

SUSTAINABILITY



Introduction

The BeltLine Corridor Design, which is outlined in this typology document, is a product of integrated design. The holistic design approach is coupled with an iterative design process with input from critical stakeholders and experts reflecting the best green design practices and knowledge of the day. Sustainability considerations such as water and energy-saving features and the durability of materials are critical drivers of each design decision, along with economic, cultural and aesthetic concerns. The ultimate goal is to meet, and where possible, to exceed the CoA and ABI's sustainability guidelines.



City of Atlanta Sustainability Plan¹

► MAYOR'S CHARGE:

- To ensure that the City of Atlanta becomes one of the top ten sustainable cities in the US
- To motivate and support community efforts that improve the quality of life of the citizens of Atlanta by enhancing the quality of their environment while supporting jobs and long term economic growth
- To create and encourage a community dedicated to environmental sustainability through innovative leadership
- To commit to continual improvement in sustainability practices
- To lead by example through the development and implementation of policies and activities that support environmental sustainability

► Guiding Principles

Economic Development Rationale: Use sustainability leadership to increase Atlanta's "Competitive Advantage" by positioning Atlanta as a magnet for talent and a model for the country.

Quality of Life Rationale:

Energy security

Ensure multiple reliable, affordable, local, and renewable energy sources.

Air & climate quality

Enhance citizens' health, maintain clean air, and stabilize contributions to climate change.

Water security

Ensure availability of high quality water

Land quality

Preserve and maintain plentiful natural lands and green spaces

Resource security

Eliminate wasteful resource uses



Atlanta BeltLine Sustainability Plan

► VISION

As a critical component of the City's redevelopment plans, the BeltLine will support best in class sustainability leadership by the City by proactively identifying and implementing solutions to Atlanta's environmental and economic challenges, leading the way for the City's efforts.

The BeltLine infrastructure will be built to provide positive social, economic, and environmental benefits to the City of Atlanta and its residents.

► Guiding Principles

- Deliver projects to the City which advance the state of environmentally-sensitive (and ultimately sustainable) City-owned infrastructure, with a specific emphasis on reducing electricity and potable water usage
- Use BeltLine projects as test bed for new technologies and approaches where appropriate
- Proactively seek and implement distributed power generation opportunities throughout the BeltLine redevelopment area
- Support sustainable building practices through integrated master planning and policies to support the City's green building ordinance²
- Integrate and coordinate public and private realms to create a holistic solution to economic, environmental and social issues
- Develop infrastructure that can be adequately maintained post construction to the benefit of ABI, COA, and the community.
- Create a walkable environment via paths and streetscapes. Create spaces where people want to go and environments that enhance the experience and get people out of cars.
- Educate stakeholders on the social, environmental & financial benefits of sustainability
- Increase mobility options
- Support Community Benefits principles

1. Source: City of Atlanta Sustainability Plan (October 15, 2010). City of Atlanta, Office of Sustainability. <http://www.atlantaga.gov/mayor/sustainability.aspx>.

2. Adopted by the City Council on December 1, 2003, the City of Atlanta Sustainable Development Design Standards call for the integration of "green and/or sustainable building principles and practices into the design, construction, and operation of all City facilities, and City-funded projects to the fullest extent possible." A minimum of LEED™ Silver rating is required for new construction and renovations over 5,000 SF or \$2 million in project cost.



sustainability

Leading the City's Efforts

As one of the first signatories to the U.S. Mayors Climate Protection Agreement, the City of Atlanta (CoA) has pledged to reduce its emissions by 7% below 1990 levels by 2012. With its 1300 acres of new or expanded green space, 33-miles of trails and 22-mile transit loop, the BeltLine is a great step for the City in meeting its sustainability goals outlined in the City of Atlanta 2010 Sustainability Plan.

The BeltLine contributes to Atlanta's sustainable future in the following concrete ways:



City of Atlanta Sustainability Goals³



BeltLine's Contribution

Transportation

Promote the expansion of public transit, including the continued development of the Atlanta BeltLine and the implementation of the Atlanta Streetcar projects and focusing on improving neighborhood connectivity

Atlanta BeltLine's 22-mile-long pedestrian-friendly transit loop will connect 45 in-town neighborhoods and link with the existing MARTA and proposed streetcar systems

Fleet Fuels

Reduce petroleum fuel consumption by 10% by 2015 by those municipal departments with the greatest levels of fuel usage and have a city fleet composed of 15% alternative fueled vehicles in 2012

N/A.

Climate Change

Reduce greenhouse gas emissions within the City of Atlanta's jurisdiction by 25% by 2020, 40% by 2030, and 80% by 2050

Atlanta BeltLine will reduce greenhouse gas emission by reducing vehicle-miles traveled (VMT) in areas served by BeltLine Trails and Transit, helping the City of Atlanta to reach to its goal of 80% GHG reduction and 100% conformance with the EPA's Air Quality index by 2050.

