



# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Meeting Agenda Board of Aldermen



---

Tuesday, January 24, 2017

7:30 PM

Board Chambers - Room 110

---

### 7:30-7:40

#### A. RESOLUTIONS, PROCLAMATIONS, AND ACKNOWLEDGEMENTS

1. [17-015](#) Town of Carrboro Awarded GFOA's Distinguished Budget Presentation Award  
**PURPOSE:** The purpose of this item is to acknowledge the Finance Department for being awarded the Government Finance Officers Association's (GFOA) Distinguished Budget Presentation Award.

### 7:40-7:45

#### B. ANNOUNCEMENT OF UPCOMING MEETINGS

### 7:45-7:50

#### C. CONSENT AGENDA

1. [17-012](#) Approval of Previous Meeting Minutes of January 10, 2017
2. [16-350](#) Community Climate Action Plan  
**PURPOSE:** The purpose of this agenda item is for the Board of Alderman to accept the Community Climate Action Plan.  
**Attachments:** [Attachment A - Resolution to AcceptCommunityClimateActionPlan-01242017](#)  
[CommunityClimateActionPlan 012417](#)

#### D. OTHER MATTERS

### 7:50-8:15

1. [17-010](#) Presentation of the 2016 Town of Carrboro Biennial Citizen Survey Report

**PURPOSE:** The purpose of this item is for the Board receive the report from the Town of Carrboro's 2016 Biennial Citizen Survey.

**Attachments:** [Carrboro 2016 Biennial Survey Report Final \(2\).pdf](#)

**8:15-8:40**

2. [17-011](#) Public Hearing for Community Input on Town Budget for Upcoming FY 2017-18

**PURPOSE:** This is a public hearing to receive comments from the public regarding the upcoming budget for the Town beginning July 1, 2016.

**Attachments:** [7-Year Revenue and Expense History](#)

**8:40-9:15**

3. [17-014](#) An Update of Economic Development Activities in Carrboro  
**PURPOSE:** The purpose of the agenda item is to give the Board an overview of the various projects, programs and activities that support the economic vitality of the Town.

**Attachments:** [Economic Development Report 2017](#)

**E. MATTERS BY BOARD MEMBERS**

**F. MATTERS BY TOWN MANAGER**

**G. MATTERS BY TOWN ATTORNEY**

**H. MATTERS BY TOWN CLERK**



# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Agenda Item Abstract

**File Number:**17-015

---

**Agenda Date:** 1/24/2017

**File Type:**Agendas

**In Control:** Board of Aldermen

**Version:** 1

---

### **TITLE:**

Town of Carrboro Awarded GFOA's Distinguished Budget Presentation Award

**PURPOSE:** The purpose of this item is to acknowledge the Finance Department for being awarded the Government Finance Officers Association's (GFOA) Distinguished Budget Presentation Award.

**DEPARTMENT:** Town Manager's Office

**CONTACT INFORMATION:** David Andrews 919-918-7315

**INFORMATION:** For the 14<sup>th</sup> time, the Town of Carrboro has received GFOA's Distinguished Budget Presentation Award. The award represents a significant achievement and reflects commitment of the governing body and staff to meeting the highest principles of governmental budgeting. To receive the award budget documents must be rated "proficient" in the categories of a policy document, a financial plan, an operations guide, and a communications device as well as the fourteen mandatory criteria within those categories.

The Finance Department's efforts have helped improve the quality of budgeting and provide an excellent example for other governments throughout North America.

Of the approximately 740 towns and cities in North Carolina, 56 earned this award for budgets beginning in 2015. Throughout the US and Canada, 1,565 participants received the Distinguished Budget Presentation Award.

**FISCAL & STAFF IMPACT:** N/A

**RECOMMENDATION:** The Manager recommends that the Board of Aldermen join in congratulating the Finance Department on their tremendous work and dedication to the Town for receiving this award.



# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Agenda Item Abstract

**File Number:**17-012

---

**Agenda Date:** 1/24/2017

**File Type:**Agendas

**In Control:** Board of Aldermen

**Version:** 1

---

Approval of Previous Meeting Minutes of January 10, 2017



# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Agenda Item Abstract

**File Number:**16-350

---

**Agenda Date:** 1/24/2017

**File Type:**Agendas

**In Control:** Board of Aldermen

**Version:** 1

---

### **TITLE:**

Community Climate Action Plan

**PURPOSE:** The purpose of this agenda item is for the Board of Alderman to accept the Community Climate Action Plan.

**DEPARTMENT:** Planning

**CONTACT INFORMATION:** Patricia McGuire, 919 918-7327; Randy Dodd 919 918-7326; Christina Moon 919 918-7325

**INFORMATION:** At the June 21, 2016 meeting, the Board of Aldermen directed staff to finalize the draft Community Climate Action Plan incorporating Board comments, plant-based diet information submitted as part of public input, and all other edits received during the public input process. The Board also directed staff to meet with the Task Force to review these final edits; this meeting took place on November 7, 2016.

An agenda item was prepared for the Board to receive the Community Climate Action Plan at its November 15, 2016 meeting, which identified the edits made to the plan and included a memorandum outlining the benefits of the plan and timing considerations for its implementation. Due to the full agenda on the November 15<sup>th</sup> meeting and the interest of some Board members to have additional time to review some of the edits, the Board requested that the item be brought back to a meeting in January 2017 for final consideration. The attached Community Climate Action Plan document incorporates all of the requested edits to date, including Transportation Recommendation #6: Improve Bicycle and Pedestrian Infrastructure.

**FISCAL & STAFF IMPACT:** There are no costs associated with accepting the plan. There will be a fiscal and staff impact with plan implementation. The extent of the impact will depend on prioritization of the recommendations outlined in plan and implementation details yet to be determined. Additional study will be needed to consider potential funding sources and determine potential impacts on the tax rate.

**RECOMMENDATION:** A resolution has been provided (Attachment A) for the Board of Aldermen to accept the plan.

**A RESOLUTION ACCEPTING THE COMMUNITY CLIMATE ACTION PLAN**

WHEREAS, a temporary Energy and Climate Action Task Force was formed in 2014 to present community climate action planning recommendations; and

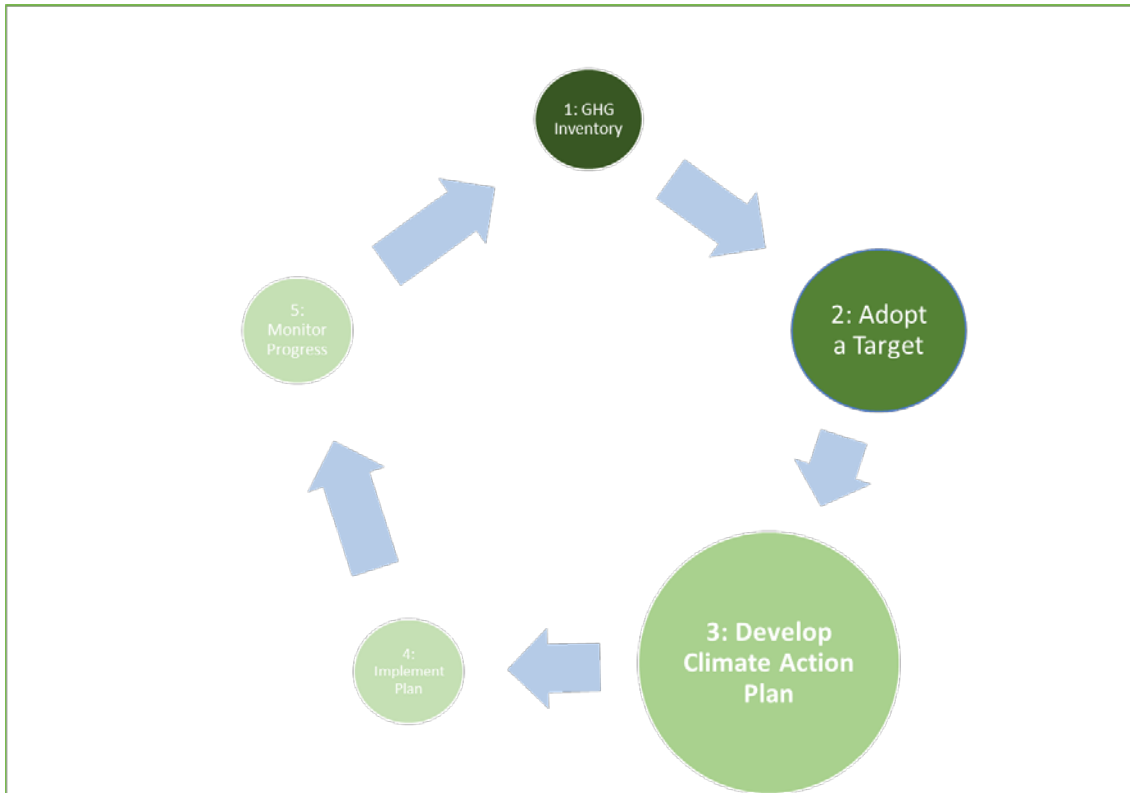
WHEREAS, a Public Hearing to receive input on a draft plan was held on April 26, 2016, and additional outreach and follow up actions have been pursued.

NOW THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the Board accepts the Community Climate Action Plan.

This the 24<sup>th</sup> day of January in the year 2017.

# Community Climate Action Plan

**Reducing Greenhouse Gas Emissions, Saving Energy,  
Generating Renewable Energy, and Enhancing Ecosystems**



## **Town of Carrboro, North Carolina**

**January 18, 2017**

### **BOARD OF ALDERMEN**

**LYDIA LAVELLE, MAYOR  
BETHANY CHANEY  
JACQUELYN GIST  
RANDEE HAVEN-O'DONNELL**

**MICHELLE JOHNSON  
DAMON SEILS  
SAMMY SLADE**

**With support from the Carrboro Energy and Climate Action Task Force:**

**Carolyn Buckner, Jeff Herrick, Kathy Kaufman, Jeanette O'Connor, Rob Pinder**

## **Acknowledgments**

The Carrboro Planning Board, Environmental Advisory Board, and Transportation Advisory Board for sponsoring the Fall Forum series on Energy and Climate Action held at the Carrboro ArtsCenter in 2014 and their review of a draft of this plan.

The Carrboro Board of Aldermen for adopting a proactive climate protection resolution, and feedback on a draft of this plan.

Those who have worked to develop and support previous greenhouse house gas inventories for Carrboro and Orange County.

The many people and organizations in the community involved in climate action work.

Lindsay Paydon and Katherine Kershaw for input into drafting of food/dietary related recommendations.



## Table of Contents

Executive Summary.....	1
Introduction .....	2
Beyond Doom and Gloom.....	3
The Cities for Climate Protection Campaign and the Five Milestone Process.....	4
The Greenhouse Gas Emissions Inventory.....	5
Establishing Emissions Reductions Goals.....	5
The Local Climate Action Plan.....	7
Community Integration.....	8
Community Integration Recommendation #1: Create Grass Roots Partnerships to Engage Community .....	10
Community Integration Recommendation #2: Expand Public Partnerships to More Explicitly Consider Climate Action.....	11
Community Integration Recommendation #3: Create Green Neighborhood Program .....	13
Community Integration Recommendation #4: Integrate Climate Action with Local Living Economy ...	15
Community Integration Recommendation #5: Expand Capacity.....	16
Community Integration Recommendation #6: Facilitate Low Cost Financing for Energy Efficiency and Renewable Energy Projects .....	16
Community Integration Recommendation #7: Integrate Climate Action and Social/Equity Initiatives .	18
Building Energy Efficiency Measures .....	19
Buildings Recommendation #1: 50% Challenge.....	21
Buildings Recommendation #2: Energy Audit/Performance Rating.....	23
Buildings Recommendation #3: Demonstrate/Pursue Energy Performance Beyond Minimum Requirements for New Development.....	24
Buildings Recommendation #4: Create Rental Property Task Force and Process.....	25
Buildings Recommendation #5: Create Rental Property Registry/Certification.....	26
Transportation Measures .....	27
Transportation Recommendation #1: 50% Challenge .....	28
Transportation Recommendation #2: Enhance Transit Service .....	29
Transportation Recommendation #3: Improve Vanpool/Carpool Options.....	30
Transportation Recommendation #4: Further Promote Walking, Biking, Transit.....	30
Transportation Recommendation #5: Limit Idling in School Loading Zones .....	32

Transportation Recommendation #6: Improve Bicycle and Pedestrian Infrastructure .....	33
Renewable Energy Measures.....	34
Renewable Energy Recommendation #1: Pursue Community Solar Projects.....	35
Renewable Energy Recommendation #2: Pursue Downtown Geothermal Heating and Cooling .....	37
Renewable Energy Recommendation #3: Create Rental Property Task Force and Process.....	38
Ecosystem Protection and Enhancement .....	39
Ecosystem Recommendation #1: Pursue Stormwater Utility.....	41
Ecosystem Recommendation #2: Evaluate Extent to Which the Deer Population and Climate Change affect Native Plant Ecosystems.....	43
Ecosystem Recommendation #3: Accelerate/Expand Organic Waste Collection/Composting .....	45
Ecosystem Recommendation #4: Tree Preservation, Protection and Conservation.....	47
Ecosystem Recommendation #5: Improve Regulations and Community Capacity to Discourage Invasive Plants and Encourage Native Plants .....	48
Ecosystem Protection and Restoration Challenge #6: Pursue Watershed Restoration Actions to Protect Local Streams from Changes in Rainfall Due to Climate Change .....	50
Food Choice Measures.....	52
Food Choice Recommendation #1: 50% Challenge .....	54
Food Choice Recommendation #2: Develop Local Dietary Consumption and Associated GHG Profile .	56
Implementation Recommendations .....	57
Appendix 1 .....	59
Summary of 2016 Public Outreach .....	59
Appendix 2 .....	74
Boulder’s Local Climate Action Plan and Climate Commitment.....	74
Appendix 3 .....	75
How the Jones Household Goes Carbon Free in 10 Years .....	75
Appendix 4 .....	78
10 Things You Want to Know about Human Nature if you’re Fighting Climate Change .....	78
Appendix 5 .....	82
Energy in the 21st Century: Excerpts from Post Carbon Institute’s Energy Primer.....	82

# Executive Summary

In 2009, the Carrboro Board of Aldermen passed a resolution committing the Town to take steps to reduce emissions of greenhouse gases that are causing global climate change. In doing so, and through work leading up to the resolution with other Orange County governments, the Town joined a group of more than 1000 cities, towns and metropolises around the world who are taking part in the Cities for Climate Protection Campaign. The campaign follows a 'Five Milestone' process that includes a greenhouse gas (GHG) emissions inventory, establishment of an emissions reduction target, development and implementation of an action plan to reduce emissions, and monitoring of emissions reductions measures.

This document expands on previous efforts, with an emphasis on completion of the second milestone – further articulation of a reduction target, and the third milestone – the drafting of a Local Climate Action Plan. In 2014, Carrboro developed a plan focusing on the Town's municipal operations. This plan is a companion and follow up to that effort with an emphasis on measures that the broader community is asked to take in order to achieve GHG reduction targets. The recommendations offered are intended to reduce greenhouse gas emissions, while raising the community's awareness of and involvement in solutions to global climate change and a post-carbon energy future, adaptation to changes and enhancement of ecosystem resilience.

A significant recommendation of this report is for the Town and community to adopt a goal of a 50% reduction in greenhouse gas emissions by 2025, as supported by a broad community campaign. Additional recommendations are provided around the themes of community integration, energy efficiency of buildings, transportation, renewable energy, and ecosystem protection and restoration. Measures outlined in the Plan to reduce greenhouse gas emissions not only contribute to overall climate change mitigation, but can also provide the community with many local benefits such as financial savings through energy efficiency, the creation of new jobs, improved air quality and public health, and a healthier forest and streams.

The degree to which the broad campaign advocated for in this plan takes off will depend on many factors. The following direction is suggested to build momentum: 1) focused attention is needed to more rapidly reduce energy use in buildings; 2) the Town needs to devote more resources towards implementing the plan, starting with creating a Sustainability Coordinator position; 3) similarly, the efforts underway to increase transit, bicycling and pedestrian modes of travel as well as vanpooling, carpooling, and carsharing need to gain even more traction; 4) innovative efforts are needed to support residents with limited opportunities for renewable energy; 5) grass roots efforts and new partnerships need to be fostered; 6) the paradigm for local environmental/ecosystem protection and restoration needs to expand to consider the stress of climate change; and 7) last not but not least, individuals, businesses, and in effect the entire community need to take the recommendations in this report to heart.

# Introduction

*“Recognizing that all human economic activity is a subset of nature’s economy and must not degrade its vitality is the starting point for systemic transformation of the energy system.”<sup>1</sup>*

There is widespread scientific agreement that the increasing quantity of greenhouse gases (GHGs) in the atmosphere is causing temperatures to rise and increasing the frequency and severity of extreme weather events, and that human activities are the primary cause.<sup>2</sup> The accumulation of greenhouse gases is a major threat to the climate stability of the earth. Arguably, no other issue threatens our planet with such dramatic, far-reaching impacts, and no other issue is so clearly a worldwide problem. The world’s leading scientists predict that, in the absence of radical societal change, global average temperature will rise from 2.7 to 11 degrees F. within our children’s lifetimes. Already, effects of climate change are being seen, from melting of the Arctic permafrost, to the disappearance of glaciers worldwide, to rising sea levels around islands and other low-lying areas, and the acidification of oceans. Erratic weather and extreme events such as droughts, floods, heat waves, avalanches and hurricanes are becoming more common.

The primary cause of global climate change is the burning of fossil fuels such as petroleum, coal, and natural gas. These activities release gases such as carbon dioxide and methane that accumulate in the atmosphere and trap the sun’s heat, thereby warming the earth – the so-called “greenhouse effect”. The greenhouse effect is essential for life on earth, but rapidly increasing levels of greenhouse gases during the past 200 years are now destabilizing the climate. Average global temperature have already risen an unprecedented 1-2 degrees F during this period, and the impacts of emissions that have already occurred will take decades to cycle through ecosystems. Carbon dioxide concentrations in the atmosphere have reached their highest level in 160,000 years, and are rising at a rate 500 times higher than ever before in history.

Richard Heinberg, Senior Fellow of the Post Carbon Institute regarded as one of the world’s foremost energy and climate action experts, says this: “The most important thing to understand about the energy transition is that it’s not optional. Delay would be fatal. It’s time to make a plan—however sketchy, however challenging—and run with it, revising it as we go.”<sup>3</sup>

In Carrboro, the effects of climate change over the next century are likely to be significant. They may include the migration of hardwood forests northward to cooler areas. We will have to cope with hotter summers and more frequent floods, droughts, and intense storms, with more money diverted to repair damage from these events. Our local ecosystems could experience a broad range of negative trends and losses, and ecological diversity will likely decline. All of the careful planning, stewardship of beautiful

---

<sup>1</sup> [The Energy Reader: Overdevelopment and the Delusion of Endless Growth](#), Tom Butler, Daniel Lerch, and George Wuerthner, eds. (Healdsburg, CA: Watershed Media, 2012)

<sup>2</sup> <http://www.townofcarrboro.org/DocumentCenter/Home/View/1213>

<sup>3</sup> <http://www.yesmagazine.org/issues/life-after-oil/100-renewable-energy-what-we-can-do-in-10-years-20160222>

natural places, promotion of biodiversity, and other crucial work at the local level will be rendered meaningless if we cannot stave off the worst consequences of climate change. As members of the world community, we will have to deal with challenges involving food security, human health, and scarce resources. Humanity is beginning to respond to the unprecedented transition from the industrial era to the era that is to follow. Local governments and communities can address the challenge and opportunity of the transition and specifically reducing greenhouse gases in a number of creative ways.

The 2014 Orange County State of the Environment<sup>4</sup> report provides a similar message:

*“A report focused on Orange County alone also risks underemphasizing global climate change, the most pressing environmental threat we face. Our use of fossil fuels here, whenever we start a car engine or run our air conditioners, adds to the accumulation of carbon in the atmosphere that is rapidly destabilizing our climate. In 2012, leading climate activist and writer Bill McKibben summarized how close we are to reaching the limits of our carbon budget: Scientists estimate that humans can pour roughly 565 more gigatons of carbon dioxide into the atmosphere by midcentury and still have some reasonable hope of staying below two degrees [Celsius] increase in global temperature. (“Reasonable,” in this case, means four chances in five, or somewhat worse odds than playing Russian roulette with a six-shooter)...Reaching or surpassing that two degree rise in average global temperatures risks catastrophic consequences for our ability to grow food, maintain access to drinking water, and generally perpetuate human civilization as we now know it.”*

### **Beyond Doom and Gloom**

*What we’re for is leaving behind the current energy economy, which is wasteful, polluting, and centralized; assumes perpetual growth; and is anchored by nonrenewable fuels. We envision a bold leap toward a future energy economy that fosters beauty and health; that is resilient because it emphasizes renewable, community-scale energy generation; that supports durable economies, not growth; and that is informed by nature’s wisdom.*<sup>5</sup>

The previous section presents a stark, sobering, and ominous picture and one that we all need to acknowledge and recognize. However, only laying out the danger associated with climate change neglects humanity’s capacity, ingenuity, and adaptability. It also can be counterproductive by effectively triggering a “fight and flight” response, or being received as a judgment for denial and lack of action. The reality of climate change also presents tremendous opportunity for transition to living in a more satisfying, resilient, and connected community that is less reliant on fossil fuels.<sup>6</sup> In addition, some measures are often necessary and/or more effective at the municipal/community level than at other levels. This plan is intended to inspire this community and others to accelerate and ramp up efforts, and begin to make significant reductions in the level of climate-changing gases now being produced.

---

<sup>4</sup> [http://www.orangecountync.gov/document\\_center/DEAPR/2014\\_SOE\\_complete\\_report.pdf](http://www.orangecountync.gov/document_center/DEAPR/2014_SOE_complete_report.pdf)

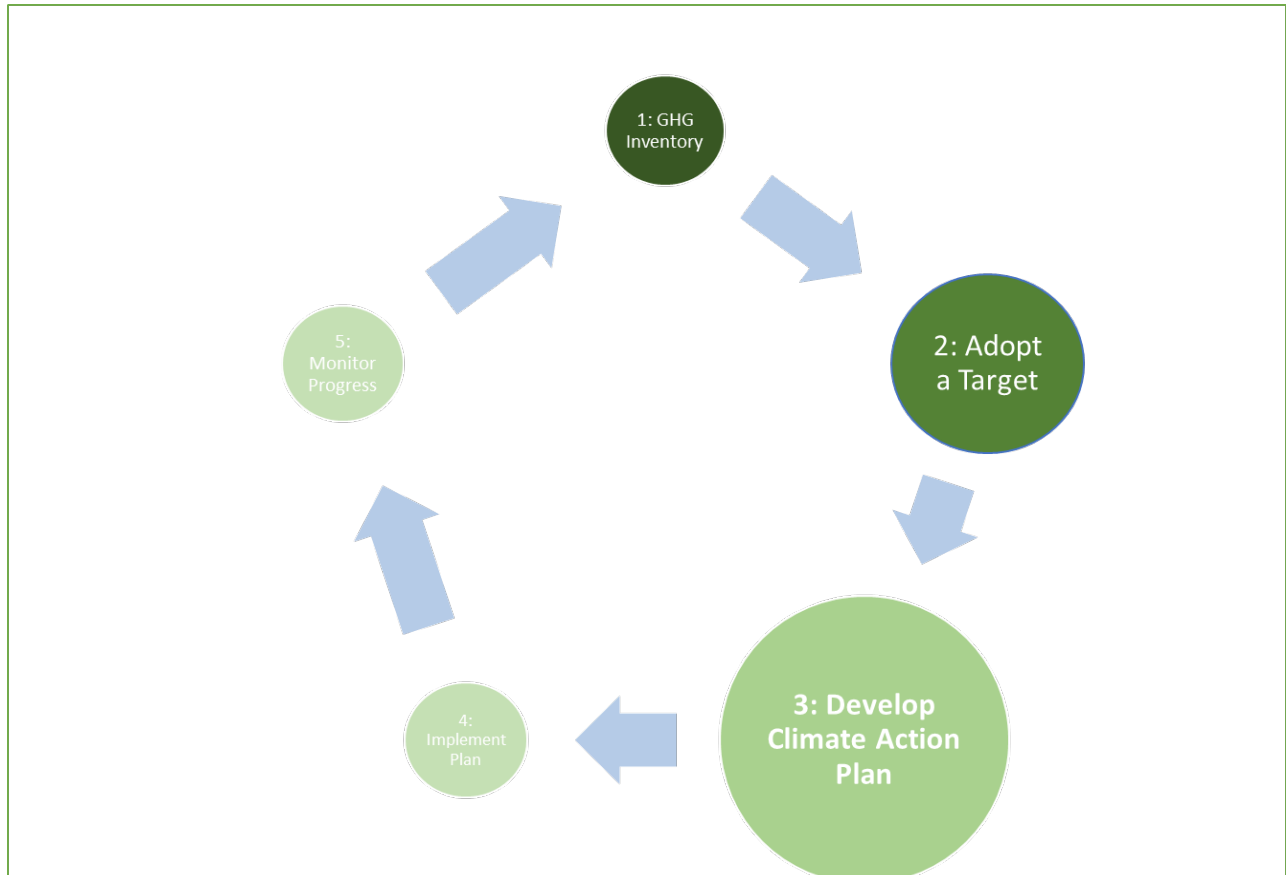
<sup>5</sup> [The Energy Reader: Overdevelopment and the Delusion of Endless Growth](#), Tom Butler, Daniel Lerch, and George Wuerthner, eds. (Healdsburg, CA: Watershed Media, 2012)

<sup>6</sup> <http://www.wri.org/news/2014/10/release-new-analysis-highlights-opportunities-economic-gains-climate-action-united>

## The Cities for Climate Protection Campaign and the Five Milestone Process

The Cities for Climate Protection (CCP) campaign is a global project led by the International Council for Local Environmental Initiatives (ICLEI), a membership association of local governments dedicated to addressing global environmental problems through local action. The CCP was established by ICLEI in 1993 at an international summit of municipal leaders. The CCP has engaged many municipal governments in North Carolina, the U.S and abroad in a worldwide effort to slow the earth's warming. The CCP campaign follows a 'Five Milestone' process (Figure 1).

**Figure 1:**  
**Cities for Climate Protection Five Milestone Climate Action Planning Process.**



*The size of each circle indicates the relative emphasis in this plan. The darkness indicates the amount of attention already given to each milestone based on work in Carrboro over the past decade, as discussed in the text.*

## The Greenhouse Gas Emissions Inventory<sup>7</sup>

Carrboro collaborated with other jurisdictions in Orange County and ICLEI to complete the first county-wide Greenhouse Gas Emissions Inventory for the baseline year of 2005. In 2011, a UNC Capstone Team completed a community scale inventory specifically for Carrboro based on data for 2009. Every year beginning in 2012, the Town has updated the municipal operations inventory, and in 2015, a second UNC Capstone Team updated the community inventory based on data for 2012 and assisted the Town in entering the inventory data into the ClearPath software which will help the Town with future climate action planning steps. These inventories help establish a baseline and guide the community to develop and implement strategies to mitigate emissions by understanding the sources and quantity of emissions. They also provide a means to monitor changes over time.

## Establishing Emissions Reductions Goals

The county-wide inventory included an initial attempt to identify potential goals in terms of “tiers” of “least aggressive” to “most aggressive” climate action strategies. In 2009, the Board of Aldermen passed a resolution resolving that the Town “will seek, and will facilitate the community at large, to cut CO<sub>2</sub> emissions by its proportion of the amount which is required to stabilize the climate back to <350 ppm of CO<sub>2</sub> ..., and asks staff to evaluate how to achieve this target for municipal operations and the community”.<sup>8</sup> As part of municipal inventories, annual reduction goals of 2-7% have been discussed and the 2014 plan set a goal of a reduction in emissions from municipal operations on the order of 5-10% within a 2 year time frame. Other notable climate goals are listed in the table below.<sup>9</sup> In its Clean Power Plan to reduce carbon dioxide emissions in the power sector, EPA has set a unique target emissions rate for each state to achieve by 2030. 8 states are asked to reduce emissions by 41%-50%, 24 states are asked to reduce emissions by 31%-40%, and the remainder of the states are asked to reduce emissions by 30% or less. 8 large US cities have signed on to the Carbon Neutrality Alliance.

---

<sup>7</sup> More information on previous inventories is available on the Town’s website:

<http://www.townofcarrboro.org/271/Greenhouse-Gas-Inventories>

<sup>8</sup> 1990 is when global CO<sub>2</sub> concentrations first surpassed 350 ppm. To date, Carrboro emissions have not been estimated for 1990. Town staff have asked those providing support with completing emissions inventories to attempt to estimate emissions for 1990. The uncertainties due to the lack of data and difficulty deriving credible assumptions have proven too great to complete this task. It is certainly hypothetically possible to “backcast” emissions. For example, some factors could lead to lower per capita emissions such as industry/technology standards (e.g. more efficient vehicles, buildings, and appliances), more availability of transit and bicycle and pedestrian infrastructure, economic factors leading to changing behavior (e.g., fuel costs), and growing awareness and concern. Other factors could lead to higher per capita emissions, such as suburbanization, less affordable housing locally, and social/cultural norms and consumer choices with higher footprints (e.g., larger vehicles and homes and less active lifestyles and more emphasis on comfort and convenience) leading to more single occupancy vehicle trips, vehicle miles traveled (this has been documented) and use of fossil fuels. Assumptions could also be derived from national/international reports, however the bias that could be introduced is uncertain.

<sup>9</sup> Appendix 2 outlines a hypothetical example of a “typical” American household becoming carbon neutral in 10 years.

**Table 1: Examples of Climate Action Goals**

Scale	Entity	Reduction Goal	Date
National/Countries	United States	26 - 28% of 2005	2025
	Department of Defense	30% reduction in energy use; 20% of energy from renewable sources	2020
	China	20% of energy from non-fossil sources	2030
States	California	40%	2030
Cities	Seattle	Net zero/climate neutral (community)	2050
	Asheville	80% from 2011 (4%/year; municipal)	2030
	Chapel Hill	60% of 2006 <sup>10</sup>	2050
	Durham	30% (community) 50% (municipal) of 2005	2030
	Boulder, CO <sup>11</sup>	80% (community)	2050
Businesses	Weaver Street Market	Net zero via efficiency, rooftop solar, purchased green power	2020
Utilities	OWASA (2015 draft)	35%/5% reduction in purchased electricity/natural gas (2020 vs. 2010) Pursue biogas to energy and renewable energy projects	2020
Universities	UNC	Net zero/climate neutral	2050
	Warren Wilson College	80% of 2007/8	2020

One purpose of this Plan is to provide a new recommendation on a community scale emissions reduction goal. Climate action goals can be framed in a variety of ways to best meet a particular entity's needs and values. The Energy and Climate Action Task Force has recommended that Carrboro's Climate Action Goal: meaningfully reduce greenhouse gas emissions at a time scale that is urgent; encourage growth and shared prosperity; and be able to be measured and certified. With these criteria in mind, the Task Force has recommended this Carrboro Climate Action Goal:

*It is recommended that Carrboro adopt the goal of a 50% reduction in per capita greenhouse gas emissions by 2025. We recommend a goal to cut the carbon footprint in half over the next 10 years for the entire community, Town operations, the buildings and transportation "sectors", and ultimately each resident and business.*

<sup>10</sup> Reduction is on a per capita basis. Interim goals are 5 percent by 2010, 10 percent by 2015, 20 percent by 2030, 30 percent by 2040; 45 percent by 2045, and 60 percent by 2050.

<sup>11</sup> Appendix 1 provides more information on the leadership Boulder is providing with local climate action.



This goal is a meaningful reduction in carbon/greenhouse gas pollution that is consistent with the scientific recommendations calling for the large emission reductions needed to reduce the risk of dangerous climate change. It is both ambitious and achievable with the support of the Town and community. It is framed in per-capita terms to recognize that Carrboro continues to attract new residents and businesses and to encourage any individual, business, or organization to measure and demonstrate their progress toward the goal. Investments in energy efficiency and renewable energy offer very favorable returns and substantial reductions in energy costs. This can power a virtuous cycle, where more energy costs are reduced and more income is available for local consumers and businesses.

It is possible that many people will sense that the goal is too ambitious: too much change too quickly. Richard Heinberg recently concluded that, globally, we can achieve at least a 40 percent reduction in carbon emissions in 10 to 20 years.” While there are challenges (e.g., dropping petroleum prices, technology advances allowing for new extraction practices), there are also external factors that will help, most notably a rising global awareness and conviction. Solar power is accelerating; fuel economy standards will likely continue to reduce gasoline use. The proliferation of more energy efficient lighting, appliances and heating/cooling equipment is already reducing household energy use, and transportation options with smaller emissions footprints are expanding.<sup>12</sup>

### **The Local Climate Action Plan**

The U.S. Department of Energy has developed a “Guide to Community Strategic Energy Planning” that identifies two types of planning efforts: one focusing on the government operations and one focusing on the community at large.



The former (municipal plan) includes a focus on government buildings, facilities, infrastructure, and transportation; concentrates on activities for which the government has direct influence – e.g., personnel, planning, and budgeting – which means tighter control over implementation. The latter (community-wide plan) is a broader plan to address activities that: expands the focus to include energy saving activities across the jurisdiction (residential, commercial, industrial, transportation, and other

---

<sup>12</sup> Appendix 2 provides a hypothetical example of how a household can become carbon neutral in 10 years. Appendix 3 presents a discussion of how to approach this goal from a social and psychological perspective.

sectors) of the broader community; recognizes that, while local government actions can greatly influence, energize, and leverage effective activities in the broader community, the government has less direct control over these activities in comparison to a government-only plan. This plan focuses on the community-wide plan.

The measures recommended below provide the basis for the first comprehensive community scale climate action plan specifically for Carrboro. They are a companion to measures presented in the 2014 plan that focused on municipal operations. Other local governments and agencies and UNC continue to be engaged in similar locally relevant efforts<sup>13,14,15</sup>. To emphasize, the Task Force has recommended that the Town pursue a two-part climate action strategy. Strategy 1 is to provide leadership by following through with the recommendations outlined in the 2014 report. The Town of Carrboro efforts to reduce emissions sets an example for residents, businesses, and institutions. Strategy 2 is to further develop a community based initiative as detailed in this document and guided by the recommended Carrboro Climate Action Goal in tandem with a goal to protect and restore local ecosystems. Details for how to pursue these broader goals is provided in the following sections, starting with the critical element of the mobilization of the Carrboro community in support of the goals of this plan.

## Community Integration

“Local” climate action planning has important but limited influence within a personal to global continuum (Table 1). The collective behaviors, norms, and plans and agreements at lesser and greater social scales than that of a town of ~20k people arguably have greater influence on GHG than the municipal/community scale. A very large share of the GHG footprint in the community occurs because of the collective impact of private decisions made by residents and businesses for which the Town has very limited involvement and oversight, and also within a global social context and the constraints of state, federal, and international laws, regulations, agreements and corporate (large scale) decisions. In terms of other levels of organization and governance and how they interact with community scale climate action planning, the following are important (and in some cases unique) points in Carrboro and indicate the Town’s interdependence with many other entities in pursuing climate action planning:

- 1) The Chapel Hill-Carrboro City School system and OWASA both have separate policy, fiscal, and administrative processes from the Town, and therefore, different boards and staff. They also have larger emissions, facilities and operating budgets than Carrboro has, and therefore, an ability to have a greater influence on emissions reductions;
- 2) Transit is a public service that has the ability to significantly mitigate emissions. Chapel Hill Transit is a cooperative effort between Carrboro, Chapel Hill and UNC; GoTriangle is a multi-county/regional transit authority serving over a million people;

---

<sup>13</sup> <http://www.townofchapelhill.org/town-hall/departments-services/planning-and-sustainability/sustainability>

<sup>14</sup> <http://www.owasa.org/energy-management>

<sup>15</sup> <https://climate.unc.edu/GreenhouseGasInventory>

- 3) Carrboro on its own has very limited influence on larger electricity and natural gas utilities. Duke Energy provides electrical service to over 90% of Carrboro. Carrboro is also served by Piedmont Electric Membership Cooperative, which buys its electricity from Duke for resale. PSNC is the local natural gas provider. This is in contrast to local governments operating municipal utilities.
- 4) Carrboro's largest emissions sector is buildings, with most building emissions being residential, and most of the residential sector being non-owner occupied. Oversight by the North Carolina Utilities Commission, management by the above utilities, and regulation by building codes (which are established at state/federal levels) are strong non-market/public sector drivers that influence emissions from buildings. Landowner and landlord management and decisions are strong private sector drivers. Social/cultural norms influence both public and private sectors.
- 5) The Town has very limited oversight of Homeowners Associations (HOAs) (less in fact than the state of North Carolina). Carrboro did recently update regulations to limit new HOAs ability to constrain an individual homeowner's desire to pursue sustainability measures.

**Table 1: Local Climate Action Planning is One Layer in a Continuum <sup>16</sup>**

<b>Organizational Examples</b>	<b>Scale</b>	<b>General Scale (population)</b>	<b>Climate Action "Primary Domain" Examples</b>
Personal		1 person	Personal choices (e.g., dietary, housing, transportation, vocation, financial, consumer)
Household/family		~2-10 people	"Home economics" (e.g., housing, transportation, landscaping/gardening, financial, consumer)
Neighborhoods, small businesses, clubs, nonprofits, congregations		~10-100 people	Small organization organizing, management, fossil fuel divestment
Schools, co-ops, businesses, congregations, corporations		~100-1000 people	Business/organization planning and management; fossil fuel divestment
Small towns, colleges, co-ops		~1k-10k people	Sustainability plans; land use and transportation; local living economy; fossil fuel divestment
Towns, small utilities, universities		~10k-100k people	Local climate action plans; land use and transportation; local living economy; fossil fuel divestment
Cities, medium utilities, counties		~100k-1M people	Local climate action plans; land use, transit/transportation; local living economy; fossil fuel divestment
Regions, states, large utilities/utility commissions		~1M-10M people	Transit/transportation/utility policy and regulation; State law; Building Code; fossil fuel divestment
Nations, international		~>10M people	Climate summits/agreements; carbon pricing; IPCC; building code; federal laws; trade agreements; multinational corporate policy; fossil fuel divestment

<sup>16</sup> This table does not fully address continuums of access to capital and decision making authority, nor to sociological and cultural dimensions; all add complexity.

6) At a municipal scale, Carrboro’s “primary domain” or area of most effective focus for local climate action planning could be in partnership with organizations and entities operating at a similar scale. Similarly, for work in the community, it is important to establish initiatives and measures that work at the appropriate scale, and to bridge gaps across the different scales.

7) The community sector accounts for 93% of greenhouse gas emissions within Carrboro; the remaining 7% comes from local government operations. Significant community buy-in in every aspect of this plan is essential for emissions reduction and climate change mitigation.

Recommendations are offered in this section that focus on grassroots/neighborhood scale efforts and enhanced Town and community capacity for supporting a variety of climate actions. The recommendations are integrative in that they apply to all of the other recommendations provided, and are focused on community enhancement and participation.

### **Community Integration Recommendation #1: Create Grass Roots Partnerships to Engage Community**

***Create new Grass Roots Partnerships and Engage Community to be a Part of the Solution***

Widespread community participation is needed to meet the emissions reduction and climate change mitigation goals of this plan. Carrboro is fortunate to have many local groups already involved in environmental outreach and climate action. In addition, many successful models for community engagement in climate action can be adapted and used here. While these are mostly grassroots efforts, leadership is needed to coordinate, adapt, promote, and sustain efforts over the long term.

Implementation Opportunities	Many local and other groups are involved in environmental outreach and/or climate action. These include but are not limited to Transition Streets, Pete Streets, NW Earth Institute community action courses, the Solarize Carrboro model, Awakening the Dreamer Symposiums and Game Changer Intensive, K-12 Sustainability Curriculums (Chapel Hill-Carrboro City Schools is currently developing a local version), Grey to Green Initiatives, HEAT (Heat Energy Assessment Technologies), Meatless Monday Communities, Backyard Wildlife Habitat Certification Programs, and Incentive Programs. Carrboro can adapt and use programs with proven track records for community engagement.
Implementation Challenges	<ul style="list-style-type: none"><li>• Who will bring partners together?</li><li>• Who will recruit and train community facilitators?</li><li>• How can diverse populations be reached?</li><li>• Who will modify programs if needed?</li><li>• How will engagement/momentum be sustained considering the relatively transient population? (59% of Carrboro’s residential properties are rentals).</li></ul>

Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• Money for education and promotion materials.</li> <li>• Leadership ideally from a nonprofit, along with Town staff.</li> <li>• Support such as technical assistance and loans or grants for low-income households, stakeholder incentives, etc.</li> </ul>
Leadership	Grassroots but will need a leader or nonprofit organization to adapt, promote, and sustain efforts. A town sustainability coordinator would be ideal.
Partners	Pickards Mountain Eco-Institute, Chapel Hill-Carrboro City Schools (including District Sustainability Group and Student Environmental Groups), UNC Sustainability Program, Orange County Solid Waste Program, NC Cooperative Extension Service, Chapel Hill Sustainability Officer and Committee, Transition Carrboro- Chapel Hill, NC Botanical Gardens, Carrboro Greenspace, Carrboro Bike Coalition, Solarize Carrboro, Carrboro Farmers Market, Irvin Learning Farm and Nature Center, NC Sierra Club, Friends of Bolin Creek, Morgan Valley Alliance, Home Builders Association of Durham, Orange, and Chatham, Neighborhood Homeowners Associations, Faith Based Environmental Groups, Carrboro Farmers Market, Carrboro Business Alliance, businesses, utility providers, Homeowner associations, former Pete Street participants and more
Fit with Items	Every section of this Action Plan
Time Frame	This can move forward as soon as leadership is identified. The time frame for a Sustainability Coordinator on board is a key factor.
Next Step(s)	<ul style="list-style-type: none"> <li>• Identify partners;</li> <li>• Bring partners together and choose programs;</li> <li>• Modify programs for Carrboro if needed;</li> <li>• Work with partners to recruit and train diverse group of facilitators.</li> <li>• Pilot program in facilitator's neighborhoods</li> <li>• Debrief with pilot neighborhoods and modify programs as needed.</li> <li>• Install neighborhood and/or town wide dashboard to show progress, and build a climate change action oriented community.</li> </ul>
Evaluation Criteria	People reached. Energy saved. Forest and soil protected or gained.

## **Community Integration Recommendation #2: Expand Public Partnerships to More Explicitly Consider Climate Action**

### ***Pursuing Carrboro's Climate Action Goals Will Require Expansion of Current Partnerships and Creation of New Partnerships.***

As a small town with limited capacity and jurisdiction and many existing partnerships, it makes sense for Carrboro to work cooperatively with a variety of partners to pursue Carrboro's Climate Action goals. In some cases, it may be possible to emphasize these goals through existing partnerships, and in other cases, it could make sense to create a new partnership. Collaborating with other local public sector partners has particular appeal. Examples of opportunities through both existing and new partnerships are discussed below and elsewhere in this report and summarized in the table.

Developing a partnership for improved energy efficiency of buildings is a special challenge. Carrboro and Chapel Hill, with support from federal stimulus funding and the Southeast Energy Efficiency Alliance,

put considerable effort towards creating an Energy Efficiency Alliance between 2010 and 2013 that has not come to fruition. Progress on this in the absence of clear interest and initiative from utility providers and partners may be difficult. In the short term, less ambitious efforts such as focusing on commercial and municipal buildings and focusing on other recommendations provided in this plan may be preferable to attempting to create an alliance. Local staff working on sustainability initiatives have recently begun to more specifically explore collaborative possibilities; some new recommendation(s) may emerge.

Implementation Opportunities	Existing and new partnerships could support improved building energy efficiency, transportation, renewable energy, community scale composting, and environmental community goals. Examples of existing partnerships include Chapel Hill Transit/Partners Committee, OWASA, Chapel Hill-Carrboro City Schools, Orange County Solid Waste/Solid Waste Advisory Group, GoTriangle, Durham/Chapel Hill/Carrboro Metropolitan Planning Organization. Examples of new partnership opportunities include: creating a building energy efficiency alliance; expanding car/bike/ride sharing and transit services; partnership at the nexus of water supply and wastewater/energy; stormwater utility across municipal boundaries; county/regional scale sustainability partnership (either general or more focused, e.g., on public buildings and/or renewable energy installations); downtown geothermal partnership.
Implementation Challenges	Attempt through WISE program to create Regional Energy Alliance was unsuccessful and indicates general challenges in working in buildings sector Unclear as to interest from others in partnering Town has limited capacity to investigate and work with local partners to pursue these programs on its own. New funding may be needed in some cases
Resources Needed (human and material)	Staffing and funding
Anticipated Cost	Cost of additional staffing/contracting to coordinate
Leadership	Board of Aldermen; staff managers; staff
Partners (selected)	Chapel Hill-Carrboro City Schools, UNC Sustainability Program, Orange County Solid Waste Program, Chapel Hill Sustainability Committee, OWASA, NC Botanical Gardens
Fit with Items	Many of the other recommendations depending on details
Time Frame	Exploration can begin immediately. Some partnerships will take longer to develop.
Next Step(s)	Staff and Board of Aldermen to consider in operating budget development and community champions to self-identify
Evaluation Criteria	Track adoption of efficiency measures incentivized by programs facilitated/supported by the Town.

### Community Integration Recommendation #3: Create Green Neighborhood Program

***Create Participatory Green Neighborhood Budgeting Program to Reduce Carbon Emissions, Build Community, Save Money and Reallocate Savings to New Green Project Initiatives***

It is proposed that Carrboro create a new program that will identify projects to offer neighborhoods that will save the Town money and make the neighborhood's proportion of saved monies available to them to reallocate to new green project initiatives through a participatory democracy process.

