



TLG and LMC 2016 Case Study Application
Future Ready Communities



DUE: September 4, 2015

Email to: Ryan Spillers at rspillers@transformgov.org

COVER PAGE

1. Case Study Title: Bionomic Educational Training Center (BETC)
2. Case Study Category (Select only one, selection identified by highlighting your choice):

Planning for Your Future

Creating an Inclusive Community

Reinventing Local Government

Community Networks

Blinders

3. Jurisdiction Name: Durham County
4. Jurisdiction Population (US Census): 294,000
5. Would you like the application to be considered for our Rapid Fire Session? (Rapid Fire presentations are fast-paced, entertaining, interactive presentations. Each jurisdiction will have five minutes to make their presentations using 15 PPT slides set on auto-forward primarily containing photos/graphics. Participants will be seated at round tables to facilitate an energetic idea exchange. A cash bar will be available.)

YES

NO

6. Project Leader (Primary Contact for case study notification):
Name: Michael Dupree
Title: Agribusiness & Environmental Services Manage
Department: Soil & Water
Phone Number: 919-560-0558
eMail: mdupree@dconc.gov
US Mail Address, including zip code: 721 Foster St. Durham 277
Twitter Account:

List additional presenters contact information below:

N/A

1. Presentation title and description of the innovation. *100 word maximum.*

BETC is a workforce development training program for youth that addresses water quality via stormwater retrofit design and implementation. The Title-I school selected has an Occupational Course of Study (OCS), which trains socially and economically disadvantaged youth. Youth are educated about urban-containment sources and Best Management Practices (BMPs) to improve water quality, providing opportunities to obtain livable wages for a population that

usually only qualifies for low-paying jobs. Outcomes include: educating youth for green-infrastructure careers that are increasingly in demand; establishing a successful agribusiness; improving disadvantaged students' self-esteem; and implementing a Stormwater Bioretention Area and Water Reuse Pond, saving tens of thousands of dollars in conserved water while reducing nutrients entering the Falls-Lake reservoir.

2. When and how was the program, policy or initiative originally conceived in your jurisdiction? *100 word maximum.*

Conceived in 2009 by local business owners and educators seeking to produce dependable job-ready applicants for Green Industry and improve secondary-school science education, BETC was implemented in 2010 by the Durham SWCD.

3. How exactly is the program or policy innovative? How has your innovation changed previous processes, products or services? *100 word maximum.*

BETC introduces new technology and provides school faculty with pertinent curriculum and experiential learning opportunities for their students, including data-collection and scientific methodology, while demonstrating the relevance of classroom science and math instruction to teachers and students.

Students become spokespersons for community efforts to improve their waterways, which empowers them as leaders, broadens their future job opportunities, and changes their socio-economic status. They develop a strong sense of community pride and accountability; respect for relationships between ecosystems and Bionomics and individuals; and desire to be good upstream stewards of natural resources.

4. Explain how the program or initiative substantially stretched or improved the boundaries of ordinary governmental operations. *200 word maximum.*

The students have become the messengers of environmental stewardship, amplifying efforts of county staff and improving outcomes for waterways and taxpayers. BETC has strengthened relationships and ensured future collaborations between the SWCD, schools and communities; has demonstrated to teachers and administrators the feasibility and value of experiential instruction; and has enabled otherwise classroom-restricted students to be outside and active, setting an example for other schools.

5. What individuals or groups are considered the primary initiators of your program? How does the innovation engage stakeholders or demonstrate high performance teaming? Were strategic partnerships and/or community networks developed as a result of the innovation? *200 word maximum.*

BETC installs retrofits to existing development, improving Durham streams' water quality. North Carolina addresses urban runoff by mandating nutrient reduction to improve two reservoirs downstream, financially burdening Durham government and landowners. BETC involves real collaboration between government, schools and the community to reduce this financial burden while empowering and educating youth for green-infrastructure careers.

The program has received support from city, county and local Board of Education officials as an innovative way to increase collaboration between elected officials while addressing multiple problems within the community.

6. If a private consultant was used please describe their involvement, identify the consultant and/or firm and provide contact information. *100 word maximum.*

N/A

7. To what extent do you believe your program or policy initiative is potentially replicable within other jurisdictions and why? To your knowledge, have any other jurisdictions or organizations established programs or implemented policies modeled specifically on this project? Please provide verification of the replication. *200 word maximum.*

Urban pollutants and economically disadvantaged youth are ubiquitous problems, and BETC can be implemented in any municipality or school system. The necessities to train students for jobs of the future and to mitigate urban runoff are likely to increase in every municipality as populations increase. BETC engages the community via the public school system to address these two significant problems while increasing public commitment to sustainability.

8. What were the costs? What were the savings? *100 word maximum.*

The SWCD adopted the concept in 2009, adding it to the strategy plan in 2010. Donations came first from the North Carolina Farm Bureau, Keep Durham Beautiful, a local non-profit and a local nursery; in 2012, from the National Institute for Agriculture (\$30,714 to expand the educational program and install technology upgrades; and in 2014, from two state grants (\$500,000 to complete the stormwater project).