Water Conservation

Reduce system leakage by 50% by 2015

The streetscape improvements within the BeltLine Tax-Allocation District and Re-development Area will include utilities upgrades. The BeltLine corridor will be landscaped using native or native-adapted plants, adding no additional irrigation load to the City's water resources.

Water Quality

To restore and maintain water quality standards by enforcing regulations, complying with federal, state and local laws and coordinating watershed protection strategies throughout City government

Atlanta BeltLine will help improve the water quality in Atlanta waterways through integrated management of stormwater within the BeltLine corridor, and where possible, in adjoining streets and parklands. It will act as a catalyst for remediation of 1,100 acres of brownfields⁴ within the 6,500 acre Atlanta BeltLine TAD , a necessity for the improvement of ground water quality. The new Historic Fourth Ward Park, with its two-acre stormwater detention lake that is designed to prevent the episodic flooding of area buildings, is an excellent example of the tangible contributions of the BeltLine to water quality issues in the City of Atlanta.





City of Atlanta Sustainability Goals³



BeltLine's Contribution

Air Quality

Improve Atlanta's air quality such that over 50% of days qualify as good according to the EPA's Air Quality Index by 2015, 60% by 2020, 75% by 2030, and 100% by 2050.

Atlanta BeltLine will reduce greenhouse gas emission by reducing vehicle-miles traveled (VMT) in areas served by BeltLine Trails and Transit, helping the City of Atlanta to reach to its emission reduction goals.

Waste

Reduce, reuse and recycle 30% of the city residential waste by 2013, 50% by 2015, 90% by 2020

N/A. The BeltLine landscape is low-maintenance; all organic waste from landscape maintenance will be composted at a local facility.

Greenspace

Provide a minimum of 10 acres of greenspace per 1,000 residents, protect and restore the City's tree canopy in order to meet a target to 40% coverage, create and maintain a park system that promotes and supports sustainable development, implement landscaping and facility renovations that reduce energy demand and maintenance costs

The Atlanta BeltLine will increase available green space in the city by 40 percent and expand access to green space with its 33-mile long trail system.

Energy

Reduce the total energy use for existing municipal operations by 15% by 2020, 40% by 2030, and 80% by 2050; renewable energy 5% of total municipal use by 2015

The Atlanta BeltLine corridor provides opportunities for small-scale distributed energy generation within the infrastructure, such as photovoltaic panels mounted on transit station canopies.

Local Food Systems

Bring local food within 10 minutes of 75% of all residents by 2020.

Not feasible within the BeltLine corridor, due to the limited right-of-way.

3. Source: City of Atlanta Sustainability Plan (October 15, 2010). City of Atlanta, Office of Sustainability. <http://www.atlantaga.gov/mayor/sustainability.aspx>.

4. "Brownfield Remediation," Atlanta BeltLine Website. <http://www.beltline.org/BeltLineBasics/BrownfieldRemediation/tabid/1801/Default.aspx>





ENERGY & CLIMATE

ABI Guidelines for Energy & Climate

1. Minimize the carbon footprint of BeltLine operations through the use of energy-efficient technologies, on-site energy production and green-energy purchase.
2. Maintenance and construction activities shall strive to be carbon-neutral, where possible
3. Avoid high-albedo materials and provide shading landscapes to minimize contribution to urban heat-island effect.
4. Encourage and promote the use of BeltLine trails and transit as an alternative to the automobile through thoughtful design of facilities, access points and services, and public education and awareness campaigns

Integrated Sustainability

A regional ecosystem analysis of Atlanta by American Forests concludes that Atlanta's economic growth has come at the price of too many trees, replaced by too many buildings, surface roads and parking lots,¹ with significant negative consequences for stormwater management and air quality in the City of Atlanta. The study concludes that maintaining and restoring tree cover is an effective way to improve the environment.

The reforestation of the BeltLine corridor will contribute to the City of Atlanta's emission reduction goals and reduce its carbon footprint through carbon sequestration. The new canopy will lower surface and air temperatures along the BeltLine corridor and in surrounding areas by providing shade and evapotranspiration. Trees will also help shade existing and new buildings along the BeltLine, reducing cooling loads. Concrete and grass, which are specified for the trail and the transit guideway respectively, are low-albedo alternatives to asphalt, which contributes to urban heat-island effect.

The BeltLine trails and transit will offer alternative transportation options to current and future residents in forty-five intown neighborhoods, helping the City of Atlanta reach to its goal of 80% GHG reduction and 100% conformance with the EPA's Air Quality index by 2050. The BeltLine subarea master plans include bike and pedestrian improvements for streets in the BeltLine study area, paving the way for a greener Atlanta.

In addition to specifying energy-efficient fixtures for lighting and interactive displays, the BeltLine typologies present numerous opportunities for on-site renewable energy generation to minimize energy use.