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Enlists and engages neighborhoods in efforts to reduce CO<sub>2</sub> emissions in community-at-large</li> <li>• Builds community within neighborhoods</li> <li>• Neighborhood based economic development opportunities may spin-off</li> <li>• Possibility of creating a community scale "dashboard" that tracks energy use/emissions/savings</li> <li>• Recycling and composting successes translate into savings associated with less frequent trash pick-ups</li> <li>• Composting reduces trash headed for the landfill = cost savings + reduced methane gas</li> <li>• Neighborhood competitions awards program</li> <li>• Can boost initiatives such as Solarize; Energy Efficiency / Pete Street; Street Lights off for Climate t Project</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• Identification of mechanism for Town to allocate saved funds to neighborhoods</li> <li>• Development of participatory democracy process and criteria for new green project initiatives</li> <li>• Marketing for participation of neighborhoods</li> <li>• Availability for multi-family complexes?</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• Full time person managing neighborhood portfolios and facilitating neighborhood efforts</li> <li>• Common spaces per neighborhood (i.e. for centralized neighborhood composting, solar panels, etc.)</li> <li>• Educational campaign on opportunities for greening ones neighborhood</li> </ul>
Anticipated Cost	<ul style="list-style-type: none"> <li>• Cost of full time person in charge of managing program</li> <li>• Marketing</li> </ul>
Leadership	Neighborhood leaders
Partners	<ul style="list-style-type: none"> <li>• Homeowner associations</li> <li>• Next Climate</li> <li>• Former Pete Street participants?</li> <li>• Town staff</li> <li>• Businesses <ul style="list-style-type: none"> <li>Local building supply companies</li> <li>Solar installers</li> <li>Weatherization installers</li> </ul> </li> </ul>

	<p>Local nurseries Local landscapers</p> <ul style="list-style-type: none"> <li>• Non-profits</li> <li>• Orange County Solid Waste Management – composting</li> </ul>
Time Frame	Will depend on identification of leadership
Fit with Items	Many of the other recommendations
Next Step(s)	<ol style="list-style-type: none"> <li>1. Presentations laying out town's CO<sub>2</sub> responsibilities as measured through social equity lens and the urgency of CO<sub>2</sub> reduction per the latest science <ul style="list-style-type: none"> <li>• Town-wide initial presentation followed by</li> <li>• Presentations to neighborhoods that want to engage in green neighborhoods initiative</li> </ul> </li> <li>2. Create process for developing further program ideas and mechanism for neighborhoods to initiate <ul style="list-style-type: none"> <li>• Set neighborhood CO<sub>2</sub> reduction goals in line with town's at large goal</li> <li>• Town recognizes savings achieved through existing green initiative successes and allocates these for neighborhoods to use proportional to neighborhood's impact in making the savings. (recurring)</li> <li>• Identify further potential programs and their contributions to reducing CO<sub>2</sub> for the neighborhood (ongoing)</li> <li>• Develop neighborhood green participatory democracy process and criteria for new green project initiatives</li> <li>• Develop way for town to allocate funds</li> <li>• Support and facilitate neighborhoods participation</li> </ul> </li> <li>3. Awards program for neighborhoods achieving biggest reductions per energy sector (Trash, Transportation, Housing)</li> <li>4. On-street parking park and ride permits?</li> </ol>
Evaluation Criteria	People reached. Energy saved. \$ reallocated.



## Community Integration Recommendation #4: Integrate Climate Action with Local Living Economy

### ***Integrate Climate Action Implementation Opportunities identified in this Plan into the Update of the Local Living Economy Task Force Report***

From 1990 to 2008 the rise in emissions from goods produced in developing countries but consumed in industrialized countries was six times greater than the emissions savings of industrialized countries. The international transportation of goods is not formally attributed to any nation and countries are not responsible for pollution produced by the manufacturing of goods that are shipped to their shores; those are attributed to the country where the goods were produced.

The Carrboro Local Living Economy Task Force Report enumerates many reasons why support of locally owned businesses is vital, including that locally owned businesses have less environmental impact. This recommendation identifies some of the means by which both locally owned businesses and a habitable climate can be simultaneously and further supported.

Implementation Opportunities	Integrate implementation opportunities into the update of the Local Living Economy Task Force report: 1) Include climate change mitigation in local living economy/locally owned marketing messaging 2) Encourage light manufacturing zone in Carrboro, 3) Set-up PACE program for commercial buildings to implement renewable energy.
Implementation Challenges	Time is running out to mitigate climate change!
Resources needed	<u>New Town Sustainability Coordinator</u>
Anticipated cost	Cost of hiring staff
Leadership	<ul style="list-style-type: none"> <li>• Town of Carrboro</li> <li>• Carrboro Business Alliance,</li> <li>• Town businesses</li> </ul>
Partners	<ul style="list-style-type: none"> <li>• Carrboro Economic Sustainability Commission,</li> <li>• Carrboro Economic Development department,</li> <li>• Carrboro Business Alliance,</li> <li>• County -- ¼ cent sales tax economic development monies</li> </ul>
Time Frame	Some steps can be pursued immediately, others will take longer
Fits with items	<ul style="list-style-type: none"> <li>• Local Living Economy Task Force report and update,</li> <li>• Implementation of locally owned first campaign,</li> <li>• Downtown geothermal heating district</li> <li>• Commercial energy improvement revolving loan fund</li> </ul>
Next steps	Further develop each identified implementation opportunity
Evaluation criteria	The locally owned economy campaign is understood as also being a climate change mitigation strategy by the Carrboro community

## **Community Integration Recommendation #5: Expand Capacity**

### ***Expand Capacity to Pursue Community Sustainability Initiatives***

Expanded capacity and prioritization and integration of climate action into community life are needed to implement this plan. A strong recommendation of this plan is that the Town hire a Sustainability Coordinator charged with helping implement the plan. The above recommendations (1-4) along with additional recommendations in the sections that follow in this plan will also support expanded community capacity. An online resource hub could also be created.

Implementation Opportunities	Additional capacity/initiative could facilitate non-profit/ business partnerships to improve energy efficiency in the community, publicly recognize successes, and more effectively pursue grants. A community grant program could be initiated.
Implementation Challenges	<ul style="list-style-type: none"><li>• Currently, Town has limited capacity to investigate and work with local partners to pursue these programs.</li><li>• Ability of community advocates to organize</li><li>• Community organizing requires dedicated volunteers; not clear if sufficient interest exists</li><li>• Funding to help residents interested in retrofits</li><li>• Staff capacity is currently limited to support a new advisory board/task force</li></ul>
Resources Needed (human and material)	Additional community volunteers and staff capacity
Anticipated Cost	Cost of staff and any operating budget.
Leadership	Board of Aldermen, Town staff, and community volunteers
Partners	None specific to this recommendation
Time Frame	As soon as possible
Fit with Items	Many of the other recommendations
Next Step(s)	Staff and Board of Aldermen to consider in development of operating budget and community champions to self-identify
Evaluation Criteria	Track adoption of measures facilitated/supported by the Town.

## **Community Integration Recommendation #6: Facilitate Low Cost Financing for Energy Efficiency and Renewable Energy Projects**

### ***Pursue Alternative/ Long Term/Low Cost Financing Approaches***

Energy efficiency and renewable energy projects often require low cost/long term financing to be attractive since a short simple payback time can be hard to achieve; savings are realized over longer time frames. Two specific new financing approaches are suggested. The first is to utilize Qualified Energy Conservation Bonds (QECCB), which may provide Carrboro and partners with access to low-cost financing

that help projects become financially viable. The second is to make this low-cost financing available for community projects using a revolving loan fund or Property Assessed Clean Energy (PACE) financing.

Implementation Opportunities	<p>Many of the recommendations listed in this report require low-cost financing. For example, QECBs could provide seed funding for</p> <ul style="list-style-type: none"> <li>• efficiency improvements to public buildings</li> <li>• a revolving loan fund for community projects</li> <li>• Property assessed clean energy (PACE), a program where the loan is paid using assessments on the property tax bill</li> <li>• low cost financing for home energy efficiency projects for community members who have difficulty qualifying for traditional financing</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• Reluctance to take on debt</li> <li>• Clarity about how to use the complex QECB mechanism to obtain state/federal approval</li> <li>• Capacity and expertise to issue bonds</li> <li>• Community financing via PACE or a revolving loan fund can have low community participation because (i) onerous loan application process requiring a lengthy municipal approval process, and (ii) maximum loan amounts that are set too low to fund an entire project with one loan.</li> </ul>
Resources Needed	<ul style="list-style-type: none"> <li>• Bond issuance process can be lengthy and the Town would need expertise</li> <li>• Would be coordinated with other programs that need financing</li> </ul>
Anticipated Cost	The cost of low interest debt financing
Leadership	While QECBs have been used in municipalities outside of NC, within North Carolina these bonds have been limited to agricultural programs. There would be some learning required by the Town to get the bonds issued. Also, a PACE program has not yet been implemented by any NC municipality.
Partners	NC Clean Tech Center, UNC Environmental Finance Center, other local governments
Fit with Items	Many recommendations could benefit from low-cost financing
Time Frame	Exploration could begin immediately. For a higher probability of moving forward, either a Sustainability Coordinator or championing by the county or another entity will likely be needed.
Next Step(s)	<p>Identify and/or recruit nonprofit organization/local champion to:</p> <ul style="list-style-type: none"> <li>• Identify project/revolving loan fund that could benefit from QECB</li> <li>• Pursue bond issuing process</li> </ul>
Evaluation Criteria	<ul style="list-style-type: none"> <li>• Life cycle costs and net present value</li> </ul>

## Community Integration Recommendation #7: Integrate Climate Action and Social/Equity Initiatives

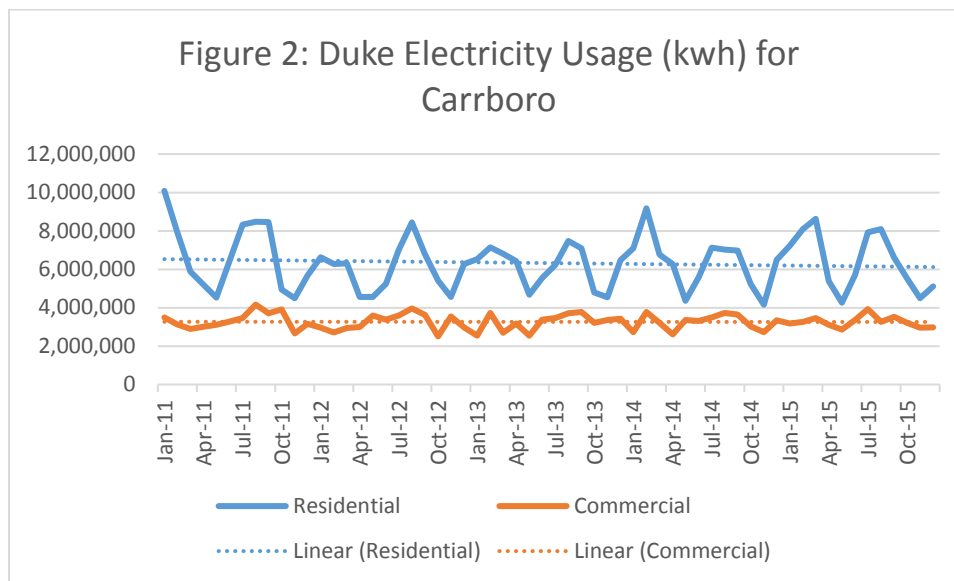
Low income households spend 24% of their income on energy costs. To make housing affordable, we must do more than just lower mortgage payments/rent. We also need to take a look at how to lower utility bills. The installation cost of solar has dropped precipitously in recent years and more and more middle and upper class households are taking advantage of this opportunity to both use clean energy and save money. However, the switch to solar is made easier by income tax credits and access to financing. Both of these are often not available for lower income/wealth households. The mechanisms to make energy more affordable are federal grants, community programs, and Town initiatives/ordinances.

Implementation Opportunities	<ul style="list-style-type: none"><li>• Grants: In July 2015, the federal government announced increased grant and loan guarantee funding for solar installations on "federally assisted housing". This includes HUD's rental housing portfolio (Public Housing, Multifamily Assisted) and USDA's Rural Development Multifamily Programs, as well as rental housing supported through the Low Income Housing Tax Credit (LIHTC). More information is available at the HUD exchange webpage: <a href="http://www.hudexchange.info">www.hudexchange.info</a></li><li>• Community programs: Community programs have worked to improve energy efficiency and renewable energy access for low-income communities. One example is <i>Grid Alternatives</i>, a non-profit that develops solar for low-income, single family homes by deploying donated materials and simultaneously running a training program to complete the installation. The result is lower energy costs and a more skilled workforce. Another example is <i>Grid Free NC</i>, a solar company in Chatham County that has partnered with Habitat for Humanity to develop solar for low income families.</li><li>• Town initiatives/ordinances: When assessing affordability, include the utility costs. Town-led initiatives that improve affordability and livability are preferred over bare-minimum construction. Efficiency improvements with little monetary benefit are not preferred. For new development or substantial retrofits, the Town could offer leniency on other requirements in exchange for improvements to energy efficiency. For example, the Town could offer a density bonus or fewer required parking spaces in exchange for meeting a higher standard of energy efficiency.</li></ul>
Implementation Challenges	<ul style="list-style-type: none"><li>• Requirements and construction standards seek to improve the safety and longevity of buildings. However, such requirements should be crafted with care, as increases in cost of construction or delays in the approval process can make housing less affordable.</li><li>• Federal grants only cover a small portion of affordable housing units.</li></ul>
Resources Needed	<ul style="list-style-type: none"><li>• Grant applications development</li><li>• Facilitating community programs through seed or matching funding</li></ul>

Anticipated Cost	Variable, depending on Town commitment
Leadership	Town staff and community programs
Partners	Federal government, community programs, Triangle Green Building Council
Fit with Items	Works to address both affordable housing and climate change mitigation
Time Frame	Coordination with affordable housing focused efforts can be explored immediately. Significant traction is a long term proposition.
Next Step(s)	<ul style="list-style-type: none"> <li>• Identify relevant federal grants</li> <li>• Develop partnerships with community programs</li> <li>• Investigate legal authority and cost-benefit analysis for Town ordinances</li> </ul>
Evaluation Criteria	<ul style="list-style-type: none"> <li>• life cycle costs and net present value</li> </ul>

## Building Energy Efficiency Measures

Residential and commercial buildings are the largest emissions sectors in Carrboro, accounting for 2/3 of all emissions. Duke Energy has been able to provide monthly electricity use data specifically for Carrboro beginning in January, 2011 through the end of 2015, broken out by residential and commercial accounts. An analysis of this data (Figure 2) indicates that residential electricity use declined by about 1% per annum during this time, while population increased by about 2% per annum. Commercial use remained very stable. The residential use also has a sharp seasonal pattern, with winter and summer peaks presumably associated with heating and cooling loads. This improved energy efficiency trend will need to be accelerated by 2-3 times to meet the 50% reduction by 2025 goal. Any ability to determine how representative the trend is of years prior to 2011 would also be beneficial to the monitoring of overall progress, but is difficult because of the lack of data.



Energy performance rating and auditing can inform interested parties on the overall energy efficiency of the building and provide transparency for market based decisions about property sales and rentals. By influencing a property's appeal to future renters and buyers, ratings can serve as an incentive for building owners to improve energy efficiency. This approach is being tested in cities such as Seattle, WA, Portland, OR, and Austin, TX. A website tracking different jurisdictions efforts for energy efficiency policies, improvements, and benchmarking can be found at <http://www.buildingrating.org/jurisdictions>.

It is recommended that efforts be pursued so that the results of an energy audit and/or an energy performance rating (including one year of utility bills) are made available at the point of building sale or lease. This could be in the form of a written document and/or a numerical score such as a HERS rating or other recognized format. The information provided could include potential/recommended energy efficiency improvement measures. Carrboro would need to acquire statutory authority from the State to make this a requirement. For new buildings and improvements requiring a building permit, pending the granting of a request for statutory authority, the Town could implement a section of the Building Code<sup>17</sup> with additional energy efficiency requirements that the Town does not currently have authority to implement. Alternatively, the Town could look into partnering with the Triangle Green Building Council to develop an optional checklist of efficiency performance/measures that, if implemented, would lead to special designation and public recognition.

Most Carrboro residents rent their homes; 33% of homes are owner occupied, compared to 59% renter occupied (the remaining 8% of homes are vacant)<sup>18</sup>. While some reductions can be achieved via low cost/no cost approaches, to achieve substantial (>10%) GHG reductions, retrofitting or including energy

<sup>17</sup> At the December 14, 2010 NC Building Code Council meeting, a 15% residential efficiency part of the code was not approved, instead this code was considered to be voluntary and included as Appendix 4 to the 2012 NC Energy Conservation Code. The Carrboro Board of Aldermen is seeking statutory authority to pilot making Appendix 4 mandatory. This request has not made it out of committee with the NC Legislature.

<sup>18</sup> UNC Capstone Team, 2015. 2012 Greenhouse Gas Emission Inventory for the Town of Carrboro, NC. <http://nc-carrboro.civicplus.com/DocumentCenter/Home/View/2788>

efficiency improvements during rehab work is typically necessary. For many rental properties, renters pay the utility bills and as a result, building owners/landlords may have little or no financial incentive to pursue this work. Conversely, renters have no financial incentive to make capital investments in a property they do not own. Accordingly, there is an underinvestment in energy efficiency improvements in rental units. Without aligning the landlord's costs for retrofits and the renter's benefit in lower energy bills, it will be difficult to voluntarily achieve GHG reductions in rental units. Addressing this issue requires engagement of a diverse set of stakeholders: affordable housing advocates, renters, landlords, new development planners, and energy efficiency contractors. It is recommended that the Town commission a Task Force to bring forward policy recommendations for how to align landlord and renter interests towards achieving energy efficiency in rental units. The Town could also create a voluntary registry or certification program that landlords could include in the advertisements of their properties. This could be in the form of a certification or a points system. Information on how other jurisdictions have approached energy efficiency improvements in buildings is available through the links in these footnotes. (Portland, Seattle, WA<sup>19</sup>, Berkeley, CA<sup>20</sup>, Austin, TX<sup>21,22</sup>)

### **Buildings Recommendation #1: 50% Challenge**

#### ***Reduce Emissions Attributed to Carrboro Buildings by 50% by 2025***

It is proposed that local leaders announce an emissions reduction challenge to reduce community-wide emissions by 50% by 2025. The challenge could include a component focused on buildings emissions in Carrboro.

Implementation Opportunities	Reduced electricity and gas use from more efficient building envelopes, appliances, HVAC systems, lighting. Healthier buildings; older buildings brought up to code; utility cost savings for building owners/occupants. More efficient buildings result in cost savings and support the green building sector. If the
------------------------------	--

<sup>19</sup> "Seattle City Council Climate Action Plan Resolution Summary." Emerald Cities Collaborative. Accessed March 16, 2015. <http://emeraldcities.org/cities/seattle/resources/summary-of-seattle-city-council-climate-action-plan-resolution>.

<sup>20</sup> "Berkeley Climate Action Plan: Tracking Our Progress - Building Energy Use." City of Berkeley. April 14, 2014. Accessed March 16, 2015. [http://www.ci.berkeley.ca.us/uploadedFiles/Planning\\_and\\_Development/Level\\_3\\_-\\_Energy\\_and\\_Sustainable\\_Development/Green\\_Building\\_and\\_Energy\\_Certification\\_CAP.pdf](http://www.ci.berkeley.ca.us/uploadedFiles/Planning_and_Development/Level_3_-_Energy_and_Sustainable_Development/Green_Building_and_Energy_Certification_CAP.pdf).

<sup>21</sup> "Energy Conservation Audit and Disclosure Ordinance." Austin Energy. Accessed March 18, 2015. [http://austinenenergy.com/wps/portal/ae/programs/ecad-ordinance/energy-conservation-audit-and-disclosure-ordinance!/ut/p/a1/jZAxT8MwFIR\\_S4eMjo0rwGUzpgqhlEyKIUvIJq-OpdSOBkcR\\_HpSWChqoW876bt7usMILnBp5F4rGbQ1sj3o8mZNNKKOPgtA0uaWM8ETcL67zl6sZIyPw9hPI5tkDSfMs59ICkERML\\_SfOU7-8z9d8IC6pVgqXHYyNEibrcUFGHDqHVXWeHD7r7ZI9rUOSJoa1dpXrfW9A2RdrY00FRyCuNIM2RjkYAsOXNy7caEmhM7fRSQiwzDEylrVQlZXXUROWRrAy6OSbzC5V81-Jz-Bk7s\\_A2cH7LbvRYfz7BiYZZqPpl8AjKatdw!/d15/d5/L2dBISEvZ0FBIS9nQSEh/](http://austinenenergy.com/wps/portal/ae/programs/ecad-ordinance/energy-conservation-audit-and-disclosure-ordinance!/ut/p/a1/jZAxT8MwFIR_S4eMjo0rwGUzpgqhlEyKIUvIJq-OpdSOBkcR_HpSWChqoW876bt7usMILnBp5F4rGbQ1sj3o8mZNNKKOPgtA0uaWM8ETcL67zl6sZIyPw9hPI5tkDSfMs59ICkERML_SfOU7-8z9d8IC6pVgqXHYyNEibrcUFGHDqHVXWeHD7r7ZI9rUOSJoa1dpXrfW9A2RdrY00FRyCuNIM2RjkYAsOXNy7caEmhM7fRSQiwzDEylrVQlZXXUROWRrAy6OSbzC5V81-Jz-Bk7s_A2cH7LbvRYfz7BiYZZqPpl8AjKatdw!/d15/d5/L2dBISEvZ0FBIS9nQSEh/).

<sup>22</sup> A website tracking different jurisdictions efforts for transparency in energy efficiency, specifically in their buildings, can be found at <http://www.buildingrating.org/jurisdictions>. BuildingRating.org provides a way to view and compare policies that are being implemented to improve and benchmark building energy efficiency.

	private sector becomes engaged, the downtown area of Carrboro and Chapel Hill could evolve into a recognized “2030 District” <sup>23</sup>
Implementation Challenges	“Cost, complexity, inertia”. High percentage of non-owner occupied buildings; financial challenges especially for lower income residents and renters.
Resources Needed (human and material)	A nonprofit organization to become a community champion. Neighborhood and business champions and grassroots/community organizing, outreach, and education. Broad support from community leaders, utilities, financiers, and contractors. Potentially, fiscal support for nonprofit and organizing/coordination support from Board and staff
Anticipated Cost	Time and potentially salary involved in organizing
Leadership	Potential leaders include: existing and/or new nonprofit(s); the Carrboro Business Alliance; Chamber of Commerce; Triangle Green Building Council
Partners	<p>Potential partners include: existing and/or new nonprofit(s); the Carrboro Business Alliance; Chamber of Commerce; Triangle Green Building Council. Several programs have been developed in North Carolina to lower the barriers to energy efficiency adoption within a community.</p> <ul style="list-style-type: none"> <li>• The NC Banker’s Association pools banks for the financing of low income tax credit apartment complexes. They are interested in partnering with nonprofits to start a small loan pool for energy retrofits.<sup>24</sup></li> <li>• System Vision program, which partners Advanced Energy Corp, the Self-Help Credit Union, and the NC Housing Finance Authority to finance green home construction/retrofits.<sup>25</sup></li> <li>• Transition Streets and Pete Street programs.<sup>26</sup></li> </ul> <p>The State Energy Office and Cooperative Extension Service ran the E-Conservation Home Energy Improvements program, which expired in July, 2015. If it is not renewed, it is recommended that Carrboro discuss partnering with Chapel Hill, Orange County, and perhaps others to run a similar program. The State Energy Office has been pursuing this for several years and is a valuable resource for learning what works.</p>
Time Frame	It is recommended that local leaders do this immediately.
Fit with Items	Renewable energy and transportation challenges

<sup>23</sup> <http://www.2030districts.org/>

<sup>24</sup> Contact is Michelle Lampert shellielampert@gmail.com

<sup>25</sup> <http://www.nchfa.com/nonprofits/HPsystemvision.aspx>

<sup>26</sup> In 2013 Carrboro and Chapel Hill contracted with Clean Energy Durham to pilot their “Pete Street” neighbor-to-neighbor energy retrofit program. The approach trains neighborhood volunteers who lead neighborhood workshops where small groups of resident learn simple energy savings projects and behaviors. Clean Energy Durham has recently closed.



Next Step(s)	Local elected officials/community leaders collaborate to initiate challenge
Evaluation Criteria	Reductions in energy use/GHG emissions from buildings. Updated community energy use/emissions inventories for 2016 and 2020

## **Buildings Recommendation #2: Energy Audit/Performance Rating**

***For Existing Buildings, an Energy Audit and/or Building Energy Performance Rating, Including Utility Bills from Past Year, Could be Conducted at Point of Sale or Lease.***

An energy audit is a service that involves inspecting and analyzing energy use, efficiency, and conservation. Different types of audits can be pursued, from simple “walk through” audits to more involved audits that can use equipment (such as blower doors and infrared cameras). A building performance rating is the result of an analysis that rates a building on a standardized scale for buildings of the same type. For example, for homes, the Home Energy Rating System (HERS) is a national recognized rating system. EPA’s Energy Star program similarly has created a system for rating and benchmarking different categories of buildings. The purpose of this recommendation is to create a level playing field using recognized standards of information about energy use and efficiency for people in the housing market.

Implementation Opportunities	<ul style="list-style-type: none"> <li>· Healthier buildings (better air handling and moisture control)</li> <li>· Lower carbon emissions.</li> <li>· Lower utility bills for occupants.</li> <li>· Provides a service to those looking to buy or rent and reaches a demographic not reached with many incentive based efforts</li> <li>· Addresses the unique situation in Carrboro with a high percentage of non-owner occupied buildings</li> <li>· Heat loss audits could be automated for a neighborhood using thermal IR imagery</li> <li>· The Town’s Energy Efficiency Revolving Loan Fund is available for recommended improvements to commercial buildings.</li> <li>· Can potentially support businesses performing energy ratings/audits</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>· The Town does not have the authority to make this a requirement and would need special enabling legislation if this were to be a regulatory program.</li> <li>· Some building owners, especially those with less efficient buildings, will likely not be in favor of this for reasons of “over regulation” and/or the potential market implications.</li> </ul>
Resources Needed (human and material)	Effort associated with outreach and education and crafting the details with stakeholders as well as monitoring for compliance.
Anticipated Cost	Significant costs are not anticipated but would need to be determined as part of implementation
Leadership	Board of Aldermen for policy direction, with support from the Economic Sustainability Commission, Town staff

Partners	Business Alliance, Chamber of Commerce, Board of Realtors, Triangle Green Building Council
Time Frame	Exploration could begin immediately. For a higher probability of moving forward, a champion will likely be needed.
Fit with Items	Rental Task Force; Rental Registry/Certification
Next Step(s)	To be determined
Evaluation Criteria	Reductions in metered utility energy usage and costs.

### **Buildings Recommendation #3: Demonstrate/Pursue Energy Performance Beyond Minimum Requirements for New Development**

***For New Developments and/or Individual New Buildings or Major Retrofits, Pursue Compliance with Voluntary Section of Building Code, or Request Specific Energy Performance Rating/Measures as Part of Land Use and/or Building Permit.***

In 2010, a 15% residential efficiency part of the building code was not approved by the NC Building Council, instead this code was considered to be voluntary and included as Appendix 4 to the 2012 NC Energy Conservation Code. The Carrboro Board of Aldermen is seeking statutory authority to pilot making Appendix 4 mandatory. Other approaches could be followed to pursue energy efficiency in new buildings beyond the current minimum code requirements.

Implementation Opportunities	Healthier buildings (better air handling and moisture control) Lower carbon emissions. Lower utility bills for occupants.
Implementation Challenges	Additional Town staff time. Statutory authority, or voluntary compliance from developers/builders
Resources Needed (human and material)	Town staff to expand Building Code implementation and/or work with Triangle Green Building Council to develop checklist and form of recognition.
Anticipated Cost	No significant cost anticipated
Leadership	Town staff, potentially with support from Planning Board
Partners	Triangle Green Building Council
Time Frame	Exploration could begin immediately. Identifying a champion will likely be needed.
Fit with Items	Pursuing 50% reduction
Next Step(s)	TBD
Evaluation Criteria	Number of buildings affected. Reductions in metered utility energy usage and energy intensity (energy use per square foot)

## Buildings Recommendation #4: Create Rental Property Task Force and Process

### ***Create a Task Force to Pursue a Facilitative Process to Achieve Greenhouse Gas (GHG) Reductions in Rental Units***

Most emissions in Carrboro come from buildings, a very high percentage of buildings are for housing and about two-thirds of housing in Carrboro is rental property. For progress towards Carrboro's Climate Action Goal, it is imperative that emissions reductions efforts address rental property. It is recommended that the Town commission a Task Force to bring forward policy recommendations for how to align landlord and renter interests towards improved energy efficiency in rental units. (This Task Force could be the same as identified below for renewable energy.)

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Energy efficiency reduces waste and saves money in the long term</li> <li>• Energy efficiency retrofits create local jobs</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• There is little precedent; organizing and coordinating will require significant effort.</li> <li>• Many rental property owners are not local.</li> <li>• Owners and renters financial incentives are not necessarily well aligned</li> </ul>
Resources Needed (human and material)	The Town could partner with an outside organization to facilitate this Task Force.
Anticipated Cost	Staff time and/or contract support to help facilitate Task Force
Leadership	Town staff for giving the group a well-defined mission and keeping the group on track
Partners	Work with organization that facilitates stakeholder groups
Time Frame	Time frame to set up a Task Force depends on Board priority and staff/community capacity. Operating the resulting program would be a long term endeavor.
Fit with Items	50% reduction challenge; Rental Registry; Renewable Energy Task Force
Next Step(s)	<ol style="list-style-type: none"> <li>1. Develop Task Force charge</li> <li>2. Identify relevant stakeholders needed to agree to process in order to make impactful change</li> <li>3. Identify outside organization to facilitate Task Force</li> <li>4. Commission Task Force</li> </ol>
Evaluation Criteria	Savings from lower energy bills could be put towards other projects. Keep energy dollars local. Reduces greenhouse gas emissions.

## **Buildings Recommendation #5: Create Rental Property Registry/Certification**

### ***Create a Certificate Program or Registry for the Energy Performance of Rental Housing***

The basis for this recommendation is identical for the above building recommendations. The essence of this recommendation is that, as part of making rental properties more energy efficient, a program be created that makes it easy for those in the rental market to find energy efficient rental listings.

Implementation Opportunities	<ul style="list-style-type: none"><li>· Lower residential carbon emissions.</li><li>· Lower utility bills for tenants.</li><li>· Provides a service to those looking to rent and reaches a demographic not reached with many incentive based efforts</li><li>· Addresses the unique situation in Carrboro with a high percentage of non-owner occupied housing</li><li>· The Town could potentially support performing energy ratings/audits</li></ul>
Implementation Challenges	<ul style="list-style-type: none"><li>· The Town does not have the authority to make this a requirement.</li><li>· The effectiveness of this program would be dependent on widespread adoption by Carrboro landlords.</li><li>· It may require outreach to the landlords and research on the how to best communicate a potential rating system.</li></ul>
Resources Needed (human and material)	Town staff, or another entity, could run the program and set the program requirements.
Anticipated Cost	Costs would be primarily associated with staff time and marketing.
Leadership	Board of Aldermen for policy direction, Town staff
Partners	Triangle Green Building Council, potentially others
Time Frame	Time frame to set up depends on Board priority and staff/community capacity. Operating it would be a long term endeavor.
Fit with Items	Other buildings recommendations, especially the energy audit/performance rating
Next Step(s)	Outreach to determine interest and feasibility
Evaluation Criteria	Reductions in metered utility energy usage and costs.

# Transportation Measures

Reducing emissions from transportation in Carrboro will rely on a coordinated, multifaceted effort involving infrastructure improvements, additional transit service, land use changes, outreach and engagement to affect transportation mode choices, and participation broadly with partners and across the community.

Availability of local bicycling and pedestrian infrastructure is strongly associated with overall levels of biking and walking, especially with trips to work, school, or shopping.<sup>27</sup> In September 2010, the League of American Bicyclists recognized Carrboro as a Bicycle Friendly Community at the “Silver” level. There is an aspiration to achieve the “Gold” level during the next review cycle. The Town has the support of the Carrboro Bike Coalition, Chapel Hill Carrboro City Schools and other Safe Routes to Schools partners, a high level of ridership relative to other jurisdictions, and comprehensive bicycling and greenway plans. In order to get even more people out of their cars and onto their feet and bikes, Carrboro must keep working on the gaps, continue to connect neighborhoods to schools, and expand bicycle and pedestrian infrastructure to connect all areas of Carrboro to downtown, surrounding greenways, and bike routes. Improvements such as signals and pavement markings can increase convenience and perceptions of safety, and provide official, visible recognition that bicyclists are legitimate users of the road.

Carrboro (and Chapel Hill and UNC) have sponsored Chapel Hill Transit for several decades, the only fare free transit system and the highest per capita use system in North Carolina. In combination with regional transit provided by GoTriangle, transit options, along with publically and privately supported rideshare/carpooling/vanpooling/car sharing options continue to increase. Nevertheless, for many users and trips, transit and other alternatives to single occupancy vehicle use is a difficult option because of the relative convenience and comparative time relative to single occupancy motor vehicle use. A number of initiatives are in place to help promote and expand use of alternatives to single occupancy vehicle use; suggestions for further pursuing these initiatives are provided. A final recommendation is to reduce vehicle idling in school loading zones.

---

<sup>27</sup> A Seattle study found that adults living within a half-mile of a bike path were 20 percent more likely to bicycle at least once a week. A Portland study found that cyclists went the furthest out of their way to use off-street bike paths, followed by bicycle boulevards (low speed streets that have been “optimized” for bicycle traffic) suggesting a general preference for facilities protected from motor vehicle traffic.

## Transportation Recommendation #1: 50% Challenge

***Reduce Greenhouse Gas Emissions from Motor Vehicle Use by 50% by 2025.***

It is proposed that local leaders announce an emissions reduction challenge to reduce community-wide emissions by 50% by 2025. The challenge could include a component focused on transportation/motor vehicle emissions in Carrboro.

Implementation Opportunities	<ul style="list-style-type: none"><li>• Requirements and market for more fuel efficient/lower emission vehicles and pedestrian and bicycle infrastructure and transit system use continue to improve.</li><li>• Land use planning is supporting mixed use, infill and redevelopment and community is proactive to further encourage non-vehicular modes.</li></ul>
Implementation Challenges	<ul style="list-style-type: none"><li>• High percentage of residents work outside Carrboro with significant challenges for using transit or commuting by bike or on foot.</li><li>• Constraints such as topography/natural features, ownership, and grey infrastructure exist in some areas for further bicycle and pedestrian facility development.</li><li>• Non-vehicular transportation options in some parts of Town are more limited.</li><li>• Ability to monitor and track progress towards emissions reduction is currently quite limited methodologically and in terms of clarity of the responsible party for tracking.</li></ul>
Resources Needed (human and material)	There are no resource requirements associated with a recognized community-wide goal, although there will be resources needed for implementation of different actions.
Anticipated Cost	There are no specific costs associated with a recognized community-wide goal, although there will be resources needed for implementation of different actions.
Leadership	Local elected officials and community leaders could endorse this goal
Partners	Various public, private, nonprofit
Time Frame	It is recommended that local leaders do this immediately.
Fit with Items	Buildings and renewable energy challenges
Next Step(s)	Formal adoption/publicity for challenge
Evaluation Criteria	Ability to track emissions via VMT, fuel type, and vehicle efficiency. CAMPO model? Other methodology?

## Transportation Recommendation #2: Enhance Transit Service

### ***Improve/Extend Transit Service***

While overall, Chapel Hill Transit is the most successful transit agency in North Carolina and GoTriangle is steadily increasing service, areas farther from downtown have more limited service.

Implementation Opportunities	<ul style="list-style-type: none"> <li>Transit service could be extended to new areas by adding more stops in Carrboro well connected to other transit, bike, and pedestrian access, and including more hours of service.</li> <li>New Transit Oriented Development could be sited in the Northern Transition Area.</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>Fleet has many old and inefficient vehicles</li> <li>Funding is currently stressed.</li> <li>It is difficult to site development of sufficient density in northern Carrboro to justify transit.</li> <li>Service level makes it difficult for many commuters to use transit.</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>Increased funding</li> <li>Landowner, developer, and community support new mixed use/transit oriented development</li> </ul>
Anticipated Cost	Improved local transit service costs will depend on different factors, and will be implemented by Chapel Hill Transit and GoTriangle.
Leadership	Board/Transit Partners, NTAAC, Transportation Advisory Board, Town staff for new development. Chapel Hill Transit for improved/expanded local transit service; GoTriangle for regional transit. Other partners below can also provide leadership.
Partners	Local business community, NTA neighbors
Time Frame	Transit development/improvement by nature is an ongoing and long term undertaking.
Fit with Items	See separate recommendation for steps to promote transit service.
Next Step(s)	<ul style="list-style-type: none"> <li>Work with GoTriangle and Chapel Hill Transit staff to provide additional feedback on plans for future service and ability to accelerate adding service.</li> <li>Enhance transit access points along the 54/15-501 corridor from Chapel Hill/Carrboro to Durham and provide more frequent, reliable bus service.</li> </ul>
Evaluation Criteria	Number of bus commuters/trips

### Transportation Recommendation #3: Improve Vanpool/Carpool Options

#### ***Improve Vanpool/Carpool Options for Commuters***

A considerable amount of transportation related emissions can be attributed to people commuting in and out of Carrboro for work. Vanpools and carpools can be an effective approach for reducing vehicle miles traveled and single occupancy vehicle trips, but existing park and ride areas could be more convenient for Carrboro commuters. Adding vanpool parking areas could reduce vehicle miles traveled and emissions.

Implementation Opportunities	Add GoTriangle vanpool/carpool parking in Carrboro (including downtown Carrboro and Northern Carrboro) and nearby in Chapel Hill.
Implementation Challenges	Requires partnership with GoTriangle and local businesses.
Resources Needed (human and material)	Signs to identify vanpool and carpool parking areas
Anticipated Cost	Signs to identify vanpool and carpool parking areas
Leadership	Board of Aldermen; Staff; GoTriangle
Partners	Chapel Hill Transit, GoTriangle; businesses with suitable parking
Time Frame	The main timing consideration is determining who can champion this.
Fit with Items	Reduce transportation emissions by 50% by 2025.
Next Step(s)	Work with GoTriangle to identify currently registered vanpools and carpools and use this info along with expected increase in use to establish carpool and vanpool parking areas, including downtown Carrboro and Northern Carrboro and nearby areas in Chapel Hill.
Evaluation Criteria	Number of vanpool and carpool commuters

### Transportation Recommendation #4: Further Promote Walking, Biking, Transit

#### ***Take Additional Steps to Promote Walking, Biking, and Transit Use***

Carrboro has a considerable base of bicycling, walking, and transit use to build on. In September 2010, the League of American Bicyclists named the Town of Carrboro a Bicycle Friendly Community at the “Silver” level, and there is an aspiration to achieve the “Gold” level during the next review. Carrboro has significant support from the Carrboro Bike Coalition and other partners and already participates in the Safe Routes to School program. Marketing and educational programs, as well as regulations, significantly affect levels of bicycling, walking, and transit use. Investments in infrastructure must be supported by outreach programs to be most effective.



Implementation Opportunities	More promotion/outreach for bicycling and walking
Implementation Challenges	<ul style="list-style-type: none"> <li>● Challenge of changing set behaviors.</li> <li>● Some greenway, bike route, and transit services are not yet complete.</li> <li>● Transit services are spotty or non-existent in some areas</li> <li>● Uncertain funding for new/renovated buses</li> </ul>
Resources Needed	<ul style="list-style-type: none"> <li>● Town Staff and partners support.</li> </ul>
Anticipated Cost	TBD
Leadership	Town Transportation Planner, with support from Recreation and Parks staff, Transportation Advisory Board, Greenways Commission.
Partners	UNC, Chapel Hill Transit, GoTriangle, Carrboro Bike Coalition, Carrboro Business Alliance, Chapel Hill-Carrboro City Schools, Walk Bike NC
Fit with Items	Reduce Greenhouse Gas Emissions from Motor Vehicle Use by 50% by 2025; Improve and Extend Bicycling and Pedestrian Infrastructure; Improve and Extend Transit Services
Time Frame	This is ongoing. The main consideration for significantly accelerating efforts is identifying people with capacity.
Next Step(s)	<ul style="list-style-type: none"> <li>● Continue, accelerate, and intensify efforts to: <ul style="list-style-type: none"> <li>○ Promote bike to work days; consider doing these weekly. Studies have reported long-term increases in bicycling following bike-to-work days.</li> <li>○ Work with the Carrboro Bicycle Coalition to put on and publicize on-going bicycle training;</li> <li>○ Work with the Carrboro Bike Coalition to hold “Open Streets” days.</li> <li>○ Work with Chapel Hill Transit and GoTriangle to develop and implement a marketing and educational program on carpooling, vanpooling, and transit use. Promote official car free, carpool, vanpool, and transit use days.</li> <li>○ Support the <i>Safe Routes to Schools Program</i>. Work with the Carrboro-Chapel Hill City School System and local PTAs to promote bike and walk to school days; consider doing these weekly.</li> <li>○ Pursue efforts to implement land use and development policies that help ensure destinations for daily needs, such as school, work, and shopping, are within convenient bicycling distance from home. Encourage developers to promote multi-modal transportation options.</li> </ul> </li> <li>● Promote “park and stroll” programs at schools, where students are dropped off at a remote location and walk or bike the rest of the way to school.</li> <li>● Research and implement a bike sharing system downtown.</li> <li>● Explore new policies that make driving more expensive and less convenient (e.g. reduced parking supply, increased parking fees, and reduced road speeds). Lower speed limits for vehicles make bicycling safer and more attractive. One study conducted in Germany found that reducing general speed limits led to a significant increase in bicycling.</li> </ul>
Evaluation Criteria	<ul style="list-style-type: none"> <li>● Number of students biking or walking to school.</li> <li>● Number of residents biking, walking, or using transit, carpooling or vanpooling to commute to work.</li> <li>● Increased transit ridership.</li> </ul>

## Transportation Recommendation #5: Limit Idling in School Loading Zones

### ***Limit Idling in School Loading Zones***

Avoiding idling time has a multitude of benefits including: savings in fuel and maintenance costs, extending vehicle life, and reducing damaging emissions. It is especially appropriate to look at school loading zones because they are focal points in Carrboro for vehicle idling, expose a sensitive population to air pollution, and meaningful reductions could be achievable through simple behavior change. Outreach resources are available at [http://daq.state.nc.us/motor/idle/idle\\_campaign.shtml](http://daq.state.nc.us/motor/idle/idle_campaign.shtml).

Implementation Opportunities	This is a simple effort that will reduce air pollution and GHG emissions.
Implementation Challenges	Parental resistance, especially at elementary schools, and outreach/enforcement.
Resources Needed	School system employee time. Consider recruiting student and parent volunteers to help with education/outreach.
Anticipated Cost	Costs associated with staff time
Leadership	Board of Aldermen, CHCCS School Board, staff
Partners	PTA; individual school teams;
Time Frame	If the policy direction exists, this could be pursued immediately.
Fit with Items	Community integration and emission reduction recommendations
Next Step(s)	Coordinate with CHCCS
Evaluation Criteria	Monitoring of idling activity



## Transportation Recommendation #6: Improve Bicycle and Pedestrian Infrastructure

***It is essential to Improve Carrboro's Bicycling and Pedestrian Infrastructure and safety in combination with stewardship of our forests and creeks.***

Implementation Opportunities	Greenway and bike plan decision-making could be accelerated, providing options to more users sooner.
Implementation Challenges	<ul style="list-style-type: none"> <li>• Limited funding identified for greenway and sidewalk projects</li> <li>• Leadership, capacity, and commitment to resolve remaining planning and routing issues</li> <li>• Uncertain/delayed development plans</li> <li>• Coordinating with multiple entities.</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• Town Staff and other support to implement.</li> <li>• Funding for greenway development and new bike and pedestrian facilities.</li> </ul>
Anticipated Cost	TBD
Leadership and Partners	Board of Aldermen and Town Staff with support from the Transportation Advisory Board, the Greenways Commission, Friends of Bolin Creek, the Carrboro Bike Coalition, and the general public. NCDOT, Town of Chapel Hill, Chapel Hill-Carrboro City Schools, University of North Carolina, local business community.
Fit with Items	Reduce greenhouse gas emission from motor vehicle use by 50% by 2025. Ecosystem, forest and tree preservation and protection. Aligns with recommendation #4.
Time Frame	Some elements have begun, and could be accelerated depending on the priority of the parties involved. Infrastructure development/improvement by nature is an ongoing and long term undertaking.
Next Step(s)	<ul style="list-style-type: none"> <li>• Engage in a process with the community to build a common vision for facilitating the decision making that is necessary to advance safe pedestrian and bicycle transportation as well as environmental stewardship.</li> <li>• Advocate to speed the funding for the approved plans for the north-south Seawell School Road side walk and bike lane completion, the Campus to Campus Connector (approved by Carrboro, Chapel Hill and UNC) and dedicated/safer bike-pedestrian routes</li> <li>• After studying all other planned connections, with the community, pursue regional collaboration with MPO partners on the missing connections</li> <li>• Continue to work closely with UNC and the Chapel Hill-Carrboro City Schools bike-pedestrian connectivity issues, plans and funding.</li> <li>• Create bicycle boulevards by adding traffic calming features (e.g., speed humps, curb extensions, pedestrian crossways) on streets with a low volume of traffic and/or install cycle tracks (which are on-street bike lanes that are physically separated from motor vehicle lanes). This can be</li> </ul>

	<p>pursued in conjunction with storm water treatment measures to create “Green Streets”.</p> <ul style="list-style-type: none"> <li>● Consider new forms of pavement markings, including bike boxes, shared lane markings or sharrows, and colored bike lanes, which increase perceptions of safety, help guide bicyclists and motorists, and provide official, visible recognition that bicyclists are legitimate users of the road.</li> <li>● Improve the pedestrian experience in and around bus stops.</li> <li>● Provide bike parking at high-demand bus stops.</li> <li>● Work with the local business community to provide showers and bike locker for commuters.</li> <li>● In the longer term/larger community, ensure sufficient bike parking is supplied at future Light Rail stations</li> </ul>
Evaluation Criteria	<ul style="list-style-type: none"> <li>● Increase in the number of students biking or walking to school</li> <li>● Increase in the number of residents biking or walking to work</li> <li>● Increase in the number of bike trips to downtown Carrboro</li> <li>● Completion of greenways and dedicated bike routes</li> <li>● Completion of bicycle boulevards, cycle tracks, and new pavement markings</li> <li>● Increase in the number of businesses that install showers and bike lockers</li> </ul>

## Renewable Energy Measures

Carrboro’s Climate Action Goal can be pursued by generating more energy from renewable sources and improving energy efficiency. This section provides recommendations for how to increase renewable energy from two sources, solar and geothermal. Solar panels convert light from the sun into electricity. Geothermal heating and cooling employs pumps and wells to take advantage of the near constant temperatures below the Earth’s surface. This can be used to reduce the costs to heat buildings in the winter and cool them during the summer. Both of these approaches require considerable initial costs to install the equipment. However these technologies have low maintenance costs and a lifetime of more than 25 years, which creates considerable energy savings over time. Homeowners and businesses that can shoulder the upfront costs have been switching to renewable energy. The focus of these recommendations is to help speed the transition to renewable energy, especially addressing the barrier of initial costs.

