

Climate

Community Input by Formal Submission Ideas and Recommendations for Moving Forward

The following information is a collection of formally submitted recommendations to the District Department of the Environment and the Office of Planning by local organizations. The information was reviewed and pertinent comments, suggestions and ideas for the climate working group are included in this document. Much effort by concerned citizens went into the creation of those documents and a lot of relevant material has been compiled. Please review these ideas and concerns to enhance participation in the working group process.

1. Becoming Greenest

Recommendations for a More Sustainable Washington, D.C.

Submitted by the American Society of Landscape Architects

Climate Change Mitigation

Kathryn Gustafon, ASLA, a leading landscape architect, makes an eloquent argument for investing in urban park land, arguing that parks are crucial to making dense urban communities more livable: “Urban sprawl is linked with the energy crisis. Sustainability means trying to live in harmony with the planet. This isn’t possible if we don’t densify our cities to stop urban sprawl. The only way to densify a city is to have urban space. One of the reasons people move out to the suburbs is to have some sort of space, some sort of breathing room. The interior spaces of landscape in the city can replace that. They’re there to enable healthy living. Urban spaces allow you to take out your children, walk your dog, or exercise. Parks provide a place to just stop and rest for a moment, stop and think about where you’re going and what you’re doing. Those are the roles of urban space in the city.” Similarly, **David Owen** writes in *Green Metropolis* that New York City, which he argues is the greenest city in the U.S. on a per-capita basis, has successfully used its major parks, to create dense, low-carbon communities.

Washington, D.C., should continue to encourage densification by expanding urban park land through urban redevelopment. New redevelopment and brownfield reclamation projects within the District should be required to include public green spaces.

Transportation infrastructure accounts for 20–40 percent of all urban land. Even in Washington, D.C., which has invested in a range of sustainable transportation options, streets, intersections, and alleys account for 22 percent of all land, and once you include parking spaces, that number easily reaches 30 percent. These systems have also enabled the growth of transportation-related GHGs, which now account for 30 percent of all U.S. emissions.

A study by the National Resources Defense Council (NRDC) found that if all conditions that accompany densely populated communities were present, such as good transit, proximity to shopping, and recreational activities and a walkable environment, families in that community could reduce vehicle use by 25-30 percent. As a result, comprehensive transportation planning must incorporate community-focused accessibility strategies. Walkable and bikeable communities inspire residents to leave their cars at home.

D.C. should undertake a program targeted at reducing car use by making bicycle and pedestrian access even better. The District should systematically survey and address barriers to walkability (narrow sidewalks, difficult crosswalks, and dangerous intersections) across the city through redesign programs. D.C. should significantly expand its network of bicycle infrastructure and further grow its successful bike share program.

New York, San Francisco, and other cities have pioneered programs to transform streets and parking spaces into open pedestrian plaza. New York City just turned parts of Broadway into permanent pedestrian-only spaces. Also, in a new program, the city is finding old parking lots and other under-used areas in communities with low per capita open space and turning them into plazas.

On the smaller scale, parklets are safe, people-friendly environments that offer inviting café-style chairs and tables, benches, and trees and plants. These spaces, which can be created for less than \$20,000, encourage people to get out of their cars, walk, and interact, which helps build the local economy. In San Francisco, one new parklet increased pedestrian foot traffic by 37 percent.

Like innovative cities such as Vancouver, San Francisco, and New York, Washington, D.C., should implement a set of temporary or permanent pedestrian-only spaces where transportation infrastructure exists. A set of parklet pilot projects could be also initiated. Possible locations for pedestrian-only zones and parklets: Georgetown, Adam’s Morgan, Dupont Circle, or Chinatown.

Isolated underpasses, which are often spaces for crime, are found directly below highways. As some cities know, underpasses are diamonds in the rough, ripe for polishing. For example, the **city of Toronto is reusing one of its highway underpasses** to create a 2.5-acre park, connecting neighborhoods and creating valuable green space in the process.

Washington, D.C., is also filled with foreboding underpasses. Many neighborhoods without parks could explore transforming underpasses into park space.

Climate Change Adaptation:

Regardless of how extensive climate change mitigation efforts are in the near future, many climate experts argue that some degree of adaptation to climate change is required in order to handle the worst anticipated effects. Human and natural systems must become more resilient to expected changes. In fact, the smartest communities are using the threat of climate change to invest in long-term environmental, economic, and social sustainability while protecting their infrastructural assets and housing stock.

With expected temperature increases along with more temperature fluctuations, Washington, D.C., like many other cities in the U.S. and Europe can pre-emptively adapt by adding additional street and park trees to moderate air temperatures. Washington, D.C., leadership should evaluate whether **its goal of 40 percent tree canopy by 2035** will be sufficient to achieve the required adaptation benefits.