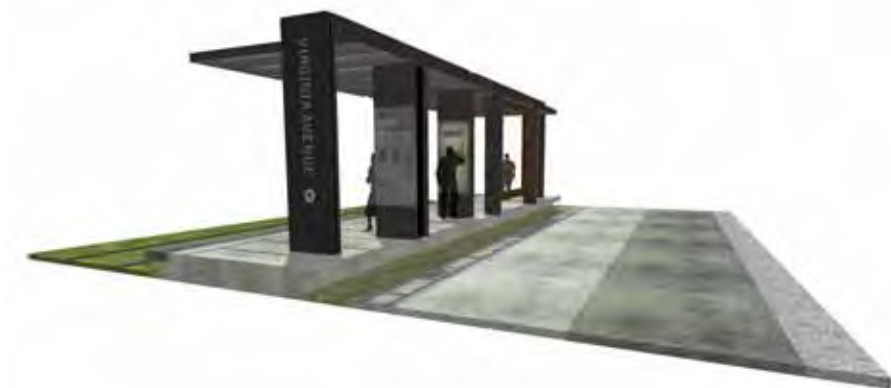
¹ 2001. "Urban Ecosystem Analysis Atlanta Metro Area". American Forests. http://www.americanforests.org/downloads/rea/AF_Atlanta.pdf



Landscape Typologies L1-L6 - Reforestation of the BeltLine Corridor



Atlanta BeltLine Trails and Transit provide alternatives to the car



Transit Station Typology - The station canopy has thin-film photovoltaics for on site energy generation.



Environmental Issues Addressed

- ✓ Carbon footprint reduction
 - ✓ Energy-Efficiency
 - ✓ On-site Renewable Energy Production
 - ✓ Green Energy Purchase
 - ✓ Green-house gas (GHG) Emissions Reduction
 - ✓ Vehicle-miles traveled (VMT) Reduction
- ✓ Urban Heat Island Effect Reduction
- ✓ Cooling / Heating Load Reduction

Other Environmental Issues

- Maintenance Vehicle Emissions
- Embodied Energy of Materials
- Performance Monitoring
- District Heating / Cooling
- Education & Outreach

Related Metrics



- 4.10. Use vegetation to minimize building heating requirements
- 4.11. Use vegetation to minimize building cooling requirements
- 4.12. Reduce urban heat island effects
- 7.6. Minimize generation of greenhouse gas emissions and exposure to localized air pollutants during construction
- 8.4. Reduce outdoor energy consumption for all landscape and exterior operations
- 8.5. Use renewable sources for landscape electricity needs
- 8.7. Minimize greenhouse gases and exposure to localized air pollutants during landscape maintenance activities
- 8.8. Reduce emissions and promote the use of energy-efficient vehicles
- 9.1. Monitor performance of sustainable design practices



- SLL Credit 3. Reduced Auto Dependence
- SLL Credit 4. Bike Network and Storage
- GIB Credit 9. Heat Island Reduction
- GIB Credit 11. On-Site Renewable Energy Sources
- GIB Credit 13. Infrastructure Energy Efficiency
- NPD Credit 14. Tree lined and Shaded Streets

Resources

NOTE: LIST IN PROGRESS

- Energy Star Program Requirements for Solid State Lighting Luminaires

See Appendix for:

Guidelines

- Atlanta BeltLine Maintenance Guidelines
- Atlanta BeltLine Community Benefit Guiding Principles





ABI Guidelines for Water Efficiency & Quality

1. Surpass City stormwater management requirements by 10% and identify lowest lifecycle cost management solution for parks and trails
2. Limit potable water use to human health needs (drinking water, hand washing). No potable water to be used for toilets or irrigation
3. At least seventy-five percent of the site vegetated area must be composed of native plants, in compliance with SSI, Credit 4.7

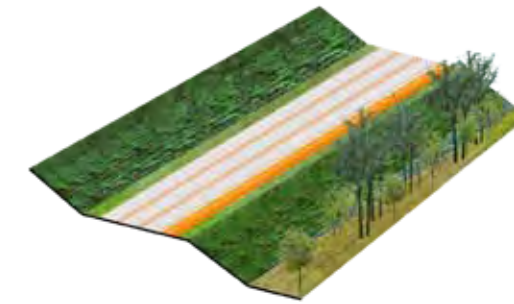
Integrated Sustainability

The typological design of the Atlanta BeltLine corridor integrates best sustainable practices in landscape design and stormwater management to create a working landscape focused on water efficiency and quality.

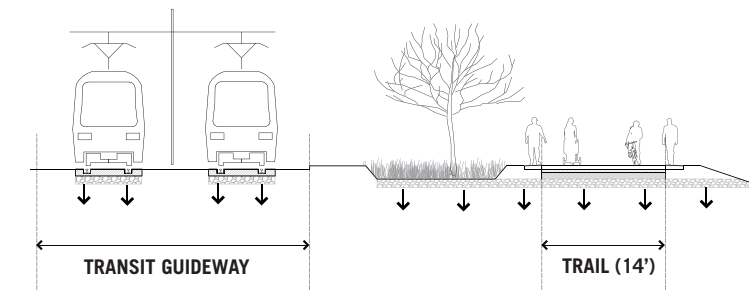
The BeltLine landscape is native or native-adapted and does not require irrigation past the period of establishment. Opportunities for rainwater capture exist at key locations, such as transit stations. Water collected on-site can be used in public toilets, should those be included in the BeltLine program in the future.

