestrian-oriented instead of auto-oriented in areas of a city that are being underutilized for pedestrian activity. The program implements streetscaping elements to create public spaces that attract people.
- Parklets provide opportunities to create a more pedestrian friendly environment in areas where urban parks and sidewalk widths may be minimal by replacing under-utilized street parking spaces with streetscaping elements such as tables, chairs, and planters. Parklets can be permanent fixtures in a community or temporary/seasonal.
- The Green Alley program offers an opportunity for cities to make areas that are typically paved and not suitable for people more environmentally sustainable and pedestrian friendly through the use of pavement treatments and streetscape elements such as lighting fixtures.
- Public art & design helps a city create a unique identity and sense of place. It can improve the quality and design of buildings and private developments, streetscapes and public places while showcasing the talent of local artists within a community.

SUCCESS STORIES

New York City Pavement to Parks

New York City's Pavement to Parks program converts excess roadway into plazas, seating areas, and parks.

Some projects convert unused portions of a street, while others use the entire roadway to create a plaza or park. The most notable of these projects is the closure of Broadway through Times Square, which improved traffic flow and pedestrian safety. There are currently twenty-three (23) plazas or parks in existence with twenty-six (26) others in design or construction phases. Other cities, such as San Francisco, have begun following New York City's lead and created their own parks on streets.

San Francisco Parklets

Parklets transform street parking spaces into small pedestrian parks or sitting areas. They are a unique way to widen the sidewalk, increase safety, and beautify the street. Parklets are typically created by building a platform from the sidewalk out over the parking space and then furnishing the space with benches, landscaping, bike parking, and tables and chairs. San Francisco began their parklet movement after being inspired by the recent success of similar projects in New York City, and has built twenty-three (23) parklets since March 2010.

Chicago Green Alley Program

The program uses permeable and high albedo pavements, open-catch basins, recycled materials, and dark-sky compliant light fixtures to create more environmentally-friendly alleys. Since 2006, more than 100 Green Alleys have been installed. These same sustainable material principles could be applied to any streetscape project.

Clearwater, FL Public Art & Design Program

The Clearwater (FL) Public Art & Design Program took effect on October 1, 2006, and requires that City capital improvement projects (CIP) with a construction budget greater than $500,000 contribute 1 percent of the project's aggregate job value towards the purchase and installation of on-site public art. As part of the program, Sculpture360 brings high-quality public artwork from worldwide and local artists to residents and visitors. Three (3) showcase pieces of art are chosen annually by a seven-member panel. The panel is comprised of a minimum of five voting members, including one member of the Clearwater Public Art and Design Board, two artists or arts professionals (designer, curator, collector, public art administrator, etc.), one representative from the city, and one representative from the community. The panel may also include one or more non-voting advisors, deemed appropriate by the Public Art and Design Board or Cultural Affairs staff.

B.16 Traffic Control & Design

TP1: STREETSCAPE PROGRAM IMPLEMENTATION
TP3: IMPROVED LOCAL TRANSIT AND COORDINATED SHUTTLE SERVICES

OVERVIEW & CHARACTERISTICS

Midtown is working to improve traffic signal design, traffic control and lane configurations to maximize intersection and local network operations and safety for vehicles, pedestrians, buses and cyclists. Thanks to a grant from the Department of Energy (DOE), Midtown is currently installing wireless traffic communication devices at Midtown's highest-traffic intersections, which will increase signal efficiency and traffic management. The Georgia Department of Transportation, City of Atlanta, and Midtown Alliance were recently awarded a $1 million grant to actively manage and synchronize approximately 100 traffic signals in Midtown. This project includes on-call response to traffic operations issues, repair and replacement of communications equipment, and implementation of timing strategies for different times of day and planned and unplanned events.