The first recommendation is to develop a community solar project for Carrboro. Solar panels can provide low-cost energy without environmental impacts. Many home and business owners are realizing lower energy costs by investing in solar. However, most Carrboro residents either rent or own homes that are shaded by trees, and cannot benefit from solar at their home. A community solar project would allow people across Carrboro to invest in solar, lower electricity bills, and help bring about a clean energy future for our Town. However, the electric utilities that service Carrboro restrict most forms of community ownership. Legislation currently under discussion in the NC General Assembly would allow a third-party, such as a community entity, to sell electricity directly to power consumers. Under this

change, a community group could own a solar installation and sell the energy to a large buyer, such as the Town of Carrboro. The agreement could set the electricity price to a rate that is beneficial to both the Town and the community investment group.

The second recommendation is to explore and encourage geothermal heating and cooling, especially in downtown. The Carrboro Century Center has considerable heating and cooling costs that could be reduced by switching to geothermal. Developing geothermal heating and cooling for the Century Center could reveal economies of scale, where neighboring buildings could be added to the system at lower cost. If it is legally and technically feasible and cost-effective, the opportunity could be extended to explore the formation of a geothermal heating and cooling utility to provide low-cost, sustainably sourced heating and cooling to downtown buildings that is easy for property owners to join.

The third recommendation is to convene an action group to develop policy opportunities to create incentives for renewable energy and energy efficiency upgrades in rental properties ([see Buildings Recommendation #3](#)). The majority of Carrboro residents are renters and do not directly have control over their energy efficiency and energy generation. Because renters pay the utility bills, landlords have less financial incentive to invest in energy savings. Lowering electricity costs makes housing more affordable, but the incentives are not aligned to encourage this change. This action group will be charged with finding policy opportunities to better align renter and landlord incentives towards lowering electricity costs. This action group should include advocates from renter, property owner, affordable housing, and green building organizations.

When taken together, these recommendations provide opportunities for Carrboro residents and businesses to further participate in and benefit from the switch to renewable energy.

### **Renewable Energy Recommendation #1: Pursue Community Solar Projects**

#### ***Pursue Community Solar Projects***

Solar panels can provide low-cost energy without environmental impacts. Many home and business owners are realizing lower energy costs by investing in solar. However, most Carrboro residents have homes that are shaded by trees, and cannot benefit from solar at their home. A community solar project would allow people across Carrboro to invest in solar, lower electricity bills, and help bring about a clean energy future for our Town. However, the electric utilities that service Carrboro restricts most forms of community ownership. Legislation currently under discussion in the NC General Assembly would allow a third-party, such as a community entity, to sell electricity directly to consumers. Under this change, a community group could own a solar installation and sell the energy to a large buyer, such as the Town of Carrboro. The agreement could set the electricity price to a rate that is beneficial to both the Town and the community investment group.

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Broadly share solar investment benefits, including keeping dollars local</li> <li>• Town of Carrboro buildings could be first adopters, but this approach could be deployed on other buildings</li> <li>• The community investment group could pay the upfront costs to develop solar</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• Requires considerable effort to organize support and investment</li> <li>• The loss of the NC Renewable Energy Tax Credit and the absence of third-party sales of electricity significantly limit the market.</li> </ul>
Resources Needed (human and material)	This will likely require collaboration between Town staff and one or more outside organizations.
Anticipated Cost	There are options depending on how the electricity purchasing agreement with the community group is defined
Leadership	Town staff for considering Town property; economic development groups for development of community infrastructure
Partners	Work with organization that coordinates community investment group
Time Frame	Projects could take months or more to develop and would have benefits for many decades
Fit with Items	Community Integration recommendations
Next Step(s)	Develop program with community investment group
Evaluation Criteria	Savings from lower energy bills could be put towards other projects. Keep energy dollars local. Reduces greenhouse gas emissions.

## Renewable Energy Recommendation #2: Pursue Downtown Geothermal Heating and Cooling

### ***Pursue Geothermal Heating/Cooling, Especially in Downtown***

Geothermal heating and cooling employs pumps and wells to take advantage of the near constant temperatures below the Earth's surface. This can be used to reduce the costs to heat buildings in the winter and cool them during the summer.

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Lower costs of heating and cooling</li> <li>• Century Center or Town Hall/Town Commons could be candidate for first adopter</li> <li>• If marginal costs of adding adjacent community/commercial buildings to the heating and cooling network are low, then a municipal utility could be an effective way to provide services at low cost</li> <li>• A community geothermal utility would make it easier to adopt geothermal broadly by lowering costs and simplifying construction.</li> <li>• Savings from lower energy bills could be put towards other projects</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• Unknown technical feasibility</li> <li>• Large upfront costs; requires low-cost financing</li> <li>• New for Carrboro. Orange County buildings in Hillsborough have implemented geothermal in HVAC and are realizing substantial savings</li> </ul>
Resources Needed (human and material)	Effort to: explore feasibility; develop engineering design; and policy development towards an approach for other community buildings.
Anticipated Cost	Upfront costs are large but design lifetime of equipment is approximately 50 years. Geothermal systems (on average) reduce heating and cooling costs by 50%. The actual installation costs and benefits depend on the building.
Leadership	Town staff for development for Town buildings, business community for development of community infrastructure
Partners	Technical assistance from Orange County, contractor(s), and investors
Time Frame	An initial assessment of technical feasibility could be pursued quickly. Project development would likely take several years, depending on the scope, with benefits for many decades
Fit with Items	Pursue Partnerships; 50% Reduction Goal for Buildings
Next Step(s)	<ol style="list-style-type: none"> <li>1. Examine completed projects in Orange County</li> <li>2. Solicit contracting support for feasibility study</li> <li>3. If deemed feasible, develop preliminary design for Town of Carrboro buildings including financial assessment and environmental benefits.</li> <li>4. Explore opportunities to develop a municipal utility</li> <li>5. Explore ways to encourage developers to install geothermal</li> </ol>
Evaluation Criteria	<ul style="list-style-type: none"> <li>• Reduced energy bills.</li> <li>• Reduced greenhouse gas emissions.</li> <li>• More comfortable work environment for Town staff.</li> </ul>

### Renewable Energy Recommendation #3: Create Rental Property Task Force and Process

***Create a Task Force to Pursue a Facilitative Process to Achieve Greenhouse Gas (GHG) Reductions in Rental Units***

It is recommended that the Town commission a Task Force to bring forward policy recommendations for how to align landlord and renter interests towards achieving renewable energy in rental units. (This Task Force could be the same as identified above for building energy efficiency.)

Implementation Opportunities	Renewable energy is clean energy and create local jobs
Implementation Challenges	The policy options to address this issue also have an impact on Town planning and affordable housing
Resources Needed (human and material)	Town staff could partner with an outside organization to facilitate this Task Force.
Anticipated Cost	Staff time and/or contract support to help facilitate Task Force
Leadership	Town staff for giving the group a well-defined mission and keeping the group on track
Partners	Work with organization that facilitates stakeholder groups
Time Frame	Time frame to set up a Task Force depends on Board priority and staff/community capacity. Operating the resulting program would be a long term endeavor.
Fit with Items	Task Force/Facilitative Process for Buildings
Next Step(s)	<ol style="list-style-type: none"> <li>1. Develop Task Force charge</li> <li>2. Identify relevant stakeholders needed to agree to process in order to make impactful change</li> <li>3. Identify outside organization to facilitate Task Force</li> <li>4. Commission Task Force</li> </ol>
Evaluation Criteria	Savings from lower energy bills could be put towards other projects. Keep energy dollars local. Reduces greenhouse gas emissions.



# Ecosystem Protection and Enhancement

The ecosystems that Carrboro is located within are being affected by a warming planet, but they also offer opportunities for combating climate change. This section of the plan includes recommendations to improve ecosystem health and resilience by reducing stormwater impacts, increasing tree canopy and biodiversity, better management of invasive plants and encouragement of native plants, managing organic waste and improving soil quality. In addition, there is a need for better information about the impact of climate change as well as herbivory on the health of the community forest. These focus areas are discussed separately, but are highly interwoven. The following is a brief overview of each area to provide context for the recommendations.

Climate change is likely to increase the frequency and intensity of storms and droughts in Carrboro, which will in turn increase the negative impacts of stormwater runoff that include erosion, flooding, nonpoint source pollution (including nitrogen and phosphorus delivery to surface waters), and altered hydrology<sup>28</sup>. Many methods and opportunities exist to aid in curbing stormwater runoff (permeable paving, rain gardens, and green roofs to name just a few), but often landowner interest and available resources are not in place to pursue these projects<sup>29</sup>. Creating a stormwater utility or joining Chapel Hill's utility could ensure a dedicated funding source for stormwater projects that is not subject to discretionary spending in annual budget cycles. Doing so would provide the financial stability and predictability needed for such projects. A utility could also support public education, helping citizens understand the causes and consequences of stormwater runoff and the ways in which individuals can limit the runoff and pollution leaving their property.

Despite climate and land use changes, forests in the southeastern USA will likely continue to provide a sink of atmospheric carbon dioxide (CO<sub>2</sub>). There is potential for mitigating CO<sub>2</sub> emissions through carbon sequestration in soils and plant biomass. Protection of these natural carbon sinks in the face of development pressures is an important issue for climate change mitigation. The potential savannafication of the southeast, in which forests are converted into more open woodlands due to a combination of hotter and drier conditions, is one of the most significant potential climate change impacts in the USA.<sup>30</sup> A healthy forest, and in particular a healthy riparian forest, is integrally related to healthy creeks and downstream waters. For example, these ecosystems not only store macronutrients in their biomass, but they are also responsible for stabilizing and building soils with rich microbiological processes that recycle nutrients such as nitrogen and phosphorus. In doing so, creeks are protected from being overloaded and over fertilized with sediment and nutrients. Riparian forests shade creeks and help regulate the water temperature, and the creeks and creek valleys create important microclimates.

---

<sup>28</sup> <http://tigerprints.clemson.edu/cgi/viewcontent.cgi?article=1131&context=scwrc>

<sup>29</sup> <http://www.nrdc.org/water/pollution/storm/chap4.asp>

<sup>30</sup> Ingram, K., K. Dow, L. Carter, J. Anderson (eds). *Climate of the Southeast United States: Variability, Change, Impacts, and Vulnerability*. Washington, D.C. Island Press, 2013.

NRC (National Research Council), 2010. *Adapting to the Impacts of Climate Change*. Washington, D.C. National Academies Press.

Overgrazing by deer could adversely affect the health of the forest by causing a decrease in plant diversity and aiding in the spread of exotic species. Soil studies have shown that the seed stores in areas with deer overpopulation can shift from native wildflowers and woody plants to invasive plants and grasses. This could threaten the ability of our forests to regenerate in a healthy way and continue to serve as diverse ecosystems and significant carbon sinks.

Trees, whether lining a city street or part of a forest, are an important tool in addressing climate change. Carrboro's urban forest provides innumerable ecosystem services<sup>31</sup> (not just limited to climate protection/resilience and energy management). Trees act as carbon sinks, reduce the heat island effect in urban areas, and reduce the energy used to cool and heat buildings. Trees stabilize and improve soil, reducing erosion and improving stormwater management through infiltration and evapotranspiration. Trees have been shown to increase property values and help to create a sense of community and economic vitality<sup>32</sup>. Trees absorb air pollutants, reducing exposure of dangerous chemicals to people and wildlife. And, of course, trees offer habitat for wildlife such as pollinators and migratory birds. A recent study has shown that Carrboro lost about 4% of its tree canopy between 2002 and 2010<sup>33</sup>. A "Tree Coalition" could be formed to promote the preservation and health of trees and the community forest in Carrboro and be a resource for citizens who have questions about trees on their property.

Unfortunately, native plant species are being threatened by invasive plant species (categorized by the US government as non-native species that are economically and environmentally devastating). Recent studies have shown that as climate change lengthens growing seasons, invasive species are adjusting their flowering schedules more quickly than their native counterparts. This earlier bloom time can allow invasives to shade out natives and "capture a larger share of nutrients, water, or pollinators".<sup>34</sup> It can take decades to discover that a species is invasive, and such a discovery does not necessarily lead States to ban nursery sales of the species. Many people are unaware of the critical importance of native plants to food webs and biodiversity, and often fail to realize the impact that their own landscaping choices have on our local ecosystems. For example, because native plants serve as the host plants on which native insects lay their eggs -- and 96% of North American birds (excepting seabirds) rely on native insects to feed their young-- native plants are important both environmentally and economically. According to The White House, as of 2009, pollination of US crops by native insects was valued at more than nine billion dollars. It is recommended that the Town and community take a three-fold approach to this issue: 1) review and strengthen Town ordinances against invasive species and in favor of native species; 2) educate the community about the link between native species and ecosystem health; and 3) encourage invasive species removal projects that are carried out by citizens but led by a non-profit or task force.

---

<sup>31</sup> See Nowak, D. et al., "Sustaining America's Urban Trees and Forests". USDA Forest Service, Northern Research Station. State and Private Forestry General Technical Report NRS-62. June 2010.

[http://www.fs.fed.us/openspace/fote/reports/nrs-62\\_sustaining\\_americas\\_urban.pdf](http://www.fs.fed.us/openspace/fote/reports/nrs-62_sustaining_americas_urban.pdf)

<sup>32</sup> Council of Tree and Landscape Appraisers, as reported by City of Raleigh

ICMA, as reported by City of Raleigh

<sup>33</sup> Shields, Shane. 2014. Modeling Carrboro's Tree Canopy Cover 2002 to 2010. Report completed as intern to Carrboro Planning Department.

<sup>34</sup> Nijhuis, Michelle. "How Climate Change is Helping Invasive Species Take Over." Smithsonian.com. Smithsonian Magazine, December 2013. <http://www.smithsonianmag.com/science-nature/how-climate-change-is-helping-invasive-species-take-over-180947630/?no-ist>

The Town should consider expansion of composting in studies of and plans for waste management for multiple reasons. According to NCDENR, “landfills are the largest human-made contributor of methane into the atmosphere. Methane, a greenhouse gas, is 72 times more potent than CO<sub>2</sub> over twenty years.” The organic material buried in landfills is responsible for this methane, releasing the gas through anaerobic decomposition. Orange County has recently begun to utilize the methane in its landfill for energy production. At the same time, reducing future methane production at landfills is a positive climate mitigation measure. Composting is considered to be the most effective way to combat this production of methane<sup>35</sup>. Orange County Solid Waste Management is scheduled to begin offering onsite disposal of household organic waste (i.e. food scraps) at its Chapel Hill facility on Eubanks Road in 2016. This will be in addition to the composting facility offered at its Walnut Grove Church Road Convenience Center in Hillsborough. However, many residents do not utilize these convenience centers, instead throwing their food scraps into the trash. Cities and towns that have implemented curbside composting have been able to move to bi-weekly trash pickup, freeing up funds for commercial hauling and processing of compost. Seattle, Portland, and San Francisco have curbside composting programs that could offer examples for Carrboro<sup>36</sup>.

### **Ecosystem Recommendation #1: Pursue Stormwater Utility**

***Create a Stormwater Utility in Carrboro, or Join Chapel Hill’s Stormwater Utility.***

The Town has taken steps to exceed minimum State requirements for stormwater volume control and water quality buffers for new development and instituted land use planning and policies that have to some extent reduced surface water impacts from new development and exceeded what many other jurisdictions have pursued. The Town has also actively worked with the Bolin Creek Watershed Restoration Team to restore the aquatic health of Bolin Creek. Nevertheless, monitoring of aquatic life continues to identify concerns for the health of Bolin Creek, and stormwater runoff is also known to impact Morgan Creek and other creeks in Carrboro. From the viewpoint of residents with properties regularly experience flooding impacts, however, the Town has not yet been able to comprehensively respond to these impacts. The reality of climate change means that it will likely become more difficult in the future to adequately safeguard the health of local streams and citizens properties. In addition, the Town is faced with both current and new future regulatory requirements related to stormwater runoff. The Town administers an NPDES Phase II stormwater permit, and also will be pursuing a multimillion dollar initiative in the next decade to comply with the Jordan Lake Existing Development Rules.

According to the UNC Environmental Finance Center, there are currently 55 utilities operating in North Carolina, including many utilities in small towns. There appears to be a solid foundation from the work

---

<sup>35</sup> Dennings, Kelly. (2010). The Link between Recycling and Climate Change [SlideShares]. retrieved from <http://www.slideshare.net/NCDENR/the-link-between-recycling-climate-change>

<sup>36</sup> Seattle composting program:

<http://www.seattle.gov/council/bagshaw/attachments/compost%20requirement%20QA.pdf>

Portland composting program: <http://www.portlandoregon.gov/bps/56513>

San Francisco composting program: <http://www.sfenvironment.org/zero-waste/recycling-and-composting>

of all these communities that there is value in having dedicated, predictable and sufficient funding for stormwater management efforts. Chapel Hill has formed a stormwater utility that has significantly increased Chapel Hill's ability to more proactively manage stormwater. Hopefully, a majority of Carrboro residents would be willing to support a utility if the revenue is well managed, especially if provisions are included so that the fee structure not be burdensome to lower income residents.

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Fee structure can be set up for greater “environmental equity” (fees are based on actual runoff impact, not property value).</li> <li>• Emerging/innovative financing approaches exist for stormwater and green infrastructure.</li> <li>• Chapel Hill’s stormwater utility offers: local lessons (what works well/what is difficult); staff with technical expertise in engineering, science, administration, outreach/education; potential for efficiencies/sharing of resources.</li> <li>• A utility would help address current limited fiscal and staff capacity to meet needs for flooding issues/property impacts, protecting and restoring surface water quality, requirements for federal/state stormwater permit, and planning for compliance with Jordan Lake rules.</li> <li>• Opportunities exist for incorporating incentives for implementation of on-site stormwater management. For example, offering subsidies to help homeowners and businesses pay for part of a project on their land as a way to incentive the implementation of BMPs on private property.</li> <li>• The City of Durham has found that it is less expensive overall to distribute stormwater-related expenses as a utility fee rather than by increasing property taxes.<sup>37</sup></li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• Carefully planning the utility’s goals upfront.</li> <li>• Determining whether to create a new utility, join Chapel Hill’s utility, or explore an alternative approach that protects the benefits of a utility.</li> <li>• Determining a pathway for helping low-income individuals (exemptions, reimbursements, etc.).</li> <li>• Creating a well-conceived and well-implemented public outreach campaign. This campaign is needed to get public buy-in, ensuring that citizens are understand the purpose of and need for the utility.</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• Funds for stormwater management/financing study</li> <li>• Eventually, new staff position(s)</li> <li>• Partnering agreement if collaborating with Chapel Hill</li> <li>• Funds for an education campaign</li> </ul>
Anticipated Cost	See footnote <sup>38</sup>

<sup>37</sup> See #7 on the City of Durham’s Stormwater Utility Fee Frequently Asked Questions Page: <http://durhamnc.gov/ich/op/pwd/GIS/Pages/FAQ.aspx>

<sup>38</sup> The average residential fee across 55 utilities in NC is currently about \$1/month/1000 sq. ft. of impervious surface. Chapel Hill’s utility’s fee is about twice the average rate. See <http://www.efc.sog.unc.edu/reslib/item/nc-stormwater-utility-dashboard#> for details on NC stormwater utility rates. <http://www.efc.sog.unc.edu/project/innovative-financing-approaches-stormwater-and-green-infrastructure> has information on innovative financing.

Leadership	<ul style="list-style-type: none"> <li>• Policy leadership from Board of Aldermen.</li> <li>• Management, technical, and administrative leadership from staff.</li> <li>• Environmental Advisory Board may be able to provide support.</li> <li>• Chapel Hill and Durham stormwater may be able to provide advice based on their own experiences.</li> </ul>
Partners	Potentially Chapel Hill, OWASA
Fit with Items	Creating a new revenue stream for the Town adds capacity (Community Integration Recommendation #5)
Time Frame	Deciding to look into a stormwater utility could happen immediately. Forming a utility or joining Chapel Hill's utility would likely take 1-2 years
Next Step(s)	<ol style="list-style-type: none"> <li>1) Staff to look into both administrative and policy opportunities and challenges <ol style="list-style-type: none"> <li>a) Contact nearby jurisdictions and Environmental Finance Center determine best fit for Carrboro in creating a utility.</li> <li>b) Determine whether or not to partner with Chapel Hill's stormwater utility.</li> </ol> </li> <li>2) Craft public outreach/education campaign about negative impacts of stormwater and economic/environmental benefits of a utility.</li> </ol>
Evaluation Criteria	<ul style="list-style-type: none"> <li>• Town can consider annual surveys and other means of measuring public awareness about stormwater impacts and management</li> <li>• Increased number of BMPs created and increased amount of area treated to control stormwater runoff*</li> <li>• Improved stream health as measured by aquatic insects</li> <li>• Changes in stream hydrology based on stream gage monitoring</li> <li>• Availability of harvested rainwater in times of drought</li> <li>• Utility is being funded by fees collected</li> </ul>

## Ecosystem Recommendation #2: Evaluate Extent to Which the Deer Population and Climate Change affect Native Plant Ecosystems.

### ***Evaluate Extent to Which the Deer Population and Climate Change affect Native Plant Ecosystems.***

It is recommended that Carrboro seek professional support to determine whether native plant ecosystem effects from the deer population and climate change are apparent in the community forest. The potential savannification of the southeast, in which forests are converted into more open woodlands due to a combination of hotter and drier conditions, is one of the most significant potential climate change impacts in the USA. Overgrazing by deer has the potential to adversely affect the health of forests, causing a decrease in plant diversity and forest regeneration, and aiding in the spread of non-native, invasive species.

Implementation Opportunities	<p>A better understanding of ecosystem impacts from climate change and herbivory would:</p> <ul style="list-style-type: none"> <li>• Provide a baseline of forest ecosystem conditions;</li> <li>• Identify if actions are needed to mitigate negative ecosystem impacts;</li> <li>• Yield action options more specific and more consistent with local conditions.</li> </ul>
Implementation Challenges	<p>An evaluation of forest ecosystem impacts would:</p> <ul style="list-style-type: none"> <li>• Require outside assistance from experts in forest/ecological/wildlife assessment;</li> <li>• Require coordination among owners of community forest.</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• Administrative support from Town Staff with help from the Environmental Advisory Board.</li> <li>• Information/advice/guidance from organizations such as the NC Forest Service – Orange County, Humane Society of the United States, ecologists/botanists.</li> </ul>
Leadership	Policy leadership by the Board of Alderman. Support from Town Staff and the Environmental Advisory Board.
Partners	Carolina North Forest Management, NC Forest Service – Orange County
Fit with Items	Tree Coalition, Invasive Plant Management
Time Frame	Further study could be pursued immediately.
Next Step(s)	<ol style="list-style-type: none"> <li>1. Obtain professional assistance with evaluating impact of climate change and deer herbivory on forest health</li> <li>2. Consider outcome of evaluation and identify response that meets needs of community.</li> </ol>
Evaluation Criteria	Forest understory (increase in native flora, decrease in exotic species, and increase in plant and animal biodiversity).

### Ecosystem Recommendation #3: Accelerate/Expand Organic Waste Collection/Composting

***Accelerate Efforts to Study and Implement a Comprehensive Organics Collection and Composting Program.***

The Solid Waste Advisory Group, along with local government staff, are actively looking at the future of solid waste in Orange County, including implementation of an organics program. Prioritization/acceleration of this effort is encouraged. Details are provided below.

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Improved soil quality by increasing soil organic content;</li> <li>• Improved water quality by improving infiltration;</li> <li>• Decreased carbon footprint by decreasing methane gas and decreasing the number of trips to the transfer station.</li> <li>• Potential to move to bi-weekly trash pickup, freeing up funds for commercial hauling and processing of compost. Funding for the program could come entirely from the reduction of trash hauling and tipping fees.</li> <li>• A backyard composting demonstration site(s) in a central location(s) could encourage people to participate in composting.</li> <li>• The Town could consider offering finished compost for sale to the community (currently done at the county level) or providing it for free to program participants.</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• Educating the public is critical, as contamination of waste streams remains problematic. Contamination is a big problem in composting due to packaging, utensils, and other plastics being discarded with organic matter. Any campaign would need to be multilingual, as Carrboro is home to many people who speak Spanish or Karen as their first (and sometimes only) language.</li> <li>• Residential composting is especially challenging for multi-family housing, which is more prevalent in Carrboro than other jurisdictions in Orange County. Future planning needs to be sensitive to this challenge.</li> <li>• It can be labor-intensive to get businesses on board. Orange County staff currently have to go back to a business two or three times to get the business to agree to participate. In addition, employees need to be retrained as new people are hired.</li> <li>• Questions remain about program financing. Will Pay-As-You-Throw be viable? Would residents be charged for composting services, or given a discount on trash/recycling services if they compost? Would they pay for the collection but then receive free compost in return?</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• Potentially, further waste characterization studies</li> <li>• Composting equipment (bins, trucks).</li> <li>• A business to take the food waste if Carrboro isn't going to have its own composting site.</li> <li>• Utility or some way to process fees from participants.</li> <li>• Additional staff resources and/or partnerships with community groups</li> </ul>

	and/or businesses to expand outreach and education. This could include encouragement of a local business to operate the curbside program (such as CompostNOW).
Anticipated Cost	The main cost is likely to be the educational campaign aimed at letting people know what can be composted and what still goes in the trash, along with bins. Once the program is running, it could fund itself through money that used to be spent hauling and disposing of trash in landfills.
Leadership	Policy: Solid Waste Advisory Group. Technical: Local government staff.
Partners	Local gardening organizations, environmental groups, local businesses, county staff.
Fit with Items	Community Integration recommendations
Time Frame	Carrboro has initiated a solid waste study. Current trajectory for Solid Waste Advisory Group (SWAG) to consider a residential composting program is three to four years.
Next Step(s)	<ol style="list-style-type: none"> <li>1. The solid waste study can include lessons learned from other communities with successful curbside composting (e.g., San Francisco, Portland, Seattle, NYC) and locally successful programs (CHCCS, UNC, etc.) as well as how to collaborate with local contractors (Brooks, CompostNow, etc.).<sup>39</sup></li> <li>2. Budget for and choose area for pilot program that includes residential and multi-family units.</li> <li>3. Expand program to entire town.</li> <li>4. Future plans should consider adding a more central drop-off location downtown.</li> <li>5. Future studies and plans should include curbside compost collection.</li> </ol>
Evaluation Criteria	Set a goal of 30% reduction in organic material being hauled to the transfer station by 2020, then 70% by 2030.



## Ecosystem Recommendation #4: Tree Preservation, Protection and Conservation

***Help Community Members Form an Independent Tree Coalition to Support the Community and Advocate for the Community Forest***

***Maintain Arbor Day Foundation Tree City USA standards and aim for Tree City USA Growth Award***

Trees act as a carbon sink, helping remove carbon dioxide from the air and mitigate climate change. Most of Carrboro's community forest is owned and managed by private landowners. There is a rich community of local arborists, gardeners, landscapers, nurseries, botanists, and ecologists that can support the community in creating healthier and more beautiful yards and ultimately a more resilient and diverse community forest. However, the knowledge and skills are relatively dispersed. Landowners can benefit from a local resource to help with forest, landscape, and tree management and advocacy.

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Increase public awareness of the intrinsic value and beauty of trees.</li> <li>• Provide oversight for a community scale urban forestry program.</li> <li>• Educate citizens about proper tree selection, planting, and care.</li> <li>• Educate citizens about the health of the larger community forest, its importance for both human and environmental health, and ways in which they can support it.</li> <li>• Partner with local government and civic groups to improve and expand the Town's tree canopy.</li> <li>• A new community organization could partner with the Town to support the Town's participation in the Arbor Day Foundation's Tree City USA program, and to pursue the Tree City USA Growth Award.</li> </ul>
Implementation Challenges	<ul style="list-style-type: none"> <li>• Creating a new and sustainable organization or finding an existing organization to lead the coalition.</li> <li>• Connecting with the public.</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• A nonprofit organization to become a community champion for education, outreach, and action.</li> <li>• Neighborhood and business champions.</li> <li>• Broad support from community leaders, utilities, and business partners to help fund and provide technical expertise (e.g., arborists, foresters, nurseries, landscapers, NC Botanical Gardens, NC Cooperative Extension Service, Carolina North staff, Duke Forest staff).</li> <li>• Fiscal/policy/staff support from Town, North Carolina Urban Forest Council.</li> </ul>
Anticipated Cost	Costs associated with nonprofit establishment/management if an existing nonprofit doesn't offer to take on the task (though this may be unnecessary if a coalition, like the Carrboro Bike Coalition, is formed.)
Leadership	Nonprofit/community members pulled together by Town staff.
Partners	NC Botanical Garden, Arbor Day Foundation, National Wildlife Federation, possibly expanding to Chapel Hill, Hillsborough, and/or Orange County.

Fit with Items	Community forest; native plant ecosystems, invasive plant management, stormwater utility; watershed management
Time Frame	Depends on identifying leadership and ability to mobilize community
Next Step(s)	Establish goals for the coalition Recruit members Form partnerships with those who have technical expertise. Begin education/outreach campaign to community

## Ecosystem Recommendation #5: Improve Regulations and Community Capacity to Discourage Invasive Plants and Encourage Native Plants

***Pursue both Regulatory and Non-regulatory Approaches to Better Manage Invasive Plant Species and Increase Community Efforts to Improve Plant Communities***

The spread of non-native and invasive plants is a threat to forest resilience and biodiversity. Ideas for approaches to reduce the spread of non-native/invasive plants are offered in this recommendation.

Implementation Opportunities	<ul style="list-style-type: none"> <li>• Implement a campaign to educate people on the link between native plant species and ecosystem health, particularly for pollinators who face stress due to climate change and other factors.</li> <li>• Encourage naturalized landscaping instead of manicured lawns. These types of landscapes offer critical wildlife habitat, cause a decline in the use of petroleum-based fertilizers and pesticides, more effectively capture stormwater runoff, and reduce the heat island effect.<sup>40</sup></li> <li>• Pursue invasive species removal projects, especially in Town parks and along greenways/bikeways/right-of-ways. Such projects would be carried out by citizens but perhaps spearheaded by a local non-profit or task force. Projects could initially focus on: <ol style="list-style-type: none"> <li>1. Vining invasives (Japanese wisteria, porcelain berry, kudzu, mile-a-minute, English ivy, Japanese honeysuckle, oriental bittersweet, Japanese euonymus) that threaten urban tree health;</li> <li>2. Japanese stiltgrass and privet that alter soil pH and outcompete many native grasses and shrubs.</li> </ol> </li> <li>• <u>The Bolin Forest and Quarterpath Trace neighborhoods have pursued a neighborhood initiative which could be a resource for other neighborhoods.</u><sup>41</sup></li> </ul>
------------------------------	--

<sup>40</sup> See this book for more information on the benefits and approaches for more naturalized yards and landscapes: Tallamy, Doug. *Bringing Nature Home*. Portland: Timberpress, 2010. Print.

<sup>41</sup> <http://www.townofcarrboro.org/1028/Neighborhood-Urban-Forest-Stewardship>

Implementation Challenges	<ul style="list-style-type: none"> <li>• Many people can't distinguish between native and non-native/invasive plants, nor do they know that the plants they're choosing for their yard are invasive.</li> <li>• Many people don't understand the link between native plants and ecosystem health, choosing their plants based on cost or aesthetics.</li> <li>• Renters don't often have the option to choose what's planted outside their door.</li> <li>• Some landowners and HOAs are resistant to native species or more natural-looking landscapes.</li> <li>• Some developers may need outreach and education.</li> <li>• Large/big box nurseries often sell few (if any) native species</li> <li>• Some people need assistance learning about/accessing local nurseries that specialize in natives.</li> <li>• Deer tend to ignore non-native species and prefer native species.</li> </ul>
Resources Needed (human and material)	<ul style="list-style-type: none"> <li>• Town staff to examine/amend ordinances.</li> <li>• Someone(s) to head an educational campaign.</li> <li>• Someone(s) to lead invasive species removal projects.</li> </ul>
Anticipated Cost	Money for an educational campaign and supplies for projects removing invasives (tools, leaf bags, etc.).
Leadership	Town staff, Environmental Advisory Board, a non-profit or task force to lead invasive removal projects
Partners	NC Botanical Garden, NC Native Plant Society, local nurseries, biologists, local bee keepers, landscapers knowledgeable about native/invasive species, HOAs, Friends of Bolin Creek, Morgan Valley Alliance
Fit with Items	Community forest; Tree Coalition
Time Frame	Town staff are currently looking at the LUO. An outreach campaign is a long term undertaking.
Next Step(s)	<ul style="list-style-type: none"> <li>• Update the Land Use Ordinance invasive/native plant requirements.</li> <li>• Implement an educational campaign, maybe in partnership with the Botanical Gardens or others, to help citizens and businesses understand the importance of planting natives and avoiding invasives. This could be done in conjunction with the Town's newly established annual Pollinator Day.</li> <li>• Explore options for implementing invasive removal projects.</li> <li>• Develop and update inventory of areas with excessive invasive plant growth</li> </ul>
Evaluation Criteria	<ul style="list-style-type: none"> <li>• Stronger ordinance against invasive species and in favor of native species.</li> <li>• Decrease in the number of invasive species in Carrboro and an increase in the number of natives.</li> <li>• More knowledgeable citizenry concerning the importance of native species.</li> </ul>

## Ecosystem Protection and Restoration Challenge #6: Pursue Watershed Restoration Actions to Protect Local Streams from Changes in Rainfall Due to Climate Change

One of the ramifications of a changing climate is the changing of precipitation patterns that affect runoff and groundwater recharge dynamics. Both ends of the spectrum are of concern- more frequent and intense rain and runoff events and longer and more pronounced droughts. Both regional and local evidence points to a relatively recent (on a years to decades time scale) increase in storm events <sup>(42,43)</sup>. This increase stresses stream channels and threatens their geomorphic stability, which is exacerbated in an urban and urbanizing area. These conditions can also lead to groundwater depletion, and by association, less available water in the soil to support plant ecosystems. Another impact of climate change is the potential for an increase in water temperature which can affect the amount of dissolved oxygen in the water and the suitability as habitat for aquatic species <sup>(44)</sup>. Forested riparian buffers are a critical component of stream health. An established streamside tree canopy plays a crucial role in maintaining cool water temperatures in stream, while supporting many other ecosystem processes and functions such as carbon cycling and sequestration, filtering of upland runoff, providing habitat, and supporting biodiversity.

The Bolin Creek Watershed Restoration Team (BCWRT) worked through a small grant to characterize stream channel conditions, vulnerabilities, and restoration opportunities in 2007 <sup>(45)</sup>. In 2012, the BCWRT published a Watershed Restoration Plan that identified steps that would help protect and restore creek, riparian, and watershed conditions and in doing so, also support adaptation to meteorological and hydrological changes associated with climate change <sup>(46)</sup>. The purpose of this recommendation is to highlight this plan and encourage the pursuit of its implementation.

---

<sup>42</sup> Ingram, K., et al (ed.). 2013. Southeast Climate Consortium Climate of the Southeast United States. Variability, Change, Impacts, and Vulnerability. Island Press. <https://www.sercc.com/ClimateoftheSoutheastUnitedStates.pdf>

<sup>43</sup> A Board of Aldermen agenda item included an analysis of stream gage data indicating an uptick in the frequency of high flow storm events. See this link for details:

<https://carrboro.legistar.com/LegislationDetail.aspx?ID=2546739&GUID=FCFDAECE-5C15-4397-AEA2-AACB60FCE076&Options=ID|Text|&Search=flood>

<sup>44</sup> Kaushal, S. et al. Rising Stream and River Temperatures in the United States. 2010. Frontiers in Ecology and the Environment, Ecological Society of America. <http://onlinelibrary.wiley.com/doi/10.1890/090037/abstract>

<sup>45</sup> Bolin Creek Geomorphic Assessment. Available at <http://www.townofchapelhill.org/town-hall/departments-services/public-works/stormwater-management/local-watersheds-water-quality/watershed-assessments-recommendations/bolin-creek-geomorphic-assessment>

<sup>46</sup> Bolin Creek Watershed Restoration Plan, available at <http://www.townofchapelhill.org/town-hall/departments-services/public-works/stormwater-management/local-watersheds-water-quality/watershed-assessments-recommendations/bolin-creek-watershed-restoration-plan-2012>

Implementation Opportunities	Additional actions outlined in the Bolin Creek Watershed Restoration Plan could be pursued to: reduce impacts from “flashy” flows and less groundwater recharge and lower stream baseflow; help stabilize stream channels and improve instream habitat, and restore cleared riparian zones.
Implementation Challenges	<ol style="list-style-type: none"> <li>1. There is limited land available for watershed restoration practices</li> <li>2. Permission is needed from the landowners, or land needs to be acquired</li> <li>3. Funding is needed for engineering design and construction of restoration measures</li> <li>4. Broad participation is needed to achieve meaningful improvements at a watershed scale.</li> </ol>
Resources Needed (human and material)	Funding and broad community participation
Anticipated Cost	TBD
Leadership	TBD
Partners	Bolin Creek Watershed Restoration Team partners
Time Frame	TBD
Fit with Items	Stormwater utility, Tree Preservation, Protection and Conservation
Next Step(s)	TBD
Evaluation Criteria	Changes/improvement in geomorphic and biological indicators

# Food Choice Measures

Reducing emissions from food choices in Carrboro will rely on a coordinated effort involving outreach, engagement, and participation broadly with partners and across the community to encourage Carrboro residents to adopt a climate-friendly diet, which reduces or eliminates meat, dairy, and eggs.

The livestock sector is one of the most significant contributors to serious environmental problems, at every scale from local to global, and must become a major policy focus.<sup>47</sup> Livestock and their byproducts account for at least 32,000 million tons of carbon dioxide (CO<sub>2</sub>) per year, or 51% of all worldwide greenhouse gas emissions (GHG).<sup>48</sup>

According to a recent study, the mean GHG emissions in pounds of CO<sub>2</sub> equivalents per day (lbs. CO<sub>2</sub>e/day) are 15.85 for high meat-eaters, 12.41 for medium meat-eaters, 10.30 for low meat-eaters, 8.62 for fish-eaters, 8.40 for ovo-lacto vegetarians, and 6.39 for plant-based vegans. Dietary GHG emissions in meat-eaters are approximately twice as high as those in vegans. Changing from a high-meat diet to a vegan diet saves 9.46 pounds of carbon dioxide equivalents per day or 3,452.9 pounds per year (1.73 tons)<sup>49</sup>, or the equivalent of 178 gallons of gasoline per year. That's enough to drive a Prius 26 miles per day (or a Hummer 4.5 miles per day) for an entire year. In other words, a vegan who drives a Prius less than 26 miles per day (or a Hummer less than 4.5 miles per day) has a smaller carbon footprint than a high meat eater who commutes by bicycle.

Animal agriculture is a driving force behind virtually every major category of environmental damage: deforestation, erosion, fresh water scarcity, air and water pollution, climate change, biodiversity loss, social injustice, the destabilization of communities, and the spread of disease.<sup>50</sup>

Meat is an inefficient way of turning land into calories. It takes 2,500 gallons of water, 12 pounds of grain, 35 pounds of topsoil and the energy equivalent of one gallon of gasoline to produce one pound of feedlot beef<sup>51</sup>. We're using our limited land to feed animals instead of people: 56 million acres of U.S. land produce hay for livestock, but only 4 million produce vegetables for human consumption. The world's cattle alone consume enough calories to feed 8.7 billion people – more than the global

---

<sup>47</sup> Steinfeld H, Gerber P, Wassenaar T, Castel V, Rosales M, de Haan C. *Livestock's long shadow: environmental issues and options*. Rome, Italy: FAO; 2006. (<ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e00.pdf>)

<sup>48</sup> Goodland, R Anhang, J. Livestock and Climate Change: What if the key actors in climate change were pigs, chickens and cows? *World Watch*, November/December 2009. Worldwatch Institute, Washington, DC, USA. Pp. 10–19. (<http://www.worldwatch.org/files/pdf/Livestock%20and%20Climate%20Change.pdf>)

<sup>49</sup> Scarborough P, Appleby PN, Mizdrak A, et al. Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK. *Climatic Change*. 2014; 125(2):179-192. doi:10.1007/s10584-014-1169-1., (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4372775/>)

<sup>50</sup> WorldWatch Institute: Is Meat Sustainable? 2004. (<http://www.worldwatch.org/node/549>)

<sup>51</sup> Food Choices and the Planet (<http://www.earthsave.org/environment.htm>)

population<sup>52</sup>. You would save more water by eating just one pound of beef less than if you didn't shower for an entire year.<sup>53</sup>

The additional benefits to human health of plant-based diets include reducing cardiovascular diseases, hypertension, many cancers, diverticulitis, diabetes, obesity, osteoporosis, arthritis, appendicitis, gall stones, kidney stones, other chronic diseases, food allergies, and food poisoning. The associated economic benefits are massive. The social justice benefits include greater food security and environmental justice for minority and low-income communities living near factory farms.

Finally, elimination of animal products facilitates backyard composting, as most gardeners advise against composting meat. It also helps reduce the frequency of trash pickup, with rotting meat, dairy, and eggs removed from the trash stream.

For every plant-based meal that each resident of Carrboro consumes, he or she reduces his or her animal-based dietary CO<sub>2</sub>e emissions by 4.76%. Of course, each resident of Carrboro who adopts a fully vegan diet (no animal products) reduces his or her animal-based dietary CO<sub>2</sub>e emissions by 100%.

If 50% of Carrboro's 20,984 residents make a 50% reduction in their consumption of meat, dairy, and eggs by 2025, and if an additional 25% of Carrboro residents consume no animal products by 2025, Carrboro could eliminate 18,151 tons of CO<sub>2</sub>e per year ( $50\% \times 10,492 \times 1.73 \text{ tons/person/year} = 9,076 \text{ tons of CO}_2\text{e} + 100\% \times 5,246 \times 1.72 \text{ tons/person/year} = 9,076 \text{ tons of CO}_2\text{e per year}$ ).

Moving to a plant-based diet is a much quicker way to affect climate change than most, as the turnover rate for farm animals (especially factory produced animals) is much greater than that for cars, busses, or buildings. And while CO<sub>2</sub> can remain in the air for more than a century, methane cycles out of the atmosphere in just eight years, producing a further potential for quicker reduction in climate change.

Food for thought – You can change your light bulbs, buy a hybrid car and plant more trees, but nothing is as effective, available, inexpensive, quick, and powerful for the individual in affecting climate change as the choice of where to stick your fork.

---

<sup>52</sup> Gold and Porritt. 2004. *The Global Benefits of Eating Less Meat*.

(<https://www.ciwf.org.uk/media/3817742/global-benefits-of-eating-less-meat.pdf>)

<sup>53</sup> Earthoria. 2008: Global Hunger: The more meat we eat, the fewer people we can feed.

(<http://www.earthoria.com/global-hunger-the-more-meat-we-eat-the-fewer-people-we-can-feed.html>)

## Food Choice Recommendation #1: 50% Challenge

### ***Reduce Greenhouse Gas Emissions from Diets by 50% by 2025***

It is proposed that local leaders announce an emissions reduction challenge to reduce community wide emissions from animal consumption by 50% by 2025. The challenge could include a component focused on emissions from meat, dairy, and eggs in Carrboro.