The amount of paved, impervious surfaces are limited to the minimum required by the BeltLine program, to minimize stormwater runoff. Where allowed by corridor width, green embankments are specified for engineered slopes to allow stormwater infiltration. Bio-filtration swales are recommended to collect and filter stormwater on-site, minimizing the BeltLine's burden on the City's stormwater infrastructure. Limitation of impervious surfaces is also recommended for BeltLine Overlay District.

Materials and coatings specified for the stations are non-toxic and will not leach into the ground water.



Landscape Typology L16 - Green embankments filter stormwater on-site



Landscape Typology L17 - Vegetated swale



Environmental Issues Addressed

- ✓ Irrigation-Free Landscaping
- ✓ Reduction of Permeable Surfaces
- ✓ Stormwater Runoff Control
- ✓ Stormwater Pollution Prevention
- ✓ Bio-Filtration
- ✓ Sediment Control
- ✓ Floodplain Protection
- ✓ Brownfields Remediation

Other Environmental Issues

- Wetlands Protection (n/a)
- Water-Efficiency of Fixtures (n/a)
- Rainwater Capture
- Greywater Recycling
- Performance Monitoring
- Education & Outreach

Related Metrics



* Prerequisites

- 1.2. Protect floodplain functions*
- 1.3. Preserve wetlands*
- 3.1. Reduce potable water use for landscape irrigation by 50% from established baseline*
- 3.2. Reduce potable water use for landscape irrigation by 75% from established baseline
- 3.3. Protect and restore riparian, wetland and shoreline buffers
- 3.4. Rehabilitate lost streams, wetlands and shorelines
- 3.5. Manage stormwater on site
- 3.6. Protect and enhance on-site water resources and receiving water quality
- 3.7. Design rainwater / stormwater features to provide a landscape amenity
- 3.8. Maintain water features to conserve water and other resources
- 7.1. Control and retain construction pollutants*
- 9.1. Monitor performance of sustainable design practices



- SLL Prereq. 3. Wetland and Water Body Conservation
- SLL Prereq. 5. Floodplain Avoidance
- SLL Credit 2. Brownfield Redevelopment
- SLL Credit 6. Steep Slope Protection
- GIB Credit 4. Water-Efficient Landscaping
- GIB Credit 8. Stormwater Management

Resources

NOTE: LIST IN PROGRESS

- Maryland Stormwater Design Manual (2000)
- Low Impact Development Center
- Chicago Alleys Program Handbook
- Center for Watershed Protection

See Appendix for:

Guidelines

- Atlanta BeltLine Maintenance Guidelines
- Atlanta BeltLine Community Benefit Guiding Principles





ABI Guidelines for Soil & Habitat Quality

1. Restore and maintain a healthy ecosystem along the BeltLine corridor composed of native, or native-adapted plantings that provide habitat for urban wildlife
2. Educate BeltLine users on the value of urban habitats and the rich ecology of the Atlanta ecoregion
3. At least seventy-five percent of the site vegetated area must be composed of native plants, in compliance with SSI, Credit 4.7

Integrated Sustainability

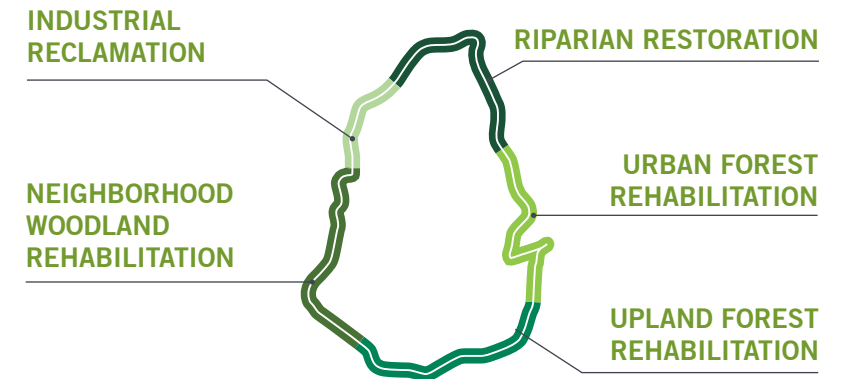
The BeltLine landscape typologies calls for the restoration of a native ecosystem within the BeltLine corridor, large sections of which are recovering from decades-long kudzu overgrowth. The native, and native-adapted plants that are specified for the corridor create the BeltLine Arboretum, with species and forms that are appropriate to Atlanta and are guaranteed to perform well within its various micro-climatic conditions.

The plant palette specified for the BeltLine corridor is site-specific and ecologically rich. When mature, the thousands of trees planted for the BeltLine urban forest will provide year-long or seasonal habitat for resident or migrating species and serve as an ecological corridor between existing habitats.