KEY FINDINGS

- Traffic management benefits from management and appropriate design and consideration of all aspects of the roadway. Vehicle speeds, pedestrian crossings, transit accommodations, medians, and street parking are just a few other street characteristics that affect the flow of traffic and safety of all types of commuters. The Institute of Transportation Engineers Designing Walkable Urban Thoroughfares: A Context Sensitive Approach is an excellent source for detailed descriptions of how to design the entire thoroughfare for a walkable community.

- Diagonal crossings for pedestrians can improve vehicle capacity flow and reduce the number of vehicle-pedestrian conflicts when incorporated with exclusive pedestrian phasing at signalized intersections.

- Traffic calming tools such as changing street paths from straight to serpentine (chicanes) create traffic patterns that reduce vehicle speeds while also offering opportunities for stormwater runoff landscaping treatments.

- Patterned/textured intersection crosswalks make pedestrians more visible to motorists and reduce vehicle speeds if used over long segment lengths.

- Mid-block two-stage pedestrian crossings provide pedestrians with a center refuge area which is especially beneficial to elderly individuals and children on streets where the number of lanes present has created conditions that are quite wide.

- Bus bulbs are beneficial to buses because they allow the bus to stay in its traffic lane while dropping-off and picking-up passengers, instead of having to pull over to the curb. They also provide more standing room for passengers loading/unloading the bus on sidewalks with high pedestrian traffic.

SUCCESS STORIES

Beverly Hills, CA Exclusive Pedestrian Phasing

The Beverly Hills Business District has a high volume of pedestrian activity, which was leading to a number of accidents between pedestrians and automobiles. In 1987, the city implemented an exclusive pedestrian crossing phase at eight intersections where automobiles at all approaches would allow pedestrians to cross the intersection either diagonally or conventionally. This allowed pedestrians to safely cross the street and also improved vehicle flow due to easier movement by no longer conflicting with pedestrians. The average cost per intersection was $500 to $700 and led to a 66 percent reduction in accidents between pedestrians and automobiles.

Austin, TX Chicanes

The City of Austin, Texas has neighborhood chicanes which change street paths from straight to serpentine. They are intended to be used as traffic calming devices that reduce vehicle speeds while having less of an impact on emergency vehicles than traditional speed bumps. Chicanes can simply be restriped lines painted on a street or can include curb extensions with or without landscaping treatments.

Gainesville, FL Textured/Patterned Crosswalks

Gainesville, Florida patterned/textured intersection crosswalks use stamped pavement or alternating paving materials to create an uneven surface for vehicles to traverse. They are used in areas where there is substantial pedestrian activity to make vehicles more aware of pedestrians. Patterned/textured streets can also reduce vehicle speeds if used over an extended length.

Bellevue, WA Two-stage Pedestrian Crossing

Two-stage mid-block pedestrian crossings in Bellevue, Washington allow less disruption of traffic while giving ample time for pedestrians to cross the road. First, pedestrians stop traffic in one direction while crossing to the center refuge island median. Then the first direction of traffic resumes while the opposite direction is stopped for the pedestrians to finish crossing the road.

New York City Bus Bulbs

New York City's bus bulbs, also known as nubs, are essentially sidewalk extensions through a parking lane that becomes directly adjacent to the travel lane. Bulbs are common at city sidewalks crowded with high patron volumes and where parking along the curb is permitted. Bulbs have particular application along streets with lower traffic speeds and/or low traffic volumes where it would be acceptable to stop buses in the travel lane. Collector streets in neighborhoods and designated pedestrian districts are good candidates for this type of bus stop.

B.17 Bicycle Infrastructure

TP2: BICYCLE PLAN IMPLEMENTATION

OVERVIEW & CHARACTERISTICS

People are more inclined to travel by bicycle when adequate bicycle infrastructure is available. Midtown has a great opportunity to enhance cycling infrastructure due to its close proximity to Downtown, Georgia Tech, and other in town neighborhoods. Beyond adding bike lanes, sharrows, and bike parking, there are additional methods for incorporating bicycle infrastructure as an integral component of the street network. Several cities are implementing innovative ways that further protect bicyclists and incorporate bicycle facilities in the roadway.