In the summer of 2015 the city, county and BOE funded a summer pilot program that employed three teachers and nine students for six week at a cost of \$27,000. For six weeks students worked in the community on 27 school campuses to install and maintain trees as part of a sustainability initiative, Trees Across Durham

9. Please describe the most significant obstacle(s) encountered thus far by your program. How have they been dealt with? Which ones remain? *200 word maximum.*

Funding was the greatest obstacle. Grant-providing organizations are often narrow in focus and funding, and state funding for stormwater retrofits is shrinking. Projects that integrate multiple objectives are often seen as too diverse. School systems are also hesitant to embrace broad integration of new curricula, despite interdisciplinary (math and science) provisions for inquiry-based research, experiential learning, and entrepreneurial training.

10. What outcomes did this program or policy have? What baseline data did you collect? How did you measure the change based on the intervention, and why do you believe in the credibility of this assessment? *200 word maximum.*

Since 2010, BETC partners include multiple nonprofits and local businesses. BETC is interdisciplinary and accomplishes objectives in four of five county strategic-plan initiatives. Goal 1, Community and Family Prosperity and Enrichment: BETC provides educational, vocational, economic and cultural opportunities, empowers citizens to select strategies that improve quality of life; provides instructional support for educational opportunities that ensure high academic achievement and facilitates development of a skilled workforce aligned with current and future business needs. Goal 2, Safe and Secure Community: BETC improves outcomes for vulnerable youth, improving employment opportunities. Goal 4, Environmental Stewardship: BETC improves water quality and changes behaviors to further improvement. Goal 5, Accountable, Efficient and Visionary Government: BETC strengthens leadership and fosters informed public

engagement through collaboration, innovation, and harnessing community resources, expertise and intellectual capital. BETC has increased collaboration between government departments, local businesses and nonprofits, building trust in the process. Learning from BETC, elected officials are developing incentive mechanisms for future green infrastructure projects, while financially assisting and educating vulnerable and underserved populations. Horticultural and environmental stewardship projects have already spun off of BETC, including installations of rain, butterfly, vegetable and fruit gardens and cisterns and other BMPs at Durham elementary and middle schools.

11. Has the program received any press or other media coverage to date? If yes, please list the sources and briefly describe relevant coverage. *100 word maximum.*

Local sources include articles in The Herald Sun & The News and Observer, Durham section, including but not limited to the following web links:

<http://www.heraldsun.com/durhamherald/x1686449103/Southern-High-School-Makes-a-Difference-with-BETC>

http://melissarooneywriting.com/DN_Articles/DN_5Jun2011.pdf

http://melissarooneywriting.com/DN_Articles/DN_Jan2011_2.pdf

12. Please provide web links where the innovation can be seen/tested (in the case of something that is web-based) *100 word maximum.*

Southern School of Energy and Sustainability

<http://ssesagribusiness.weebly.com/>

13. Please provide any key references and their contact information who can be interviewed/called to discuss the innovation and its impact. *100 word maximum.*

Wendy Jacobs, County Commissioner, 4308 Rivermont Rd, Durham, NC 27712 Phone: (919) 401-3538

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Minnie Forte Brown, Vice Chair of the Durham Board of Education, 1612 Merrick Street Durham, NC 27701, Phone: 919-452-2177

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Hugh Osteen, Deputy Superintendent of Operational Services, 1612 Merrick Street Durham, NC 27701, Phone: 919-560-3831

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Kenneth Barnes, Durham Public Schools, Executive Director of Maintenance Operations & former Principal of Southern High School of Energy & Sustainability, 1817 Hamlin Road Durham, NC 27704, Phone: 919-560-3827

Kenneth.Barnes@dpsnc.net

14. You've been to a lot of conferences. TLG should be a unique experience for everyone. Describe how your case study presentation will be different than other conference presentations. *200 word maximum.*

- How will you make the session creative and unique?
- How do you plan to be both entertaining and educational?

- Include a description of how your session will facilitate group activities and/or interaction.

The BETC program is an example of a dynamic program that was created by educators, businesses and elected officials who wanted to solve multiple problems and create new ways to involve the community.

The program is grass roots and starts by teaching the most under served in the community new skills that reinforce their education and help them become environmental stewards. These students then become the ambassadors for environmental stewardship within the community and fill the growing niche of installing green infrastructure.

Members will be energized and excited about new ways to go back to their community and build new relationships, create jobs for under served while improving education and the environment.

15. Anything else you would like to add? *200 word maximum.*

BETC has increased collaboration between government departments, local businesses and nonprofits, building trust in the process. Learning from BETC, elected officials are developing incentive mechanisms for future green infrastructure projects, while financially assisting and educating vulnerable and underserved populations. Horticultural and environmental stewardship projects have already spun off of BETC, including installations of rain, butterfly, vegetable and fruit gardens and cisterns and other BMPs at Durham elementary and middle schools. Many of these low-income students have rarely, if ever, put their hands in soil, and most have never gardened in any way. The joy they receive in learning how to sustain the environment as well as themselves and their families is reason alone to continue this program and extend it wherever possible. The fact that they get exposure to sunlight and the outdoors and are physically active during school hours are significant fringe-benefits, particularly given society's increasing concern with current students' general lack of physical activity, obesity, and lack of exposure to nature and the outdoors (including sunlight and Vitamin-D deficiencies).