The landscaping efforts will be necessarily accompanied by a soil restoration program. The Atlanta BeltLine Maintenance Guidelines (See Appendix), which calls for an organic landscape care program that will establish and maintain a living, healthy soil along the entire BeltLine corridor. A public education campaign and Overlay District requirements can be used to prevent activities harmful to BeltLine soil and habitat quality, such as heavy pesticide use, in areas adjoining the corridor.

Materials selected for the BeltLine hardscape, transit stations, furnishings and lighting fixtures are non-toxic and will not leach chemicals into the soil or negatively impact the landscape and the wildlife along the BeltLine corridor. New structures within the corridor, including transit stations and new bridges and tunnels, are being designed to minimize potential conflict between wildlife and BeltLine transit. Fully-shielded luminaires will be installed, where possible, to minimize negative impacts on nocturnal environments, and resident and migrant wildlife.

The public art along the BeltLine presents a unique opportunity to educate Atlantans and visitors on the BeltLine Arboretum, and the rich urban ecosystems within the City of Atlanta, endearingly named the “City in a Forest.”



The Atlanta BeltLine Arboretum



Environmental Issues Addressed

- ✓ Soil Restoration and Management
- ✓ Soil Pollution Prevention
- ✓ Brownfields Remediation
- ✓ Slope Protection and Erosion Control
- ✓ Native / Native-Adapted Landscaping
- ✓ Sustainable Control of Invasives
- ✓ Habitat Restoration
- ✓ Nocturnal Environments Protection

Other Environmental Issues

- Imperiled Species Protection (N/A)
- Education & Outreach

Related Metrics



* Prerequisites

- 1.4. Preserve threatened or endangered species and their habitats*
- 4.1. Control and manage known invasive plants found on site*
- 4.2. Use appropriate, non-evasive plants*
- 4.3. Create a soil management plan*
- 4.4. Minimize soil disturbance in design and construction
- 4.5. Preserve all vegetation designated as special status
- 4.6. Preserve or restore appropriate plant biomass on site
- 4.7. Use native plants
- 4.8. Preserve plant communities native to the ecoregion
- 4.9. Restore plant communities native to the ecoregion
- 4.13. Reduce the risk of catastrophic wildfire
- 5.9. Support sustainable processes in plant production
- 7.1. Control and retain construction pollutants*
- 7.2. Restore soils disturbed during construction*
- 7.3. Restore soils disturbed by previous development
- 9.1. Monitor performance of sustainable design practices



- SLL Prereq. 2. Imperiled Species and Ecological Communities
- SLL Prereq. 3. Wetland and Water Body Conservation
- SLL Credit 2. Brownfield Redevelopment
- SLL Credit 6. Steep Slope Protection
- SLL Credit 7. Site Design for Habitat or Wetland and Water Body Conservation
- SLL Credit 8. Restoration of Habitat or Wetlands and Water Bodies
- SLL Credit 9. Long-Term Conservation Management of Habitat or Wetlands and Water Bodies

Resources

NOTE: LIST IN PROGRESS

- Georgia Native Plan Society
- UGA Cooperative Extension
- NOFA Standards for Organic Land Care
- NOFA Organic Lawn / Turf Handbook

See Appendix for:

Guidelines

- Atlanta BeltLine Maintenance Guidelines
- Atlanta BeltLine Community Benefit Guiding Principles
- SSI Credit 4.7





ABI Guidelines for Green Materials, Design & Construction

1. Compliance with the BeltLine Typologies is required to ensure consistent and uniform approach to design and construction
2. Materials for the BeltLine corridor should be selected through a lifecycle analysis, considering the ecological footprint of the material from cradle-to-grave
3. The BeltLine shall use and upgrade existing infrastructure within the corridor, to the extent possible.
4. Ninety-percent or more of BeltLine corridor materials must be regionally sourced, in compliance with SSI, Credit 5.7.
5. All wood used within the corridor must be come from non-threatened tree species, in compliance with SSI, Prerequisite 5.1.
6. Any enclosed facilities designed to meet one higher LEED standard than City ordinance requires¹
7. All construction activities must comply with SSI Construction Prerequisites 7.1 and 7.2.

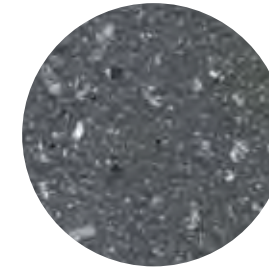
¹ The City of Atlanta currently LEED™ Silver level certification for new construction or renovations of those city facilities or city-owned buildings that are over 5,000 SF or \$2 million in project cost.

Integrated Sustainability

The Atlanta BeltLine Sustainability Guidelines require compliance with portions of LEED™-NC and Sustainable Sites Initiative (SSI) green landscape guidelines to ensure that the BeltLine corridor will be built with green materials, using best practices available in green construction.