<u>Implementation Opportunities</u>	<ul style="list-style-type: none"><li>• Awareness and demand for plant-based meals continue to grow.</li><li>• A growing percentage of residents are aware of the financial, health, environmental, and justice aspects of plant-based diets.</li><li>• Local nonprofits and organizations such as Triangle Vegfest and Triangle Vegetarian Society have experience and expertise in educating on the how-to and benefits of plant-based diets.</li><li>• Local interest in active, healthful living is already strong.</li><li>• Improved health of Carrboro residents</li><li>• Town functions could reduce or eliminate red meat and dairy (products with the highest emissions) and offer prominently labeled plant-based and locally-produced options.</li><li>• The Town web site could host a Climate-Friendly Diet pledge.</li><li>• Community programming could involve something as simple as a monthly vegan potluck and movie night at the Century Center.</li><li>• Cooking class options could be expanded to include plant-based meal preparation and nutrition at low or reduced costs.</li><li>• Restaurants could offer a “Climate Friendly Menu Options” window sticker and/or a Carrboro Vegan Challenge modelled after the Bull City Vegan Challenge in Durham, increase plant-based diet patronage and benefit Carrboro’s economy.</li><li>• The Cooperative Extension Family and Consumer Science programs and Master Gardener program could partner with young people to expand learning about growing and preparing foods that support plant-based diets.</li><li>• Interfaith Council food pantry and kitchen provide opportunities for cooking and serving plant-based meals and for requesting donations of supplies and ingredients to support plant-based diet meal preparation at home for pantry patrons.</li><li>• Carrboro Farmers’ Market participates in SNAP/EBT , WIC, and SENIORS FMNC programs and provides bonus Market Bucks for any of these users checking in at the Market Booth before shopping, making local products more accessible to lower income members of the community. Consider working with the market to provide outreach on the benefits of local and plant-based dietary choices</li></ul>
-------------------------------------	--



<u>Implementation Challenges</u>	<ul style="list-style-type: none"> <li>• Public schools have strict food guidelines that present unique challenges to changing meal choices in cafeterias.</li> <li>• High percentage of residents may be unaware of the financial, health, environmental, and justice aspects of plant-based diets.</li> <li>• Cultural and social conditioning is present that suggests that eating meat, dairy, and eggs is necessary for human health.</li> <li>• Plant-based options in many restaurants and institutions are limited.</li> <li>• Access to quality food and knowledge on how to prepare it can also affect dietary choices.</li> <li>• Disconnects between information and reality – plant-based diets can be very economical but focus is often directed to local and particularly organic foods, which are perceived to be more expensive.</li> </ul>
<u>Resources Needed (human and material)</u>	<ul style="list-style-type: none"> <li>• Volunteers and groups to host educational programs and work with restaurants and schools.</li> <li>• Staff time or monetary resources for web page development</li> <li>• Staff time or monetary resources for implementation of plant-based programs in Carrboro schools.</li> <li>• Printed educational materials about plant-based foods and food choice impacts on the environment.</li> <li>• A nonprofit organization could become a community champion, as could neighborhoods and businesses.</li> </ul>
<u>Anticipated Cost</u>	There could be costs associated with printing educational materials and developing web pages. Depending on the incentives provided to the Carrboro Farmer's Market participants, monetary resources may be required. Plant-based menus typically cost less than meat-based menus, so, these programs have the opportunity to save the town money.
<u>Leadership</u>	Local elected officials and community leaders could endorse this goal.
<u>Partners</u>	Food Policy Council, Triangle Meatless Mondays, Triangle Vegfest, Triangle Vegetarian Society, CHCCS, Carrboro Business Alliance, especially local food providers (retail groceries, restaurants, food trucks), Chapel Hill-Carrboro Chamber of Commerce
<u>Time Frame</u>	It is recommended that local leaders begin these measures immediately. Especially the measures which take little to no monetary resources.
<u>Fit with Items</u>	Local living economy, social justice, ecosystem protection, composting
<u>Next Step(s)</u>	<ol style="list-style-type: none"> <li>1. Formal adoption/publicity for challenge</li> <li>2. Begin offering more clearly labeled plant-based options, eliminating or high carbon foods at town functions.</li> <li>3. Begin conversations with organizations on opportunities for partnerships in educational programs.</li> </ol>
<u>Evaluation Criteria</u>	<ul style="list-style-type: none"> <li>• Increase in plant-based options at Town functions, local restaurants, and schools.</li> <li>• Number of individuals who take a plant-based pledge on Carrboro website</li> <li>• Increase in sales of plant-based foods at restaurants</li> </ul>

## Food Choice Recommendation #2: Develop Local Dietary Consumption and Associated GHG Profile

***Develop Data and Method to Better Capture Diet-Related Greenhouse Gas Emissions and Measure Progress Towards Reduction Goal***

Monitoring progress towards diet-related greenhouse gas emissions relies on understanding consumption patterns that occur outside of Carrboro in the development and creation of food, and consumption occurring in Town as well. Greenhouse gas inventories developed for Carrboro have focused on the more directly accountable community scale activities, such as fossil fuel consumption from motor vehicles and metered utilities that occur within the geographic confines of the community. These emissions account for a percentage of the full scale “life cycle” direct and indirect emissions associated with the behaviors and activities of community members. In relation to food, emissions for local transport, storage, and processing, cooking, and waste management are included within total estimates for transportation, electricity, natural gas, and waste. Emissions associated with other aspects of food production and consumption are not yet captured. Establishing a broader baseline of food consumption emissions will raise awareness and support individual and household choices to shift from more carbon-intensive to less carbon-intensive diets.

Implementation Opportunities	<p>UNC researchers (or others) could be approached about pursuing a research project to track changes in emissions associated with dietary choices.</p> <p>The Food Council, Chapel Hill Carrboro City Schools, Carrboro Farmers Market, and perhaps others could help track local food production and consumption.</p> <p>Tracking consumption prior to and following outreach and education related to benefits of plant-based dietary choices will help determine impact.</p> <p>The ICLEI protocol and Berkeley Cool Climate Calculator<sup>54</sup> are resources that can help assess total GHG from adoption of plant-based diets and other changes in household activities.</p>
Implementation Challenges	<p>Community level data collected to date has not included household consumption of goods and services, including food.</p> <p>The ability to monitor and track progress towards emissions reduction from dietary changes is currently limited.</p>
Resources Needed (human and material)	<p>Some labor/human resources will need to be dedicated to establishing the technical basis and coordinating efforts</p>

<sup>54</sup> <http://coolclimate.berkeley.edu/calculator>

	Funding may be needed for contractual support
Anticipated Cost	TBD
Leadership	Potential leaders include: existing and/or new nonprofit(s); the Carrboro Business Alliance; Chamber of Commerce. Local elected officials and other community leaders could endorse this goal
Partners	Potential partners include: existing and/or new nonprofit(s); the Carrboro Business Alliance; Chamber of Commerce; Triangle Meatless Mondays; Triangle Vegfest, Triangle Vegetarian Society; CHCCS.
Time Frame	This would take some time to scope out and find partners/researchers. Maybe one year to begin with development of data collection strategy that could be replicated every 3 years
Fit with Items	Local living economy, social justice, ecosystem protection, composting
Next Step(s)	Local elected officials/community leaders collaborate to initiate challenge
Evaluation Criteria	Reductions in GHG emissions from residents as reported through tracking mechanism – (e.g., household calculator)?

## Implementation Recommendations

This plan identifies a number of recommendations that include elements of implementation, however it is beyond the scope of the plan to include a detailed implementation plan. The following suggestions are offered as a starting point for pursuing implementation, and focus on categorizing the recommendations into (somewhat arbitrary) timeframes for consideration. “Work has already begun” refers to recommendations which are currently being pursued, and the predominant need is for acceleration, mobilization, and/or additional resources. “Begin immediately” refers to recommendations that could be prioritized because they support other recommendations, can potentially be pursued with more limited partnering requirements, outside or new resources or statutory authority, and in general have a lower risk/higher reward. Those listed “Within one year” are likely to involve more effort/resources, rely more heavily on the creation of partnerships, the development of educational campaigns, and/or input from the community. Items listed under “Within two years” will likely require significant effort and reliance on potential partners and are subject to some uncertainties. Finally, a regulatory based approach to two recommendations is likely to be possible only through changes in state law. While this prioritization is offered to attempt to make the entire pallet of recommendations more manageable from an implementation perspective, considerable flexibility is needed, and reasons to adjust the

priorities will no doubt arise as part of implementation. Additional suggestions on the time frame and next steps are included in the more detailed recommendations in previous sections of the plan.

Work has already begun:

Transportation Recommendation #3: Improve Vanpool/Carpool Options

Transportation Recommendation #4: Further Promote Walking, Biking, Transit

Ecosystem Recommendation #3: Accelerate/Expand Organic Waste Collection/Composting

Ecosystem Recommendation #5: Improve Regulations and Community Capacity to Discourage Invasive Plants and Encourage Native Plants

Begin immediately:

Community Integration Recommendation #4: Integrate Climate Action with Local Living Economy

Buildings Recommendation #1: 50% Challenge

Transportation Recommendation #1: 50% Challenge

Ecosystem Recommendation #1: Pursue Stormwater Utility

Begin Within 1 Year:

Community Integration Recommendation #1: Create Grass Roots Partnerships to Engage Community

Community Integration Recommendation #2: Expand Public Partnerships to More Explicitly Consider Climate Action

Community Integration Recommendation #3: Create Green Neighborhood Program

Community Integration Recommendation #5: Expand Capacity

Community Integration Recommendation #6: Facilitate Low Cost Financing for Energy Efficiency and Renewable Energy Projects

Community Integration Recommendation #7: Integrate Climate Action and Social/Equity Initiatives

Buildings Recommendation #4 and Renewable Energy Recommendation #3: Create Rental Property Task Force and Process

Buildings Recommendation #5: Create Rental Property Registry/Certification

Transportation Recommendation #5: Limit Idling in School Loading Zones

Renewable Energy Recommendation #1: Pursue Community Solar Projects

Ecosystem Recommendation #2: Evaluate Extent to Which the Deer Population and Climate Change affect Native Plant Ecosystems

Ecosystem Recommendation #4: Create a Tree Coalition

Begin Within 2 years:

Transportation Recommendation #2: Enhance Transit Service

Renewable Energy Recommendation #2: Create a Downtown Geothermal District

Statutory Authority May Be Needed to Pursue Recommendation as a Requirement:

Buildings Recommendation #2: Require Energy Audit/Performance Rating

Buildings Recommendation #3: Demonstrate/Pursue Energy Performance Beyond Minimum Requirements for New Development

(For these two recommendations, a non-regulatory approach is also offered in the recommendation for which statutory authority is not needed.)

# Appendix 1

## Summary of 2016 Public Outreach

The public outreach pursued in the spring of 2016 has resulted in a diversity of community input. The discussion that follows offers some summary observations. Those interested in the range and specifics of input are encouraged to review the April 26<sup>th</sup> Public Hearing [agenda item](#) and [minutes](#), and details in the appendices of this memo.

1. As far as participation:
  - Approximately 20 people participated in the April 6<sup>th</sup> drop in session
  - 13 people spoke at the Public Hearing, including the 5 Task Force members
  - 5 people participated in the May 31st drop in session
  - 4 people participated in the June 9th drop in session
  - 26 responses to the initial Survey Monkey survey were received; 170 responses (as of June 15th) to the follow up Google Form survey have been received
2. General results of the surveys:
  - The objective/multiple choice responses indicated broad support for the plan's recommendations that were addressed by the survey questions. For example, half or more of respondents to the second survey (Google form) indicated strong support for each of 9 of the 10 plan recommendations addressed in the survey, and over 95% of respondents were either neutral or supported all the recommendations included. The recommendation for more carpooling and vanpooling support, while having fairly broad support, did not receive quite as enthusiastic support as the other recommendations addressed by the questions. While the longer Survey Monkey survey only had 26 responses, it in general displayed a similar response of support for the plan's recommendations.
  - A majority of respondents indicated that they are currently pursuing, or intend to pursue in the future, recommendations in the plan related to: improving the energy efficiency of buildings; biking/walking/bus/carpooling more; making improvements to their land/yards; and supporting local sustainable businesses. Somewhat fewer but still a significant percentage of respondents indicated plans to install solar energy and work in the community on issues related to climate change and social equity and climate mitigation.
  - The most frequently received supplemental comments addressed a need for the plan to include an endorsement for plant-based diets. 43 responses spoke to this topic; there is some double counting of respondents since this includes supplemental comments under two separate questions.
  - Respondents offered other supplemental comments. From a very broad brush perspective, these comments addressed transportation infrastructure, other transportation topics, solar energy, and several miscellaneous comments.

- Supplemental comments for actions respondents are currently pursuing addressed adoption of a plant-based diet (most frequent), involvement in education, choices for transportation modes, and various other actions.

## **Climate Action Survey**

**(Open in May and June, 2016 through Google Forms)**

### **Survey Questions**

**1. Please rate the following recommendations from the Community Climate Action Plan**

(Choices: Great idea; Good idea; Neutral; Bad idea; Terrible idea)

- A. Develop and implement a strategy to reduce greenhouse gas emissions from buildings by 50% by 2025
- B. Make it easier for renters and buyers to access information about the energy efficiency of existing buildings
- C. Pursue energy efficiency features in new buildings that exceed minimum requirements
- D. Develop and implement a strategy to reduce greenhouse gas emissions from motor vehicle use by 50% by 2025
- E. Add more bus stops and trips in Carrboro
- F. Add more carpool and vanpool options in Carrboro
- G. Do more to promote walking, biking, and transit
- H. Provide more opportunities for citizens to invest in community solar projects
- I. Do more to support and encourage composting
- J. Do more to encourage native, noninvasive plants and discourage invasive plants

**2. Please add any other community climate actions you'd like to see included in the plan (open ended for text response)**

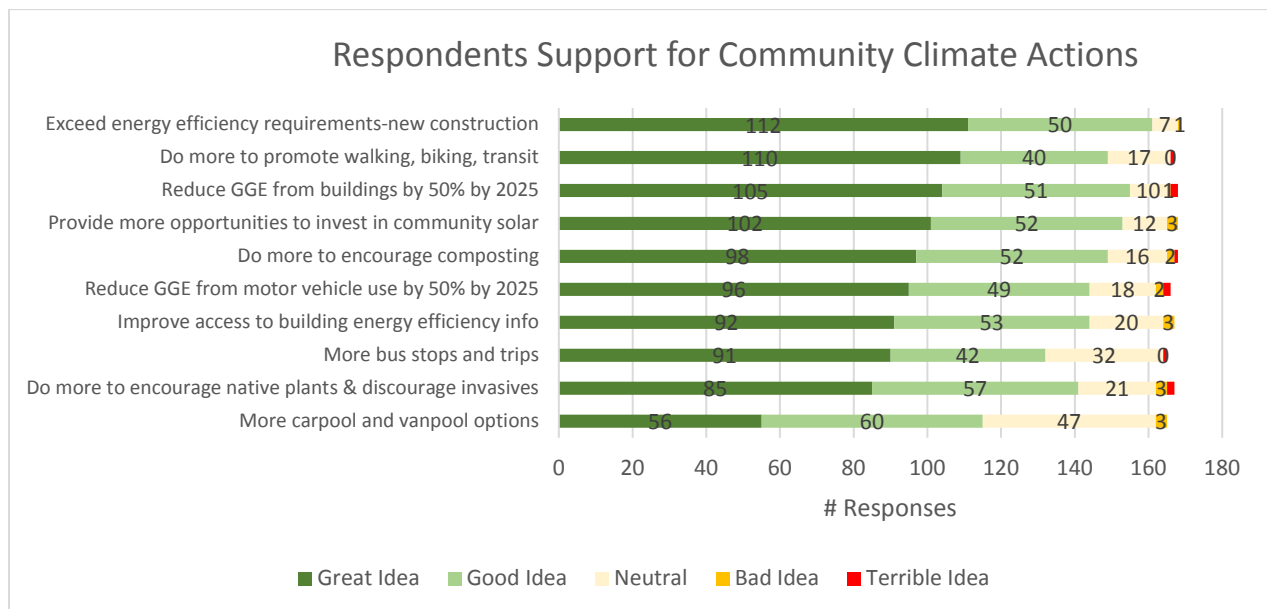
**3. Please check any actions you expect/intend to do over the next decade (check all that apply)**

- A. Invest in solar energy
- B. Make my home more energy efficient
- C. Bike, walk, bus, and carpool more and drive less
- D. Make choices on my land that improve the soil, reduce erosion and runoff impacts, favor native plants over invasive plants, and in general support the local ecosystem

- E. Increase my support of local businesses, especially those pursuing sustainable practices
  - F. Work in the community on issues related to climate change and social equity (e.g., food security, green economy for all, affordable utility costs)
  - G. Work with neighbors, coworkers, and/or others in the community on efforts that reduce greenhouse gas emissions
4. Please add any actions related to climate change and resilience not included above that you are currently doing or plan to do. (open ended for text response)
  5. Is there anything else that you would like to share on the topic of community climate action? (open ended for text response)
  6. If you would like, please feel free to provide your name and address. Anonymous responses are also welcome. (open ended for text response)

## Survey Responses

### 1. Please rate the following recommendations from the Community Climate Action Plan



2. Please add any other community climate actions you'd like to see included in the plan
5. Is there anything else that you would like to share on the topic of community climate action? (open ended for text response)

*Responses to these two questions are compiled and organized below under major topic headings.*

### Endorse a Plant-Based Diet

While all these things are good, without the inclusion of plant-based diet recommendations, I fear the document is all but meaningless. Animal agriculture is destroying the environment far faster and with more devastating results than anything else.

I am very discouraged to see no recommendation for encouraging a change in diet on the part of Carrboro citizens. It is becoming more and more evident that animal agriculture is the single biggest cause of climate disruption yet there is zero mention of the single most important change that individuals can make to be part of the solution. Of course, I realize that laws and ordinances cannot be put into effect to regulate what people eat, but the city of Carrboro ought to be forward thinking enough to create a honest and effective campaign to alert people to the devastation caused by the choices on their plates. Any community climate action is weak without recognizing the elephants in the room that are the dairy industry, the meat industry, and the egg industry. Of course, what I am suggesting will take courage, but that is something we should be able to expect of a community that is actually serious about this enormous problem.

Since animal agriculture is the leading cause of climate change and environmental degradation, there should be a section about educating the public about the effects of their food choices.

Encourage people to cut their consumption of products from animal agriculture (meat, dairy, etc).

Reduce meat consumption, decrease the negative environmental impacts of animal agriculture

Include change in diet

Encourage more plant based fare and less need for animal agriculture. With all the information available about saving your life with a plant based diet, you also save the earth.

Promote plant based diets, as animal agriculture is the number ONE reason by far for climate change. Encourage local restaurants and businesses to provide more plant-based options over meat centered options.

Encourage eating more plant-based foods. Meat agro is the #1 cause of greenhouse gases in the atmosphere according to UN data.



Educate people about the environmental problems associated with mass animal agriculture and encourage eating less animal products (Meatless Mondays, vegan/vegetarian options and recipes).

Address the issue of animal foods' contribution to climate change. More focus on plant food initiatives.

Encourage a move away from animal agriculture. Promote Plant based diets to reduce the release of greenhouse gasses into the environment

Educate citizens on impact of animal products on climate change. Provide support and incentives to businesses and citizens to move toward more plant-based diets or just reducing meat consumption. Reducing meat consumption will do far more to limit our carbon footprint than transportation changes. For lower income citizens especially, plant-based diets are more accessible than many of the other solutions presented below (I don't own a home, I can't ride a bus or bike to work, I don't own land, etc.

Promote plant-based diets

When approving restaurants and new places of business, encourage vegan and plant based options. It's one of the greatest ways to fight climate change due to the excessive resources meats use in their production.

There is no mention of animal agriculture which is by far a greater threat to the environment. Encouraging a plant-based diet would have more impact than anything mentioned here. Please consider this fact.

Animal Agriculture is now the leading cause of environmental pollution

Consider the impact of animal agriculture on the environment and increase vegan-friendly restaurants!

Cut out animal products from our diets! Animal agriculture contributes more greenhouse gas emissions than all of transportation combined!

Ending Animal Agriculture

According to the Worldwatch Institute, livestock and their byproducts account for at least 51% of all worldwide greenhouse gas emissions. A community climate action plan is completely ineffective without including a recommendation to eliminate animal flesh and secretions from our plates.

Animal agriculture is one of the leading causes of climate change (even more so than all transportation combined), so I think that any plan to combat climate change must encourage plant-based diets among residents. Some ideas could include plant-based cooking and nutrition classes and incentives for restaurants to offer plant-based meals. Educate about big impact of animal agriculture on climate change (eg. World Watch attributes 51 percent of annual worldwide GHG emissions to 'livestock and their

byproducts' <http://www.worldwatch.org/node/6294> ) Get behind Meatless Mondays, etc. Make it positive!

It is so important that we educate people about the harmful effects of animal agriculture. "Shifting less than 1 day per week's (i.e., 1/7 of total calories) consumption of red meat and/or dairy to other protein sources or a vegetable-based diet could have the same climate impact as buying all household food from local providers." This study found that transportation is only responsible for 11% of GHG emissions in food production. A vast majority comes from production.

<http://pubs.acs.org/doi/full/10.1021/es702969f>

Animal agriculture is a huge contributor to climate change, and that should be addressed by discouraging the practice, as well as the consumption of animal products. Animal agriculture is the number one cause of global climate change, so efforts to minimize the impacts from this industry should be taken.

Changing to a plant based life takes some doing but check out Physicians Committee for Responsible Medicine.

Carrboro has the ability to make a huge impact on reducing greenhouse gases because it is such a small community and many people are open to making small changes in their lifestyle. If Carrboro can adopt meatless Mondays, and provide education to the community as to how this significantly helps our environment, it has the potential of being quite successful.

Eating less animal products can greatly reduce climate impact as animal agriculture is responsible for more greenhouse gases than all transportation combined.

Please include diet and animal agriculture in this climate change action plan.

Some have suggested that encouraging plant based diets or less animal product based diets is "elitist". When looking through the other suggestions presented in the climate action plan I do not understand how this suggestion is seen as anymore elitist or inaccessible than other suggestions. It seems hard and it makes us uncomfortable, but our future depends on it. Please consider including plant-based diets or at the very least reducing animal product consumption, like many other cities have done in their plans. Please research the effects of animal agriculture. It is the elephant in the living room here.

Livestock is responsible for 65% of all human-related emissions of nitrous oxide – a greenhouse gas with 296 times the global warming potential of carbon dioxide, and which stays in the atmosphere for 150 years. "Livestock's Long Shadow: Environmental Issues and Options." Food and Agriculture Organization of the United Nations. 2006. Promote plant-based diets to reduce global warming/climate change

Since animal agriculture is a main driver of climate change, please include animal agriculture and diet in this climate change action plan. include animal agriculture and diet in their climate change action plan

Animal agriculture & diet contributes to greenhouse gas (methane), water pollution, water usage, and land destruction

Please consider animal agriculture because it accounts for over 41% of greenhouse gas emissions and forest destruction and water pollution.

Animal agriculture has an enormous effect on climate change. Addressing this issue is more important than any of the above suggestions combined:

<http://www.fao.org/docrep/010/a0701e/a0701e00.HTM>

Promote a whole food plant based diet to eliminate factory farming which is the largest producer of greenhouse gas, greater than any other sector.

Encouraging a meat free diet.

You should focus more on animal agriculture's massive impact on creating climate change. Until you do this, you are ignoring a large part of the problem.

Encourage more plant based diets, like meat free Mondays.

Promotion of plant-based diets-schools, restaurants, community events.

Animal agriculture is the top producer of greenhouse gasses. It's about time that we acknowledge the fact, and act accordingly. Carrboro should emulate Asheville in it's vegan-friendliness/environmentalism.

#### Transportation: Infrastructure and Service

I would like to see additional bike lanes added to more roads in Carrboro. I would especially like to see a bike lane added to Greensboro Rd. by the farm.

Whenever possible, include bike lanes in plans for new roads or resurfacing

Roads should be built with shoulders so that there is room for people to safely bike and walk.

Build more greenways! If it's safe for children and old people to bike, everyone bikes!

I support greenways and bike paths that make alternatives to vehicles possible. Often these alternatives are challenged. I welcome open forums about these issues exploring whether there are indeed negative environmental ramifications for these projects or if it is a case of NIMBY politics.

I strongly advocate designing better bike paths throughout our cities. We need to look at the amazing ways in which Colorado, a much larger state, has managed to create bike paths that link neighborhoods and cities throughout the state. The park system is funded by the lottery and bonds. Coloradoans value parks and communities much more than North Carolinians seem to do.

Provide more park & ride options

Greater Number of residential and commercial charging stations for electric vehicles, like the ones made by GE.

One electric vehicle charging station/school

CHCCS makes million dollar buildings that are LEED certified but CHCCS will not support alternative fuel vehicles on site. Even when private individuals will pay for installation.

More charging stations for electric vehicles to promote their adoption.

Sync those traffic lights as best you can to move traffic along efficiently.

Bus stops to Carr Mill Mall so people can easily grocery shop without driving.

More sidewalks - particular on Simpson St. There is already a park and folks walk to the bus stop! Where is the sidewalk?

Increase bus routes and transportation

Municipal fleet non-fossil fueled

Reducing emissions from cars is not something the town can realistically take on.

Concentrate on community actions that are within the control of the town.

Reduce hardscape coverage throughout town, especially surface car parking

#### Transportation: Education and Outreach

Discourage driving for people who are able to walk, promote walking/biking as "cool" and "the Carrboro way"

Create carpooling options for town events like Parks and Rec events and camps.

Would like crossing guards on Seawell School Road, and Homestead Road to promote walking to school by elementary and middle school children. Lots of homes in walking distance but no crossing guards for bike riders and walkers.

Reducing emissions from motor vehicles seems like more of a national than local issue.

Promoting walking, biking, and transit seems like a good idea but can be controversial.

In principle I love that you are thinking about all of this. In practice there may be aspects that are unrealistic for the town to act on. For example reducing greenhouse gas emissions from vehicles.

#### Buildings

Require new buildings to be "solar ready". Pursue joint policies with Chapel Hill, schools, County, Durham. Hire staff to manage this, maybe could be shared with Chapel Hill, Orange County.

Please, find a way to erect solar panels on suitable public buildings, or commercial building if the owner is inclined, AND find a way that private citizens can invest in the project. My roof is not suitable for solar panels, but I still would like to contribute to having more solar energy powering Carrboro

The best way to save in residential construction is by using thermostats correctly.  
(Setback during the day) Making Smart Thermostats easier to attain or providing training on how to use existing thermostats would go A LONG way.

Is there any way to control the size of houses and mixed use projects, some of which can be energy gluttons?

Allow for nontraditional structures to be built like shipping container homes.

#### Landscaping/gardening

Encourage people to conserve water and to reduce consumption of meat products by offering incentives to create your own vegetable garden and subsidize rain barrels for irrigation. Also plant bee-friendly flowers.

If, by "invasive" plants, you are including poison ivy/oak, I will be thrilled!

Plant more trees, implement green infrastructure on current and future development projects

More education on planning for a backyard vegetable garden and which bushes, trees, flowers are native and environmentally aligned here (and not preferred by deer). I'm new here, so if this is already available, I just haven't found it yet...

Plant edible gardens in town-owned spaces.

Emission free lawn equipment

More community gardening - how about y'all buy 303 Jones Ferry for one!

Preserving green space within and around carrboro, also city funds going to planting trees in the area and development of more community garden space.

Promote and facilitate residential organic gardening, permaculture, rain water catchment.

#### Education

General education about climate change

We need to get the schools involved in teaching our children to make climate-friendly choices, especially in food.

ACE would love to help out. I'll let my advisor know. The Climate Summit would be another great venue, and events at Weaver Street or places with more publicity.

Educate regarding how food choices have different impacts

We have to lead by example and then effectively tell the story about how implementing all of these practices has saved us money and created a more vibrant community.

Share with other similarly-sized towns and learn from their progress.

#### Other Feedback

Require that whatever goes in the northwest corner of Greensboro and Weaver be a showcase for sustainability (not LEED, necessarily)

We did consult regarding converting our home to solar power and were told there were too many trees in the way. We didn't want to give up our trees so what other options would there be? Are trees and solar power incompatible?

We should do this stuff to keep our air clean and environment healthy. Climate changes. READ your history books! Ask the dinosaurs.

Be sure that these actions do not systemically drive out any residents or small business owners who cannot afford to pay for or invest in the initiatives related to any "community" climate plan. The people are the most important force within the community. It is important not to lose the unique character of Carrboro, NC.

Gentrification has already begun to show its true colors in other affluent areas of Orange County.

Take action against animal cruelty or neglect, and find more humane ways to control the population of unwanted animals in the town limits to replace hunting and poison.

Gondolas!

Ban plastic bags and bottle, continue to improve hybrid and electric bus fleet, add additional solar/ electric charging stations

Ban Plastic Bags!!! Get all food businesses and non-profits involved in commercial composting; Initiate a food waste reduction plan;

Solid waste diversion (beyond composting, mentioned above)- key driver of GHG emissions

I applaud the town of Carrboro, where I live, for doing something about this serious problem.

Thank you for the work on this vital issue!

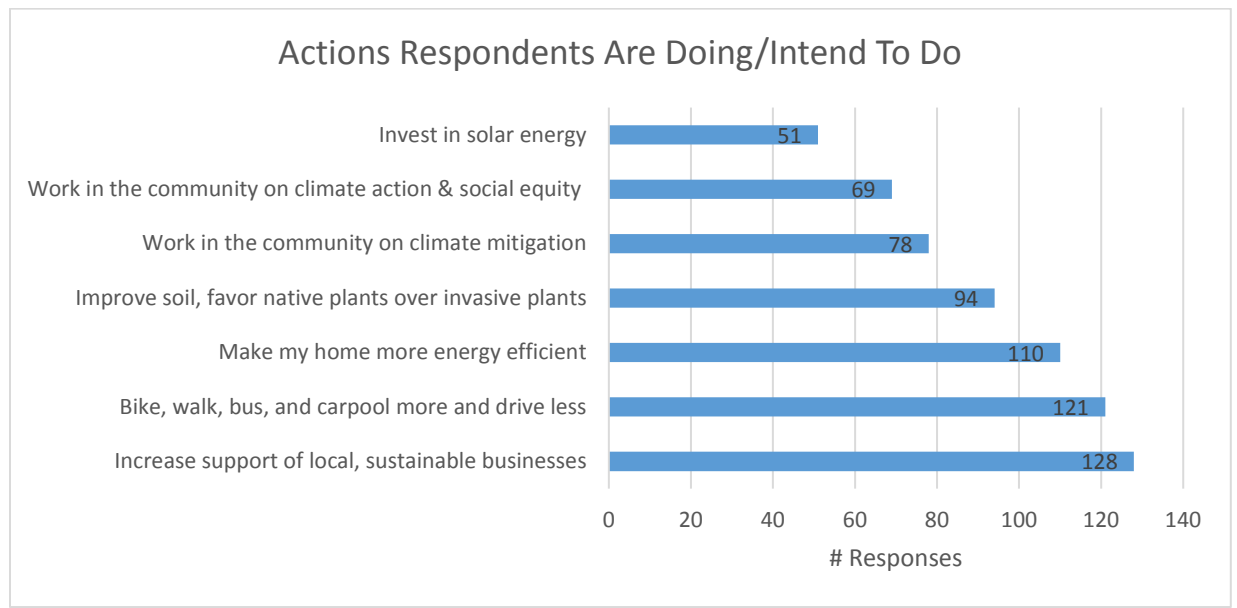
I appreciate the work that the creators of this survey are trying to do.

I love that Carrboro is taking the initiative and doing this! Proud to live here!

These initiatives are incredibly important. It is great to see Carrboro leading the way on this. Encouraging other communities to follow suit is probably the most important and most difficult thing.

We don't need any more 'strategies' researched and implemented. Everything is going in the right direction but please leave it alone. Don't need any more rules.

3. **Please check any actions you expect/intend to do over the next decade** (check all that apply)



4. **Please add any actions related to climate change and resilience not included above that you are currently doing or plan to do.** (open ended for text response)

*Responses are compiled and organized below under major topic headings.*

#### Plant Based Diet

I will continue to educate people about the importance of plant-based diets.

My family and I are vegan.

I plan to educate the public about the harmful effects of animal agriculture.

I have eliminated my demand for animal products which use a lot of resources. I don't plan to reproduce (humans use so many resources!)

Reduce meat (and other animal product) consumption, stop the negative environmental effects of animal agriculture

I am a vegan, for the earth, the animals and my health.

I have adopted a plant-based diet.

I eat a plant-based diet.

Eat a vegan diet which saves thousands of gallons of water every day.

Promote Meatless options/ Meatless Mondays!!!

I have adopted a vegan lifestyle in part because animal agriculture is the biggest driver of climate change.

Continue to refuse to utilize any animal agriculture products and deny support of animal agriculture businesses.

Hosting vegan potlucks and educating friends, coworkers, family, etc on the role of animal products play on climate change

Eating an environmentally friendly diet of plants.

Meatless Mondays

Eat vegan; support those places that offer sustainable food and beverage options.

Eating totally plant-based for 4 years now.

Making vegan food choices to lower water and air pollution

Eat vegan

I am involved with promoting veganism; it is, by far, the most impactful choice that we have to make a difference in the environment. Let me know if I can help! --Dilip

[dilip@trianglevegsociety.org](mailto:dilip@trianglevegsociety.org)

Go vegan! It's the most environmentally-conscious decision any of us can make that will have a far greater impact than almost anything else. Watch Cowspiracy on Netflix if you're in doubt.

Ending Animal Agriculture

We do not purchase or consume animal flesh or secretions. We donate only low-carbon-footprint foods to food banks. We do not support local restaurants that offer foods that are GHG-intensive.

Eat plant based diet to reduce climate change

Educate the public about the negative impact that animal agriculture has on the planet.

Plant-based eating

Plant-based diet.

I eat a plant based diet and that is the single best way to impact climate change. I'm always shocked when I see so-called energy ideas and plans to save our planet which neglect to include eliminating animal flesh and dairy and eggs. Please do more to promote Veganism along with these other efforts.

As I am aware of animals ag's huge impact on climate change, I am vegan and would encourage everyone to participate in a wholesome, delicious vegan diet

Eat local foods and no meat

Eating sustainably--for me, this means a vegan diet.

I am promoting plant-based (vegan) diet; educating the community about animal agriculture's significant contribution to the production of greenhouse gasses (which is more than automobiles). Continue to encourage schools to offer vegan lunches to students,



### Education

Teach my students about sustainability, climate change affected by human action, and teach them how to grow their own food at home.

Working at school to promote conservation and energy efficiency.

Alliance for Climate Education, North Carolina Climate Justice Summit

### Transportation

I drive an electric vehicle for my 96 mile roundtrip commute.

I would love better buses from QPT to UNC campus.

I plan to move to a neighborhood from which I can walk or bike to town.

Eat at home more, fly less

### Reducing Waste, Recycling, Reuse, Composting

Compost

Reducing overall consumption in an effort to become a minimalist. Many people in this community feel really good about recycling, and rightfully so, however any member of that group failing to realize the effects of over consumption is as irresponsible as a person who does not recycle at all. I am personally unaware of the recycling loop here in North Carolina, but I wonder what percentage of "recycled" materials (paper, plastic, glass, cardboard, etc.) around our country still go into a landfill. I believe more education on how recycling helps the community should also reflect its loop (the process in which recycled materials are turned into new materials) and finally the overall economic impact (positive or negative).

### Other/Multiple Topics

Increase the biodiversity of the plants on my property.

Make these things affordable... the reason my family is terrible at this is that it is cheaper to use the nonpreferred way.

I already compost. I am 65, still employed, and would gladly use public transportation but it does not fit my exercise and work schedule. I would consider biking, if traffic were not so deadly. I patronize local businesses and combine errands to minimize driving time. I use native plants in my garden.

Switch from incandescent to LED bulbs

I drive very little, am a vegetarian, and try to recycle everything I can.

Vote anyone out of office who gets in the way of these things and promote local and sustainable ag

Within the last few years, I already have added solar panels, purchased an electric car and renovated the entire house to be more energy & water efficient. Next up: Learning what to do/not do with our land....

Conserving and re-using water. Growing my own produce. Burning firewood instead of non-renewable fuels.

Plant a tree!!! Simple!

I do research related to climate change at UNC. Additional actions include: reducing use of / eliminating plastic products that cannot be recycled from daily life (and minimizing plastic use in general), consuming less meat, composting, using heat/ AC sparingly, driving a hybrid vehicle, etc...

At home we are working to significantly reduce our dependence on plastics; Home composting and energy reduction measures (lights out curfew), educating kids about energy reduction in daily lives, etc.

Start a vegetable garden

**6. If you would like, please feel free to provide your name and address. Anonymous responses are also welcome.**

1. Carrie Monette, 302 Lindsay Street, Carrboro, NC
2. Linda Nelson
3. Lisa Baxter, 2006 Camden Lane, Chapel Hill, NC
4. Beverly\_swaim@yahoo.com
5. Sylvia Badger
6. Katie Steinheber
7. Sandra Lynch
8. Cedric Bush, 215 Eubanks Road, Chapel Hill, NC, 27516
9. I work for CHCCS and live in downtown Carrboro
10. jwthompson@chccs.k12.nc.us
11. Sharon Thomas. 358 Deerhaven Lane, Thomasville, NC. 27360. 336-862-0160
12. Daniel Turbert, Edwater Circle 27516
13. Shahab (Shawn) Siahpoosh
14. Dilip Barman
15. William Nievaart
16. Ellen Weiss, QPT
17. A Carrboro resident.
18. Sabannah/Carrboro

19. Suzanne Setti
20. Olivia Wander; owander98@gmail.com
21. Laurakaywenzel@gmail.com
22. Ben Berolzheimer, 910 Tallyho tr
23. Erin Nelson
24. Erica Wolak, 143 Torrey Heights Lane Durham, NC 27703
25. Cindy Yates 105 Linville Dr., Castle Hayne, NC
26. Melody Kramer 102D Todd Street
27. Anthony Holderied - 105 Phipps Street
28. Justin Baumann 106 W Poplar Ave
29. Lindsay Griffin 115 Barnes St.
30. Pamela Tandy, 601 West Rosemary, Unit 305/Chapel Hill, 27516
31. Jeffrey Clayton
32. Laura Pellicer
33. Karin Yates

# Appendix 2

## Boulder's Local Climate Action Plan and Climate Commitment

The Task Force recommends that Carrboro pay close attention to Boulder, Colorado, a community that is leading the pack with local climate action planning in the US<sup>55</sup>. For example, Boulder is:

- 1) A leader in energy efficiency according to the American Council for an Energy Efficient Economy. Boulder has distinguished itself through:
  - a. excelling in improving access to energy usage information;
  - b. implementing the SmartRegs program, which mandates baseline energy efficiency requirements for rental housing;
  - c. receiving the highest rating from ACEEE by having staff dedicated to implementing community-wide efficiency goals and implementing programs to mitigate the urban heat island effect, including instituting an Urban Forestry program.
  - d. Piloting Community Power Partnership, a program designed to help residents and businesses better understand their electricity use at a whole-building and circuit levels.
  - e. Piloting Boulder Energy Challenge, a grant program launched in 2014 that has provided \$300,000 funding for innovative solutions from the community to reduce emissions.
  - f. Running EnergySmart, a program that offers energy efficiency assessments, advising services and rebates for residents and businesses. Since EnergySmart began in 2010, more than 7,500 housing units and 2,300 businesses have participated in the program, more than \$3.4 million in rebates have been paid and over \$18 million in private investments made.
- 2) Working to become a zero waste community that reuses, recycles and composts at least 85 percent of its waste stream by the year 2025.
- 3) Becoming a Platinum Bicycle Friendly Community (one of 4 in the US).
- 4) Pursuing owning and operating a local electric utility, a process known as municipalization. For the city, it's an opportunity to move away from getting electricity from a for-profit investor-owned utility with a carbon-intensive coal-powered energy supply.
- 5) Becoming a platinum-level Solar Friendly Community in 2014, with one of the highest per-capita solar installations in the country. Since 2007, Boulder residents, businesses and institutions have installed more than 15 megawatts of solar on more than 1,900 rooftops.
- 6) Supporting climate action initiatives by the Climate Action Plan (CAP) tax (since 2007). The tax funds city-funded programs and services designed to reduce local greenhouse gas emissions.
- 7) Pursuing a GHG reduction goal of 80% by 2050, having already made substantial progress.

---

<sup>55</sup> More information about what Boulder is doing is available at <https://bouldercolorado.gov/climate> and <https://bouldercolorado.gov/climate/boulders-climate-commitment>.

## Appendix 3

### How the Jones Household Goes Carbon Free in 10 Years

In July 2008, Al Gore challenged the country to generate all our electricity carbon free in just 10 years. He believes it's possible, and so do we. We also think it's possible for individual families to go carbon free in 10 years.

# How the Jones Household Goes Carbon Free in 10 Years

HERE'S HOW YOU CAN DO IT ...



**yes!**  
magazine

Reprinted from  
Issue 45  
Spring 2008

CLIMATE  
SOLUTIONS

**yes!**  
magazine

Related articles at  
[www.yesmagazine.org/  
climatesolutions](http://www.yesmagazine.org/climatesolutions)

# Beyond Lightbulbs

## The Jones Household Goes Carbon Free in 10 Years



**START  
HERE**

**YEAR 1**

### A Big Difference from Small Changes

The family starts off with easy changes: They wash clothes in cold water and air dry them in the summer, replace incandescent bulbs with compact fluorescents (CFLs), turn off their computer when not in use. That's an instant, virtually free savings of 6,200 pounds of CO<sub>2</sub>. They make one simple transportation change: One of the adults commutes by bus three days a week—enough to see whether it can be done, but keeping the second car just in case. That's worth another 2,200 pounds. They're down to 51,600 pounds and it hasn't cost them anything but the price of the CFLs and a clothesline. They're actually saving money.



**YEAR 2**

### Home Improvement

They stop donating so much heat to the outdoors: attic and basement insulation, sealing and insulating heat ducts, and patching the large air leaks typical of standard construction saves them a whopping 7,100 pounds. These savings aren't free up front, but the savings in heating and cooling bills will repay the cost over time. Besides, Mrs. Jones is handy with home repair, and does a lot of this work herself. Down to 44,500 per year.



**YEAR 3**

### House and Car

The bus commute's gone well, so Mr. Jones now buses to work all the time. They've worked on consolidating trips outside work, and find they can do without the second car altogether. That's 5,900 pounds gone. They finish weatherproofing their house: beefing up wall insulation, weatherizing doors and windows, and upgrading to high performance windows. Another 1,800 pounds disappears. They're at 36,800.



**YEAR 4**

### Shed Carbon on Vacation

Instead of flying for their annual vacation, the Joneses take the train: a leisurely way to save 7,200 pounds every year. (If they took the bus, they'd save even more.) They're at 29,600 pounds per year—halfway there a year early.



**YEAR 5**

### Car Upgrade

Time to replace the car. Thanks to consumer demand, electric cars have become widely available, and they buy one. Even charging on dirty power, they save 9,000 pounds. Household total is now 20,600.



## Brooke Jarvis and Doug Pibel

**M**eet the Joneses. They're your average U.S. energy consumers. They haven't yet upgraded to energy-efficient appliances, their house needs better insulation, and they keep the place as cool in the summer and warm in the winter as most Americans do. The two adults commute 30 miles each per day, in separate cars with average fuel efficiency, and every year they each drive an additional 4,500 miles running errands and taking their child to soccer games and violin practice. The family takes one vacation trip per year, flying to visit grandparents 1,350 miles away. How much CO<sub>2</sub> do their house and cars produce? We figure it at 60,000 pounds, or 10 tons for each family member.

Lately, though, the Joneses have been reading about climate change, and they're getting worried. Ecological crisis has never felt so urgent before. Even little Joey Jones is talking greenhouse gases—he learned at school that scientists are predicting a worldwide climate catastrophe that will change the rest of his life, unless we stop the worst effects by making big changes in the next ten years. The Joneses decide: change is necessary, and they're ready to do their part. But how much can they really do? A lot, it turns out.

In 10 years, without sacrificing their way of life, the Jones family eliminates the CO<sub>2</sub> emissions that their home and transportation used to create—the bulk of their carbon footprint.

### Count Your Carbon

Want to keep up with the Joneses? Here are the numbers we used. Use them to find—then shrink—your own carbon footprint.

	CO <sub>2</sub> output, in pounds
Gallon of gas	19.36
Gallon of fuel oil or diesel	22.38
Kilowatt hour of electricity (national average)	1.43
Therm of natural gas	11.71
Gallon of propane	12.67
Per passenger:	
Airplane mile	1.28
Train mile	0.42
Long-distance bus mile	0.18
Local mass transit mile	0.50
Electric bike mile	0.02

### The Rest of the Story

The Joneses only changed their housing and transport habits. How can you go further?

**Eat meatless.** For every day of the week you skip meat, you'll save 215 lbs. per year.

**Buy local.** Most food eaten in the U.S. has traveled 1,500 miles to your plate.

**Be a low-impact consumer.** Choose local products, reduce the stuff you buy, and save embedded energy by buying used.

**Reduce waste.** Stop junk mail, reduce packaging, and reduce the 2,020 lbs. each American's waste produces annually.

**Avoid the McMansion.** A smaller house saves a lot of carbon: on average, 11.4 lbs. of CO<sub>2</sub> per square foot per year.



### YEAR 6

#### Hot and Cold

They improve their water system, including insulating their hot water heater and their pipes, and also lower the temperature of their water heater: 1,000 pounds down. When the old refrigerator kicks the bucket, the Joneses buy a new energy-efficient one and finally unplug a second fridge in the garage, knocking off another 1,300. Total remaining: 18,300.



### YEAR 7

#### Close to Home

Grandma and Grandpa retire and move nearby. The Joneses now vacation within the range of their electric car, saving 3,300 pounds of CO<sub>2</sub> each year. The city converts its bus fleet to clean electricity, which saves another 1,200 pounds. They're down to 13,800.



### YEAR 8

#### A Few More Things Around the House

An efficient clothes washer saves carbon on its own, and saves dryer time. With all the money they're saving, they decide it's time to invest in a solar hot water system. Total: 2,000. Leaving 11,800.



### YEAR 9

#### Electric Bikes

While the Joneses have been on this journey, their town has responded to citizen pressure and gone bike friendly. The new bike paths make it easy for both to ride to work. To ease the hills, they buy electric bikes. There are four months of the year when they can't bike, so they continue their usual commute patterns then. Savings: 3,500. Total remaining: 8,300.



### YEAR 10

#### Green Power

The Joneses' furnace has been groaning and working overtime. They replace it with an electric heat pump, which also cools the house in summer. They also buy certified green, renewable power from their electric company, and the switch from coal plants eliminates the remaining 8,300 pounds of CO<sub>2</sub> produced by the electricity for their house and car.