According to the **U.S. EPA**, trees provide evaporative cooling through their leaves, which increases air humidity. Shaded surfaces can be 20–45 degrees cooler, and evapotranspiration can reduce peak summer temperatures by 2–9 degrees. Cooler air is important because many urban air quality issues are only further exacerbated by higher air temperatures.

Washington, D.C., should pre-emptively adapt by adding more shade trees to streets and parks, particularly in neighborhoods with vulnerable populations.

Furthermore, a **green roof project organized by Columbia University and New York power company Con Edison** adds to a growing body of research that demonstrates green roofs reduce the urban heat island effect. Using Con Edison’s training center in Long Island City, Queens, the researchers found that a layer of roof-friendly soils and plants reduce the rate of heat absorption by 84 percent in the summer. In addition, a study cited by **The Guardian (UK)** noted that even simple efforts such as painting roofs white, or even light grey can have significant positive impacts. “Computer simulations of Los Angeles show that resurfacing about two-thirds of roads and rooftops with reflective surfaces, as well as planting more trees, could cool the city by 2–3C.” Cooler cities also mean less energy use for air conditioning.

D.C. should follow Toronto’s lead and mandate the use of green roofs in all new buildings. To address older structures, the District can follow Philadelphia’s approach and introduce a stormwater runoff fine, which will incentivize the use of green roofs, bioswales, and permeable pavements — systems that not only cool but also store stormwater. The city can also incentivize the use of green roofs in older buildings by providing tax breaks for feasibility studies and other preliminary design assessment costs. Lastly, white roofs can also be incentivized, if combined with green roof systems, or if the building structure can’t handle a green roof.

Kristina Hill, Ph.D., Affiliate ASLA, chair of the landscape architecture department at the University of Virginia, and a **leading thinker on wildlife and climate change adaptation**, argues that communities must begin to think seriously about the impacts of climate change on local plant and animal species, outlining some expected impacts on ecosystems:

“If species characteristic of a region start to die out, will species that could survive the new seasonal conditions be able to get there, find suitable locations, and successfully reproduce before they die out in their own regions? When will the species that are their food be available locally? When will new predators, parasites, and competitors also move in? It’s a very complicated four-dimensional chess game. That’s why no one can really predict which species will survive where.”

Washington, D.C., can use its parks and man-made landscapes to contribute to the overall ability of the region to sustain plant and animal species by focusing on preserving cooler zones. Hill explains one strategy being developed: “The potential new spatial strategy in all this involves conserving slopes with northern aspects, linking them to each other via waterways and ridges. These slopes can be potential refuges for biodiversity in an era of increasing temperature spikes and drought events. Like the cove forests of Appalachia, these cooler, protected areas will be places where the species that have been characteristic of many regions may persist as climate change occurs — making them key elements of future habitat diversity and possibly trait diversity.”

2. Sustainability Recommendations Submitted by DC Sierra Club

ACTION ITEM	PURPOSE	RESPONSIBILITY
(1) Educate people on the personal cost to them and the benefit of their taking action.	Education on adaptation and mitigation issues.	Mayor, DDOE
(2) Step up DC's program to install rain barrels in homes to reduce stormwater pollution runoff.	Mitigation of increased storm surges expected from climate change.	DC Water, DDOE.
(3) Develop portfolio of land-use regulations and incentives to relocate floodplain businesses and homes (e.g., as per Georgetown Climate Center models).	Prevention/mitigation of property damage, insurance collapse, and litigation possible from climate change's increased storm surges and Chesapeake tidal rise.	City Council, Chief Financial Officer, Office of Planning.
(4) Increase and maintain tree canopy.	Micro cooling effect; water retention during droughts or storm surges.	DDOE, Casey Trees

3. Natural Systems and Climate Adaptation in DC's Sustainability Plan Submitted by National Wildlife Federation

(Selected items relevant for review by the climate working group)

Sustainability Plan Recommendations

General Wildlife components that could be considered in the DC Sustainability Plan

- DC Wildlife action plan
 - Update the current plan with a "climate smart" approach
- Describe the ability of different habitats to attract certain birds/butterflies
 - Incorporate climate change data into the development of habitats- how can habitats be designed to accommodate the movement of species and to provide habitat for species that may inhabit DC in the future (due to climate change)?

4. Sustainable DC Submitted by **Just Economics**

(Selected items relevant for review by the climate working group)

There are economic incentives that discourage sustainability. These “upside-down” incentives can be turned “right-side-up” so that they encourage sustainability. Here is an example:

Clean Air Compliance Fee Act. Collects a fee from commuters who park for free and who do not pay the existing DC parking sales & use tax. DC enacted this legislation in the 1990s but Congress repealed it as part of the financial bailout. DC Government was not in a position to oppose this action. DC is in a better position to fight for this legislation today.