Selection of materials for the BeltLine Corridor is driven by life cycle assessment, which takes into account the cumulative impact of the material to the environment during manufacture, distribution, installation, use, repair and maintenance, and disposal or recycling. Locally sourced and manufactured materials and materials with recycled content and that are recyclable are given precedence. Durability and ease-of-maintenance (See Green Operations & Maintenance) is another major consideration for materials selection. The BeltLine trails, for example, will be constructed with durable concrete, specified to contain recycled flying ash. Crosswalks, plazas and walls will be built using locally sourced granite. Plantings and landscape materials will be locally sourced.

The BeltLine typologies presented in this document are the product of an integrated design. Sustainability considerations ranging from material selection to community health and wellbeing are weighed, along with program goals and physical and economical constraints, during an iterative and interdisciplinary design process. Transit Stations, for example, feature a modular architecture that allows each station to be easily adapted to its context. The design consolidates program elements into the least amount of parts, minimizing material use. The windscreen, for example, doubles as a public-art element while the station canopy serves to generate solar energy.



(Left) **Durable concrete with local and recycled content** - BeltLine trails
 (Right) **Local Elberton granite** - BeltLine walls, plaza paving, stone curbs
 (Below) **Samples of native plantings** - Clockwise, from left to right:
 Southern Oak (Quercus Falcata), White Oak (Quercus Alba),
 Mountain Mint (Pycnanthemum Incanum), and Little Bluestem
 (Schizachyrium Ccoparium)



Environmental Issues Addressed

- ✓ Locally Sourced and Manufactured Materials
- ✓ Recycled Content in Materials
- ✓ Recyclable Materials
- ✓ Modular and Flexible Design
- ✓ Construction Pollution Reduction
- ✓ LEED™ Certification

Other Environmental Issues

- Site Selection (N/A for BeltLine corridor)
- Certified Wood Products (N/A)
- Performance Monitoring

Related Metrics



* Prerequisites

- 2.1. Conduct a pre-design site assessment and explore opportunities for site sustainability*
- 2.2. Use an integrated site development process*
- 5.1. Eliminate the use of wood from threatened tree species*
- 5.3. Design for deconstruction and disassembly
- 5.4. Reuse salvaged materials and plants
- 5.5. Use recycled content materials
- 5.6. Use certified wood
- 5.7. Use regional materials
- 5.8. Use adhesives, sealants, paints and coatings with reduced VOC emissions
- 5.9. Support sustainable processes in plant production
- 5.10. Support sustainable practices in materials manufacturing
- 7.1. Control and retain construction pollutants*
- 7.4. Divert construction and demolition materials from disposal
- 7.5. Reuse or recycle vegetation, rocks and soil generated during
- 7.6. Minimize generation of greenhouse gas emissions and exposure to localized air pollutants during construction
- 9.1. Monitor performance of sustainable design practices



- GIB Prereq. 4. Construction Activity Pollution Prevention
- GIB Credit 6. Existing Building Reuse
- GIB Credit 7. Minimized Site Disturbance in Design and Construction
- GIB Credit 15. Recycled Content

Resources

NOTE: LIST IN PROGRESS

- EPA Life Cycle Analysis
- Georgia Stone Industries, Inc.

See Appendix for:

Guidelines

- Atlanta BeltLine Maintenance Guidelines
- Atlanta BeltLine Community Benefit Guiding Principles
- SSI Prerequisites 5.1, 7.1, and 7.2 and Credit 5.7

Research

- Key Sustainability Items.
- Beltline Technologies - Initial Options Matrices
- Sustainability Aspects of Concrete and Asphalt
- Asphalt and Reinforced Concrete Pavement – Key Points





ABI Guidelines for Green Operations & Maintenance

1. All operations and maintenance activities must comply with the Atlanta BeltLine Maintenance Guidelines

Integrated Sustainability

All typological elements within the BeltLine Corridor are selected for durability and ease of maintenance through life-cycle assessment. The typological design ensures ease of assembly, disassembly, repair and replacement. The plantings specified for the BeltLine are native, or native-adapted and require little or no maintenance.

The Atlanta BeltLine Maintenance Guidelines (see Appendix) specifies sustainable methods and protocols for soil / plant management, pest management, disease control, graffiti prevention / removal, cleaning and repair of walls, walkways and railings. (NOTE TO TEAM: Should we add solid waste management guidelines to this document?)

Reduction and recycling of waste is another critical component of sustainable operations. All organic waste generated from landscape maintenance must be composted at a local facility. Training of city employees responsible for maintenance of the BeltLine corridor is critical to ensuring the sustainability of operations.

Beyond the BeltLine corridor, streetscape upgrades within the BeltLine study area are recommended to include utility undergrounding and improved access to utility for future repairs and maintenance.