Sources: Rocky Mountain Institute, Bureau of Transportation Statistics, Environmental Protection Agency, Department of Energy, University of Chicago. Illustration by Kayann Legg / I-S

# Appendix 4

## 10 Things You Want to Know about Human Nature if you're Fighting Climate Change

By [Lisa Bennett](http://grist.org/climate-energy/10-things-you-want-to-know-about-human-nature-if-youre-fighting-climate-change/), posted at <http://grist.org/climate-energy/10-things-you-want-to-know-about-human-nature-if-youre-fighting-climate-change/> June 10, 2015.

I've spent nearly a decade thinking about why people get stuck on climate change: stuck in debates, denial, what looks like indifference, and the awful discomfort that comes with the question "But what can I do?" In search of answers, I've interviewed dozens of experts in psychology, neuroscience, sociology, economics, political science, and other fields — and many more Americans across a broad spectrum of political affiliations, income brackets, and ages. I've also read widely to tap the thinking of those who were once more commonly looked to for insights into human nature, such as poets, philosophers, and spiritual leaders. What I've come up with is my own climate-centric version of Robert Fulghum's *All I Really Need to Know I Learned in Kindergarten*. Climate change has been my window into learning about human nature — or, at least, about what we humans do when faced with a challenge much greater than ourselves. The experience has also persuaded me that a better understanding of our own nature can help inspire a more effective response to what is happening to the natural world.

Here then are 10 things I've learned, along with some ideas about how these insights might be applied by those working on climate change:

**1. We are overly optimistic about the future — *our* future, that is.** Neuroscientist Tali Sharot has observed that when newlyweds are asked about their chances of getting divorced, they tend to say zero, despite the widely known fact that the odds are 50-50. We instinctively overestimate the probability of positive events and underestimate the probability of negative events in our own lives, she writes in *The Optimism Bias*, for two reasons: We think we have more control over our lives than we actually do, and we tend to see ourselves as better than average.

Applied to climate change, this means that I might think that you — and surely those poor Pacific Islanders — might be negatively affected but I'll be OK. The problem, of course, is that this reflects a bias grounded in delusion. But don't try to tell me or anyone else that. You'll have a better chance of engaging others in climate action, experts like Sharot say, if you keep a laser-like focus on how climate change is affecting people now.

**2. We can be blasé about the most important issues in the world because the global perspective is way beyond ordinary human scale.** "Trying to convince people of the magnitude of the climate problem through large-scale statistics is essentially useless," says Scott Huettel, chair of the Department of Psychology and Neuroscience at Duke University. "The iconic global warming image of the polar bear on the iceberg is evocative precisely because it is one polar bear. Thousands of polar bears on a glacier that is receding would be irrelevant. Our brains cannot process it."



Put another way, climate change seems like an abstraction because it is so much bigger than us. Humans relate to human-sized stories — the kind that speak to a family living in a home like ours, having dreams and struggles like ours, and maybe discovering one day that their home is on a map of places expected to soon be under water.

**3. We are wired to refute imperatives.** “If you say I have to act now on climate change, my first reaction will be, ‘No, I don’t,’” says Huettel. The reason, he explains, is that our brains are very well designed to come up with counterarguments. So no matter how good the reasons to switch to solar energy or demand that government take bolder action on climate change, people can always come up with reasons why they don’t need to do anything, such as: “If I don’t act right now, the world will basically be the same.”

Passing a law that requires people to change their behavior (especially if those changes are relatively easy to make) is one effective way around this. But short of that — just as in other aspects of human relationships — efforts to attract people to a cause are much more likely to yield a positive response than those that threaten or make demands.

**4. We are vulnerable to peer pressure, especially about things that confuse us.** We can watch the news, see photos of melting glaciers, even experience changing weather patterns. But if our neighbors aren’t doing anything about climate change, we’re unlikely to do anything either because, as much as we hate to admit it, we are herd animals who use social cues to adapt to our environment, according to [Robert Cialdini](#), author of *Influence: The Psychology of Persuasion*. And if you doubt how powerful this instinct is, consider the experiment Cialdini conducted in which his team hung four different kinds of flyers on people’s doorknobs in San Diego, with the goal of inspiring residents to reduce their energy consumption. Three of the flyers directly asked them to reduce their energy use, offering three different motivations: save money, save the environment, and benefit future generations. But none of these appeals made a significant difference. Only the fourth flyer did, which read simply: “The majority of your neighbors are undertaking energy-saving actions every day.” The lesson: Don’t be afraid to appeal to our instinct to fit in.

**5. We shy away from topics that remind us of our mortality but can be motivated to take action on behalf of beings more vulnerable than us.** Janis L. Dickinson, a professor of natural resources at Cornell University, conducted an experiment a few years ago in which she asked 3,546 people (largely birders) if they would be willing to reduce their energy consumption after learning that climate change was, among other things, a threat to people or to birds, and then she compared the results. It turned out that people were left unmoved by considering the threat to humans, but envisioning the threat to birds was another story. One possible reason, Dickinson says, is that considering climate change as a threat to humans may trigger thoughts of death (which we also tend to deny) whereas we like to think of ourselves as helping cute little creatures that seem to need us. This suggests that emphasizing the threat climate change poses to beloved animals could be an effective way of motivating people.

**6. We perceive and respond to risks only when we feel them.** While riding a roller coaster with my children one day, my youngest son took his hands off the bar and raised them in the air. The amusement park, I was sure, anticipated antics like this and did not expect people to remain in their seats by the strength of their grip. Still, I screamed, insisting he hold on because I was scared and, for the moment,

that made the risk I imagined feel real. This, says Columbia University professor of psychology Elke Weber, is how we perceive and respond to risk: through our emotions more than an analysis of the facts.

When it comes to climate change, this means that no matter how much scientific and journalistic evidence we are presented with, we will not be moved to action unless something makes us feel the risk. As a result, it may be more effective to tell a short, detailed story that can evoke people's feelings — for example, about an individual or family encountering some specific impact of climate change — than present yet more scientific evidence about the global or even national implications of a warming planet.

**7. We are motivated more by hope than fear, at least in matters of social change.** While research shows that fear is a more powerful motivator than hope when it comes to behaviors such as diet and fitness, inspiring social change seems to depend more on a positive vision of the future, according to the social movement, political science, and neuroscience experts with whom I spoke. “This rhetoric about we only have a certain amount of time is a killer. It doesn't make people engaged, it makes them give up,” says David Meyer, professor of sociology at U.C. Irvine and author of *The Politics of Protest: Social Movements in America*. Sharot confirmed this, saying: “Our studies show that people don't process information — they don't pay attention — when what is being communicated is how things will get worse.” In a widely shared opinion, Meyer said the implication was clear: “You have to be hopeful.”

**8. We are more likely to take action when we know precisely what we can influence.** It would take a fantastic and deluded leap of the imagination to think that, as individuals, we can control rising seas, melting glaciers, or heat waves. As a result, when people hear messages that encourage them to broadly act on climate, it can strike them as unrealistic and trigger what psychologist Martin Seligman called learned helplessness — specifically because it appears so far outside their sphere of influence. But, as Seligman and others have also found, it is possible to cut through learned helplessness (or apparent indifference) by appealing to what people think they can control, such as their own attitudes and behavior. For this reason, Huettel recommends emphasizing how people will feel about themselves, for example, after they take some realistic action, such as riding a bike or buying a hybrid.

**9. We need to believe our actions will make a difference.** “We have to have some sense of efficacy to motivate us to make changes in our lifestyle that are beneficial to the planet,” says Paul Slovic, a professor of psychology at the University of Oregon and expert in decision making around risk. But when it comes to big issues like genocide or climate change, his research suggests that people can be demotivated by a sense of inefficacy as well as what he calls “pseudo-inefficacy” or the illusion of inefficacy. For example, Slovic explained, some people fail to do anything because they think their action will be just a drop in the bucket, even though that drop is important. This finding suggests that it could be useful to explicitly speak to people's suspicion that individual actions don't matter and creatively show them how such drops add up.

**10. We will continue to behave the same way we always have — even after we know it is problematic — until there is a realistic alternative.** It is a safe bet that if you are reading this, you know that fossil fuels contribute to climate change and yet you continue, either directly or indirectly, to rely upon them, as most of us do.

But the reason for this, I have firmly come to believe, is not because most people don't care, don't get it, or have been duped by climate denial propaganda. I find a more believable reason in the words of Thomas Kuhn, widely considered one of the most influential philosophers of science of the 20th century. "People are unlikely to jettison an unworkable paradigm, despite many indications it is not functioning properly," Kuhn said, "until a better paradigm can be presented." While individual behavior changes are essential, in other words, many of them remain dependent on systemic public- and private-sector changes. To fully succeed, we need a "moon shot"-style rapid transition to a clean energy economy, like the one [proposed](#) by a group of scientists and economists led by the U.K.'s former chief scientist, Sir David King.

But in the end, even the best of plans depends on understanding, communicating, and acting with a fuller appreciation not just of the state of the natural world but of our own nature, which means bringing today's global climate story down to a human scale. The good news is that doing so requires that we engage some of the best aspects of human nature, including our ability to be present in the here and now, to care more about people than facts, to be drawn to hope more than fear, to be willing to defend those weaker than us, and to focus our actions on things that are in our control — all the while being capable of believing in, even being thrilled by, the vision of a moon shot.

*[Lisa Bennett](#), coauthor of [Ecoliterate](#), is a writer and communications strategist focused on climate change and what helps people rise to challenges great and small. She blogs at [lisabennett.org/blog](http://lisabennett.org/blog), and is on Twitter at [@LisaPBennett](https://twitter.com/LisaPBennett).*

# Appendix 5

## Energy in the 21st Century: Excerpts from Post Carbon Institute's Energy Primer<sup>56</sup>

*We are now facing a transformational moment in our energy story. As we leave the age of seemingly cheap and plentiful fossil fuels and enter an era of extreme energy, the ever-rising financial, social, and environmental costs of fossil fuels can no longer be ignored. The essential problem is not just that we are tapping the wrong energy sources (though we are), or that we are wasteful and inefficient (though we are), but that we are overpowered, and we are overpowering nature.*

– Richard Heinberg, from the Introduction to ENERGY: Overdevelopment and the Delusion of Endless Growth

### **The Energy Picture**

In order to make the right choices and investments, we must have a more comprehensive understanding of our energy predicament, including:

- The true costs, potential benefits, and limitations of all energy options, including renewables;
- The impact of each form of energy production on human societies and nature; and
- The true relationship between energy, our economic system, and the environment.

It's tempting to take the micro-view and look for ways to target each of our energy problems with a technical fix. Can't we improve the energy efficiency of vehicles, insulate our buildings, and develop renewable energy sources? Yes, of course. Can't we regulate the fossil fuel industry better, and allow the vast, recently unlocked North American reserves of shale gas and shale oil to be produced responsibly? Possibly. We could do all of those things, and many more besides, to lessen the current energy economy's impacts on natural and human communities—and still there would remain serious obstacles ahead. Why? Let's move out from the details of our dilemma and take in the big picture.

### **What is Energy?**

Though we cannot hold a jar of pure energy in our hands or describe its shape or color, it is nevertheless the basis of everything. Without energy, nothing could happen; matter itself could not exist in any meaningful sense. But because energy as such is so elusive, physicists and engineers define it not in terms of what it is, but what it does—as “the ability to do work,” or “the capacity to move or change matter.”

---

<sup>56</sup> <http://energy-reality.org/primer/>

In traditional societies, most useful energy came from the sunlight annually captured by food crops and forests; people exerted energy through muscle power and obtained heat from firewood. Modern industrial societies obtain enormously greater amounts of energy from fossil fuels, nuclear power, and hydroelectric dams, and they exert energy through a vast array of machinery. Industrial energy production is essential to every aspect of modern life, but no matter how far our technology for capturing or using energy advances, energy itself always remains the same.

In the nineteenth century, physicists formulated two fundamental laws of energy that appear to be true for all times and places. These are known as the First and Second Laws of Thermodynamics. The First Law is known as the law of conservation. It states that energy cannot be created or destroyed, only transformed. Think of energy as a singular reality that manifests itself in various forms—nuclear, mechanical, chemical, thermal, electromagnetic, and gravitational—and that can be converted from one form to another.

The Second Law states that in every energy conversion, some energy is dissipated (typically as heat). When the gas gauge in a car moves from “full” to “empty,” it may appear that the energy that is chemically stored in gasoline is being consumed. But all the energy that was originally present in the gasoline still exists. In reality, the stored energy is merely being released and doing some work as it moves from a condition of higher concentration to one of lower concentration. It is converted from chemical storage (via the atomic electromagnetic bonds within hydrocarbon molecules) to mechanical motion and heat (as combustion within the engine’s cylinders pushes the car forward and also increases the rate of motion of molecules in the cylinder and the surrounding environment).

We might be able to get some work out of the “wasted” heat being given off by the burning of gasoline in the car engine; but heat tends to radiate quickly into the general environment, so we would have to use that heat both immediately and close to the engine. If we could gather up all the heat and mechanical energy that was released by burning the tankful of gasoline, it could do just as much work for us yet again; but the act of re-concentrating and storing it would require more energy than we could regather. Thus, in effect, available energy is always being lost.

The Second Law is known as the law of entropy (entropy is a measure of the amount of energy no longer practically capable of conversion into work). The Second Law tells us that the entropy within an isolated system inevitably increases over time. Energy that is sufficiently concentrated (relative to background energy levels) so that it can do work for us is called a source. There are two kinds of energy sources: flows (examples include sunlight, winds, and rivers) and stocks (a word that in this context refers to energy chemically stored in substances such as wood or fossil fuels). Flows tend to be variable, whereas stocks deplete.

### **Energy-fueled Population Growth**

Humanity’s current population explosion is an aberration. During the vast majority of human history, population levels were low and quite stable. Demographer Joel Cohen estimates that from the time our species emerged until roughly twelve thousand years ago, when local agriculture appeared, the

population growth rate was less than 1/500th of 1 percent. After the widespread adoption of farming the growth rate ticked up by a factor of ten or more, but for thousands of years thereafter remained at around 1/50th of 1 percent. It took all of human history until the early eighteen hundreds for global population to reach one billion. Then the population doubled—a second billion was added—in just a century or so. Adding the next billion humans to the planet took only thirty years. The next billion, fourteen years. The next, twelve years. After another dozen years, in 1999, world population reached six billion, and the seven billion mark was passed in 2011.

When charted graphically, the human demographic explosion takes the familiar “hockey stick” shape of a classic exponential growth curve. Many factors contributed to demographic expansion, including: the global agricultural revolution in the sixteen hundreds when new foods were shared between continents; the dispersal of scientific and public health knowledge; and increasing urbanization. But central to the runaway population growth of the past two centuries is the incredible windfall of energy that fossil fuels presented to humanity. The ability to command energy, especially highly energy-dense fuels like coal, precipitated the Industrial Revolution and allowed its descendant, the techno-industrial growth culture, to flourish. Food could now be produced in far larger quantities, and local scarcity could be overcome through global transport networks.

Leading ecologists agree that humanity has already surpassed Earth’s ecological carrying capacity. Exploiting the onetime reserve of fossil energy has allowed us to temporarily escape the constraints that kept early human population levels in check. Today’s global extinction crisis, massive poverty and malnutrition, rising social inequity, and unraveling ecosystems around the globe suggest that the age of abundance is nearly over. As economist Lisi Krall tells her students, “The defining fact of this historical moment is the reality of exponential growth. With exponential growth, if you do the same things as your parents, you’ll get entirely different results.” Confronting the population problem is the preeminent challenge of our time.

## **Net Energy**

A business may have high gross receipts and still go broke; it is the net, the profit after costs are subtracted, that determines viability. For any potential energy resource, the fundamentals are the same. How much energy is available after subtracting the energy costs to extract, process, and deliver the resource? To know how much energy from a particular source can actually be deployed by society, we must factor in both the production costs and the system costs—that is, the energy required to make energy available to the end user. With gasoline, for instance, this calculation would include energy costs related to oil exploration, drilling, refining, transportation, and the infrastructure that supports each step of the process. With coal-derived electricity, the calculation would include the life cycle from mine to power plant to electric grid.

Experts who study this use the terms “net energy ratio” or “energy returned on energy invested” (EROEI). Decades ago when the most accessible reserves were drilled, an oil company might produce 100 barrels of oil or more for each barrel’s worth of energy invested. Declining oil field productivity has

brought the average net energy ratio for conventional oil down to approximately 20:1 globally, with more remote or hard-to-refine oil significantly worse. For fossil energy generally, the trend is downward despite technological advances in exploration and drilling. For biofuels, the net energy ratio is lower still. Some studies suggest that corn-derived ethanol actually has a negative net energy ratio—that is, more energy than a gallon of ethanol can deliver is used to produce a gallon of ethanol. Sugarcane-based ethanol has a superior net energy ratio, but it is still low compared to fossil fuels.

Any produced energy resource can be analyzed for its net energy ratio, although the process raises a difficult question: What are the boundaries of consideration? For example, when tallying the energy required to build a solar photovoltaic panel, what should be included in the accounting? The energy needed to mine the bauxite for the aluminum frame? The energy needed to manufacture the heavy equipment that did the mining? The energy needed to construct the factory that produced the panel? Where the boundaries are drawn affects the final net energy ratios.

A society that depends on inexpensive energy to maintain a high standard of living and constant growth faces a predicament—it cannot maintain itself over the long run without high net energy fuels. Oil, natural gas, and coal have provided a huge, high-quality energy subsidy to the modern world. That subsidy, which has enabled human population and wealth to grow exponentially, is based on finite resources and cannot continue indefinitely. Renewable energy sources, excluding hydropower, are generally more diffuse and have lower net energy ratios than fossil fuels. If high net energy sources are in decline, and no reasonable replacements are available, the result may be a painful restructuring as society rearranges economic activity to fit a diminishing energy supply.

For any potential energy resource, the fundamentals are the same. How much energy is available after subtracting the energy costs to extract, process, and deliver the resource? To know how much energy from a particular source can actually be deployed by society, we must factor in both the production costs and the system costs—that is, the energy required to make energy available to the end user. With gasoline, for instance, this calculation would include energy costs related to oil exploration, drilling, refining, transportation, and the infrastructure that supports each step of the process. With coal-derived electricity, the calculation would include the life cycle from mine to power plant to electric grid.

## **Energy-fueled Economic Growth**

World economic activity has historically grown slowly. From the Middle Ages to until the early eighteen hundreds, average per capita income rose only about 50 percent. But since the advent of the Industrial Revolution the pace has picked up, with global per capita income rising more than eightfold in just the last two hundred years.

Energy consumption has also risen dramatically, from under 20 gigajoules (GJ)<sup>57</sup> per person per year in the pre-industrial era to over 75 GJ per person today (and more than 300 GJ per person in the United

---

<sup>57</sup> One joule is defined as the work required to produce one watt of power for one second. A gigajoule is a billion joules

States). During this period, energy consumption and economic activity have stoked each other in a self-reinforcing feedback loop. Once the fossil fuel tap was opened for the modern world in eighteenth-century Britain, the high-energy content of coal (and, later, oil) enabled unprecedented productivity—spurring more consumption, more demand for energy, and better technology to get at yet more fossil fuels.

Despite the clear link between energy and economic growth, economists have interpreted and normalized growth as resulting from factors such as “market efficiency” and “labor productivity,” which (it is assumed) can be counted upon to produce more and more growth, ad infinitum. Policy makers have therefore built dependence on growth into the design of our economic system. Investors demand constant growth and high rates of return. Future growth is assumed to wipe away the debts taken on today by governments, businesses, and households. Most Americans are even betting their retirement savings, sitting in mutual funds on Wall Street, on continued growth.

As the global bonanza of cheap fossil fuels winds down, what will happen to economic growth? Certainly it’s possible to get more benefit per joule through smarter use of energy, but using energy efficiency to “decouple” economic growth from energy consumption can only go so far. After the easy efficiencies are found, further efficiency measures often require greater cost for less benefit; and while greater efficiency may reduce costs at first, it can have the effect of spurring yet more consumption.

It’s intuitively clear that it takes energy to do things, and modern civilization has exploited high-energy-content fossil fuels to dramatically reshape the living conditions and experiences of billions of people. (Altering the climate and destroying natural ecosystems around the globe were unintended consequences.) In the future, humanity will need to cope with both more expensive energy and less energy available per capita. Maintaining an acceptable level of productivity—let alone growth—may constitute one of society’s foremost social, political, technical, and economic challenges.

## **Energy Density**

Different fuels contain more or less potential energy per unit of weight or volume, and even within fuel types, such as wood or coal, the heat value varies. Anthracite packs more energy than bituminous coal, and putting oak rather than pine in the woodstove before bedtime makes a big difference in how warm the house will feel on a winter morning. The fossil fuel age has been such a bonanza because oil and coal are extremely energy-dense fuels. They have benefited from the long work of geological processes to concentrate the carbon molecules from ancient plant and animal matter.

On average, coal has approximately twice the energy density of wood. Liquid fuels refined from petroleum including gasoline, kerosene, diesel, and heating oil all contain more than three times the energy value of wood. It is no accident that when human societies have had the opportunity to transition from locally harvested biomass to concentrated fossil energy fuels, they have chosen to do so.

The miraculous quality of fossil fuel energy density is easy to understand if one imagines trying to push an automobile for twenty miles. Given enough time, and some help from athletic friends, it would be



possible to push a 3,000-pound car that distance. But it would require a tremendous amount of effort. And yet a mere gallon of gasoline (which, despite recent price increases, still costs far less in the United States than an equivalent amount of good coffee) can easily power a car that far in the time it takes to drink a mocha latte. The fact that renewable energy is, in general, more diffuse than fossil fuel presents the primary challenge to transitioning from the current energy economy to a renewables-powered future.

## **Peak Oil and Resource Depletion**

Every individual gas or oil well, every oil field, and every oil-producing country experiences a similar lifecycle. After a well is drilled, extraction ramps up to its maximum sustained output and eventually begins to decline as the reservoir is depleted. Then we search for the next well, which is generally a little harder to find, a little more expensive to produce. The price of any fossil energy determines what reserves are economically recoverable, and technological innovations can temporarily reverse the decline or extend well life. But as with any finite, nonrenewable resource—coal, natural gas, uranium, etc.—depletion is inevitable at some point.

In recent years, a large body of literature has begun exploring the many ramifications of “peak oil”—the moment when aggregate global oil production reaches its apex. The late American geologist M. King Hubbert predicted in the mid-1950s that U.S. oil production would reach the top of its production curve around 1970 and then begin to decline. That assessment was remarkably prescient: America’s production of crude did peak in 1970 and has been generally declining since, despite the addition of new sources on the Alaska North Slope and in the Gulf of Mexico. The United States, the first great power of the oil age, was also the first nation to explore, exploit, and begin to deplete its conventional oil reserves.

Oil of course is a global commodity. From a global perspective, reaching Hubbert’s peak means that roughly half of the world’s total oil resources are still in the ground, waiting to be tapped. Practically, however, the second half of the global oil resource is more difficult to access, making it less profitable (in terms of net energy) and more environmentally destructive than the earlier-exploited reserves.

The exact timing of the global oil production peak will only be recognizable in hindsight. Some energy experts predict that the peak will occur sometime during the first two decades of the twenty-first century. Others project continued growth in oil extraction through 2050. Based on data published by the International Energy Agency, global conventional oil production has been essentially flat since 2004, despite record-high prices, and likely peaked in 2006. Increased production of unconventional oil (deepwater oil, tar sands, oil shale, and shale oil) is officially projected to help meet growth in demand in the near future, but some energy experts insist that new production from these sources will be unable to make up for accelerating declines in production from conventional oil fields. Whether peak oil has occurred, is imminent, or remains years or decades off makes little difference to the salient fact: the era of abundant, inexpensive oil is closing, and all the systems for modern life designed around that earlier reality are bound to be affected.

## Embodied Energy

Every material artifact—a carrot bought at the grocery store, the cooler where it was displayed, the supermarket building, the car driven there, and the road network it travels—requires a certain amount of energy in its manufacture, maintenance, and eventual disposal. The methods used to analyze the total embodied energy of manufactured objects vary, but in general, studies over the decades have used life-cycle analysis to quantify embodied energy in computers, household appliances, automobiles, and other common products.

The embodied energy in our physical infrastructure—from water mains and buildings to superhighways and airports—is immense, and thus infrastructure is one of the most important areas where energy use (and associated greenhouse gas pollution) could be reduced. In addition to building smaller, or building less, we can also build differently. Wood, for example, has the lowest embodied energy of common building materials; plastic has approximately six times as much embodied energy by weight, glass 16 times as much, steel 24 times as much, and aluminum a whopping 126 times as much embodied energy as wood. Erecting the scaffolding of civilization took a great deal of energy, and maintaining and expanding it takes more all the time. This vast amount of embodied energy, along with psychological and financial investments in the current energy distribution system, is a key obstacle to fundamental changes in that system.

Another useful metaphor that communicates the idea of embodied energy across a product's life cycle is the “energy train.” Take for example that ubiquitous artifact of modern civilization, the mobile phone. To its owner, a cell phone is simply a handy gadget that offers convenience and a feeling of connection. But the phone does not exist in isolation—it isn't a single locomotive chugging down the tracks; rather, it pulls a train of cars behind it, all of which have ecological and energetic costs. Those metaphorical railroad cars are filled with packaging to ship the phone; an advertising industry to inculcate desire for it; a retail store to sell it; a communications network that allows it to function; an assembly plant to build it; factories to manufacture plastic cases and computer chips and other components; mines where copper, silver, and rare earth elements are dug from the ground; the transportation infrastructure to move raw materials; and of course the energy system (oil wells, coal mines, power plants, hydroelectric dams, etc.) that support the entire operation. It is a very long train, and every car being pulled along must be in place for even one mobile phone to make its first call.

## Energy Sprawl

The foremost criterion by which to judge any existing or potential energy source is its systemic ecological impact. A key subset of this analysis is its physical footprint. The useful term “energy sprawl” refers to the ever-increasing area—on land and offshore—that is devoted to energy production. Quantifying the area affected by different energy sources raises challenging methodological questions. It's obvious, for instance, to take into account the drilling pad when considering the energy sprawl impact of oil and gas development. But one should also include the land affected by pipelines, access roads, refining facilities, and other related infrastructure in the calculation. Nuclear power plants occupy

a small area relative to their electrical generation output, the smallest physical footprint of any major energy source. That energy sprawl impact grows considerably, however, when one factors in uranium prospecting, mining, processing, nuclear waste disposal, and any new power lines needed for an expanded nuclear industry. Moreover, as past accidents have demonstrated, when nuclear power plants fail, a large area can be contaminated.

Because of their high energy densities, coal, oil, and natural gas have a medium-size footprint if judged on an energy-output-per-acre ratio; but in practice these extractive industries affect a huge and growing area because they dominate energy production, and because of the enormous quantities of energy being consumed. Oil shale development in the American West is a potential area of fossil fuel exploitation that would create massive energy sprawl. Renewables, which harness the diffuse energy sources of wind and solar power, can have a large physical footprint relative to energy produced; they constitute such a small part of the current energy mix in North America that their aggregate energy sprawl impact at present is modest but growing. Because wind turbines require minimum spacing distances to maximize wind energy capture, the physical footprint of wind power is extensive but can be mitigated, whereas decapitated mountains in Appalachia sacrificed for surface coal mining will never grow back. Siting wind turbines in existing agricultural landscapes need not fragment any additional wildlife habitat. Putting solar arrays on rooftops, parking lots, and urban brownfields need not contribute to energy sprawl at all while generating significant energy close to where it is needed, eliminating the sprawl precipitated by new transmission lines.

Devoting land to growing feedstock for liquid biofuels, or growing biomass for generating electricity, augurs the greatest potential energy sprawl of the major energy alternatives under discussion. The energy density of these fuels is low and the amount of land that must be effectively industrialized, even for relatively small quantities of biofuels or biomass-derived electricity, is massive. In the end, the most effective strategy for fighting energy sprawl is to reduce energy consumption.

## **Energy Slaves**

During the vast majority of our species' history, work was done by human muscles (sometimes the muscles of human beings enslaved by others). After people learned to domesticate wild creatures, beasts of burden such as oxen and horses added to our ability to harness the Sun's energy—captured by plants and channeled into the muscles of work animals. (This relationship between domestic animals and the machines we use today is enshrined in the "horsepower" rating of modern engines.) More recently, people began using wind and waterpower to amplify human labor. But with the dawn of the fossil fuel age, the average person was able to command amounts of energy previously available only to kings and commanders of armies.

Where people or work animals formerly toiled in the fields, the petroleum-powered machines of industrial agriculture now do the work of growing food. Need to be on the other side of the planet tomorrow? Jet travel can get you there. Want to sit in the sunshine, gamble, and overeat with a few thousand strangers in a gigantic floating hotel? The cruise "industry" can make your dreams come true.

Energy-dense fossil fuels make the seemingly impossible or ridiculously extravagant whims of people a reality.

In effect, the modern energy economy provides power equivalent to that of vast numbers of human or animal servants. That is the idea behind the concept of “energy slaves.” Although top athletes can do far better, a typical adult male at sustained labor is estimated to produce 75 to 100 watts of power. Calculate the total energy use of an average American and it seems that there are the energetic equivalent of more than 100 energy slaves working around the clock to prop up the easy lifestyle offered by modern civilization.

### **Energy Future: A Positive Vision**

Everyone engaged in combating human-caused climate change or specific elements of the current energy economy knows that the work is primarily oppositional. It could hardly be otherwise; for citizens who care about ecological integrity, a sustainable economy, and the health of nature and people, there is plenty to oppose—burgeoning biomass logging, mountaintop-removal coal mining, inadequately regulated natural gas and oil drilling, poorly sited solar and wind developments, river-killing megadams, and new nuclear and coal plants around the globe. These and many other fights against destructive energy projects are crucial, but they can be draining and tend to focus the conversation in negative terms. Sometimes it’s useful to reframe the discourse about ecological limits and economic restructuring in positive terms, that is, in terms of what we’re for. The following list is not comprehensive, but beauty and biodiversity are fundamentals that the energy economy must not diminish. And energy literacy, conservation, relocalization of economic systems, and family planning are necessary tools to achieve our vision of a day when resilient human communities are embedded in healthy ecosystems and all members of the land community have space enough to flourish. In short, what we’re for is leaving behind the current energy economy, which is wasteful, polluting, and centralized; assumes perpetual growth; and is anchored by nonrenewable fuels. We envision a bold leap toward a future energy economy that fosters beauty and health; that is resilient because it emphasizes renewable, community-scale energy generation; that supports durable economies, not growth; and that is informed by nature’s wisdom. Recognizing that all human economic activity is a subset of nature’s economy and must not degrade its vitality is the starting point for systemic transformation of the energy system. While such a transition may seem daunting, reforms may be implemented incrementally, and the destination offers exciting possibilities for building vibrant human communities embedded in healthy ecosystems.

### **Energy Literacy**

Energy is arguably the most decisive factor in both ecosystems and human economies. It is the fulcrum of history, the enabler of all that we do. Yet few people have more than the sketchiest understanding of how energy makes the world go around. Basic energy literacy consists of a familiarity with the laws of thermodynamics, and with the concepts of energy density and net energy (also known as energy return on energy invested, or EROEI). It requires a familiarity with the costs and benefits of our various energy sources—including oil, coal, gas, nuclear, wind, and solar. It also implies numeracy—the ability to

meaningfully compare numbers referring to quantities of energy and rates of use, so as to be able to evaluate matters of scale. Without energy literacy, citizens and policy makers are at the mercy of interest groups wanting to sell us their vision and products for the future energy economy. We hear from the fossil fuel industry, for example, that Canada's oil reserves (in the form of "tar sands") are second only to Saudi Arabia's, or that the United States has over one hundred years of natural gas thanks to newly tapped "shale gas" resources. And it's tempting to conclude (as many people do) that there are no real constraints to national fossil fuel supplies other than environmental regulations preventing the exploitation of our immense natural treasures. On the other end of the spectrum, we hear from technooptimists that, with the right mix of innovative energy generation and efficiency technologies, we can run the growth economy on wind, solar, hydropower, and biofuels. And it's tempting to conclude that we only need better government incentives and targeted regulatory reform to open the floodgates to a "green" high-tech sustainable future. Energy literacy arms us with the intellectual tools to ask the right questions: What is the energy density of these new fossil fuel resources? How much energy will have to be invested to produce each energy unit of synthetic crude oil from oil shale, or electricity from thin-film solar panels? How quickly can these energy sources be brought online, and at what rate can they realistically deliver energy to consumers? When we do ask such questions, the situation suddenly looks very different. We realize that the "new" fossil fuels are actually third-rate energy sources that require immense and risky investments and may never be produced at a significant scale. We find that renewable energy technologies face their own serious constraints in energy and material needs, and that transitioning to a majority-renewable energy economy would require a phenomenal retooling of our energy and transportation infrastructure. With energy literacy, citizens and policy makers have a basis for sound decisions. Householders can measure how much energy they use and strategize to obtain the most useful services from the smallest energy input. Cities, states, and nations can invest wisely in infrastructure to both produce and use energy with greatest efficiency and with minimal damage to the natural world. With energy literacy, we can undertake a serious, clear-eyed societal conversation about the policies and actions needed to reshape our energy system.

### Conservation

The current energy economy is toxic not simply because of its dependence on climate-altering fossil fuels, but also because of its massive scale and wastefulness. A first step toward reducing its global impacts is simply using less energy, a goal readily accomplished through conservation practices that are widely available and cost-effective. Energy conservation consists of two distinct strategies: efficiency and curtailment. Energy efficiency means using less energy to produce a similar or better service. For example, we can exchange old incandescent lightbulbs for compact fluorescents or LEDs that use a fraction of the electricity and still enjoy satisfactory levels of indoor illumination. Curtailment means exactly what you'd think: cutting out a use of energy altogether. In our previous example of indoor lighting, this strategy might take the form of turning off the lights when we leave a room. Efficiency is typically more attractive to people because it doesn't require them to change their behavior. We want services that energy provides us, not energy per se, and if we can still have all the services we want,

then who cares if we're using less energy to get them? Much has been achieved with energy efficiency efforts over recent decades, but much more remains to be done: Nearly all existing buildings need to be better insulated, and most electric power plants are operating at comparatively dismal efficiencies, to mention just two examples. Unfortunately, increasing investments in energy efficiency typically yield diminishing returns. Initial improvements tend to be easy and cheap; later ones are more costly. Sometimes the energy costs of retooling or replacing equipment and infrastructure wipe out gains from efficiency. Nevertheless, the early steps toward efficiency are almost always rewarding. While curtailment of energy use is a less inviting idea, it offers clearer savings. By simply driving fewer miles we unequivocally save energy, whether our car is a more or less efficient model. We've gotten used to using electricity and fuels to do many things that can be done well enough with muscle power, or that don't need doing at all. Conservation helps us appreciate the energy we use. It fosters respect for resources, and for the energy and labor that are embodied in manufactured products. It reduces damage to already stressed ecosystems and helps us focus our attention on dimensions of life other than sheer consumption. During the latter decades of the twentieth century, most Americans achieved a standard of living that was lavish from both historical and cross-cultural perspectives. They were coaxed and cajoled from cradle to grave by advertising to consume as much as possible. Simply by reversing the message of this incessant propaganda, people might be persuaded to make do with less—as occurred during World War II—and be happier as well. Many social scientists claim that our consumptive lifestyle damages communities, families, and individual self-esteem. A national or global ethic of conservation could even be socially therapeutic.

## Resilience

Resilience is “the capacity of a system to withstand disturbance while still retaining its fundamental structure, function, and internal feedbacks.” Resilience contrasts with brittleness—the tendency to shatter and lose functionality when impacted or perturbed. Ecologists who study resilience in natural systems have noted that ecosystems tend to progress through a series of phases: growth, consolidation and conservation, release (or “collapse”), and reorganization. Each turning of this adaptive cycle provides opportunities for individual species and whole systems to innovate in response to external and internal change (i.e., disturbance). Resilient ecosystems (in the early growth phase) are characterized by species diversity; many of the organisms within such systems are flexible generalists, and the system as a whole contains multiple redundancies. In contrast, less resilient ecosystems tend to be more brittle, showing less diversity and greater specialization particularly in the consolidation phase. Resilience can be applied to human systems as well. Our economic systems, in particular, often face a trade-off between resilience and efficiency. Economic efficiency implies specialization and the elimination of both inventories and redundancy (which typically guarantee greater resilience). If a product can be made most cheaply in one region or nation, manufacturing is concentrated there, reducing costs to both producers and consumers. However, if that nation were to suddenly find it impossible to make or ship the product, that product would become unavailable everywhere. Maintaining dispersed production and local inventories promotes availability under crisis conditions, though at the sacrifice of economic efficiency (and profits) in “normal” times. From a resilience perspective one of the most vulnerable

human systems today is the American transportation system. For over seventy years we've spent trillions of dollars building transportation infrastructure that is completely dependent (i.e., "specialized") on affordable petroleum fuels, and we've removed or neglected most alternative methods of transport. As petroleum fuels become less affordable, the effects reverberate throughout the system. Resilience becomes more of a priority during periods of crisis and volatility, such as the world is experiencing today. Households, towns, and regions are better prepared to endure a natural disaster such as a flood or earthquake if they have stores of food and water on hand and if their members have a range of practical self-sufficiency skills. While the loss of economic efficiency implies trade-offs, resilience brings incidental benefits. With increased local self-sufficiency comes a shared sense of confidence in the community's ability to adapt and endure. For the foreseeable future, as global energy, finance, and transport systems become less reliable, the rebalancing of community priorities should generally weigh in favor of resilience.

### Eco-Localism

A central strategy needed to increase societal resilience is localization—or, perhaps more accurately, relocalization. Most pre-industrial human societies produced basic necessities locally. Trade typically centered on easily transportable luxury goods. Crop failures and other disasters therefore tended to be limited in scope: If one town was devastated, others were spared because they had their own regional sources—and stores—of necessities. Economic globalization may have begun centuries ago with the European colonization of the rest of the world, but it really took hold during the past half century with the advent of satellite communications and container ships. The goal was to maximize economic growth by exploiting efficiency gains from local specialization and global transport. In addition to driving down labor costs and yielding profits for international corporations, globalization maximized resource depletion and pollution, simplified ecosystems, and eroded local systems resilience. As transport fuel becomes less affordable, a return to a more localized economic order is likely, if not inevitable. The market's methods of rebalancing economic organization, however, could well be brutal as global transport networks become less reliable, transport costs increase, and regions adapt to less access to goods now produced thousands of miles away. Government planning and leadership could result in a more organized and less chaotic path of adaptation. Nations can begin now to prioritize and create incentives for the local production of food, energy, and manufactured products, and the local development of currency, governance, and culture. Natural ecological boundaries—such as watersheds—bordered traditional societies. Bioregions defined by waterways and mountain ridges could thus become the basis for future relocalized economic and political organization. Deliberate efforts to relocalize economies will succeed best if the benefits of localism are touted and maximized. With decentralized political organization comes greater opportunity for participation in decision making. Regional economic organization offers a wide variety of productive local jobs. Society assumes a human scale in which individuals have a sense of being able to understand and influence the systems that govern their lives. People in locally organized societies see the immediate consequences of their production and waste disposal practices, and are therefore less likely to adopt an "out of sight, out of mind" attitude toward resource depletion and pollution. Local economic organization tends to yield art,

music, stories, and literature that reflect the ecological uniqueness of place—and local culture in turn binds together individuals, families, and communities, fostering a sense of responsibility to care for one another and for the land.

## Beauty

Discussions about energy rarely focus on beauty. But the presence or absence of this ineffable quality offers us continual clues as to whether or not society is on a regenerative and sustainable path, or on the road to further degrading nature. From the time of the earliest cave paintings, human ideals of beauty have been drawn from the wild world. Animals, plants, rivers, oceans, and mountains all tend to trigger a psychological response describable as pleasure, awe, and wonder. The sight of a great tree or the song of a goldfinch can send poets and mystics into ecstasy, while the deep order inherent in nature inspires mathematicians and physicists. Nature achieves its aesthetic impact largely through anarchic means. Each part appears free to follow its own inner drives, exhibiting economy, balance, color, proportion, and symmetry in the process. And all of these self-actualizing parts appear to cooperate, with multiple balancing feedback loops maintaining homeostasis within constantly shifting population levels and environmental parameters. The result is beauty. Ugliness, by contrast, is our unpleasant aesthetic response to the perception that an underlying natural order has been corrupted and unbalanced—that something is dreadfully out of place. Beauty is a psychological and spiritual need. We seek it everywhere and wither without it. We need beauty not as an add-on feature to manufactured products, but as an integral aspect of our lives. With the gradual expansion of trade—a process that began millennia ago but that quickened dramatically during the past century—beauty has increasingly become a valuable commodity. Wealthy patrons pay fortunes for rare artworks, while music, fashion, architecture, and industrial design have become multibillion-dollar industries. Nature produces the most profound, magnificent, and nurturing examples of beauty in endless abundance, for free. Industrialism, resulting from high rates of energy use, tends to breed ugliness. Our ears are bombarded by the noise of automobiles and trucks to the point that we can scarcely hear birdsong. The visual blight of highways, strip malls, and box stores obscures natural vistas. With industrial-scale production of buildings, we have adopted standardized materials produced globally to substitute for local, natural materials that fit with their surroundings. But industrialism does not just replace and obscure natural beauty—it actively destroys it, gobbling up rivers and forests to provide resources for production and consumption. Large-scale energy production—whether from coal mines and power plants, oil derricks and refineries, or massive wind and solar installations—comes at a cost of beauty. While some energy sources are inherently uglier than others, even the most benign intrude, dominate, and deplete if scaled up to provide energy in the quantities currently used in highly industrialized nations. The aesthetic impact of industrial processes can be mitigated somewhat with better design practices. But the surest path to restoring the beauty of nature is to reduce the scale of human population and per capita production and consumption. Returning to a sustainable way of life need not be thought of as sacrifice; instead it can be seen as an opportunity to increase aesthetic pleasure and the spiritual nourishment that comes from living in the midst of incalculable beauty.



## Biodiversity

The family of life on Earth is large: More than a million species have been identified and formally described by taxonomists, and estimates of the total number of species on the planet range from 3 million to 100 million. We humans depend for our very existence on this web of life of which we are a part. Indeed, it is part of us: Each human is inhabited by thousands of species of microbes that enable digestion and other basic functions. Yet through our species' appropriation and destruction of natural habitat we are shredding microbial, forest, prairie, oceanic, riparian, desert, and other ecosystems. Habitat loss, overharvesting, climate change, and other results of human numbers and behavior endanger untold numbers of species with extinction. Extinction is nothing new: It is an essential part of the process of evolution. Throughout the billions of years of life's history, life forms have appeared, persisted for thousands or millions of years, and vanished, usually individually but occasionally in convulsive mass events triggered by geological or astrophysical phenomena. There were five ancient extinction events so catastrophic that 50–95 percent of all species died out. Today humans are bringing about the sixth mass extinction in the history of life on Earth. While the normal rate of extinction is about one in a million species per year, the extinction rate today is roughly a thousand times that. According to recent studies, one in five plant species faces extinction as a result of climate change, deforestation, and urban growth. One of every eight bird species will likely be extinct by the end of this century, while one-third of amphibian and one-quarter of mammal species are threatened. As species disappear, we are only beginning to understand what we are losing. A recent United Nations study determined that businesses and insurance companies now see biodiversity loss as presenting a greater risk of financial loss than terrorism—a problem that governments currently spend hundreds of billions of dollars per year to contain or prevent. Nonhuman species perform ecosystem services that only indirectly benefit our kind, but in ways that often turn out to be crucial. Phytoplankton, for example, are not a direct food source for people, but comprise the base of oceanic food chains, in addition to supplying half of the oxygen produced each year by nature. The abundance of plankton in the world's oceans has declined 40 percent since 1950, according to a recent study, for reasons not entirely clear. This is one of the main explanations for a gradual decline in atmospheric oxygen levels recorded worldwide. Efforts to determine a price for the world's environmental assets have concluded that the annual destruction of rainforests alone entails an ultimate cost to society of \$4.5 trillion—roughly \$650 for each person on the planet. Many species have existing or potential economically significant uses, but the value of biodiversity transcends economics: The spiritual and psychological benefits to humans of interaction with other species are profound. Most fundamentally, however, nonhuman species have intrinsic value. Shaped by the same forces that produced humanity, our kin in the community of life exist for their own sake, not for the pleasure or profit of people. It is the greatest moral blot, the greatest shame on our species, for our actions to be driving other life forms into the endless night of extinction.



# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Agenda Item Abstract

**File Number:**17-010

---

**Agenda Date:** 1/24/2017

**File Type:**Agendas

**In Control:** Board of Aldermen

**Version:** 1

---

### **TITLE:**

Presentation of the 2016 Town of Carrboro Biennial Citizen Survey Report

**PURPOSE:** The purpose of this item is for the Board receive the report from the Town of Carrboro's 2016 Biennial Citizen Survey.

**DEPARTMENT:** Town Clerk/Town Manager

**CONTACT INFORMATION:** Cathy Dorando, 919-918- 7309

**INFORMATION:** The Board's adopted FY16-17 Budget included funds set-aside to complete the Town's first comprehensive community survey. The survey was conducted by BKL Research and Consulting. The survey proved to be an exciting venture in comprehensively gathering Carrboro citizen satisfaction, interest, and information.

The intent of the survey was to help understand the residents' satisfaction and perception of services that the Town provides and to gauge the staff's effectiveness of meeting the Board's priorities. The survey data may now be used as one of the tools that the Board uses in establishing budgetary priorities and making policy decisions.

The survey consisted of various core questions associated with rating town staff in all departments. Respondents were asked to respond to various subpart questions related to specific interactions within departments' functions. The survey examined other issues such as: business environment, environmental protection, transportation, planning and development, recreation, information dissemination, opportunities to participate in decision-making and citizen involvement barriers. Questions examined the respondent's years lived in Carrboro, years lived in their current home, how many more years they plan to call Carrboro home, age, gender, race, educational level, and income. The data was gathered via phone interviews by professional staff that were highly experienced in conducting municipal surveys.