KEY FINDINGS

- Cycle Tracks

These are buffered bike lanes located at the very edge of the roadway and are separated from traffic, either by a raised curb, planted median, or parking. This increases the safety of bicyclists from "dooring," when drivers open the doors of their parked cars into the bicycle lane. These lanes can either have a one-way flow lane with traffic, or two-lanes going in different directions. Segregating bicyclists from motor vehicles makes riding in the city safer and encourages more folks to pedal around town, decreasing motor vehicle congestion and increasing a city's overall health and livability.

- Bike Boxes

Bike boxes aid in bicycle turning movements by creating an exclusive bicycle waiting area located ahead of vehicle stop bars at signalized intersections. This infrastructure improvement allows bicyclists to get out ahead of traffic and move to the left during a red light. The bike boxes improve awareness and visibility of cyclists and help prevent collisions between motorists and cyclists.

- Contraflow Bicycle Lanes

Contraflow bicycle lanes are similar to cycle tracks in that they separate bicycle traffic from vehicular traffic and protect from dooring. These facilities are different from cycle tracks in that they function against the flow of traffic and are more appropriate on neighborhood-level streets and also on one-way streets.

- Bicycle Repair Stations

While it is unsure if bicycle repair stations increase the number of bicycle riders, they do alleviate one barrier for potential bicyclists which is the fear of getting a flat or having their bicycle in need repair when far away from work or home.

SUCCESS STORIES

Copenhagen, Denmark - Cycle Tracks

The Copenhagen "City of Cyclists" program has plans to construct more cycle tracks, extend cycle routes along the city's green thoroughfares, establish safer and more cycle-friendly conditions at the most crowded intersections, as well as implement many other improvements. Today, Copenhagen offers an extensive bicycle network which allows cyclists to travel throughout the city on 215 miles of cycle tracks segregated from the road by a curb and more than twenty-five (25) miles of green cycle routes separated from transportation infrastructure. The city has found that every time a new cycle track opens, it increases the amount of cyclists on that route by 10-20 percent.

Portland, OR - Bike Boxes

The city of Portland's bike boxes are intersection safety designs intended to prevent collisions between motorists turning right and cyclists going straight. The bike boxes are a green box on the road with a white bicycle symbol inside. They also include green bicycle lanes approaching and leading from the box. As of March 2008, the city has implemented fifteen (15) bike boxes with ten (10) more bike boxes proposed throughout the city. Opportunities exist to include pedestrian bulbouts and vegetated facilities to manage stormwater runoff next to bike boxes.

Boulder, CO - Contraflow Bicycle Lanes

The city of Boulder's 13th Street contraflow bicycle lane runs for three city blocks connecting downtown Boulder's Pearl Street Mall to a link of interconnected greenways. Maximizing automobile parking, service vehicle loading, and automobile and bicycle circulation patterns, it creates a unifying feel throughout downtown with beautiful and aesthetic detail. While bikes share the northbound lane with cars, they have their own dedicated contraflow southbound lane. This has become a successful project that works for motorists, cyclists and pedestrians, and more cyclists than cars now use this corridor.

Cambridge, MA - Bicycle Repair Stations

The city of Cambridge's bicycle repair stations came about as the city saw a growing number of people riding bikes. Between 2002 and 2008, the city saw the number of bicyclists more than double. The repair stations offer cyclists opportunities to make minor repairs and inflate flat tires free of charge. The stand provides tire gauges, pumps, wrenches, and other tools necessary to complete repairs such as adjusting handlebars and seats. The stands are located in several public areas around the city and give cyclists the freedom of not having to carry their own tools.

C.1 Policy + Infrastructure Barriers to Implementation

The purpose of this section is to identify potential policy and infrastructure barriers to implementing the programs selected for Greenprint Midtown. The primary focus is on regulatory and administrative barriers that need to be addressed when working with City of Atlanta government.