Environmental Issues Addressed

- ✓ Low Maintenance Materials and Design
- ✓ Sustainable Landscape Management
- ✓ Solid Waste Management
- ✓ Green Cleaning

Other Environmental Issues

- Green Procurement
- Low-Energy Maintenance Vehicles
- Workforce Training
- Performance Monitoring

Related Metrics



* Prerequisites

- 5.2. Maintain on-site structures, hardscape and landscape amenities
- 8.1. Plan for sustainable site maintenance*
- 8.2. Provide for storage and collection of recyclables*
- 8.3. Recycle organic matter generated during site operations and maintenance
- 9.1. Monitor performance of sustainable design practices



GIB Credit 16. Solid Waste Management

Resources

NOTE: LIST IN PROGRESS

- US Composting Council
- City of Atlanta, Parks and Maintenance Standards

See Appendix for:

Guidelines

- Atlanta BeltLine Maintenance Guidelines
- Atlanta BeltLine Community Benefit Guiding Principles

Research

- Sustainability Aspects of Concrete and Asphalt
- Asphalt and Reinforced Concrete Pavement – Key Points





ABI Guidelines for Community Health, Access & Equity

1. Design, implementation, and operation and maintenance of the Atlanta BeltLine must comply with the Atlanta BeltLine Community Benefit Guiding Principles to ensure equitable distribution of benefits.
2. Optimize interface between public and private spaces for unhindered access to parks and trails
3. Design for all ages and abilities to allow for a positive experience for all citizens
4. Remediate or contain environmental health hazards to minimize risk of future health effects

Integrated Sustainability

Community Engagement

Atlanta’s BeltLine, Inc. (ABI) has a community engagement framework that is designed to keep Atlanta residents informed and actively engaged in the BeltLine’s creation so that the BeltLine reflects the aspirations of its many neighborhoods and communities. The framework consists of:

- Tax Allocation District Advisory Committee (TADAC)
- BeltLine Affordable Housing Advisory Board (BAHAB)
- Community Representative on ABI Board of Directors
- ABI Community Engagement Advocate Office
- Atlanta BeltLine Quarterly Briefings
- Atlanta BeltLine Study Groups

Established by the Atlanta City Council as part of the Citizen Participation Framework, the Atlanta BeltLine Study Groups create a forum –open to all– where Atlantans can be engaged in the BeltLine process. The Study Groups have been instrumental in the preparation of the BeltLine Subarea Master Plans, which will be integrated into the city’s Comprehensive Development Plan and become part of future Five Year Work Plans¹.

Access & Equity

The ABI Community Benefit Guiding Principles (See Appendix) outlines requirements for the equitable distribution of community benefits throughout the BeltLine Tax-Allocation District.

The BeltLine trail and transit stations are ADA-compliant and are designed to ensure the safety of BeltLine users. Plazas and overlooks

¹ Atlanta BeltLine: Community Engagement Overview: <http://www.beltline.org/BeltLineBasics/CommunityEngagement/CommunityEngagementOverview/tabid/1829/Default.aspx>. See also: <http://www.beltline.org/ResourceLibrary/CommunityEngagement/tabid/1822/Default.aspx>

are provided, where possible, to provide views and social gathering spaces.

Community Health, Safety, and Well-being

The Atlanta BeltLine will improve Atlantans’ quality of life by providing walkable communities and opportunities for active recreation, as concluded in the Atlanta BeltLine Health Impact Assessment Study².

The BeltLine will create a linear park that connects 40 of Atlanta’s parks, including more than 1,200 acres of new greenspace and improvements to approximately 700 acres of existing greenspace. The thousands of trees planted for the BeltLine corridor will clean the air by removing dust, particulates and absorbing ozone, carbon monoxide, sulfur dioxide and other pollutants. They will provide shaded zones for passive and active recreation and encourage healthy activities such as walking.

The transit option will reduce auto dependence in the City of Atlanta, with potential health impacts due to increase walking and reduced air pollution. The streetscape upgrades for the BeltLine Subarea master plans will improve bike / pedestrian safety and accessibility, with potential improvements in community health.

The lighting of the BeltLine corridor will extend the use hours of the BeltLine park and transit spaces beyond daylight hours to maximize community benefits. The types and location of lighting fixtures are determined to ensure the safety and security of all BeltLine users from early morning joggers to late-night workers biking back home.

² Ross, Catherine L. 2007. “Atlanta BeltLine Health Impact Assessment”. Center for Quality Growth and Regional Development, Georgia Institute of Technology, p.99-108.