Citizen opinion is an important factor in making the best decisions for the community. It is anticipated that this survey instrument will be used as a biannual tool.

**FISCAL & STAFF IMPACT:** Funds were appropriated for the Comprehensive Community Survey in

---

**Agenda Date:** 1/24/2017

**File Type:**Agendas

**In Control:** Board of Aldermen

**Version:** 1

---

the FY 2016-17 Budget.

**RECOMMENDATION:** It is recommended that the Board of Aldermen receive the report.

**Town of Carrboro  
2016 Biennial Citizen Survey  
Executive Summary**

The overall results for the Town of Carrboro's 2016 Biennial Citizen Survey were very positive. The respondents gave high marks for the level of service provided to them in Carrboro. A total of 405 residents were surveyed and the resulting margin of error was  $\pm 5\%$ . The telephone survey methodology included listed, unlisted, and wireless numbers in the sampling frame.

The Town Government staff received very high marks for the six service dimensions examined with no marks falling below B+. There were high grades for *courteous* (A-), *professionalism* (A-), *knowledgeable* (B+), *promptness of response* (B+), *helpful* (B+), and *overall quality of customer service* (B+). The Town's rating for *maintenance of streets and roads* was also good earning a grade of B-. The major concerns mentioned by the respondents were potholes and rough pavement throughout the town and issues with snow removal and excessive winter weather preparation.

The cleanliness and appearance of public areas earned very solid marks. The grades for *parks* (A-), *greenways* (B+), *streets* (B+), and *median/roadsides* (B) were very good. There were several comments given for public areas needing attention including the need for more sidewalks, flood control measures, and taking action on rundown buildings in town. As for streets, North and South Greensboro Street was mentioned several times as a problem area.

The Carrboro Police Department garnered very strong marks from the respondents. The lowest grade given was an A- for this department. The impressive grades for the service dimensions were *response time* (A), *courteous* (A-), *competence* (A-), *fairness* (A-), and *problem solving* (A-). The Carrboro Fire Department earned the highest marks for any department examined in the survey. The Department earned A+ grades for *problem solving*, *courteous*, *response time*, and *competence* while the grade for *fairness* was an A. The Parks & Recreation Department also earned excellent ratings. The department received a grade of A for *overall experience*, *ease of registration*, *cost or amount of fee*, *facility quality*, and *program quality*. The grade for *instructor quality* was an A-.

The respondents were positive in their rating of Carrboro as a place to live giving the town a mean score of 7.95 on the 9-point scale. This would equate to a grade of B+ with 96.3% of the responses on the "desirable" side of the scale and only 0.2% on the "undesirable" side. The respondents also perceived the quality of life in Carrboro as improving or getting better. While most of the respondents (71.1%) perceived the quality of life as unchanged, the percentage on the "better" side of the scale exceeded the "worse" percentage 25.4% versus 3.5%. When asked the most important issue facing Carrboro, the primary response was none/no issues (121 comments). For those naming issues, the most important one was growth. There were 44 comments concerning controlling growth/overcrowding along with 38 comments on controlling development/overdevelopment. Other key issues were affordable housing (39 comments), traffic (35 comments), rising cost of living (18 comments), and high taxes (14 comments).

The respondents felt very safe in Carrboro in all areas of the town. The means for safe in Carrboro overall (8.24), in their home neighborhood (8.35), and in public places (8.10) were all very high reflecting the high perception of safety.

Several barriers to citizen involvement in local government were examined. The most significant barrier was *too busy – don't have time* with a mean of 5.47 on a 9-point scale. Other less important barriers were *don't know about opportunities* (3.81) and *timing is inconvenient* (2.58).

The top five major information sources (in order) used by the respondents include word-of-mouth, street signage, Carrboro's website, Facebook, and television. Sources also utilized but somewhat less important were radio, Raleigh News & Observer, Parks & Recreation Brochure, Independent Weekly, The Daily Tar Heel, and Carrboro's email list service in that order.

The large majority of respondents who use Wi-Fi perceived no problems with its availability in Carrboro. The only areas mentioned frequently as having availability issues were Weaver Street (16 comments), coffee shop/Look Glass Cafe (13 comments), downtown area (7 comments), and Carr Mill Mall (3 comments).

Carrboro has generally been effective in its communication efforts with citizens. The respondents felt largely well informed about *government services, projects, issues, and programs that affect them*. The mean was 6.00 with 55.6% on the "informed" side of the scale versus only 20.4% on the "uninformed" side. There was a level of satisfaction with *Carrboro making information available to citizens concerning important services, projects, issues, and programs* with a mean of 6.45 with 60.7% on the "satisfied" side of the scale versus 7.7% on the "dissatisfied" side. Finally, the respondents were also pleased with the *opportunities Carrboro gives them to participate in the decision-making process*. The mean was 6.35 with 57.1% on the "satisfied" side of the scale versus 6.6% on the "dissatisfied" side. Keep in mind, there was a significant number of respondents who indicated they did not seek information and it was their fault for not being informed. This will serve to lower the means for these questions regardless of the town's efforts.

Solid Waste Services received very solid marks from the respondents. The grades were very good for *curbside garbage collection* (A), *curbside bulk item collection* (A-), *curbside yard waste collection* (B+), and *curbside loose leaf collection* (B+). There were 50.9% of the respondents who were not aware curbside recycling was provided by Orange County Waste Management and not Carrboro.

As for downtown, there were 95.6% of the respondents who had visited downtown in the past year. The three major reasons they visited downtown were for restaurants (130 comments), Weaver Street Market (85 comments), and shopping (76 comments). Other slightly less prominent reasons included everything (58 comments), events/festivals (48 comments), Farmer's Market (29 comments), atmosphere (27 comments), bars (26 comments), grocery store (26 comments), and music/Music Festival (23 comments). Those who had not visited downtown indicated the major reason was too busy (4 comments). The respondents indicated the most effective amenity/activity to bring them downtown would be cafes/restaurants, festivals, outdoor performances, Summer Streets/Closed Street, Farmer's Market, shopping opportunities, and concerts in that order. When asked about any other suggestions to bring people downtown, the respondents included more family/children oriented things, better parking, more affordable pricing, make it pedestrian friendly, and adding ethnic restaurants. Although the most frequent comment was nothing else is needed downtown.

The Carrboro focus areas earned generally solid ratings; however, there were some areas of concern. The focus areas will be discussed in order of ranking. The highest level of satisfaction was for the overall job the town has done on *Parks, Recreation, and Cultural Resources*. The mean was 7.56 with 89.4% of the respondents on the "satisfied" side of the scale and this equates to a grade of B. The respondents felt Carrboro was successful with the *Town being effective in keeping Carrboro the*

*best place to live, work, and raise a family.* The mean was 7.32 with 83.7% on the “effective” side of the scale. The job the Town is doing on *environmental protection* also earned good marks garnering a mean of 7.29 with 85.2% on the “satisfied” side of the scale equating to a solid grade of B-. The next three focus areas earned somewhat lower ratings falling below the B grade range. Firstly, there was a level of satisfaction with the job the Town is doing on *transportation*. The mean was 6.98 with 78.4% on the “satisfied” side of the scale. However, this would equate to a grade of C+ and represents one of the few ratings earned by the town below the B- level. Secondly, the job the Town is doing on *planning & development* was also an area of concern with a grade of C-. The mean was 6.61 with 71.2% on the “satisfied” side of the scale. Finally, Carrboro also earned a C- for the job the Town is doing on *parking within the town*. The mean was 6.60 with 69.6% on the “satisfied” side of the scale. This is the second lowest overall grade earned by the town in the survey.

The respondents rated several new programs/services they would likely be willing to pay for in Carrboro. The highest rated or most likely to pay for would be affordable housing. Other programs/services rated higher (in order) include festivals/Open Streets, environmental sustainability, fire services, police services, recreation programs, and sidewalks/greenways.

The Town earned somewhat lower grades for the job they are doing with senior citizens and citizens with disabilities. The mean for the job the Town is doing with seniors was 6.63 with 60.8% on the “satisfied” side of the scale. The mean for the job the Town is doing for citizens with disabilities was 6.75 with 61.1% on the “satisfied” side of the scale. The grade for both of these would be a C representing two of the lower marks the town earned. Finally, there was much more concern for the ratings for the job the town is doing for providing affordable housing. The mean was only 5.28 with 34.9% on the “satisfied” side of the scale versus 25.4% on the “dissatisfied” side. The grade in this instance would be an F.

The final questions in the survey examined transportation sources used by the respondents going to work and around town. The primary source for going to work were vehicles (62.4%), public transportation (15.6%), bicycles (11.4%), and walking (7.4%). There was limited use of car pools (3.2%). The primary sources around town were vehicles (52.7%), walking (27.7%), bicycles (11.8%), and public transportation (6.9%) with limited use of car pools (0.9%). The major change was in the significant increase in walking around town.

In conclusion, there are 27 graded core Carrboro service dimensions structured in the grading format (very poor to excellent scaling). The overall mean for all service dimensions was 8.24. This mean translates to an impressive grade of A- for the town. Overall, the Town of Carrboro receives an excellent report card with 19 grades in the A range and 8 grades in the B range with no grades in the C range for the core service dimensions. The lowest grade earned was the B- for the *maintenance of streets and roads*.

However, there were some areas of concern for the town. On the positive side, the ratings for the town are so strong overall that C range grades (average) would be considered areas of concern. First, the ratings for the job the town is doing for *transportation, planning & development, and parking within the town* were somewhat lower than other service ratings Carrboro has earned from the respondents. These ratings if converted to grades would be the C range. Second, the job the town is doing for senior citizens and citizens with disabilities were also somewhat low equating to grades in the C range. Third, the lowest rating the town earned was for the job the town is doing for providing affordable housing and this would equate to an F. Fourth, Wi-Fi available appears to have issues in the downtown area, especially around Weaver Street. Finally, the open-ended questions revealed a

few other suggestions made by the respondents. There were issues with potholes/rough pavement around town and some difficulties with snow removal/winter weather preparation. Flood control and stormwater drainage problems were also concerns. The respondents suggested adding sidewalks and bike lanes in town along with better connectivity and safety for those bike lanes. In addition, improving safety for pedestrian crossings was suggested as well. Bus service could be improved with longer hours, weekend service, and a schedule app for cell phones. There were several suggestions to take action on rundown buildings in the area and adding more parking in town. Finally, two streets needing the most improvements were Greensboro Street and Estes Drive with upgrading needed for safety, traffic, sidewalks, and bike lanes.

# **Town of Carrboro 2016 Biennial Citizen Survey Report**

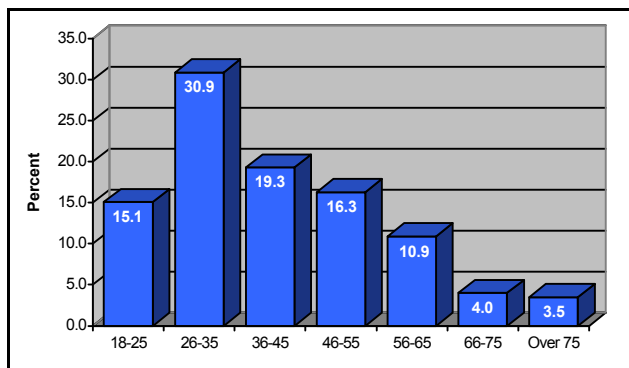
## **Methodology**

The 2016 Town of Carrboro Biennial Citizen Survey was conducted from October 29<sup>th</sup> through November 30<sup>th</sup>. BKL Research administered the telephone survey to 405 residents of the Town of Carrboro. This resulted in a  $\pm 5\%$  margin of error. Both listed, unlisted, and wireless telephone numbers within Carrboro census tracts were included in the sampling frame and contacted using a random selection process. Approximately 88% of the numbers contacted were wireless. A minimum of four callbacks was attempted on each number not screened from the sampling frame. The potential respondents were screened with regards to Carrboro residence and over the age of 18. The average survey completion time was between 15-18 minutes and the refusal rate was 29.1%.

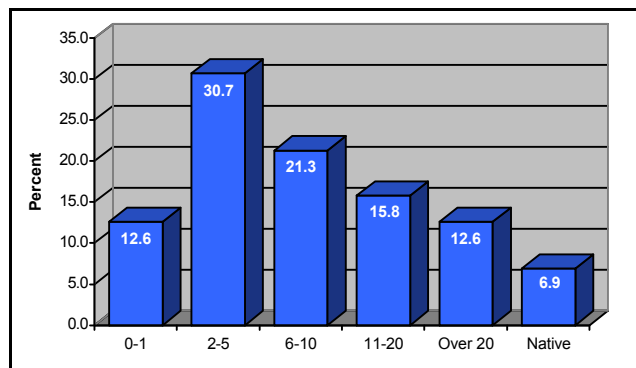
The survey instrument consisted of 40 core questions with related subparts to several of the questions (Appendix A). Respondents were asked to rate the Town Government staff, Police Department, Fire Department, Parks & Recreation programs, streets/roads, perceptions of safety, quality of life, and solid waste services. The survey also examined other issues including information sources, information dissemination, opportunities to participate in decision-making, citizen involvement barriers, media usage, and transportation sources. Another series of questions examined Board of Alderman focus areas in relation to issues including environmental protection, keeping Carrboro the best place to live, transportation, planning & development, parking, and parks & recreation. The respondents were also asked actions that could improve their dissatisfaction with these focus areas. There were questions examining new programs or increased services, downtown amenities/activities and satisfaction with the job the town is doing for senior citizens, citizens with disabilities, and affordable housing. The respondents were primarily asked to use a 9-point scale. There were open-ended questions examining streets/roads and public areas needing attention, most important issues facing Carrboro, reasons for visiting downtown, Wi-Fi availability, and reasons for choosing to live in Carrboro. The survey also incorporated 12 demographic questions.

## **Demographic Characteristics of the Sample**

The demographic profiles of the sample are exhibited in Figures 1-8. The age profile of the sample is illustrated in Figure 1. A large percentage of the respondents (65.3%) fell under the age of 45 with the largest portion in the 26-35 (30.9%) age category. Figure 2 represents the number of years the respondents had lived in Carrboro. A large proportion (30.7%) lived in the town 2-5 years while

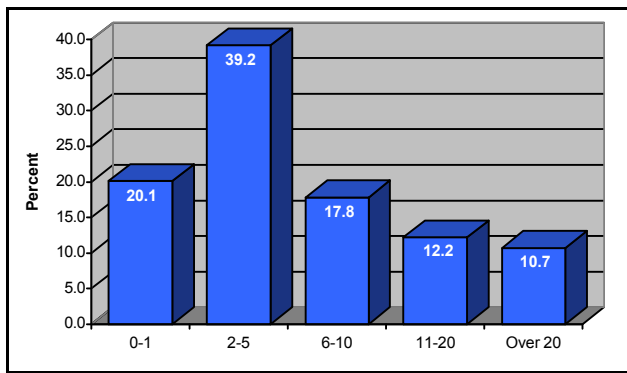


**Figure 1. Sample: Age Distribution.**

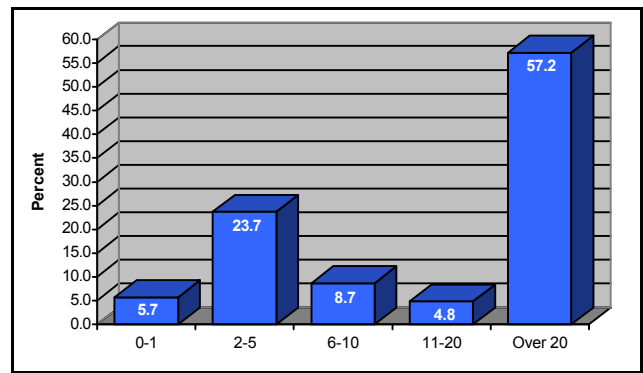


**Figure 2. Sample: Years Lived in Carrboro.**





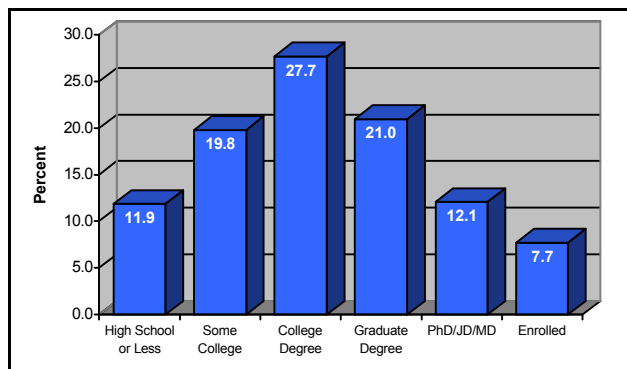
**Figure 3. Sample: Years Lived in Current Home.**



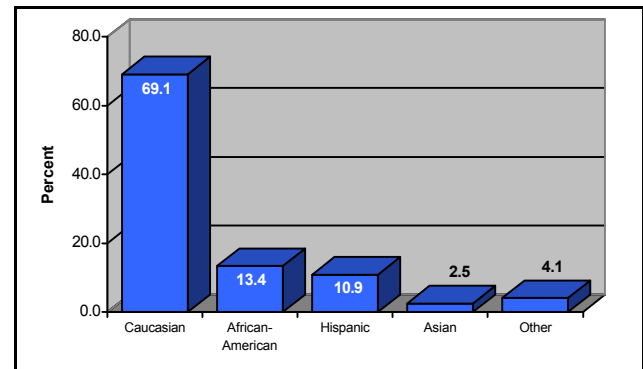
**Figure 4. Sample: Years Continue to Live in Carrboro.**

21.3% lived 6-10 years and 6.9% were Carrboro natives. Figure 3 shows most of the respondents (39.2%) had lived in their present home 2-5 years, 17.8% for 6-10 years, and 20.1% residing only 0-1 year likely reflecting the student population. When asked how long they plan to stay in Carrboro, 57.2% plan to stay over 20 years while 23.7% only plan to stay an additional 2-5 years (Figure 4).

The sample was also a highly-educated group illustrated in Figure 5. A large percentage (27.7%) of the respondents graduated with a college degree with 21.0% earning a graduate degree and 12.1% a PhD, JD, or MD degree. Note that 7.7% were currently enrolled in college. Figure 6 details the racial breakdown of the sample showing 69.1% of the respondents were Caucasian, 13.4% were African-American, 10.9% were Hispanic, and 2.5% were Asian.

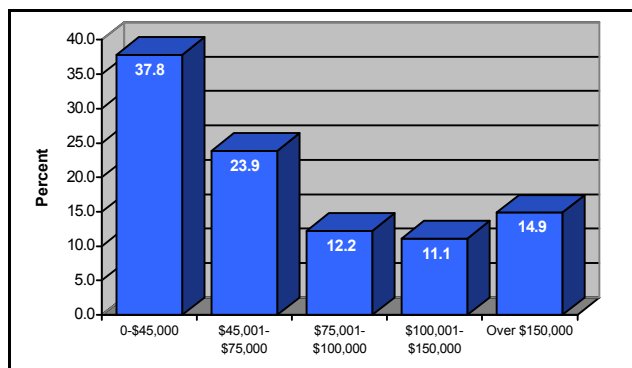


**Figure 5. Sample: Educational Level.**

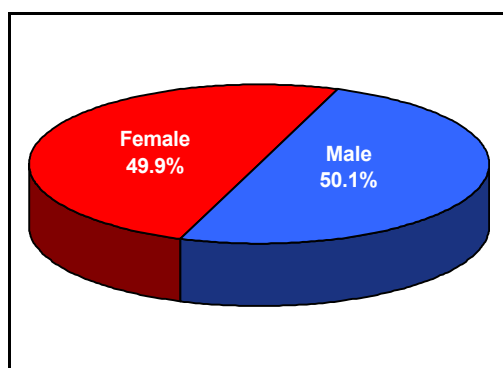


**Figure 6. Sample: Race.**

The income levels for the sample are shown in Figure 7. A high proportion of the sample (37.8%) were in the 0-\$45,000 income category which is indicative of student population in the area. In addition, 23.9% earned between \$45,001-\$75,000 while 14.9% earned over \$150,000. In terms of gender, 50.1% of the sample were male and 49.9% were female (Figure 8). Most of the respondents (60.0%) resided in single-family homes, 24.2% were apartment dwellers, 3.7% in a townhouse/condominium/duplex, and 1.2% lived in a mobile home. In terms of rent versus own, 50.4% rented while 49.6% owned their residence. There were 87.9% of the respondents who indicated they were registered voters and 64.9% of those voted in the 2015 local elections.



**Figure 7. Sample: Income.**



**Figure 8. Sample: Gender.**

Several of the means for the service dimensions in the survey were converted into grades. The mean score was changed into a percentage (using 9 as the denominator) and compared to the grading scale shown in Table 1. This was done for those questions that rated the services on the 9-point scale using the very poor (1) to excellent (9) response set. Although, questions using other similar scaling may be converted for comparison purposes. Grades tend to be easier to understand and use in setting goals.

As previously mentioned, the report will include selected crosstabulations expressly chosen by Carrboro for specific questions in the survey (Appendix B). It is important to exercise caution in the interpretation of crosstabulations. They will act to segment or partition the sample size and in turn, increase the margin of error for a question. It is difficult to interpret crosstabulations with small sample sizes for a specific demographic subgrouping. For that reason, sample sizes of less than 10 respondents in a subgroup will not be discussed. Keep in mind that any of the crosstabulations with a sample size this small will have exceptionally high margins of error. As for terminology, a subgroup would be a specific breakout category in a particular demographic group such as 18-25 age group or \$100,001-\$150,000 income level.

**Table 1. Grading Scale.**

Rating (%)	Grade
97-100	A+
94-96	A
90-93	A-
87-89	B+
84-86	B
80-83	B-
77-79	C+
74-76	C
70-73	C-
67-69	D+
64-66	D
60-63	D-
Below 60	F

The percentages in the tables are rounded off to one decimal place. Due to rounding, this may result in row totals that do not always add up to exactly 100.0%. The demographic recodes for the crosstabulations were age (18-25, 26-55, 56-65, over 65), education (high school degree/some college, college degree, PhD/JD/ MD, current student), housing (single family, apartment, townhouse/condo, other), income (0-\$45,000, \$45,001-\$100,000, \$100,001-\$150,000, over \$150,000), and years in Carrboro (0-1, 2-5, 6-10, over 10, native). For clarification, other housing includes mobile homes and any other living arrangement such as assisted living. College degree refers to a bachelor's or master's degree. All the tables are displayed in percentages unless otherwise stated.

## Town Government Staff

The performance of the Town Government staff was assessed with a set of seven items or questions. These questions were only administered to those respondents who had contact with the Town Government in the past two years. There were 24.9% or 101 respondents who indicated they had contact within that time frame. A 9-point grading scale from very poor (1) to excellent (9) was used to rate performance.

The results show very high ratings for the Town Government staff with no grade falling below the B+ level. Tables 2-7 placed in descending order of ratings show the means and grades for the individual service dimensions. The mean for *courteous* of 8.29 was the highest earned by the staff and this equates to an impressive grade of A-. In addition, *professionalism* also earned a grade of A- with a slightly lower mean of 8.09. The other service dimensions received a very solid mark of B+ for *knowledgeable* (7.93), *promptness of response* (7.86), *helpful* (7.82), and *overall quality of customer service* (7.79). Overall, the Town Government staff earned very high marks for all the service dimensions from those who had contact with them.

**Table 2. Town Government Staff: Courteous.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.29	2.0	0.0	1.0	1.0	3.0	0.0	7.0	18.0	68.0	A-

**Table 3. Town Government Staff: Professionalism.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.09	2.0	0.0	1.0	2.0	5.1	1.0	6.1	23.2	59.6	A-

**Table 4. Town Government Staff: Knowledgeable.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	7.93	2.0	0.0	2.0	2.0	7.0	2.0	9.0	17.0	59.0	B+

**Table 5. Town Government Staff: Promptness of Response.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	7.86	2.0	0.0	2.0	1.0	10.0	0.0	8.0	25.0	52.0	B+

**Table 6. Town Government Staff: Helpful.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	7.82	2.0	0.0	3.0	2.0	8.0	1.0	10.0	19.0	55.0	B+

**Table 7. Town Government Staff: Overall Quality of Customer Service.**

<b>Year</b>	<b>Mean</b>	<b>Very Poor 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Excellent 9</b>	<b>Grade</b>
16	7.79	2.0	1.0	1.0	2.0	5.9	2.9	12.7	24.5	48.0	B+

The respondents who gave lower scores (below 5) to any of the service dimensions were then asked their concerns or issues with the interaction. There were only 9 total comments and the main concern was not receiving help from the staff concerning their particular problem (Appendix C).

## Streets and Roads

The *maintenance of streets and roads* was assessed using a same 9-point grading scale ranging from very poor (1) to excellent (9). Table 8 shows a solid rating with a mean of 7.26 and a grade of B-. There were only 4.2% of the responses on the “poor” side of the scale (below 5). It is important to keep in mind that streets and roads can be a challenging area for the town as it continues to experience elevated levels of growth and traffic. This makes this score even more notable.

**Table 8. How Well Carrboro Maintains Streets and Roads.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	7.26	0.5	0.5	1.0	2.2	7.4	10.6	29.7	28.5	19.6	B-

### Streets and Roads Needing Attention

The respondents who rated the streets and roads below 5 were asked to name specific streets/roads that need more attention and the problem(s) associated with that area (Appendix D). In this instance, the problems or issues cited for most roads were potholes and rough pavement with 20 total comments. This included 7 comments concerning this problem in no specific area but throughout Carrboro. The individual streets mentioned for potholes and rough pavement were Main Street (2), Hillcrest Avenue, Greensboro Street, Robert Hunt Drive, Carol Street, Hillsborough Road, Daffodil Lane, Blueridge Road, Gardner Circle, Lincoln Lane, Smith Level Road, and Prince Street. There were also 4 comments indicating issues with poor snow removal throughout Carrboro with Crest Street being mentioned specifically. In addition, there were 3 comments critical of excessive winter weather preparation of the roads throughout town.

## Cleanliness and Appearance of Public Areas

The cleanliness and appearance of public areas was assessed by a set of four questions. The questions examined the cleanliness and appearance of several public areas including *streets*, *median/roadsides*, *parks*, and *greenways*. Again, the same 9-point scale from very poor (1) to excellent (9) was used.

The cleanliness and appearance of public areas received high marks. The results shown in Tables 9-12 (placed in descending mean order) indicated the respondents were very satisfied with the cleanliness and appearance of all the public areas examined. The cleanliness and appearance of *parks* received the highest grade of A- with a mean of 8.06. *Greenways* (7.85) and *streets* (7.81) earned a grade of B+ from the respondents. *Median/roadsides* were slightly lower while earning a grade of B for a mean of 7.68.

**Table 9. Cleanliness and Appearance of Parks.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.06	0.0	0.0	0.0	0.3	5.8	3.0	14.0	32.8	44.1	A-

**Table 10. Cleanliness and Appearance of Greenways.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	7.85	0.3	0.0	0.3	0.0	8.5	5.0	16.5	29.3	40.1	B+

**Table 11. Cleanliness and Appearance of Streets.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	7.81	0.0	0.0	0.2	0.0	6.7	5.0	23.1	30.0	35.0	B+

**Table 12. Cleanliness and Appearance of Median/Roadsides.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	7.68	0.0	0.0	0.2	0.7	7.9	7.4	23.1	26.6	34.0	B

## Public Areas Needing Attention

The respondents who gave ratings below 5 were asked to give specific examples of public areas needing attention (Appendix E). The major concern was the need for sidewalks which was mentioned a total of 9 times by the respondents. The areas cited needing sidewalks were South Greensboro Street (2), Estes Drive (2), everywhere (2), Bolin Creek Drive, High Street, and North Greensboro Street. Flood control was mentioned 5 times by the respondents including Carol Street (2), Bel Arbor Lane, James Street, and Lorraine Street. Rundown buildings were seen as a problem by 4 respondents citing Weaver Street, Main Street, and North Greensboro Street. Finally, trash and debris in creeks was mentioned 3 times for the areas of Barnes Street, Bim Street, and Jones Ferry Road. Note that North and South Greensboro Street were mentioned a total of 6 times for various issues by the respondents.

## Police Department

The performance of the Carrboro Police Department was assessed with a set of seven questions. These questions were only administered to those respondents who had contact with the Police Department in the past two years. In this case, it was 30.7% or 124 respondents. Table 13 indicates most of the respondents had contact with an officer (65.5%), animal control (9.5%), or dispatcher (9.5%). There was somewhat less contact with a clerk (7.7%) or detective (4.8%). There was no contact with the Chief by any of the respondents. The results in the table may represent multiple contacts with different Police personnel by the same individual.

**Table 13. Police Department: Person Contacted.**

Person Contacted	Number	Percentage
Officer	110	65.5
Animal control	16	9.5
Dispatcher	16	9.5
Clerk	13	7.7
Detective	8	4.8
Not Sure	5	3.0
Chief	0	0.0

The Police Department was assessed on five service dimensions (*courteous*, *competence*, *response time*, *fairness*, and *problem solving*) on the same 9-point grading scale from very poor (1) to excellent (9) placed in descending mean order (Tables 14-18). The Police earned excellent grades from the respondents with all the grades A- or better. The highest mark was for *response time* with an impressive mean of 8.54 and a corresponding grade of A. All the other service dimensions earned a grade of A- including *courteous* (8.30), *competence* (8.28), *fairness* (8.23), and *problem solving* (8.21). Overall, the Police earned outstanding grades with a very large proportion of responses in the excellent category including 80.6% for *response time*.

**Table 14. Police Department: Response Time.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.54	1.1	0.0	1.1	1.1	2.2	1.1	1.1	11.8	80.6	A

**Table 15. Police Department: Courteous.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.30	2.4	0.0	1.6	2.4	0.0	2.4	4.0	13.7	73.4	A-

**Table 16. Police Department: Competence.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.28	3.3	0.0	1.6	0.8	1.6	1.6	3.3	14.6	73.2	A-

**Table 17. Police Department: Fairness.**

<b>Year</b>	<b>Mean</b>	<b>Very Poor 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Excellent 9</b>	<b>Grade</b>
16	8.23	3.2	0.0	1.6	0.8	2.4	1.6	4.8	13.7	71.8	A-

**Table 18. Police Department: Problem Solving.**

<b>Year</b>	<b>Mean</b>	<b>Very Poor 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Excellent 9</b>	<b>Grade</b>
16	8.21	3.3	0.0	1.6	0.8	3.3	1.6	4.1	12.3	73.0	A-



## Fire Department

The performance of the Carrboro Fire Department was assessed with a set of six questions regarding contact with the Department and rating their service dimensions. These questions were only administered to those respondents who had contact with the Fire Department in the past two years. In this case, it was 12.3% or 50 respondents. The same 9-point grading scale from very poor (1) to excellent (9) was used.

The results shown in Tables 19-23 (placed in descending mean order) indicate the Fire Department earned superior ratings earning an A+ for *problem solving* (8.71), *courteous* (8.71), *response time* (8.70), and *competence* (8.69). The only service dimension not earning an A+ was the A given to *fairness* (8.61). Overall, the Fire Department earned the highest marks for any department in the town.

**Table 19. Fire Department: Problem Solving.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.71	2.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	91.8	A+

**Table 20. Fire Department: Courteous.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.71	2.0	0.0	0.0	0.0	0.0	2.0	2.0	3.9	90.2	A+

**Table 21. Fire Department: Response Time.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.70	2.5	0.0	0.0	0.0	0.0	2.5	0.0	2.5	92.5	A+

**Table 22. Fire Department: Competence.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.69	2.0	0.0	0.0	0.0	0.0	2.0	2.0	5.9	88.2	A+

**Table 23. Fire Department: Fairness.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.61	2.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	90.2	A

## Parks & Recreation and Cultural Programs

A series of eight questions in the survey specifically examined Parks & Recreation and Cultural programs. Initially, the respondents were asked if they had participated in a Parks & Recreation program and to name the program(s) in which they were involved and the location. The respondents were subsequently asked to rate various aspects of the program(s) including *program quality*, *facility quality*, *cost or fee*, *overall experience*, *ease of registration*, and *instructor quality*. Again, the same 9-point grading scale from very poor (1) to excellent (9) was utilized.

The results showed that 15.8% or 64 of the respondents indicated someone in their household had participated in a Parks & Recreation or Cultural Program in the past two years. The programs they participated in and locations are shown in Appendix F. The most commonly mentioned programs (in order) were music festival, ultimate frisbee, basketball, baseball and pottery classes. Several other programs were mentioned twice.

The ratings for the six service dimensions examined for the Parks & Recreation and Cultural programs are shown in Tables 24-29 (placed in descending mean order). All the service dimensions received very high marks. The highest rated were *overall experience* (8.64) and *ease of registration* (8.62) both earning an outstanding grade of A with most of the ratings in the excellent category (71.6% and 69.8%, respectively). Also, earning an A with slightly lower means were *cost or amount of fee* (8.45), *facility quality* (8.44), and *program quality* (8.43). Finally, the grade for *instructor quality* (8.38) was the lowest of the marks with an impressive grade of A-. Overall, Parks & Recreation was very highly rated by the respondents with five A grades and one A- grade.

**Table 24. Parks & Recreation: Overall Experience.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.64	0.0	0.0	0.0	0.0	0.0	0.0	7.5	20.9	71.6	A

**Table 25. Parks & Recreation: Ease of Registration.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.62	0.0	0.0	0.0	0.0	0.0	3.2	1.6	25.4	69.8	A

**Table 26. Parks & Recreation: Cost or Amount of Fee.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.45	0.0	0.0	0.0	0.0	0.0	3.8	13.2	17.0	66.0	A

**Table 27. Parks & Recreation: Facility Quality.**

Year	Mean	Very Poor 1	2	3	4	Average 5	6	7	8	Excellent 9	Grade
16	8.44	0.0	0.0	0.0	1.5	0.0	1.5	13.6	16.7	66.7	A

**Table 28. Parks & Recreation: Program Quality.**

<b>Year</b>	<b>Mean</b>	<b>Very Poor 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Excellent 9</b>	<b>Grade</b>
16	8.43	1.5	0.0	0.0	0.0	0.0	0.0	14.7	16.2	67.6	A

**Table 29. Parks & Recreation: Instructor Quality.**

<b>Year</b>	<b>Mean</b>	<b>Very Poor 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Excellent 9</b>	<b>Grade</b>
16	8.38	0.0	0.0	0.0	0.0	0.0	6.3	10.4	22.9	60.4	A-

## Carrboro Overall as a Place to Live

The respondents were asked to rate Carrboro overall as a place to live using a 9-point scale from very undesirable (1) to very desirable (9). Table 30 indicates that Carrboro was perceived as a very good place to live. Although not in a traditional grading scale format, if the mean (7.95) were converted to a grade, then the rating would be a B+. Note that 96.3% were on the “desirable” side of the scale (above 5). More telling was the fact that only 0.2% of the responses were on the “undesirable” side (below 5). To gather more insight into any lower ratings, the respondents who answered with a rating below 5 were asked the reason for the low rating. In this instance, there was only one individual who rated Carrboro below 5 (rating Carrboro a 4) and they left no comments.

**Table 30. Carrboro Overall as a Place to Live.**

Year	Mean	Very Undesirable 1	2	3	4	Average 5	6	7	8	Very Desirable 9	Grade
16	7.95	0.0	0.0	0.0	0.2	3.5	5.2	18.8	36.5	35.8	B+

## Carrboro as a Place to Live Crosstabulations

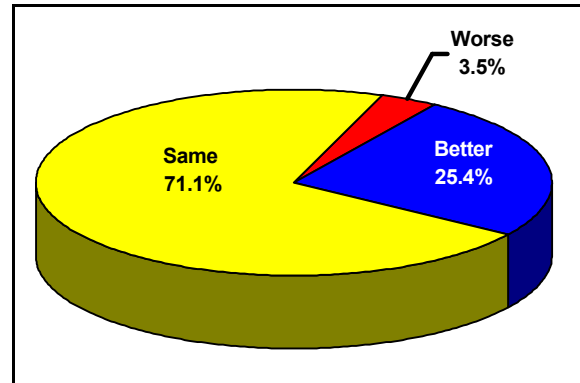
Crosstabulations for Carrboro as a place to live were conducted for age, education, gender, housing type, income, race, and years in Carrboro. The breakdowns are shown in Tables B1-B6 in Appendix B. The means for the subgroups were generally high and consistent with most grades falling in the B+ to A- range. There was only one grade lower than a B+ and this was for current students who gave the town a grade of B.

## Quality of Life in Carrboro

The perception of the quality of life in Carrboro over the past two years was assessed with a 5-point scale. The response categories for this question were much worse (1), somewhat worse (2), the same (3), somewhat better (4), and much better (5).

Overall, a large proportion of the respondents (71.1%) perceived the quality of life in Carrboro as the “same” over the past two years (Table 31). Keep in mind, higher means (above 3.00) indicate perceptions of an improvement in the quality of life and the mean for Carrboro was 3.26. Note the percentage on the “better” side of the scale (above the midpoint of 3) greatly exceeded the percentage on the “worse” side (below 3) by 25.4% to 3.5% (Figure 9). In addition, there were no respondents who indicated the quality of life was much worse.

To gain more insight into those giving lower ratings, the respondents who answered with a rating below 3 were asked the reason for the low rating (Appendix G). There were 15 total responses (a respondent may provide multiple reasons) and the primary concerns for the lower quality of life ratings were traffic (6 comments), the cost of living (3 comments), overcrowding (3 comments), and overdevelopment (3 comments).



**Figure 9. Quality of Life.**

**Table 31. Quality of Life in Carrboro.**

Year	Mean	Much Worse 1	Somewhat Worse 2	The Same 3	Somewhat Better 4	Much Better 5	% Below 3	% Above 3
16	3.26	0.0	3.5	71.1	20.9	4.5	3.5	25.4

## Most Important Issue Facing Carrboro

An open-ended question asked respondents what they feel is the most important issue facing the Town of Carrboro (Appendix H). The most frequent comment was the respondent perceived none/no issues and this was mentioned 121 times (Table 32). These responses have a positive component considering that major issues did not come to mind immediately and speaks to the effectiveness of management in the town. However, the issue of growth was a concern to other respondents. There were 44 comments concerning controlling growth/overcrowding. In addition, the growth-related issue of overdevelopment/controlling development garnered 38 comments. This resulted in 82 total comments related to the growth issue. Two other key issues besides growth were affordable housing (39 comments) and traffic (35 comments). Other concerns of somewhat less importance were the rising cost of living (18 comments), high taxes (14 comments), need for more sidewalks/improve sidewalks (8 comments), crime (8 comments), and jobs/economic development (8 comments).

**Table 32. Most Important Issue Facing Carrboro.**

<b>Important Issue</b>	<b># Comments</b>
None/no issues	121
Controlling growth/overcrowding	44
Affordable housing	39
Controlling development/overdevelopment	38
Traffic	35
Rising cost of living	18
High taxes	14
Need for more sidewalks/improve sidewalks	8
Crime	8
Jobs/economic development	8
Improving safety/widen for bike lanes	7
Diversity in the area	7
Parking downtown	6
Retaining small-town feel	6
Homeless/poverty	5
Not sure	5

## How Safe Residents Feel in Carrboro

The survey included a set of questions that examined the respondent's personal perceptions of safety in the Town of Carrboro. The survey included three separate questions to assess safety including safe in Carrboro overall, safe in their home neighborhood, and safe around various public places throughout town such as shopping, eating out, or at concerts.

The respondents were first asked how safe they feel in the Town of Carrboro overall. A 9-point scale that ranged from extremely unsafe (1) to extremely safe (9) was utilized. The results indicate the respondents perceived a very high level of safety in Carrboro overall (Table 33). The mean was 8.24 with an impressive 97.4% responding on the "safe" side (above 5) of the scale. This included 55.1% who answered they felt extremely safe in town. There were only 0.9% on the "unsafe" side (below 5) of the scale with 1.7% responding average levels for safety (Figure 10). Overall, there was an exceptionally high perception of safety in Carrboro overall.

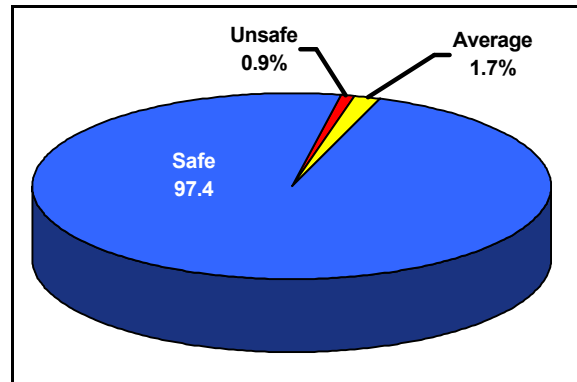


Figure 10. Safe in Carrboro Overall.

Table 33. How Safe Do You Feel in Carrboro Overall.

Year	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
16	8.24	0.2	0.0	0.7	0.0	1.7	3.5	13.6	25.2	55.1	97.4

The respondents were next asked how safe they feel in their home neighborhood (Table 34). The perception of safety was even higher for their home neighborhood. The mean was an impressive 8.35. In this instance, there were 95.5% responding on the "safe" side of the scale (above 5). What made this mean higher than Carrboro overall was the 62.2% responding they felt extremely safe in their home neighborhood. The "unsafe" side of the scale (below 5) garnered only 1.3% of the responses with 3.0% answering they felt average levels of safety (Figure 11).

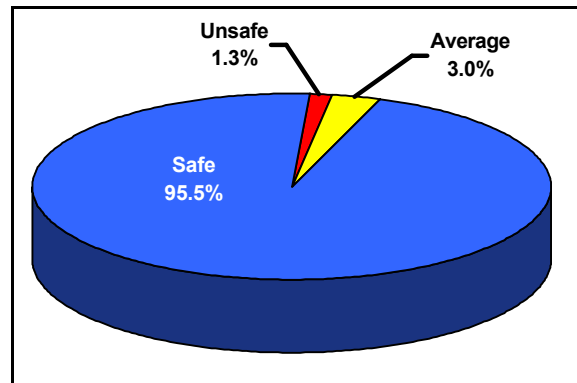
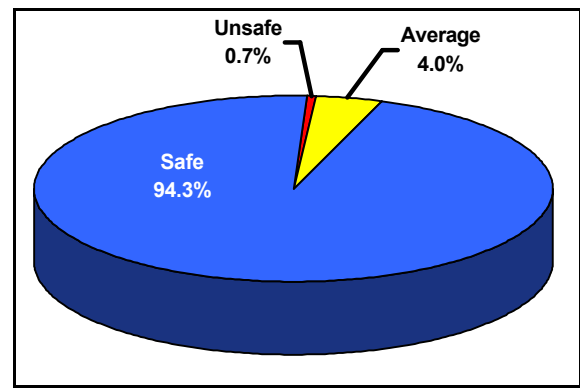


Figure 11. Safe in Home Neighborhood.

Table 34. How Safe Do You Feel in Your Home Neighborhood.

Year	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
16	8.35	0.2	0.2	0.7	0.2	3.0	1.5	7.4	24.4	62.2	95.5

Finally, the respondents were asked about how safe they feel in public places around Carrboro for activities around town such as shopping, eating out, or going to a concert (Table 35). The mean was slightly lower at 8.10. The percentage of the “safe” side of the scale (above 5) was still very high at 94.3%. This included 52.8% of the respondents who indicated they felt extremely safe in public places in Carrboro. There were only 0.7% who were on the “unsafe” side with 4.0% responding average levels of safety (Figure 12). Keep in mind, it would not be uncommon for perceptions of safety in public places to earn somewhat lower means than in home neighborhood and overall in town.



**Figure 12. Safe in Public Places.**

In summary, Carrboro was regarded as a very safe place by the respondents for all areas examined. There was a very high percentage of responses in the extremely safe category for all three questions. Although crime was listed as one of the top 10 most important issues facing Carrboro, it has not had a significant impact on perceptions of safety for a majority of the respondents.

**Table 35. How Safe Do You Feel in Public Places Around Carrboro (Shopping, Out to Eat, Concerts).**

Year	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
16	8.10	0.5	0.0	0.2	0.0	4.0	3.5	16.5	21.5	52.8	94.3

#### How Safe Residents Feel in Carrboro Crosstabulations

Crosstabulations for this set of questions were conducted for age, education, gender, housing type, income, and years in Carrboro. The breakdowns for perceptions of safety in Carrboro overall, home neighborhood, and public places are shown in Tables B7-B24 in Appendix B. The means for the subgroups were generally high and consistent. There were only a few means that fell below 8.00. For safe in Carrboro overall, the over 65 age group (7.70) was the only lower rating. This age group was also the only subgrouping with a lower mean (7.87) for safe in home neighborhood. Finally, there were 4 subgroupings with means below 8.00 for safe in public places. Again, the over 65 age group (7.37) had the lowest mean followed by apartment dwellers (7.87), over 10-year residents (7.91), and high school/some college (7.94).



## Barriers to Citizen Involvement

The survey included a set of questions designed to examine nine barriers to the respondent's involvement in Town Government. The scaling utilized ranged from not a barrier at all (1) to very significant barrier (9). In this instance, a higher mean indicates the source would be more of a barrier to citizen involvement.

Table 36 shows that the most significant overall barrier was *too busy – don't have time* with a mean of 5.47 with 54.3% of the responses on the "barrier" side of the scale (above 5). Even though it was the most important barrier to citizen involvement, there were still 34.7% of the responses on the side of "not a barrier" (below 5). The other key barrier to involvement was *don't know about the opportunities* (3.81 with 27.8% on the "barrier" side). These were the only two barriers where the mean exceeded 3.0. To a lesser degree, *timing is inconvenient* (2.58 with 16.5% on the "barrier" side) also functioned as a barrier. Several other potential barriers were much less significant hindrances to involvement including *topics don't interest me* (2.08), *don't feel qualified to offer input* (2.07), *issues don't affect me* (1.94), *don't understand government processes* (1.70), *waste of time – one person cannot make a difference* (1.54), and *don't have transportation* (1.37).