ENERGY

Energy Efficiency and Conservation in Buildings

- The City of Atlanta has committed to the Department of Energy's (DOE) Better Buildings Challenge (BBC) and received considerable participation to date. Fifty-six (56) buildings representing 38 million square feet of space has committed to the program to date. Assuming that many of these buildings follow through on their commitment to implement energy and water retrofits, the City could experience a significant uptick in building permit applications. This could create a backlog and result in delays in approvals.

Midtown Alliance and its partners in the Atlanta Better Buildings Challenge should make sure that the City is aware of this potential problem so that they can rectify it.

- Property Assessed Clean Energy or "PACE" financing is not currently established within the City of Atlanta. This financing tool provides a new opportunity for property owners to finance energy and water improvements through assessments on real estate taxes. The assessment stays with the property, rather than the property owner. Work is underway to establish this program in the City but it is not yet in place. While not the only financing tool, PACE helps property owners overcome key barriers.

Midtown Alliance should encourage the City to adopt the PACE program and voice support for it if and when it is put before City Council.

High Efficiency Public Spaces Lighting

- Midtown's decorative Type A and Type C street lights do not currently have cost effective and thoroughly tested retrofits available. It is expected that as the technology for LEDs continues to improve, costs will go down and effectiveness will improve.

TRANSPORTATION

Streetscape Program Implementation

- There are several potential challenges in implementing a streetscape program in Midtown. One potential opportunity up for consideration is to convert the curb lane of Peachtree Street on-street parking on weekends. The City of Atlanta's contract with Park Atlanta could present a barrier to adding free parking. Midtown Alliance should explore this further with the City of Atlanta Office of Transportation to determine if this is an issue.

- As Midtown Alliance identifies new streetscape materials that might be more environmentally beneficial such as pavers or permeable pavement, they should coordinate with the City of Atlanta Department of Public Works to add these materials to their approved materials list. The Department of Public Works has specific materials they will maintain and if new materials are not on the approved list, it could result in project delays.

Bicycle Plan Implementation

- Competition for limited roadway space can create challenges for bicycle facility implementation. The recommendations in the City's transportation plan (Connect Atlanta) for core and secondary bicycle connections are occasionally at odds with the need to preserve motor vehicle level of service. Midtown Alliance should be prepared to conduct transportation studies for corridors that it intends to create bicycle facilities on. It should also continue to encourage the City to prioritize non-motorized transportation in appropriate corridors.

Enhanced Transportation Demand Management

- Currently, funding through the Atlanta Regional Commission can only be used for outreach activities with employers. This restricts Midtown Alliance's ability to outreach to the many residents of Midtown. A regional transportation demand management planning process is underway currently to assess existing TDM strategies in the region. Through this process, Midtown Alliance should pursue increased flexibility in order to have greater impact in reducing VMT and increasing mobility.

Improved Local Transit and Coordinated Shuttle Services

- Lack of publicly accessible real-time transit data is an existing barrier to creating useful mobile transit applications that could serve to increase ridership. The Atlanta Regional Commission is currently working with the region's transit agencies to develop a trip planning application using scheduled data. This would assist riders when coordinating trips that use multiple systems and better connect disparate systems. Midtown Alliance should continue to stress the importance of creating a real-time transit application to MARTA and others.

WATER

Green Infrastructure Program

- The City of Atlanta is in the process of updating its post development stormwater ordinance. In its current form, the ordinance requires that developers detain storm water on their property. The Department of Watershed Management is seeking to encourage and require the use of green infrastructure practices. The department has already identified existing barriers in the zoning, subdivision, and tree ordinances and is working to address those barriers. One significant challenge for the City is that no green infrastructure construction details are contained within the City of Atlanta's Standard Details for Construction. These details serve as a reference for City staff and without standard details for green infrastructure solutions, projects could be denied or delayed.