Environmental Issues Addressed

Health and Wellbeing

- ✓ New Transit and Bike Networks
- ✓ Walkable Communities
- ✓ Safety and Security
- ✓ Light and Noise Reduction
- ✓ Clean Air and Water
- ✓ Brownfields Remediation
- ✓ Place-making

Access

- ✓ ADA compatibility and Universal Design
- ✓ Access to Recreation and Parks
- ✓ Access to Alternative Transportation

Equity

- ✓ Community Outreach and Involvement
- ✓ Affordability and Mixed-Income Neighborhoods
- ✓ Environmental Justice
- ✓ Equitable Distribution of Community Benefits

Other Environmental Issues

- Urban Farming / Local Food Production (N/A)
- Access to Fresh Food (N/A)
- Performance Monitoring

Related Metrics



* Prerequisites

- 2.3. Engage Users and Other Stakeholders in Site Design
- 5.8. Use adhesives, sealants, paints and coatings with reduced VOC emissions (also in Green Design)
- 6.1. Promote equitable site development
- 6.2. Promote equitable site use
- 6.3. Promote sustainability awareness and education
- 6.4. Protect and maintain unique cultural and historic places
- 6.5. Provide for optimum site accessibility, safety and wayfinding
- 6.6. Provide opportunities for outdoor physical activity
- 6.7. Provide views of vegetation and quiet outdoor spaces for mental restoration
- 6.8. Provide outdoor spaces for social interaction
- 6.9. Reduce light pollution
- 8.6. Minimize exposure to environmental tobacco smoke
- 8.7. Minimize greenhouse gases and exposure to localized air pollutants during landscape maintenance activities
- 9.1 – Monitor performance of sustainable design practices



- SLL Credit 2. Brownfield Redevelopment
- SLL Credit 3. Reduced Auto Dependence
- SLL Credit 4. Bike Network and Storage
- SLL Credit 5. Housing / Jobs Proximity
- NPD Prereq. 1. Walkable Streets
- NPD Credit 9. Access to civic and public facilities
- NPD Credit 10. Access to recreational facilities
- NPD Credit 11. Visibility and Universal Design
- NPD Credit 12. Community Outreach and Involvement
- NPD Credit 13. Local Food Production
- GIB Credit 17. Light Pollution Reduction

Resources

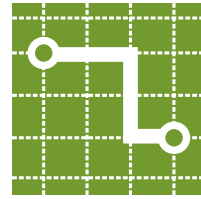
- Project for Public Spaces
<http://www.pps.org>
- United States Access Board
<http://www.access-board.gov/>
- Institute for Human Centered Design
<http://www.adaptenv.org/>
- Centers for Disease Control and Prevention - CDC Healthy Community Design
<http://www.cdc.gov/healthyplaces/>
- Healthy Kids, Healthy Communities, Robert Wood Johnson Foundation (RWJF)
<http://www.healthykidshealthycommunities.org/>
- Environmental Justice Resource Center, Clark Atlanta University
<http://www.ejrc.cau.edu/>

See Appendix for:

Guidelines

- Atlanta BeltLine Maintenance Guidelines
- Atlanta BeltLine Community Benefit Guiding Principles





ABI Guidelines for Connectivity & Smart Growth

1. Enhance connectivity for pedestrians and cyclists using best practices in Complete Streets design.
2. Optimize interface between public and private spaces for unhindered

Integrated Sustainability

The BeltLine encourages transit-oriented, compact development, adaptive reuse and urban infill along the entire corridor and improves connectivity between intown neighborhoods. Catalyzing new development in formerly abandoned, empty or industrial lands with access to transit, the BeltLine will counter sprawl in the Atlanta metropolitan area.

The hardscape typologies include specifications for spurs, ramps and stairs that allow the BeltLine to connect, where possible, to existing pedestrian and bike networks, transit nodes and the city street network. Mixed-use development that engages the corridor with retail access is encouraged.



Environmental Issues Addressed

- ✓ Transit-Oriented Development
- ✓ Brownfields and Grayfields Redevelopment
- ✓ Mixed-Use and Mixed-Income Communities
- ✓ Adaptive Reuse
- ✓ Transit Option

Other Environmental Issues

- Street Connectivity

Related Metrics



* Prerequisites

- 1.5 Select brownfields or greyfields for redevelopment
- 1.6 Select sites within existing communities
- 1.7 Select sites that encourage non-motorized transportation and use of public transit
- 9.1 Monitor performance of sustainable design practices



- SLL Prereq. 1. Smart location
- SLL Credit 3. Reduced auto dependence
- NPD Prereq. 2. Compact development
- NPD Prereq. 3. Connected and open community
- NPD Credit 3. Mixed use neighborhood centers
- NPD Credit 4. Mixed-income communities
- NPD Credit 5. Reducing parking footprint
- NPD Credit 6. Street network
- NPD Credit 7. Transit facilities
- GIB Credit 6. Historic Resource Preservation and Adaptive Reuse

Resources

- Connect Atlanta Plan
<http://www.connectatlantaplan.com/>
- Atlanta BeltLine Subarea Master Plans
<http://www.beltline.org/ResourceLibrary/Planning/tabid/1824/Default.aspx>
- National Complete Streets Coalition
<http://completestreets.org/>
- Urban Throughfares Manual
<http://www.cnu.org/streets>
- Smart Growth America
<http://www.smartgrowthamerica.org/>
- Center for Transit-Oriented Development, Reconnecting America
<http://www.reconnectingamerica.org/public/tod>
- Mixed-Income Transit-Oriented Development Action Guide
<http://www.mitod.org/>

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