**Table 36. Barriers to Involvement in Town Government (In Descending Mean Order) – 2016.**

Barrier Type	Mean	Not a Barrier at All 1	2	3	4	Neutral 5	6	7	8	Very Significant Barrier 9	% Above 5
Too busy; don't have time	5.47	32.5	0.2	1.0	1.0	10.9	3.7	7.9	9.4	33.3	54.3
Don't know about opportunities	3.81	51.1	0.7	3.7	1.7	14.9	1.5	3.7	2.5	20.1	27.8
Timing is inconvenient	2.58	70.7	1.0	2.5	0.2	8.9	1.2	5.2	3.2	6.9	16.5
Topics don't interest me	2.08	72.5	3.2	3.2	2.2	13.2	0.7	1.7	1.2	2.0	5.6
Don't feel qualified to offer input	2.07	76.7	1.7	1.2	1.5	11.9	0.7	1.0	0.5	4.7	6.9
Issues don't affect me	1.94	73.9	2.7	4.2	2.0	13.2	1.0	2.0	0.2	0.7	3.9
Don't understand government processes	1.70	82.1	1.0	3.0	1.0	10.2	0.5	0.5	0.2	1.5	2.7
Waste of time; one person can't make a difference	1.54	87.3	0.5	0.7	0.7	8.2	0.5	0.7	0.2	1.0	2.4
Don't have transportation	1.37	91.5	0.5	0.5	0.2	5.5	0.0	0.7	0.0	1.0	1.7

## Barriers to Involvement Crosstabulations

Crosstabulations for the barriers to involvement in Town Government were conducted on age, education, gender, housing type, income, and years in Carrboro. The breakdowns are shown in Tables B25-B30 of Appendix B. Instead of examining each demographic variable separately, it would be more informative to examine each barrier in terms of its rating in each of the 22 subgroups with sample sizes of 10 or greater. The information sources will be discussed in order of overall ranking by the total sample. *Too busy, don't have time* was ranked as the top barrier to involvement rating 1<sup>st</sup> in all 22 subgroups (with sample sizes of 10 or more). The barrier ranking second overall was *don't know about opportunities* and this barrier rated 2<sup>nd</sup> in all 22 of the subgroups as well. *Timing is inconvenient* generally ranked third for the total sample and did so in 19 of the subgroups. *Topics don't interest me* was ranked fourth overall and did so in 9 of the 22 subgroups and its highest rating was 3<sup>rd</sup> for the over 65 age group. The impact of the remaining barriers was more limited. The only one of these finishing in the top three barriers for any of the subgroups was *don't feel qualified* which rated 3<sup>rd</sup> for apartment dwellers and 0-\$45,000 income level.

## Information Sources

The survey examined the respondent's usage of 20 information sources that Carrboro employs to communicate with its citizens. A 9-point scale was used that ranged from never use (1) to frequently use (9). Table 37 indicates the most frequently used information sources (in order) were word-of-mouth (6.44), street signage (4.69), Carrboro's website (3.99), Facebook (3.31), and television (3.27). These were the only information sources with a mean above 3.00. Overall, it was predominately word-of-mouth and street signage as the key information sources utilized by the respondents, especially word-of-mouth.

The lesser used information sources with means between 2.00 and 3.00 were radio (2.95), Raleigh News & Observer – Chapel Hill News (2.61), Parks & Recreation Brochure (2.51), Independent Weekly (2.46), The Daily Tar Heel (2.19), and Carrboro's email list services (2.10). The least used information sources of those examined were Next Door (1.23), Homeowners' Association (1.27), YouTube (1.40).

**Table 37. Most Used Information Sources in 2016 (In Order of Usage).**

Information Source	Mean	Never Use 1	2	3	4	5	6	7	8	Frequently Use 9	% Above 5
Word-of-Mouth	6.44	2.5	3.7	6.7	6.2	17.3	9.9	13.1	13.6	27.0	63.6
Street signage	4.69	20.5	8.1	8.4	6.9	16.0	8.1	15.1	6.9	9.9	40.0
Carrboro's website	3.99	39.8	5.2	6.2	4.4	9.6	6.9	9.6	8.9	9.4	34.8
Facebook	3.31	54.3	4.0	2.7	3.0	8.9	6.4	8.1	4.7	7.9	27.1
Television	3.27	42.7	9.4	10.6	5.9	10.6	4.9	6.2	2.5	7.2	20.8
Radio	2.95	47.4	11.4	5.9	7.4	11.6	4.9	4.4	3.5	3.5	16.3
Raleigh News & Observer	2.61	64.2	2.7	6.9	4.0	4.4	4.2	5.7	3.2	4.7	17.8
Parks & Rec. Brochure	2.51	59.8	6.7	7.9	4.9	7.2	3.2	5.4	2.7	2.2	13.5
Independent Weekly	2.46	68.6	4.7	4.0	3.5	3.0	2.5	3.7	4.4	5.7	16.3
The Daily Tar Heel	2.19	69.6	4.9	6.4	2.5	6.9	1.7	2.0	2.0	4.0	9.7
Town's email list services	2.10	74.8	3.2	3.5	2.2	5.9	2.7	2.2	1.2	4.2	10.3
Twitter	1.80	84.9	1.0	1.0	0.7	2.7	2.2	2.2	2.5	2.7	9.6
Govt. Access Channel	1.70	74.8	9.4	5.4	2.2	4.2	1.0	1.0	0.2	1.7	3.9
Notify Me	1.61	87.4	0.7	1.2	0.7	3.7	1.5	1.7	0.7	2.2	6.1
Herald Sun	1.55	85.2	2.7	4.2	1.0	2.7	0.7	0.2	1.2	2.0	4.1
Instagram	1.53	89.6	0.2	0.5	0.5	3.0	2.5	1.2	1.5	1.0	6.2
LinkedIn	1.48	90.4	0.0	0.2	0.2	4.2	2.0	1.5	0.5	1.0	5.0
YouTube	1.40	91.4	0.5	0.2	0.7	4.0	1.0	0.5	0.5	1.2	3.2
Homeowners' Association	1.27	93.3	1.0	1.0	1.0	1.7	0.0	0.7	0.5	0.7	1.9
Next Door	1.23	94.1	0.5	1.5	0.5	1.7	0.7	0.2	0.0	0.7	1.6

## Carrboro's Efforts at Keeping Residents Informed and Involved in Decisions

A set of three questions examined information dissemination and opportunities for involvement in decision making. The respondents were first asked *how informed they feel about town services, issues, and programs that affect them* using a 9-point rating scale ranging from not at all informed (1) to very well informed (9). Table 38 indicates the respondents felt relatively well informed about the matters that affect them. The mean was 6.00 with 55.6% on the “informed” side of the scale (above 5) versus 20.4% on the “uninformed” side or below 5 (Figure 13). Keep in mind, this set of questions generally tend to earn lower means due to the number of respondents who are not seeking information. The respondent's comments on projects, services, and issues that came to mind when deciding on their rating are shown in Appendix I. There were 74 total comments including 20 comments that the respondent was not actively seeking town related information along with 4 comments of being too busy. As noted earlier, this is what contributes to some of the respondents not feeling informed. There were also 13 other comments concerning not seeing information made available and 6 comments of don't know where to find information/can't find it. Other comments focused more on specific information that came to mind included everything (8 comments), events in town (3 comments), and Lloyd Properties (3 comments).

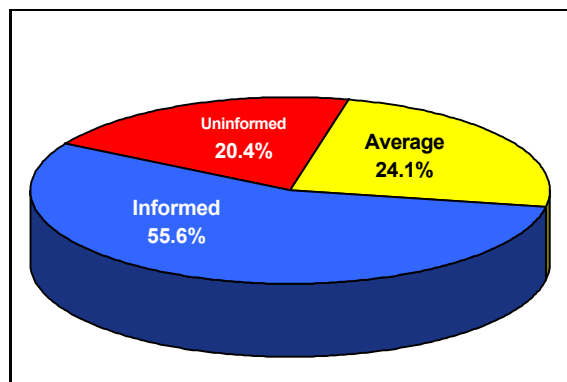


Figure 13. Informed About Government Services.

**Table 38. How Informed Respondents Feel About Government Services, Projects, Issues, and Programs That Affect Them.**

Year	Mean	Not At All Informed 1	2	3	4	Average 5	6	7	8	Very Well Informed 9	% Above 5
16	6.00	5.0	3.0	6.7	5.7	24.1	15.7	22.4	9.0	8.5	55.6

The respondents were next asked their level of satisfaction with *Carrboro making information available to them concerning town services, projects, issues, and programs*. A 9-point rating scale from very dissatisfied (1) to very satisfied (9) was used. Table 39 indicates a relatively high degree of satisfaction with Carrboro's efforts with a mean of 6.45. There were 60.7% on the “satisfied” side of the scale (above 5) with only 7.7% on the “dissatisfied” side (Figure 14). The respondent's comments on projects, services, and issues that came to mind when they decided on their rating are shown in Appendix J. There were 45 total comments and the most common ones were the respondent has not seen information made available (11 comments) and the difficulty in finding information (8 comments). Again, there were also 3 comments the respondent does not look for information. Respondents complimented the informative signage in town and there was also a suggestion for Carrboro to use more social media in their communication efforts.

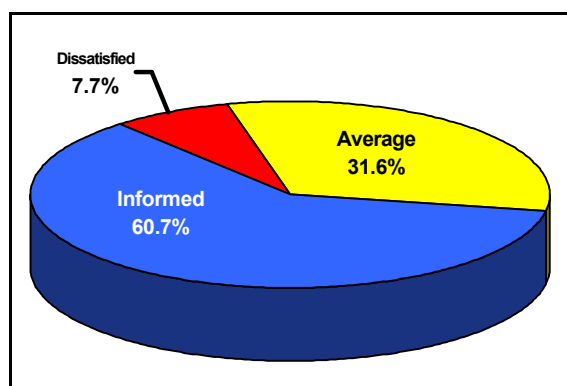
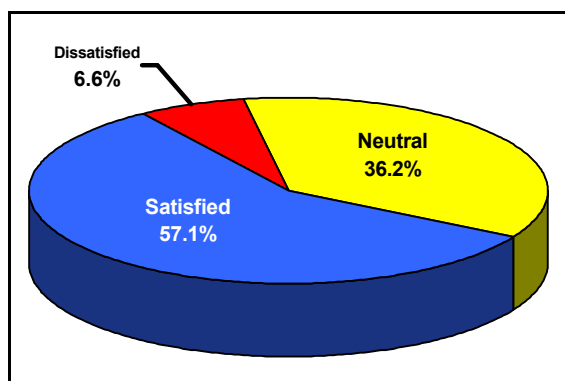


Figure 14. Town Making Information Available.

**Table 39. Satisfaction with Carrboro Making Information Available to Citizens About Important Town Services, Projects, Issues, and Programs.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	6.45	3.0	1.0	2.7	1.0	31.6	10.4	13.4	18.2	18.7	60.7

Finally, the respondents were asked to rate their satisfaction with the *opportunities the town gives them to participate in the decision-making process*. The same 9-point satisfaction rating scale was used. Table 40 shows a relatively high degree of satisfaction with a mean of 6.35 with 57.1% on the “satisfied” side of the scale (above 5) and only 6.6% on the “dissatisfied” side (Figure 15). Appendix K shows the respondent’s comments on projects, services, and issues that came to mind when deciding on their rating. There were 38 total comments including the respondent was unaware of the opportunities (14 comments) and did not see information on the opportunities (5 comments).



**Figure 15. Opportunities to Participate in Decision Making.**

There was also 4 comments the town will not listen to citizens. However, 4 comments were positive indicating the opportunities were good. Finally, there were 3 comments indicating the respondent did not look for information on opportunities and 2 others indicating they do not know where to look for information.

**Table 40. Satisfaction with Opportunities the Town Gives to Participate in the Decision-Making Process.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	6.35	5.2	0.7	0.5	0.2	36.2	6.0	18.4	14.6	18.1	57.1

## Resident Informed and Involved Crosstabulations

The crosstabulations on Carrboro keeping residents informed and involved about government projects, issues, and programs are shown in Tables B31-B42. Breakdowns were performed on age, education, gender, housing type, income, and years in Carrboro (Appendix B). Overall, there was a relatively high degree of consistency across the subgroups. However, those who felt the least informed (lower means) about government projects, issues, and programs were current students (5.36), 0-1 year residents (5.45), and apartment dwellers (5.58). In terms of opportunities the town gives to participate in the decision-making process, the least satisfied were 0-1 year residents (5.75), current students (5.77), apartment dwellers (5.92), and 0-\$45,000 income level (5.99).

## Solid Waste Services

A set of questions was included in the survey to examine the respondent's satisfaction with four curbside solid waste collection services. The services examined include *curbside garbage collection*, *curbside bulk item collection*, *curbside yard waste collection*, and *curbside loose leaf collection*. A 9-point scale from very dissatisfied (1) to very satisfied (9) was used to rate these collection services. The solid waste services are discussed in order of ratings from highest to lowest in order of means. The respondents were also asked if they were aware that curbside recycling was provided by Orange County Waste Management and not Carrboro. There were 50.9% of the respondents who were not aware of this fact.

There was a very high level of satisfaction from the respondents who used *curbside garbage collection*. In this case, it was 284 of the respondents. The mean was an impressive 8.46 (Table 41). Figure 16 shows the percentages on the "satisfied" side of the scale (above 5) were 96.9%. There were only 0.8% on the "dissatisfied" side (below 5). Overall, *curbside garbage collection* earned the highest mean for any of the curbside collections. Although not in a traditional grading format, if this mean were converted into a letter grade, then *curbside garbage collection* would rate as an A.

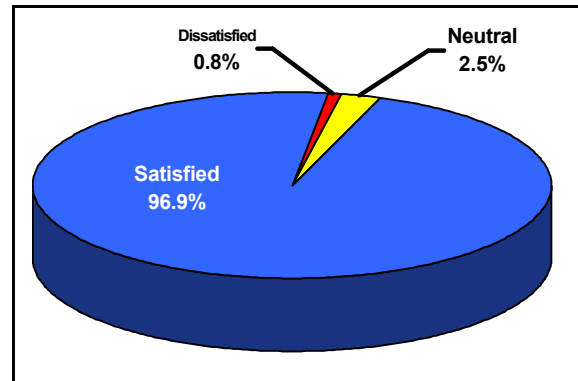


Figure 16. Garbage Collection Satisfaction.

Table 41. Satisfaction with Curbside Garbage Collection (n=284).

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	8.46	0.4	0.0	0.0	0.4	2.5	1.8	6.3	21.5	67.3	96.9

The town earned excellent marks for their *curbside bulk item collection*. The mean for this collection service was also very high at 8.22 for the 111 respondents who used this service (Table 42). This mean score makes it the second highest rated of the curbside collection services. Figure 17 shows there were 94.6% of the respondents were on the "satisfied" side of the scale (above 5). While the percentages on the "dissatisfied" side of the scale were very low at only 4.5%. If the yard waste collection mean was converted to a grade, then it would translate to a grade of A-.

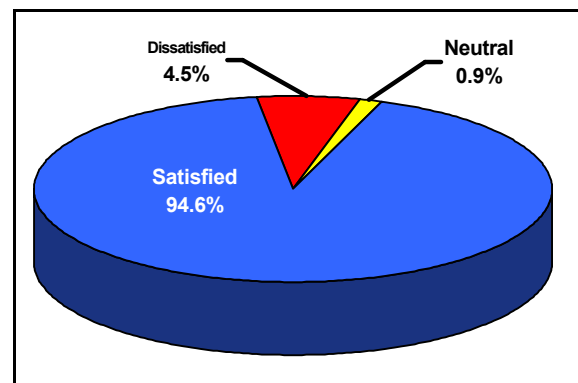


Figure 17. Bulk Item Collection Satisfaction.

Table 42. Satisfaction with Curbside Bulk Item Collection (n=111).

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	8.22	1.8	0.0	1.8	0.9	0.9	3.6	6.3	21.6	63.1	94.6

The respondents were very satisfied with the town's *curbside yard waste collection*. There were 155 of the respondents who used this service. Although ranking somewhat lower than garbage and bulk item curbside services, the mean for this collection service was still very high at 8.03 (Table 43). Figure 18 shows there were 91.0% of the responses on the "satisfied" side of the scale (above 5) while there were only 3.7% on the dissatisfied side of the scale. The grade was also very solid for this service. If this mean were converted into a grade, then it would earn the mark of B+.

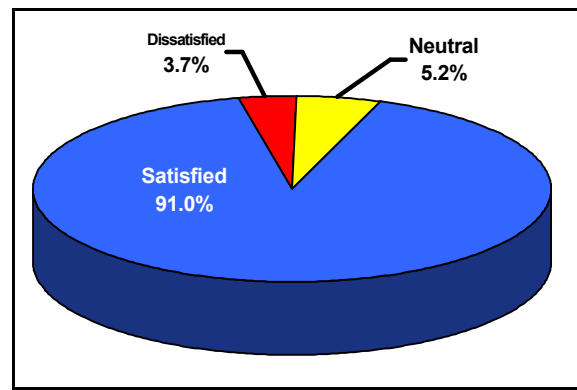


Figure 18. Yard Waste Collection Satisfaction.

Table 43. Satisfaction with Curbside Yard Waste Collection (n=155).

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	8.03	0.6	0.6	0.6	1.9	5.2	5.2	9.7	18.7	57.4	91.0

The respondent's level of satisfaction with *curbside loose leaf collection* rated the lowest of the four collection services by the respondents. Although it rated somewhat lower, the mean represented a solid score at 7.83 (Table 44). Note the percentage on the "satisfied" side of the scale (above 5) was very good at 88.3% (Figure 19). There was only 4.2% on the "dissatisfied" side. If converted to a grade, then the grade for loose leaf collection would have been in the B+ range. Overall, there was a high level of satisfaction for all the curbside solid waste services this year.

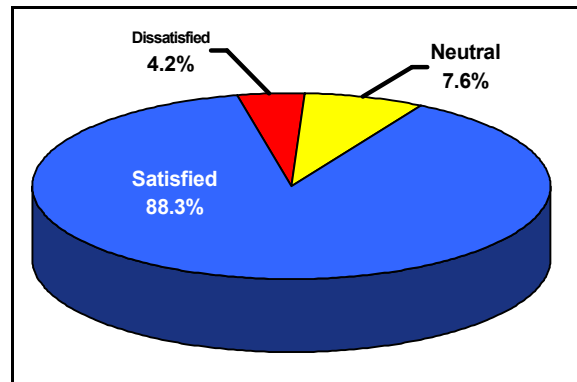


Figure 19. Loose Leaf Collection Satisfaction.

Table 44. Satisfaction with Curbside Loose Leaf Collection (n=373).

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	7.83	1.2	0.6	1.2	1.2	7.6	3.5	14.6	21.1	49.1	88.3

## Solid Waste Services Crosstabulations

Crosstabulations were conducted for age, education, gender, housing type, income and years in Carrboro for the set of solid waste curbside services (Appendix B). The crosstabulations for the four curbside collection services are shown in Tables B43-B66. A large majority of the means were very high and consistent across the subgroups. The only lower means were for the 0-1 year residents for *curbside bulk item collection* (5.43), *curbside yard waste collection* (6.67), and *curbside loose leaf collection* (5.64). These would correspond to grades of D-, C, and D-, respectively. However, the number of 0-1 year residents for these breakouts were very low making the error rates exceptionally high. The lowest means in the other subgroups never go below B-.

## Downtown Carrboro

A set of questions was included in the survey asking the respondents how Carrboro could create a more vibrant downtown area. The respondents were first asked if they had visited downtown in the past year and 95.6% indicated they had visited the area. Those who had visited downtown were then asked what drew them to downtown (Appendix L). There were 695 total comments (respondents may give more than one reason) and the key reason was restaurants with 130 total comments. In addition, Weaver Street Market (85 comments) and shopping (76 comments) were important draws to downtown. Other reasons included everything (58 comments), events/festivals (48 comments), Farmer's Market (29 comments), atmosphere (27 comments), bars (26 comments), grocery store (26 comments), and music/music festival (23 comments). Those who had not visited downtown were then asked why (Appendix M). There were only 19 total comments and the key reasons included too busy (4 comments), no reason (3 comments), disabled (3 comments), and no interest (3 comments).

The respondents were then asked to rate how effective various amenities/activities would be in bringing them to downtown Carrboro. A 9-point scale was used from not likely at all (1) to extremely likely (9). The survey examined a total of 18 different amenities/activities. Table 67 shows cafes/restaurants (6.07) would be the most likely amenity to attract the respondents downtown. Festivals (5.81), outdoor performances (5.76), Summer Streets/Closed Street (5.69), Farmer's Market (5.56), shopping opportunities (5.51) were also effective draws. Other amenities with slightly less effectiveness were concerts (5.39), Art Walks (5.13), historical walking tours (5.10), museums (5.07), and additional art exhibition space (5.00). The amenities with the lowest means were pet shop (4.59), working artist studio space (4.79), and coffee shop (4.79). There were 92 responses given to the "other" category for amenities/activities (Appendix N). The most frequent were nothing else is needed (14 comments), family/children oriented things (6 comments), more parking (5 comments), more affordable pricing (5 comments), more pedestrian friendly (4 comments), more ethnic restaurants (4 comments), later hours (3 comments), and a movie theater (3 comments).

**Table 45. The Likelihood of Amenities or Activities in Bringing Respondents to Downtown Carrboro in 2016 (In Order of Usage).**

Amenity/Activity	Mean	Not Likely At All 1	2	3	4	Average 5	6	7	8	Extremely Likely 9	% Above 5
Cafes/restaurants	6.07	16.0	1.7	3.0	2.2	17.3	6.2	11.1	14.1	28.4	59.8
Festivals	5.81	19.3	2.7	2.5	1.5	18.3	6.2	11.4	9.1	29.1	55.8
Outdoor performances	5.76	19.6	2.0	2.5	4.2	16.1	6.7	10.4	12.9	25.7	55.7
Summer Streets/Closed Street	5.69	20.1	3.0	3.0	2.5	19.4	5.5	6.9	11.9	27.8	52.1
Farmer's Market	5.56	19.8	3.0	2.7	3.2	21.5	5.0	9.4	12.6	22.8	49.8
Shopping opportunities	5.51	19.0	3.0	3.5	4.4	20.0	8.1	9.4	9.6	23.0	50.1
Concerts	5.39	23.7	1.7	3.0	4.2	17.3	7.2	9.6	10.6	22.7	50.1
Art Walks	5.13	24.3	3.0	3.7	3.5	21.5	5.9	10.9	6.7	20.5	44.0
Historical walking tour	5.10	23.3	3.7	2.2	4.2	24.0	5.2	11.1	9.7	16.6	42.6
Museums	5.07	23.7	3.0	4.2	3.0	22.5	6.2	12.8	8.9	15.8	43.7
Additional art exhibition space	5.00	25.7	4.2	4.2	2.2	20.7	6.7	8.6	8.9	18.8	43.0
Ice cream/yogurt shop	4.96	24.7	3.7	4.0	3.0	25.4	5.4	7.9	7.9	18.0	39.2
Public Art	4.96	24.5	4.5	4.0	2.2	22.3	7.7	10.6	8.7	15.6	42.6
Bars/pubs	4.94	27.4	3.0	4.0	4.4	18.8	5.9	8.9	9.9	17.8	42.5
Grocery store	4.81	24.3	5.2	4.2	3.0	25.2	6.9	10.1	6.4	14.6	38.0
Coffee shop	4.79	27.4	4.4	3.5	3.5	22.0	5.9	10.4	6.4	16.5	39.2
Working artist studio space	4.79	30.2	4.0	2.0	2.2	20.8	5.9	9.9	7.9	17.1	40.8
Pet shop	4.59	28.6	4.7	4.2	4.7	23.7	4.2	8.4	6.4	15.1	34.1

## Carrboro Focus Areas

The survey included several questions examining focus areas for the town. The respondents were asked to rate their satisfaction with the town's efforts in six focus areas including *environmental protection*; *keeping Carrboro the best place to live, work, and raise a family*; *transportation*; *planning & development*; *parking*; and *parks, recreation, & cultural issues*. A 9-point scale from very dissatisfied (1) to very satisfied (9) was used for all the areas examined with the exception of a 9-point effectiveness scale used for *keeping Carrboro the best place to live, work, and raise a family*. The focus areas are listed in order of mean scores indicating higher levels of satisfaction.

The job the town is doing with *parks, recreation, and cultural issues* earned the highest rating of any of the focus areas. The respondents were asked to consider factors such as the quality/quantity of existing parks, greenways, and community centers; facilities distance to their home; planning and building new parks, community centers, greenways, and trails. Table 46 shows the positive results for the job Carrboro is doing. The mean was 7.56 with 89.4% of the responses on the "satisfied" side of the scale (above 5) and only 1.5% on the "dissatisfied" side below 5 (Figure 20). Although not in a grading scale format, this would correspond to a grade of B. The respondents who gave the town a rating below 5 ("dissatisfied" side) were subsequently asked what actions Carrboro could take to make them more satisfied with *parks, recreation, and cultural resource issues*. All the comments are shown in Appendix O. There were only 10 total suggestions from the respondents with no themes evident in the limited number of comments.

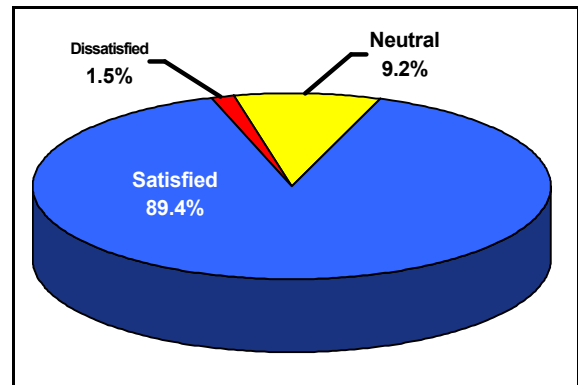


Figure 20. Satisfaction with the Job the Town is Doing on Parks & Recreation.

Table 46. Satisfaction with the Overall Job the Town is Doing on Parks, Recreation, and Cultural Resources Issues.

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	7.56	0.5	0.0	0.0	1.0	9.2	5.2	24.3	35.4	24.5	89.4

The second highest rated of the focus areas was how effective the Board of Aldermen were in *keeping Carrboro the best place to live, work, and raise a family*. This question did not use the satisfaction rating scale but a 9-point effectiveness scale ranging from very ineffective (1) to very effective (9). The respondents were very positive and supportive of the town's efforts with a mean of 7.32 (Table 47). There were 83.7% of the responses on the "effective" side of the scale (above 5) with only 3.1% on the "ineffective" side (Figure 21). The respondents who gave the town a rating below 5 were asked what actions Carrboro could take to

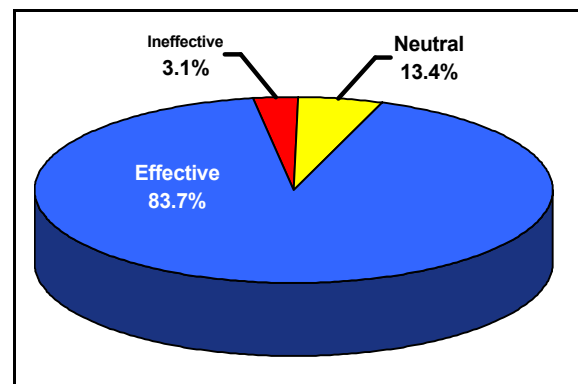


Figure 21. Effective in Keeping Carrboro the Best Place to Live, Work, & Raise a Family.

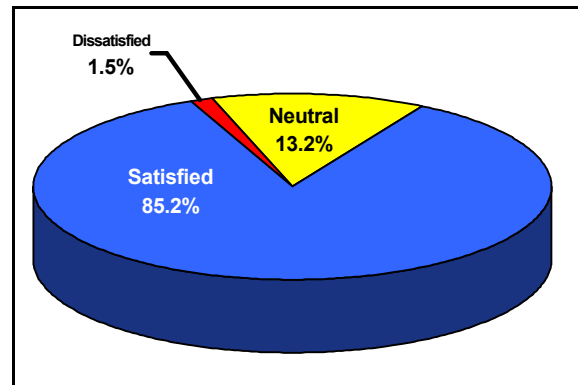


make them more satisfied with *keeping Carrboro the best place to live, work, and raise a family* (Appendix P). There were only 14 suggestions made by the respondents and only two of those were mentioned more than once. These were the town needs to listen more to residents and taxes are too high both with 2 comments each.

**Table 47. Effectiveness of Board of Aldermen in Working to Keep Carrboro the Best Place to Live, Work, and Raise a Family.**

Year	Mean	Very Ineffective 1	2	3	4	Neutral 5	6	7	8	Very Effective 9	% Above 5
16	7.32	0.8	0.5	1.3	0.5	13.4	6.6	22.5	30.1	24.5	83.7

The respondents were also satisfied with the job the town is doing on issues related to *environmental protection*. They were asked to consider the town's environmental efforts such as hybrid vehicles, open space/water preservation, sustainability, erosion control, stormwater, and litter reduction. The respondents gave Carrboro high marks with a mean of 7.29 (Table 48). There were 85.2% of the responses on the "satisfied" side of the scale (above 5) with only 1.5% on the "dissatisfied" side (Figure 22). This ranked third among the focus areas and would equate to a grade of B-. The respondents who gave the town a rating below 5 were asked what actions Carrboro could take to make them more satisfied with *environmental protection* (Appendix Q). There were 22 total suggestions with 14 of those comments focusing on flooding and stormwater problems within Carrboro. The only other issue mentioned more than once was the overpopulation of deer in the area.

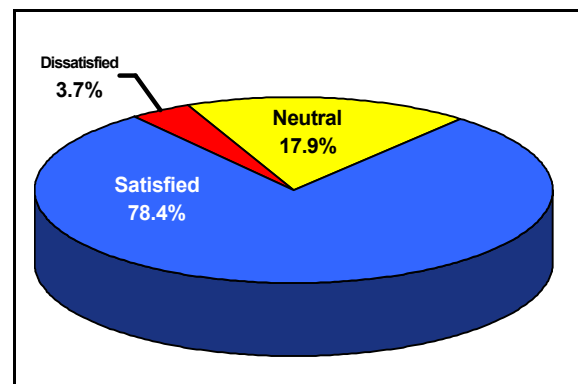


**Figure 22. Satisfaction with the Job the Town is Doing on Environmental Protection.**

**Table 48. Satisfaction with the Job the Town is Doing on Environmental Protection.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	7.29	1.0	0.0	0.0	0.5	13.2	8.2	26.1	30.8	20.1	85.2

The respondents are generally satisfied with the town's efforts on *transportation*. The respondents were asked to consider issues such as widening roads, creating additional pedestrian crossings, offering CH-Transit/Go Triangle bus service, synchronizing traffic lights, and adding bike lanes/greenways/sidewalks. Overall, the respondents were mostly positive of Carrboro's efforts with a mean of 6.98 (Table 49). Overall, this ranked fourth among the focus areas. There were 78.4% of the responses on the "satisfied" side of the scale (above 5) with only 3.7% on the "dissatisfied" side (Figure 23). Note the relatively large neutral proportion of



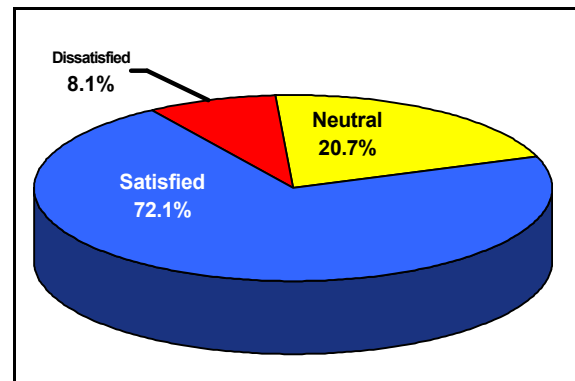
**Figure 23. Satisfaction with the Job the Town is Doing on Transportation.**

17.9%. However, there was a level of concern in that this mean would be equivalent to a grade of C+. This represents the first grade to fall out of the B range for Carrboro. The respondents who gave the town a rating below 5 were asked what actions Carrboro could take to make them more satisfied with *transportation* (Appendix R). There were 70 total comments and the key concern focused on bikes. There were 12 comments for adding bike lanes, 7 comments for better bike lane connectivity, and 7 comments to improve bike lane safety (i.e., widen lanes). This totals to 26 comments focusing solely on bikes. Other key concerns included 10 comments for adding sidewalks and 10 other comments for improving bus service (longer hours, weekends, cell phone schedule app, service to Estes Drive). There were also 9 comments for improving pedestrian crossings (add monitoring, add flashing lights/sound) and 4 comments to improving traffic lights (synchronization). Finally, there were two streets that drew numerous remarks from the respondents. Estes Drive garnered 8 separate comments concerning its lack of safety, traffic jams, need for sidewalks and bike lanes. In addition, Greensboro Street was mentioned 7 times for its lack of safety, poor lighting, and need for sidewalks.

**Table 49. Satisfaction with the Job the Town is Doing on Transportation.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	6.98	0.5	0.0	1.5	1.7	17.9	14.9	20.8	22.8	19.9	78.4

The respondents were asked to rate the job the town is doing with *planning & development*. They were asked to consider issues such as developing land use plans for specific areas, ensuring high-quality development compatible with existing development, and making sure the infrastructure can support growth. The respondents were also generally satisfied with the job Carrboro is doing on *planning & development* but there were some concerns. The mean for this focus area was 6.61 (Table 50). There were 71.2% on the “satisfied” side of the scale (above 5) and 8.1% on the “dissatisfied” side with 20.7% responding neutral (Figure 24). This mean would equate only to a grade of C-. This also represents one of the lowest grades the town has earned. The respondents who gave the town a rating below 5 were asked what actions Carrboro could take to make them more satisfied with *planning & development* (Appendix S). There were 58 total suggestions and 17 of them focused on overdevelopment in Carrboro including 4 other comments on too much growth. There were 6 comments each for overall poor planning by Carrboro and to improve traffic. Finally, there were remarks focusing on the unattractiveness of the taller buildings in town (4 comments), controlling flooding (3 comments), removing/renovating rundown buildings (3 comments), and poor planning associated with Lloyd Farms (3 comments).

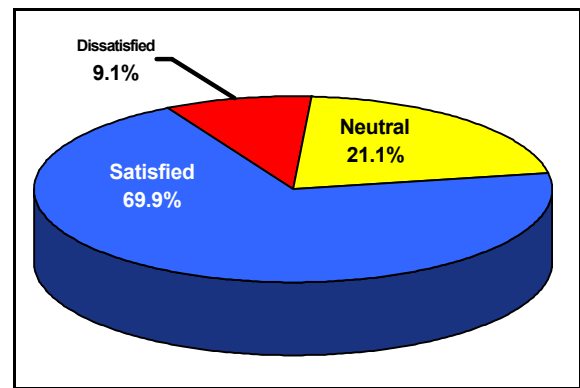


**Figure 24. Satisfaction with the Job the Town is Doing on Planning & Development.**

**Table 50. Satisfaction with the Job the Town is Doing on Planning & Development.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	6.61	1.8	0.5	2.0	3.8	20.7	13.3	23.3	20.5	14.1	71.2

The respondents were asked to rate the job the town is doing with *parking within the town*. The respondents were generally satisfied with the job Carrboro is doing on *parking* but there were also concerns as well for this focus area. Table 51 shows the mean was 6.60. There were 69.9% on the “satisfied” side of the scale (above 5) and 9.1% on the “dissatisfied” side with 21.1% responding neutral (Figure 24). This mean would correspond to a grade of C-. As with *transportation and planning & development*, this represents three of the lower means Carrboro has earned overall. The respondents who gave the town a rating below 5 were asked what actions Carrboro could take to make them more satisfied with *parking* (Appendix T). There were 50 total suggestions and 33 of those focused on simply adding more parking. There were a limited number of other suggestions. There were comments indicating that parking was worse during events downtown (5 comments), suggestions to add a public parking garage (2 comments), and make sure the additional parking is free (2 comments).



**Figure 25. Satisfaction with the Job the Town is Doing on Parking Within the Town.**

**Table 51. Satisfaction with the Job the Town is Doing on Parking Within the Town.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	6.60	1.5	0.7	3.2	3.7	21.1	12.4	22.6	17.9	16.7	69.6

### Carrboro Focus Areas Crosstabulations

The crosstabulations for selected focus areas were conducted on age, education, gender, housing type, income, and years in Carrboro. The crosstabulations for focus areas are shown in Tables B67-B90 in Appendix B. There were only two lower means within the crosstabulations for the effectiveness of the town in *keeping Carrboro the best place to live, work, and raise a family*. These were for Carrboro natives (6.68) and over 65 age group (6.90). There were also two lower means for satisfaction with the job the town is doing with *environmental protection*. These were for over 65 age group (6.53) and Carrboro natives (7.07). These would be equivalent with C- and C+ grades, respectively. As for the job the town is doing for *transportation*, the lowest means equated to grades of C. These were for \$100,001-\$150,000 income level (6.63), over 65 age group (6.67), PhD/MD/JD degrees (6.74), over 10 year residents (6.84), and over \$150,000 income level (6.85). The overall means were lower for the job the town is doing with *parking*. The lowest means were in the D- range for over 65 age group (6.20), current students (6.23), and 18-25 age group (6.25). There was also a number of C- grades.

## New Programs or Services

The survey asked the respondents how likely they would be willing to pay for new programs or increased services in town. There were 15 new programs and services examined on a 9-point scale that ranged from not likely at all (1) to extremely likely (9). Table 52 indicates that affordable housing was the program that garnered the most support. The mean was 6.39 with 61.9% of the responses over the midpoint of 5. This was the only mean to exceed 6.00 among the new programs and services. Two other new programs/services with a relatively high level of support were festivals/Open Streets (5.92) and environmental sustainability (5.91). There was also a high degree of support for fire services (5.83), police services (5.80), recreation programs (5.73), sidewalks/greenways (5.72), parking (5.65), Performing Arts (5.64), and Human Services (5.50). All of these had means over 5.50. Keep in mind, the means may not be exceptionally high for these new programs and services since they may be associated with tax increases by the respondents. Finally, the least support was for park facilities (5.04), street maintenance (5.12), and transportation (5.39).

**Table 52. Willingness to Pay for New Programs or Increased Services in 2016 (In Order of Usage).**

Program/Service	Mean	Not Likely At All 1	2	3	4	Average 5	6	7	8	Extremely Likely 9	% Above 5
Affordable housing	6.39	12.4	1.7	2.7	1.5	19.7	4.5	10.4	12.9	34.1	61.9
Festivals/Open Streets	5.92	18.3	2.5	3.0	2.5	15.3	3.5	14.4	13.6	27.0	58.5
Environmental Sustainability	5.91	16.2	3.0	2.0	2.2	20.9	4.7	12.4	13.2	25.4	55.7
Fire services	5.83	15.6	3.5	2.2	1.0	24.3	4.7	12.4	12.7	23.6	53.4
Police services	5.80	16.1	3.2	2.2	0.7	25.1	4.7	12.2	12.2	23.6	52.7
Recreation programs	5.73	18.3	2.2	2.5	1.7	20.0	6.7	14.6	11.9	22.0	55.2
Sidewalks and greenways	5.72	20.3	1.7	2.5	2.5	17.1	6.5	12.7	12.7	24.1	56.0
Parking	5.65	16.6	2.5	4.0	2.0	26.1	3.5	12.9	10.9	21.6	48.9
Performing Arts	5.64	19.8	4.0	2.2	2.0	20.0	4.2	10.4	13.1	24.3	52.0
Human Services	5.50	17.8	3.0	3.8	1.5	28.5	3.3	11.3	10.5	20.5	45.6
Museums	5.49	20.1	3.7	3.0	2.7	20.8	6.0	9.9	11.9	21.8	49.6
Visual Arts	5.44	20.0	4.0	4.0	2.0	20.0	5.9	12.1	11.9	20.0	49.9
Transportation	5.39	17.1	3.7	4.5	2.2	30.0	3.7	9.4	9.9	19.4	42.4
Street maintenance	5.12	22.3	2.5	3.7	5.5	19.9	7.4	15.1	10.2	13.4	46.1
Park facilities	5.04	24.5	2.2	3.0	3.5	21.8	7.9	13.6	11.1	12.4	45.0

## **Public Wi-Fi**

A question was included concerning the availability of public Wi-Fi in Carrboro. Specifically, the respondents were asked if they had been anywhere in Carrboro where they would expect to be able to use public Wi-Fi but could not because it was not available. Overall, there were 401 total responses to this question (there could be more than one area mentioned). A majority of the respondents (263 comments) who use Wi-Fi indicated they could not think of any area(s) where they encountered problems with Wi-Fi availability (Appendix U).

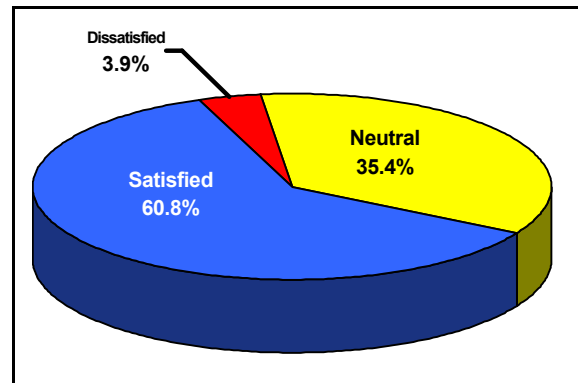
There was also a contingent of respondents (53 comments) who indicated they don't use it/never tried Wi-Fi and 7 respondents who answered they were unaware of public Wi-Fi availability. There were also 19 comments that Wi-Fi was very slow/unreliable/spotty around town and 8 comments that the respondent could not get Wi-Fi to work anywhere in Carrboro.

The only areas in Carrboro mentioned more than once without Wi-Fi availability were Weaver Street (16 comments), coffee shop/Looking Glass Cafe (13 comments), downtown area (7 comments), Carr Mill Mall (3 comments), and the bus stop near the railroad (2 comments). Overall, most of the availability issues focused on the downtown Carrboro area.

## Senior Citizens

The respondents were asked their level of satisfaction with the town's efforts for senior citizens. They were asked to consider aspects like sidewalks, transit bus service, senior housing, recreation centers/parks, communication, and assistance with trash collection. A 9-point scale from very dissatisfied (1) to very satisfied (9) was used to rate Carrboro's efforts.

The results indicate the respondents were generally satisfied with the *job the town has been doing for its senior citizens*. The mean was 6.63 with 60.8% on the "satisfied" side of the scale (above 5) but among those, only 17.0% were very satisfied (Table 53). However, there was an exceptionally small percentage of only 3.9% on the "dissatisfied" side of the scale (Figure 26). There was a very large percentage of neutral responses (35.4%) to this question which served to drive down the mean. If this mean were converted into a grade, then the mean would convert to a mark of C. This represents one of the few C-range grades Carrboro has earned in the survey. This would register as a possible area for improvement for the town.



**Figure 26. Satisfaction with the Job the Town is Doing for Senior Citizens.**

**Table 53. Satisfaction with the Job the Town is Doing for Senior Citizens.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	6.63	1.5	0.6	1.5	0.3	35.4	3.5	19.0	21.3	17.0	60.8

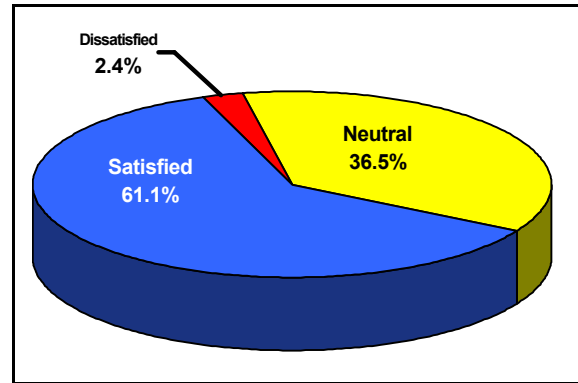
## Senior Citizen Crosstabulations

Crosstabulations were conducted on the job the town is doing for senior citizens on age, education, gender, housing type, income, and years in Carrboro. These are shown in Tables B91-B96 in Appendix B. The lowest levels of satisfaction were exhibited by over 65 age group (6.03), 0-\$45,000 income level (6.25), apartment dwellers (6.31), current students (6.32), and 0-1 year residents (6.38).

## Citizens with Disabilities

The respondents were also asked their level of satisfaction with the town's efforts for citizens with disabilities. They were asked to consider aspects like parking, sidewalks, curb-cuts, transit bus service, inclusive recreation, accessible buildings/facilities, communication, and assistance with trash collection. A 9-point scale from very dissatisfied (1) to very satisfied (9) was used to rate Carrboro's efforts.

The results indicate the respondents were also generally satisfied with the *job the town is doing for its citizens with disabilities*. The mean for this focus area was 6.75 (Table 54). There were 61.1% on the "satisfied" side of the scale (above 5), although only 19.7% indicated they were very satisfied. The percentage on the "dissatisfied" side on the scale was exceptionally low at 2.4%. However, it was the 36.5% who responded neutral that served to decrease the mean for this focus area (Figure 27). If this mean were converted into a grade, then the mean would convert to a C. This again represents one of the few C range grades the town has earned overall and could also be an area of concern.



**Figure 27. Satisfaction with the Job the Town is Doing for Citizens with Disabilities.**

**Table 54. Satisfaction with the Job the Town is Doing for Citizens with Disabilities.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	6.75	0.9	0.6	0.6	0.3	36.5	2.9	15.3	23.2	19.7	61.1

## Citizens with Disabilities Crosstabulations

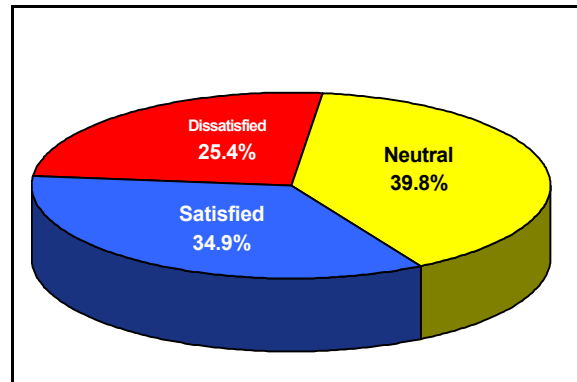
Crosstabulations were conducted on the job the town is doing for citizens with disabilities on age, education, gender, housing type, income, and years in Carrboro. These are shown in Tables B97-B102 in Appendix B. The lowest levels of satisfaction were from 0-1 year residents (6.30), apartment dwellers (6.37), current students (6.39), and 0-\$45,000 income level (6.41).