Restaurant Water Efficiency

- Restaurants in Midtown must comply with Fulton County Department of Health and Wellness sanitary water facilities and controls regulations. The City of Atlanta, Fulton County, and the State of Georgia have jurisdiction over these regulations. County code requires that water sources and systems must be of sufficient capacity to meet peak water demands and hot water generation and distribution systems must be sufficient to meet peak hot water demands throughout the food service establishment. This does not preclude any restrict restaurants from making efficiency changes. However, Midtown Alliance should be aware of these codes as they may affect the types of efficiency strategies that a restaurant engages in.

Rainwater Harvesting

- The City of Atlanta follows the plumbing code for the State of Georgia which allows for the use of rainwater for toilet flushing and outdoor irrigation. According to the Department of Watershed Management, no barriers exist that would prevent the expansion of rainwater harvesting for non-potable use. However, the City of Atlanta does not have an ordinance which allows for implementing rainwater harvesting for potable use in multi-family and commercial buildings, only non-potable use.

Multi-family Water Efficiency

- The City of Atlanta's toilet rebate program includes both single family and multifamily residential buildings. While not currently offered to commercial buildings, the Department of Watershed Management would welcome the opportunity to work with Midtown Alliance in exploring the possibility of expanding the program. The City of Atlanta has enough funding to support the existing program for the next two years. It should be noted that the rebate program applies to buildings constructed before 1993 and that toilets using more than 1.6 gallons per flush qualify for the rebate.

WASTE

Restaurant Waste Reduction

- Restaurants in Midtown must comply with Fulton County Department of Health and Wellness nuisance and solid waste regulations over which both the City of Atlanta and Fulton County have jurisdiction. County code requires that solid waste containing food scraps be picked up at a minimum of twice a week. According to Fulton County, as long as restaurants comply with the county's nuisance, solid waste and food services codes, there should be no barriers to implementing a restaurant waste reduction program in Midtown Atlanta. This could be an onerous requirement for restaurants that seek to have organics collected.

Multi-family Building Recycling

- The City of Atlanta's Multifamily Recycling Ordinance went into effect in July 2008. New construction projects must allot space for recycling receptacles. This is currently being enforced by the Office of Buildings.

Existing multifamily buildings of six or more units are required to provide space and containers for their tenants. Since the collection of recycled materials in multi-family buildings is handled by private companies and not the City of Atlanta, there appears to be some confusion at the Department of Public Works and Office of Solid Waste Services as to whose responsibility it is to enforce the ordinance within existing buildings. While lack of enforcement can be an issue, most buildings are already complying and Midtown Alliance can work with those that aren't to get them started.

Electronics Recycling

- According to the Fulton County Department of Health and Wellness as long as the e-waste recycling program complies with the county's nuisance and solid wastes codes, county ordinances should not present any barriers. To minimize the potential for non-compliance, e-waste transported to a recycling facility in a timely manner and should not be stored outside for any extensive period of time.

OPEN SPACE

Acquisition and Development of Civic Squares

- Midtown's SPI zoning allows developers to transfer a portion of their required open space off-site to create a single consolidated park serving multiple developments rather than numerous marginal open spaces spread across several parcels. However, the mechanism to facilitate this transfer is not currently in place. In order for this mechanism to function as intended, appropriate sites for such parks must be identified in a small area plan for Midtown and that plan must be adopted into the City of Atlanta's Comprehensive Development Plan. A corollary issue relates to the need for a method of determining the monetary value of open space requirements so that a "cash-in-lieu-of open space" provision could be implemented. This would be useful in cases where the open space requirement cannot be met on-site and it makes more sense to secure funding to help establish a park in an off-site location. Finally, a dedicated open space fund would need to be established to receive and hold funds if they were set aside for a future transfer.

Midtown Alliance intends to with the City to update the zoning code so that the open space transfer mechanism works.