5. UDC Ward 3 Input Submitted by the **University of the District of Columbia**

(Only items relevant for review by the climate working group are listed)

On 28 September, UDC held a meeting as part of ‘Start in September’ under Mayor Gray’s [Sustainable DC](#) initiative. Office of Planning staff, UDC staff, and concerned citizens gathered to discuss ideas about the attributes of a sustainable city in an effort to break down high-level concepts and bring them into our local context.

This open discussion at UDC allowed participants to share their own visions and aspirations for the city and gave them an opportunity to listen to other residents with different perspectives. In small tables of 4-5 people, we discussed three guiding questions:

- 1) What are the attributes of a sustainable city?
- 2) How does DC measure up to that vision of a sustainable city?
- 3) How can we engage and energize the whole city around this sustainability plan?

Question 1: What are the attributes of a sustainable city?

- The city is in sync with natural systems and all resources are valued.
- Climate, energy, and water are protected
- People are connected to nature
- People are weaned off of fossil fuel for transport

Question 2: How does DC measure up to that vision of a sustainable city?

Strengths

- Lots of bikes/participation in bike-share program
- Local farm produce/farmers markets
- Grassroots action - more and more NGOs and businesses are involved in sustainability
- We promote green buildings
- We have public transit and we are trying to improve it

Weaknesses

- Low equity in access to transport/still difficult to rely solely on public transport to get around
- DC has worse than national carbon emissions and energy used is dirty/Built environment is below average for energy use.
- Traffic problems
- City systems are not in sync with natural systems

From the conversation came the following suggestions for building on our strengths and addressing our weaknesses:

Local Goals –

- Zero net energy for buildings
- Closed loop design
- Green and modern building codes
- Reduced/renewable energy for transit
- Fewer cars on the road
- Better, more reliable transit options
- 75% waste diversion/recycling
- Healthy tree canopy in all areas
- Cooperation and leadership from city and regional government around sustainability
- Fiscal cooperation/funding for sustainability efforts
- Tax base supports these efforts
- Systems perspective is incorporated in planning efforts

Potential Action –

- Build combined heat and power generation systems/district energy/recycled heat
- Change energy sources from dirty to clean
- Reevaluate building codes
- Install more green roofs/require green roofs on all city
- Transition all city vehicle fleets to clean power
- Cordon off car-free pedestrian zone downtown
- Start lateral bus routes
- Provide more express buses
- Make dedicated bus lanes
- Experiment with new bus routes

- Experiment with new bus routes
- Make more bike lanes
- Increase bike education and awareness
- Increase energy awareness
- Include sustainability in public education
- Make sure leadership is invested in sustainability and willing to innovate/take risks
- Require leaders' presence in sustainability discussions
- Mandate an internal sustainability impact assessment for all government agencies
- Prepare natural disaster response plans that are in line with sustainability goals

Question 3: How can we engage and energize the whole city around this sustainability plan?

Social Media Strategy

- Twitter meetings – Q&A between city officials and Tweepers
- Tweet ups
- Sustainable DC Foursquare Badge

Collect ideas outside of meetings

- Collect ideas on napkins, used envelopes, things with blank surface areas
- Suggestion boxes for sustainable DC at local businesses
- Collect ideas via text

Mobile meetings

- Bike rides
- Experimental circulator bus routes

Paid/incentivized participation

- Give rebate for bottle recycling (5-10 cents)
- Make it FUN
- iPod giveaway at planning meetings
- Take the money we would have used to hire a consultant and instead pay businesses directly to participate.

Go to existing meetings and groups

- Churches/Religious networks/GWIPL/Creation Care
- ANC meetings – Mobilize the ANCs
- Boy Scouts/Girl Scouts
- Unions

- Rotary Club
- Lions Club
- Business orgs like AOBA
- Parents at playgrounds on Saturday mornings

Go to existing events

- Local sports venues
- Music/concerts
- Comedy shows

Get schools engaged

- Universities
- Clubs (UDC Sustainability Club, UDC Garden Club)
- Put in school curriculum /better education on environmental issues

Showcase and encourage good examples

- Create competitions between schools
- Incentivize local business participation by holding competitions, giving awards for green practices
- Competitions between employees of small/large firms
- Action is motivating – bring the results of your own actions to the next meeting to share back with the group
- Shame bad behavior
- Lead by example, especially for city leadership

Reach all community members

- Have meetings whenever it makes sense in your community. Don't rush it based on this planning process.
- Switch target demographic and recognize that kids are change agents
- Reach pockets, but also have a central place to bring ideas back together/find out about new events
- Everybody must bring 2 new people to next meeting – if we keep doing this, we'll eventually reach a critical mass