## Affordable Housing

The respondents were asked their level of satisfaction with the town's efforts to provide affordable housing in Carrboro by working with partners. Again, a 9-point scale from very dissatisfied (1) to very satisfied (9) was used to rate Carrboro's efforts.

The results were at best mixed in regards to the *job the town is doing in working with partners to provide affordable housing*. The mean for this focus area was only 5.28 which is the lowest mean earned by Carrboro in the survey (Table 55). There were 34.9% on the "satisfied" side of the scale (above 5) with 25.4% on the "dissatisfied" side on the scale.

In addition, there were 39.8% who were neutral (Figure 28). If this mean were converted into a grade, then the mean would convert to an F. This by a significant margin was the lowest grade earned by Carrboro in the survey. This would be the most significant area of concern expressed by the respondents.



**Figure 28. Satisfaction with the Job the Town is Doing for Affordable Housing.**

**Table 55. Satisfaction with the Job the Town is Doing for Providing Affordable Housing.**

Year	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
16	5.28	9.2	4.3	7.6	4.3	39.8	5.2	8.9	8.6	12.2	34.9

## Affordable Housing Crosstabulations

Crosstabulations were conducted on the job the town is doing for providing affordable housing on age, education, gender, housing type, income, and years in Carrboro. These are shown in Tables B103-B108 in Appendix B. The lowest levels of satisfaction were from 0-\$45,000 income level (4.24), apartment dwellers (4.38), high school/some college (4.85), and 0-1 year residents (4.89).



## Sources of Transportation

The respondents were asked two transportation source questions. They were first asked what is their main source of transportation to work. Table 55 indicates driving a vehicle (62.4%) was their main method to go to work followed by public transportation (15.6%), bicycle (11.4%), and walking (7.4%). There was limited use of carpools at 3.2%.

**Table 55. Main Source of Transportation to Work.**

Year	Vehicle	Bicycle	Public Transportation	Carpool	Walking
16	62.4	11.4	15.6	3.2	7.4

The respondents were next asked what is their main source of transportation around town. Table 56 shows that vehicles remain the main source of transportation with 52.7% of the respondents using them. This was followed by walking (27.7%), bicycle (11.8%), and public transportation (6.9%). As expected, there was minimal use of carpools (0.9%). The main difference was in the increased use of walking from 7.4% to 27.7% while the usage decreased for vehicles (62.4% to 52.7%), public transportation (15.6% to 6.9%), and carpools (3.2% to 0.9%). Bicycles remained very similar in usage (11.4% to 11.8%).

**Table 56. Main Source of Transportation Around Town.**

Year	Vehicle	Bicycle	Public Transportation	Carpool	Walking
16	52.7	11.8	6.9	0.9	27.7

## Sources of Transportation Crosstabulations

Crosstabulations were conducted for the sources of transportation around town on age, education, gender, housing type, income, and years in Carrboro. These are shown in Tables B109-B114 in Appendix B. In terms of vehicle usage, the heaviest users were over \$150,000 income level (67.7%) and 56-65 age group (61.7%). The least vehicle usage was from current students (27.3%), 18-25 age group (43.8%), 2-5 year residents (45.3%), and \$100,001-\$150,000 income level (46.0%). As for bicycle usage, the most use was from current students (24.2%), \$100,001-\$150,000 income level (20.0%), and 0-1 year residents (20.0%). The least bicycle use was from the over 65 age group (6.3%), PhD/JD/MD degrees (7.1%), and Carrboro natives (8.8%). The heaviest usage of public transportation was from the over 65 age group (15.6%), Carrboro natives (14.7%), 18-25 age group (14.1%), and 0-\$45,000 income level (14.1%). The least usage of public transportation was from the over \$150,000 income level (0.0%), PhD/JD/MD degrees (3.6%), and college degrees (3.7%). As for carpools, the heaviest use was from the over 65 age group (6.3%), high school/some college (2.1%), 0-1 year residents (2.0%), and \$100,001-\$150,000 income level (2.0%). The least use was from several subgroupings with no use of carpools at all. Finally, the most usage of walking was from current students (42.4%), 2-5 year residents (35.0%), PhD/JD/MD degrees (33.9%), and \$45,001-\$100,000 income level (33.1%). The least use of walking was from high school/some college (17.1%), Carrboro natives (17.6%), 0-1 year residents (18.0%), and over 65 age group (18.8%).

## Appendix A

### Town of Carrboro 2016 Citizen Survey Instrument

*Hello, my name is \_\_\_\_\_ and I am calling for the Town of Carrboro. This is the first comprehensive citizen survey that Carrboro has conducted. It is being offered in hopes that we can improve the services that the town offers you. Your opinion is very important to Carrboro.*

Are you a resident of the Town of Carrboro?

- ☐ Yes (Continue) ☐ No (Stop and thank the respondent)

Are you over the age of 18?

- ☐ Yes (Continue) ☐ No (Ask politely to speak with someone over 18)

1. How would you rate Carrboro overall as a place to live? Use a 9-point scale where 1 is very undesirable and 9 is very desirable, 5 is average.

1	2	3	4	5	6	7	8	9
Very Undesirable				Average				Very Desirable

**(For responses below 5)** Please tell us specifically what about Carrboro you're finding undesirable?

---

2. In the past two years, do you feel that the quality of life in the Town of Carrboro is? (Read choices)

1	2	3	4	5
Much Worse	Somewhat Worse	The Same	Somewhat Better	Much Better

**(For responses below 3)** Please tell us which aspects of the quality of life in Carrboro seems worse?

---

3. What do you feel is the one most important issue facing the Town of Carrboro?
- 

4. On a scale of 1 to 9 with 1 being very dissatisfied to 9 being very satisfied, rate your level of satisfaction with the following Town of Carrboro solid waste services. If you have not used any of the services respond with not applicable.

	1	2	3	4	5	6	7	8	9	
	Very Dissatisfied								Very Satisfied	
4a. Curbside garbage collection	1	2	3	4	5	6	7	8	9	NA
4b. Curbside bulk item collection	1	2	3	4	5	6	7	8	9	NA
4c. Curbside yard waste collection	1	2	3	4	5	6	7	8	9	NA
4d. Curbside loose leaf collection	1	2	3	4	5	6	7	8	9	NA

5. Did you know that curbside recycling is a service that is provided by Orange County Solid Waste Management and not the Town of Carrboro?

- ☐ Yes ☐ No

6. Please rate the cleanliness and appearance of the following public areas, again with the same 9-point scale.

	Very Poor				Average				Excellent	
6a. Streets	1	2	3	4	5	6	7	8	9	
6b. Median and roadsides	1	2	3	4	5	6	7	8	9	
6c. Parks	1	2	3	4	5	6	7	8	9	
6d. Greenways	1	2	3	4	5	6	7	8	9	
6e. Sidewalks	1	2	3	4	5	6	7	8	9	

**(For responses below 5)** Can you provide specific examples of public areas that need more attention (ask to spell street name and then ask the problem)?

Area \_\_\_\_\_ Problem \_\_\_\_\_  
 Area \_\_\_\_\_ Problem \_\_\_\_\_

7. How well does the Town of Carrboro maintain streets and roads with regard to paving, potholes, accessibility, and winter weather preparation such as snow & ice removal, sanding and pretreating of roadways? (Read scale)

1 2 3 4 5 6 7 8 9  
 Very Poor Average Excellent

**(For responses below 5)** Can you provide specific examples of roads that need more attention (ask to spell street name and then ask the problem)?

Street \_\_\_\_\_ Problem \_\_\_\_\_  
 Street \_\_\_\_\_ Problem \_\_\_\_\_

8. Thinking about the town's environmental efforts such as hybrid vehicles, open space preservation, water conservation, sustainability, erosion control, stormwater, and litter reduction, how satisfied are you with the job the town is doing with environmental protection? Use a 9-point satisfaction scale where 1 is very dissatisfied and 9 is very satisfied.

1 2 3 4 5 6 7 8 9  
 Very Dissatisfied Neutral Very Satisfied

**(For responses below 5)** Could you please tell us specific actions the town could take to make you more satisfied?

\_\_\_\_\_

9. How effectively do you feel Carrboro's Board of Aldermen is working together to keep Carrboro the best place to live, work, and raise a family? Use a 9-point scale where 1 is very ineffective and 9 is very effective.

1 2 3 4 5 6 7 8 9  
 Very Ineffective Neutral Very Effective

**(For responses below 5)** Could you please tell us specific actions the Board of Aldermen could take to be more effective?

\_\_\_\_\_

10. Thinking now about the town's efforts with transportation like widening roads, creating additional pedestrian crossings, offering CH-Transit & GoTriangle bus service, synchronizing signal lights, adding bike lanes, greenways and sidewalks. How satisfied would you say you are overall with the job the town is doing with transportation? Use the same 9-point satisfaction scale.

1 2 3 4 5 6 7 8 9  
 Very Dissatisfied Neutral Very Satisfied

**(For responses below 5)** Could you please tell us specific actions the town could take to make you more satisfied?

---

11. Next, we'd like your opinion on how the town is doing with planning and development issues like developing land use plans for specific areas of town, ensuring that new development is high quality and compatible with existing development, and making sure that the infrastructure is in place to support growth. Using the same 9-point satisfaction scale, how satisfied would you say you are overall with the job the town is doing with planning and development?

1                      2                      3                      4                      5                      6                      7                      8                      9  
Very Dissatisfied                      Neutral                      Very Satisfied

**(For responses below 5)** Could you please tell us specific actions the town could take to make you more satisfied?

---

12. Next we'd like your opinion on how the town is doing with managing parking within the town. Using the same 9-point satisfaction scale, how satisfied would you say you are overall with the job the town is doing with parking?

1                      2                      3                      4                      5                      6                      7                      8                      9  
Very Dissatisfied                      Neutral                      Very Satisfied

**(For responses below 5)** Could you please tell us specific actions the town could take to make you more satisfied?

---

13. We'd like your opinion on how the town is doing with parks, recreation, and cultural resources issues such as the quality and quantity of existing parks, greenways, and community centers, how close these facilities are located to your home, planning for and building new parks, community centers, greenways, and trails. How satisfied are you with the overall job the town is doing with parks, recreation, and cultural resources issues using the same 9-point scale?

1                      2                      3                      4                      5                      6                      7                      8                      9  
Very Dissatisfied                      Neutral                      Very Satisfied

**(For responses below 5)** Could you please tell us specific actions the town could take to make you more satisfied?

---

14. Have you had any direct contact with any Town Government staff in the past two years?

☐ Yes (Continue)                      ☐ No (Skip to #16)

15. Please tell us your opinion regarding that contact with town staff using a 9-point scale where 1 is very poor and 9 is excellent, 5 is average.

	1	2	3	4	5	6	7	8	9
	Very Poor				Average				Excellent
15a. Overall quality of customer service.....	1	2	3	4	5	6	7	8	9
15b. Promptness of response.....	1	2	3	4	5	6	7	8	9
15c. Professionalism.....	1	2	3	4	5	6	7	8	9
15d. Knowledgeable.....	1	2	3	4	5	6	7	8	9
15e. Courteous.....	1	2	3	4	5	6	7	8	9
15f. Helpful.....	1	2	3	4	5	6	7	8	9

(For responses below 5) Please tell us specifically what you recall about this interaction.

---

16. Have you had any contact with the Carrboro Police Department in the past two years?

☐ Yes (Continue)

☐ No (Skip to #19)

17. Was the person you contacted at the Police Department?

☐  
Police Officer

☐  
Clerk

☐  
Dispatcher

☐  
Orange County  
Animal Control

☐  
Detective

☐  
Chief

☐  
Not Sure

18. Using the same 9-point scale from very poor to excellent, please tell us your opinion regarding that contact with Carrboro Police.

	Very Poor			Average			Excellent		
18a. Courteous.....	1	2	3	4	5	6	7	8	9
18b. Fairness.....	1	2	3	4	5	6	7	8	9
18c. Competence.....	1	2	3	4	5	6	7	8	9
18d. Problem solving.....	1	2	3	4	5	6	7	8	9
18e. Response time.....	1	2	3	4	5	6	7	8	9

19. Have you had contact with the Carrboro Fire Department in the past two years?

☐ Yes (Continue)

☐ No (Skip to #21)

20. Using the same 9-point scale from very poor to excellent, please tell us your opinion regarding that contact with Carrboro Fire Department.

	Very Poor			Average			Excellent		
20a. Courteous.....	1	2	3	4	5	6	7	8	9
20b. Fairness.....	1	2	3	4	5	6	7	8	9
20c. Competence.....	1	2	3	4	5	6	7	8	9
20d. Problem solving.....	1	2	3	4	5	6	7	8	9
20e. Response time.....	1	2	3	4	5	6	7	8	9

21. Have you or anyone in your household participated in a Town of Carrboro Parks and Recreation Department Program in the past two years?

☐ Yes (Continue)

☐ No (Skip to #24)

22. Please tell me which program you or a member of your household most frequently participated in and where?

Program \_\_\_\_\_

Location \_\_\_\_\_

Program \_\_\_\_\_

Location \_\_\_\_\_

23. Using the 9-point scale from very poor to excellent, please give an overall rating to various aspects of the program.

	Very Poor			Average			Excellent		
23a. Program quality.....	1	2	3	4	5	6	7	8	9
23b. Facility quality.....	1	2	3	4	5	6	7	8	9
23c. Cost or amount of fee.....	1	2	3	4	5	6	7	8	9
23d. Overall experience.....	1	2	3	4	5	6	7	8	9
23e. Ease of registration.....	1	2	3	4	5	6	7	8	9
23f. Instructor or coach quality.....	1	2	3	4	5	6	7	8	9

24. For each of the following, please indicate how likely you would be willing to pay for new programs or increase services. Use a 9-point scale from 1 which is not likely at all to 9 which is extremely likely, 5 is neutral.

	Not Likely at All			Neutral			Extremely Likely		
24a. Street maintenance	1	2	3	4	5	6	7	8	9
24b. Sidewalks and greenways	1	2	3	4	5	6	7	8	9
24c. Parks facilities	1	2	3	4	5	6	7	8	9
24d. Recreation programs	1	2	3	4	5	6	7	8	9
24e. Police	1	2	3	4	5	6	7	8	9
24f. Fire	1	2	3	4	5	6	7	8	9
24g. Visual Arts	1	2	3	4	5	6	7	8	9
24h. Performing Arts	1	2	3	4	5	6	7	8	9
24i. Museums	1	2	3	4	5	6	7	8	9
24j. Festivals and Open Streets	1	2	3	4	5	6	7	8	9
24k. Environmental sustainability	1	2	3	4	5	6	7	8	9
24l. Parking	1	2	3	4	5	6	7	8	9
24m. Affordable housing	1	2	3	4	5	6	7	8	9
24n. Human Services	1	2	3	4	5	6	7	8	9
24o. Transportation	1	2	3	4	5	6	7	8	9

25. Have you visited downtown Carrboro in the last year?

- ☐ Yes – what drew you to downtown? \_\_\_\_\_
- ☐ No – why not? \_\_\_\_\_

26. The town is working hard to create a more vibrant downtown. For each of the following amenities or activities, please tell us how effective it would be in bringing you downtown more often. Use a 9-point scale from 1 which is not likely at all to 9 which is extremely likely, 5 is neutral.

	Not Likely at All			Neutral			Extremely Likely		
26a. Festivals	1	2	3	4	5	6	7	8	9
26b. Additional art exhibition space	1	2	3	4	5	6	7	8	9
26c. Concerts	1	2	3	4	5	6	7	8	9
26d. Working studio space for artists	1	2	3	4	5	6	7	8	9
26e. Outdoor performances	1	2	3	4	5	6	7	8	9
26f. Grocery store	1	2	3	4	5	6	7	8	9
26g. Farmer's Market	1	2	3	4	5	6	7	8	9
26h. Summer Streets/Closed Street	1	2	3	4	5	6	7	8	9
26i. Cafes and restaurants	1	2	3	4	5	6	7	8	9
26j. Historical walking tour	1	2	3	4	5	6	7	8	9
26k. Shopping opportunities	1	2	3	4	5	6	7	8	9
26l. Public art	1	2	3	4	5	6	7	8	9
26m. Museums	1	2	3	4	5	6	7	8	9
26n. Pet shop	1	2	3	4	5	6	7	8	9
26o. Coffee shop	1	2	3	4	5	6	7	8	9
26p. Bars/Pubs	1	2	3	4	5	6	7	8	9
26q. Ice cream/Yogurt shop	1	2	3	4	5	6	7	8	9
26r. Art Walks	1	2	3	4	5	6	7	8	9
26s. Other? _____									

27. Overall, how well informed do you feel about Town Government services, projects, issues, and programs affecting you? Use a 9-point scale where 1 is not at all informed and 9 is very well informed, 5 is average.

1 2 3 4 5 6 7 8 9  
Not at All Informed Average Very Well Informed

What specific projects, services, or issues came to mind when you decided on that rating?

---

28. How satisfied are you with the Town of Carrboro making information available to citizens about important town services, projects, issues, and programs? Use a 9-point scale where 1 is very dissatisfied and 9 is very satisfied, 5 is neutral.

1 2 3 4 5 6 7 8 9  
Very Dissatisfied Neutral Very Satisfied

Again, what specific projects, services, or issues came to mind when you decided on that rating?

---

29. Using the same scale, how satisfied are you with the opportunities the town gives you to participate in the decision-making process.

1 2 3 4 5 6 7 8 9  
Very Dissatisfied Neutral Very Satisfied

Again, what specific projects, services, or issues came to mind when you decided on that rating?

---

30. The town would like more involvement from its citizens such as volunteering for an advisory board, attending community meetings, or commenting on proposed projects. For the following items, please tell us if it is a barrier or hinders your involvement in Town Government. Use a 9-point scale where 1 is not a barrier at all and 9 is a very significant barrier, 5 is neutral.

	Not a Barrier At All			Neutral			Very Significant Barrier		
30a. Don't know about opportunities	1	2	3	4	5	6	7	8	9
30b. Topics don't interest me	1	2	3	4	5	6	7	8	9
30c. Issues don't affect me	1	2	3	4	5	6	7	8	9
30d. Too busy, don't have time	1	2	3	4	5	6	7	8	9
30e. Timing of opportunities is inconvenient	1	2	3	4	5	6	7	8	9
30f. Don't have transportation	1	2	3	4	5	6	7	8	9
30g. Waste of time, 1 person can't make a difference	1	2	3	4	5	6	7	8	9
30h. Don't understand government processes	1	2	3	4	5	6	7	8	9
30i. Don't feel qualified to offer input	1	2	3	4	5	6	7	8	9
30j. Other	1	2	3	4	5	6	7	8	9

31. Please indicate how much you use the following information sources that Carrboro uses to communicate with its citizens. Use a 9-point scale from 1 never use to 9 frequently use.

	Never Use						Frequently Use		
31a. Herald Sun	1	2	3	4	5	6	7	8	9
31b. Raleigh News & Observer (CH News)	1	2	3	4	5	6	7	8	9
31c. Television	1	2	3	4	5	6	7	8	9
31d. Radio	1	2	3	4	5	6	7	8	9
31e. The town's website	1	2	3	4	5	6	7	8	9
31f. The town's email list services	1	2	3	4	5	6	7	8	9
31g. Word of mouth (friends/neighbors)	1	2	3	4	5	6	7	8	9

31h. Carrboro Govt. Access Cable Channel	1	2	3	4	5	6	7	8	9
31i. The Daily Tar Heel	1	2	3	4	5	6	7	8	9
31j. Street signage	1	2	3	4	5	6	7	8	9
31k. Recreation and Parks Brochure	1	2	3	4	5	6	7	8	9
31l. Independent Weekly/Indy Week	1	2	3	4	5	6	7	8	9
31m. Homeowner's association	1	2	3	4	5	6	7	8	9
31n. Twitter	1	2	3	4	5	6	7	8	9
31o. "Notify Me" Carrboro website	1	2	3	4	5	6	7	8	9
31p. Facebook	1	2	3	4	5	6	7	8	9
31q. YouTube	1	2	3	4	5	6	7	8	9
31r. Next Door	1	2	3	4	5	6	7	8	9
31s. Instagram	1	2	3	4	5	6	7	8	9
31t. LinkedIn	1	2	3	4	5	6	7	8	9

32. Please tell us how safe you feel in Carrboro, overall. Use a 9-point scale where 1 is extremely unsafe and 9 is extremely safe, 5 is average.

1      2      3      4      5      6      7      8      9  
 Extremely Unsafe      Average      Extremely Safe

33. Specifically, how safe do you feel in your home neighborhood?

1      2      3      4      5      6      7      8      9  
 Extremely Unsafe      Average      Extremely Safe

34. How about at public places around Carrboro, like when you're shopping, out to eat, or at a concert. How safe do you feel, using the same 9-point scale?

1      2      3      4      5      6      7      8      9  
 Extremely Unsafe      Average      Extremely Safe

35. In last year or two, where have you been in Carrboro where you expected to be able to use public Wi-Fi but couldn't because it wasn't available. Please specify.

---

36. Thinking about the town's efforts for senior citizens such as sidewalks, transit bus service, senior housing, recreation centers/parks, communications, and help with trash collection. How satisfied would you say you are overall with the job the town is doing for seniors? Use the same 9-point scale where 9 is very satisfied and 1 is very dissatisfied.

1      2      3      4      5      6      7      8      9  
 Very Dissatisfied      Neutral      Very Satisfied

37. Thinking about the town's efforts for citizens who have disabilities such as parking, sidewalks, curb-cuts, transit bus service, inclusive recreation, accessible buildings and facilities, communications, and help with trash collection. How satisfied would you say you are overall with the job the town is doing for persons with disabilities? Use the same 9-point scale where 9 is very satisfied and 1 is very dissatisfied.

1      2      3      4      5      6      7      8      9  
 Very Dissatisfied      Neutral      Very Satisfied

38. The Town of Carrboro works with partners to provide affordable housing in Carrboro. How satisfied are you with the job the town is doing regarding affordable housing? Use the same 9-point satisfaction scale.

1      2      3      4      5      6      7      8      9  
 Very Dissatisfied      Neutral      Very Satisfied



39. What is your main source of transportation to work? (Read choices)

- ☐ Vehicle      ☐ Bicycle      ☐ Public transportation      ☐ Carpool      ☐ Walking

40. What is your main source of transportation around town? (Read choices)

- ☐ Vehicle      ☐ Bicycle      ☐ Public transportation      ☐ Carpool      ☐ Walking

That concludes our questions about the Town of Carrboro. Now tell us a little about yourself.

41. How many years have you lived in the Town of Carrboro?

- ☐ 0-1      ☐ 2-5      ☐ 6-10      ☐ 11-20      ☐ More than 20      ☐ Carrboro Native

42. How many years have you lived in your current home?

- ☐ 0-1      ☐ 2-5      ☐ 6-10      ☐ 11-20      ☐ More than 20      ☐ Carrboro Native

43. Considering your future plans, how many years do you see yourself living in Carrboro?

- ☐ 0-1      ☐ 2-5      ☐ 6-10      ☐ 11-20      ☐ More than 20

44. Why did you choose to live in Carrboro?

---

45. Which of the following best describes where you live?

- ☐ Single family detached home  
☐ Apartment  
☐ Townhouse  
☐ Condominium  
☐ Mobile home  
☐ Duplex  
☐ Other \_\_\_\_\_

46. Do you rent or own?

- ☐ Rent      ☐ Own

47. Stop me when I reach the age group you fall in.

- ☐ 18-25      ☐ 26-35      ☐ 36-45      ☐ 46-55      ☐ 56-65      ☐ 66-75      ☐ Over 75

48. Please tell me the last grade or degree completed in school.

- ☐ High School or less      ☐ Some College or Technical      ☐ Bachelors Degree      ☐ Masters Degree      ☐ Doctorate: PhD, JD, MD      ☐ Currently enrolled college student

49. May I ask your race?

☐  
Caucasian

☐  
African-  
American

☐  
Native-  
American

☐  
Asian

☐  
Hispanic/Latin

☐  
Other

50. Are you a registered voter?

☐  
Yes

☐  
No

51. Did you vote in the 2015 local elections this past fall?

☐  
Yes

☐  
No

52. Stop me when I reach your household income level?

☐  
0-\$45,000

☐  
\$45,001-\$75,000

☐  
\$75,001-\$100,000

☐  
\$100,001-\$150,000

☐  
Over \$150,000

53. May I ask your gender identity?

☐  
Male

☐  
Female

☐  
Prefer not to disclose

That concludes our survey and we want to thank you for your valuable input.

## Appendix B: Crosstabulations

### Carrboro as a Place to Live Crosstabulations

**Table B1. Rating Carrboro as a Place to Live by Age.**

Age	n	Mean	Very Undesirable 1	2	3	4	Average 5	6	7	8	Very Desirable 9	Grade
18-25	61	7.90	0.0	0.0	0.0	1.6	1.6	4.9	21.3	37.7	32.8	B+
26-55	269	7.99	0.0	0.0	0.0	0.0	3.3	5.2	16.7	38.7	36.1	B+
56-65	44	7.96	0.0	0.0	0.0	0.0	2.3	6.8	20.5	34.1	36.4	B+
Over 65	30	7.80	0.0	0.0	0.0	0.0	10.0	0.0	30.0	20.0	40.0	B+

**Table B2. Rating Carrboro as a Place to Live by Education.**

Education	n	Mean	Very Undesirable 1	2	3	4	Average 5	6	7	8	Very Desirable 9	Grade
HS/Some College	128	7.95	0.0	0.0	0.0	0.0	6.3	3.1	21.1	28.9	40.6	B+
College Degree	197	7.93	0.0	0.0	0.0	0.0	2.5	7.6	18.8	36.0	35.0	B+
PhD/JD/MD	49	8.16	0.0	0.0	0.0	0.0	0.0	4.1	14.3	42.9	38.8	A-
Current Student	31	7.77	0.0	0.0	0.0	3.2	3.2	0.0	16.1	61.3	16.1	B

**Table B3. Rating Carrboro as a Place to Live by Gender.**

Gender	n	Mean	Very Undesirable 1	2	3	4	Average 5	6	7	8	Very Desirable 9	Grade
Male	203	7.94	0.0	0.0	0.0	0.0	3.9	5.4	16.7	40.4	33.5	B+
Female	202	7.97	0.0	0.0	0.0	0.5	3.0	5.0	20.8	32.7	38.1	B+

**Table B4. Rating Carrboro as a Place to Live by Housing Type.**

Housing	n	Mean	Very Undesirable 1	2	3	4	Average 5	6	7	8	Very Desirable 9	Grade
Single Family	243	8.01	0.0	0.0	0.0	0.4	3.3	2.9	18.5	38.3	36.6	B+
Apartment	98	7.82	0.0	0.0	0.0	0.0	5.1	10.2	17.3	32.7	34.7	B+
Townhouse/Condo	55	7.87	0.0	0.0	0.0	0.0	1.8	7.3	25.5	32.7	32.7	B+
Other	9	8.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	44.4	A

**Table B5. Rating Carrboro as a Place to Live by Income.**

Income	n	Mean	Very Undesirable 1	2	3	4	Average 5	6	7	8	Very Desirable 9	Grade
0-\$45,000	139	7.88	0.0	0.0	0.0	0.0	4.3	6.5	20.9	33.8	34.5	B+
\$45,001-\$100,000	133	8.00	0.0	0.0	0.0	0.0	2.3	4.5	20.3	36.8	36.1	B+
\$100,001-\$150,000	41	8.07	0.0	0.0	0.0	0.0	2.4	9.8	9.8	34.1	43.9	A-
Over \$150,000	55	8.15	0.0	0.0	0.0	0.0	1.8	1.8	12.7	47.3	36.4	A-

**Table B6. Rating Carrboro as a Place to Live by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	Very Undesirable <b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Average <b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	Very Desirable <b>9</b>	<b>Grade</b>
0-1	51	7.84	0.0	0.0	0.0	0.0	2.0	7.8	19.6	45.1	25.5	B+
2-5	124	7.87	0.0	0.0	0.0	0.0	5.6	4.8	20.2	35.5	33.9	B+
6-10	86	8.13	0.0	0.0	0.0	0.0	1.2	5.8	15.1	34.9	43.0	A-
Over 10	115	7.93	0.0	0.0	0.0	0.9	4.3	5.2	18.3	33.0	38.3	B+
Native	28	8.07	0.0	0.0	0.0	0.0	0.0	0.0	25.0	42.9	32.1	A-

## How Safe Respondents Feel in Carrboro Overall Crosstabulations

**Table B7. How Safe Respondents Feel in Carrboro Overall by Age.**

Age	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
18-25	61	8.23	0.0	0.0	0.0	0.0	1.6	4.9	18.0	19.7	55.7	98.3
26-55	269	8.35	0.0	0.0	0.4	0.0	1.5	3.3	10.8	25.7	58.4	98.2
56-65	44	8.09	2.3	0.0	0.0	0.0	2.3	2.3	13.6	29.5	50.0	95.4
Over 65	30	7.70	0.0	0.0	3.3	0.0	3.3	3.3	30.0	26.7	33.3	93.3

**Table B8. How Safe Respondents Feel in Carrboro Overall by Education.**

Education	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
HS/Some College	128	8.15	0.8	0.0	0.8	0.0	3.1	2.3	18.8	17.2	57.0	95.3
College Degree	197	8.29	0.0	0.0	0.5	0.0	1.0	4.1	12.2	27.4	54.8	98.5
PhD/JD/MD	49	8.31	0.0	0.0	2.0	0.0	0.0	2.0	10.2	30.6	55.1	97.9
Current Student	31	8.19	0.0	0.0	0.0	0.0	3.2	6.5	6.5	35.5	48.4	96.9

**Table B9. How Safe Respondents Feel in Carrboro Overall by Gender.**

Gender	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
Male	203	8.29	0.0	0.0	0.5	0.0	1.5	2.5	15.3	24.1	56.2	98.1
Female	202	8.19	0.5	0.0	1.0	0.0	2.0	4.5	11.9	26.2	54.0	96.6

**Table B10. How Safe Respondents Feel in Carrboro Overall by Housing Type.**

Housing	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
Single family	243	8.28	0.0	0.0	0.8	0.0	1.2	2.9	13.2	27.2	54.7	98.0
Apartment	98	8.08	1.0	0.0	1.0	0.0	2.0	6.1	16.3	18.4	55.1	95.9
Townhouse/Condo	55	8.38	0.0	0.0	0.0	0.0	1.8	1.8	10.9	27.3	58.2	98.2
Other	9	8.00	0.0	0.0	0.0	0.0	11.1	0.0	11.1	33.3	44.4	88.8

**Table B11. How Safe Respondents Feel in Carrboro Overall by Income.**

Income	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
0-\$45,000	139	8.20	0.7	0.0	1.4	0.0	1.4	2.9	15.1	20.9	57.6	96.5
\$45,001-\$100,000	133	8.18	0.0	0.0	0.8	0.0	2.3	5.3	10.5	31.6	49.6	97.0
\$100,001-\$150,000	41	8.51	0.0	0.0	0.0	0.0	0.0	0.0	12.2	24.4	63.4	100.0
Over \$150,000	55	8.42	0.0	0.0	0.0	0.0	0.0	3.6	14.5	18.2	63.6	99.9

**Table B12. How Safe Respondents Feel in Carrboro Overall by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	Extremely Unsafe <b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Average <b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	Extremely Safe <b>9</b>	<b>% Above 5</b>
0-1	51	8.10	2.0	0.0	2.0	0.0	0.0	2.0	13.7	29.4	51.0	96.1
2-5	124	8.27	0.0	0.0	0.0	0.0	1.6	4.8	12.9	26.6	54.0	98.3
6-10	86	8.47	0.0	0.0	0.0	0.0	1.2	2.3	10.5	20.9	65.1	98.8
Over 10	115	8.10	0.0	0.0	1.7	0.0	3.5	3.5	14.8	25.2	51.3	94.8
Native	28	8.21	0.0	0.0	0.0	0.0	0.0	3.6	21.4	25.0	50.0	100.0

## How Safe Respondents Feel in Home Neighborhood Crosstabulations

**Table B13. How Safe Respondents Feel in Home Neighborhood by Age.**

Age	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
18-25	61	8.44	0.0	0.0	0.0	0.0	1.6	3.3	9.8	19.7	65.6	98.4
26-55	269	8.39	0.4	0.4	0.4	0.4	3.0	1.1	5.9	24.5	63.9	95.4
56-65	44	8.41	0.0	0.0	2.3	0.0	0.0	2.3	6.8	25.0	63.6	97.7
Over 65	30	7.87	0.0	0.0	3.3	0.0	6.7	0.0	16.7	33.3	40.0	90.0

**Table B14. How Safe Respondents Feel in Home Neighborhood by Education.**

Education	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
HS/Some College	128	8.27	0.8	0.0	0.8	0.0	6.3	0.8	6.3	22.7	62.5	92.3
College Degree	197	8.41	0.0	0.5	0.0	0.0	2.0	2.0	8.1	25.4	61.9	97.4
PhD/JD/MD	49	8.43	0.0	0.0	2.0	0.0	0.0	0.0	10.2	24.5	63.3	98.0
Current Student	31	8.23	0.0	0.0	3.2	3.2	0.0	3.2	3.2	25.8	61.3	93.5

**Table B15. How Safe Respondents Feel in Home Neighborhood by Gender.**

Gender	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
Male	203	8.41	0.0	0.0	0.5	0.5	3.4	1.0	5.9	24.6	64.0	95.5
Female	202	8.29	0.5	0.5	1.0	0.0	2.5	2.0	8.9	24.3	60.4	95.6

**Table B16. How Safe Respondents Feel in Home Neighborhood by Housing Type.**

Housing	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
Single family	243	8.34	0.4	0.4	0.4	0.4	2.5	1.6	7.4	25.9	60.9	95.8
Apartment	98	8.27	0.0	0.0	2.0	0.0	3.1	2.0	10.2	22.4	60.2	94.8
Townhouse/Condo	55	8.60	0.0	0.0	0.0	0.0	3.6	0.0	0.0	25.5	70.9	96.4
Other	9	8.11	0.0	0.0	0.0	0.0	11.1	0.0	22.2	0.0	66.7	88.9

**Table B17. How Safe Respondents Feel in Home Neighborhood by Income.**

Income	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
0-\$45,000	139	8.31	0.7	0.0	0.7	0.0	4.3	1.4	7.9	21.6	63.3	94.2
\$45,001-\$100,000	133	8.30	0.0	0.8	1.5	0.8	2.3	2.3	4.5	27.1	60.9	94.8
\$100,001-\$150,000	41	8.56	0.0	0.0	0.0	0.0	0.0	0.0	12.2	19.5	68.3	100.0
Over \$150,000	55	8.56	0.0	0.0	0.0	0.0	1.8	0.0	5.5	25.5	67.3	98.3

**Table B18. How Safe Respondents Feel in Home Neighborhood by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	Extremely Unsafe <b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Average <b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	Extremely Safe <b>9</b>	% Above 5
0-1	51	8.31	2.0	0.0	2.0	0.0	0.0	0.0	5.9	29.4	60.8	96.1
2-5	124	8.40	0.0	0.0	0.8	0.8	1.6	2.4	8.1	21.8	64.5	96.8
6-10	86	8.49	0.0	1.2	0.0	0.0	2.3	0.0	2.3	29.1	65.1	96.5
Over 10	115	8.20	0.0	0.0	0.9	0.0	6.1	2.6	9.6	23.5	57.4	93.1
Native	28	8.39	0.0	0.0	0.0	0.0	3.6	0.0	14.3	17.9	64.3	96.5



## How Safe Respondents Feel in Public Places Around Carrboro Crosstabulations

**Table B19. How Safe Respondents Feel in Public Places Around Carrboro by Age.**

Age	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
18-25	61	8.15	0.0	0.0	0.0	0.0	4.9	3.3	19.7	16.4	55.7	95.1
26-55	269	8.20	0.0	0.0	0.0	0.0	4.8	2.6	15.2	22.3	55.0	95.1
56-65	44	8.07	2.3	0.0	0.0	0.0	2.3	4.5	11.4	29.5	50.0	95.4
Over 65	30	7.37	0.0	0.0	3.3	0.0	10.0	10.0	30.0	13.3	33.3	86.6

**Table B20. How Safe Respondents Feel in Public Places Around Carrboro by Education.**

Education	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
HS/Some College	128	7.94	0.8	0.0	0.0	0.0	9.4	2.3	20.3	14.8	52.3	89.7
College Degree	197	8.15	0.5	0.0	0.0	0.0	3.6	4.1	15.2	23.9	52.8	96.0
PhD/JD/MD	49	8.18	0.0	0.0	2.0	0.0	0.0	4.1	14.3	28.6	51.0	98.0
Current Student	31	8.29	0.0	0.0	0.0	0.0	3.2	3.2	12.9	22.6	58.1	96.8

**Table B21. How Safe Respondents Feel in Public Places Around Carrboro by Gender.**

Gender	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
Male	203	8.15	0.5	0.0	0.0	0.0	4.9	2.5	16.3	21.7	54.2	94.7
Female	202	8.05	0.5	0.0	0.5	0.0	5.0	4.5	16.8	21.3	51.5	94.1

**Table B22. How Safe Respondents Feel in Public Places Around Carrboro by Housing Type.**

Housing	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
Single family	243	8.13	0.0	0.0	0.4	0.0	4.9	2.9	16.5	23.5	51.9	94.8
Apartment	98	7.87	2.0	0.0	0.0	0.0	6.1	7.1	18.4	14.3	52.0	91.8
Townhouse/Condo	55	8.42	0.0	0.0	0.0	0.0	1.8	0.0	14.5	21.8	61.8	98.1
Other	9	7.89	0.0	0.0	0.0	0.0	11.1	0.0	11.1	44.4	33.3	88.8

**Table B23. How Safe Respondents Feel in Public Places Around Carrboro by Income.**

Income	n	Mean	Extremely Unsafe 1	2	3	4	Average 5	6	7	8	Extremely Safe 9	% Above 5
0-\$45,000	139	8.00	1.4	0.0	0.0	0.0	7.2	2.9	17.3	16.5	54.7	91.4
\$45,001-\$100,000	133	8.14	0.0	0.0	0.8	0.0	4.5	1.5	15.8	27.1	50.4	94.8
\$100,001-\$150,000	41	8.34	0.0	0.0	0.0	0.0	2.4	2.4	9.8	29.3	56.1	97.6
Over \$150,000	55	8.29	0.0	0.0	0.0	0.0	1.8	1.8	20.0	18.2	58.2	98.2

**Table B24. How Safe Respondents Feel in Public Places Around Carrboro by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Extremely Unsafe 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Extremely Safe 9</b>	<b>% Above 5</b>
0-1	51	8.00	2.0	0.0	0.0	0.0	3.9	3.9	15.7	25.5	49.0	94.1
2-5	124	8.14	0.0	0.0	0.0	0.0	4.8	4.8	16.1	20.2	54.0	95.1
6-10	86	8.37	0.0	0.0	0.0	0.0	3.5	0.0	14.0	20.9	61.6	96.5
Over 10	115	7.91	0.9	0.0	0.9	0.0	6.1	4.3	18.3	22.6	47.0	92.2
Native	28	8.04	0.0	0.0	0.0	0.0	7.1	3.6	21.4	14.3	53.6	92.9

## Barriers to Citizen Involvement Crosstabulations

**Table B25. Barriers to Involvement in Town Government by Age (In Descending Mean Order).**

18-25 (n=59)	26-55 (n=269)	56-65 (n=44)	Over 65 (n=30)
Too busy (6.27)	Too busy (5.87)	Too busy (3.61)	Too busy (2.97)
Don't know opportunities (4.83)	Don't know opportunities (3.83)	Don't know opportunities (3.16)	Don't know opportunities (2.40)
Timing inconvenient (3.12)	Timing inconvenient (2.57)	Timing inconvenient (2.43)	Topics don't interest me (2.23)
Don't feel qualified (2.48)	Don't feel qualified (2.11)	Topics don't interest me (2.02)	Timing inconvenient (1.93)
Issues don't affect me (2.42)	Topics don't interest me (2.03)	Issues don't affect me (1.86)	Don't have transportation (1.87)
Topics don't interest me (2.29)	Issues don't affect me (1.88)	Don't feel qualified (1.77)	Issues don't affect me (1.73)
Don't understand process (2.20)	Don't understand process (1.63)	Don't understand process (1.64)	Waste of time (1.40)
Waste of time (1.85)	Waste of time (1.51)	Don't have transportation (1.41)	Don't feel qualified (1.40)
Don't have transportation (1.54)	Don't have transportation (1.27)	Waste of time (1.36)	Don't understand process (1.40)

**Table B26. Barriers to Involvement in Town Government by Education (In Descending Mean Order).**

HS/Some College (n=126)	College Degree (n=197)	PhD/JD/MD (n=49)	Current Student (n=31)
Too busy (5.44)	Too busy (5.35)	Too busy (5.12)	Too busy (6.94)
Don't know opportunities (3.82)	Don't know opportunities (3.76)	Don't know opportunities (2.92)	Don't know opportunities (5.48)
Timing inconvenient (2.78)	Timing inconvenient (2.71)	Timing inconvenient (1.61)	Timing inconvenient (2.52)
Don't feel qualified (2.77)	Don't feel qualified (2.01)	Topics don't interest me (1.57)	Issues don't affect me (2.00)
Topics don't interest me (2.68)	Topics don't interest me (1.86)	Issues don't affect me (1.49)	Topics don't interest me (1.81)
Issues don't affect me (2.44)	Issues don't affect me (1.73)	Don't understand process (1.35)	Don't understand process (1.61)
Don't understand process (2.17)	Don't understand process (1.50)	Don't have transportation (1.18)	Waste of time (1.58)
Waste of time (1.86)	Waste of time (1.42)	Waste of time (1.16)	Don't have transportation (1.52)
Don't have transportation (1.64)	Don't have transportation (1.21)	Don't feel qualified (1.07)	Don't feel qualified (1.07)

**Table B27. Barriers to Involvement in Town Government by Gender (In Descending Mean Order).**

Male (n=203)	Female (n=200)
Too busy (5.59)	Too busy (5.36)
Don't know opportunities (3.76)	Don't know opportunities (3.86)
Timing inconvenient (2.50)	Timing inconvenient (2.67)
Don't feel qualified (1.94)	Topics don't interest me (2.26)
Topics don't interest me (1.90)	Don't feel qualified (2.21)
Issues don't affect me (1.86)	Issues don't affect me (2.03)
Don't understand process (1.63)	Don't understand process (1.77)
Waste of time (1.53)	Waste of time (1.55)
Don't have transportation (1.42)	Don't have transportation (1.31)

**Table B28. Barriers to Involvement in Town Government by Housing Type (In Descending Mean Order).**

<b>Single Family (n=243)</b>	<b>Apartment (n=96)</b>	<b>Townhouse/Condo (n=55)</b>	<b>Other (n=9)</b>
Too busy (5.20)	Too busy (5.93)	Too busy (6.11)	Don't know opportunities (4.11)
Don't know opportunities (3.63)	Don't know opportunities (3.95)	Don't know opportunities (4.33)	Too busy (4.11)
Timing inconvenient (2.53)	Don't feel qualified (2.81)	Timing inconvenient (2.93)	Timing inconvenient (3.11)
Topics don't interest me (1.94)	Timing inconvenient (2.47)	Don't feel qualified (2.13)	Don't have transportation (2.78)
Issues don't affect me (1.84)	Topics don't interest me (2.43)	Topics don't interest me (2.09)	Don't feel qualified (2.78)
Don't feel qualified (1.74)	Issues don't affect me (2.28)	Issues don't affect me (1.82)	Topics don't interest me (2.00)
Don't understand process (1.58)	Don't understand process (1.98)	Waste of time (1.76)	Issues don't affect me (2.00)
Waste of time (1.44)	Waste of time (1.65)	Don't understand process (1.71)	Don't understand process (1.89)
Don't have transportation (1.31)	Don't have transportation (1.47)	Don't have transportation (1.18)	Waste of time (1.44)

**Table B29. Barriers to Involvement in Town Government by Income (In Descending Mean Order).**

<b>0-\$45,000 (n=137)</b>	<b>\$45,001-\$100,000 (n=133)</b>	<b>\$100,001-\$150,000 (n=41)</b>	<b>Over \$150,000 (n=55)</b>
Too busy (5.70)	Too busy (5.45)	Too busy (4.93)	Too busy (5.91)
Don't know opportunities (4.26)	Don't know opportunities (3.40)	Don't know opportunities (3.29)	Don't know opportunities (3.76)
Don't feel qualified (2.74)	Timing inconvenient (2.57)	Timing inconvenient (2.76)	Timing inconvenient (2.67)
Timing inconvenient (2.72)	Topics don't interest me (1.93)	Issues don't affect me (1.98)	Topics don't interest me (1.82)
Topics don't interest me (2.46)	Don't feel qualified (1.86)	Topics don't interest me (1.81)	Issues don't affect me (1.75)
Issues don't affect me (2.19)	Issues don't affect me (1.78)	Don't feel qualified (1.76)	Don't understand process (1.58)
Don't understand process (2.04)	Don't understand process (1.52)	Waste of time (1.68)	Waste of time (1.51)
Waste of time (1.74)	Waste of time (1.32)	Don't understand process (1.44)	Don't feel qualified (1.44)
Don't have transportation (1.57)	Don't have transportation (1.26)	Don't have transportation (1.20)	Don't have transportation (1.22)

**Table B30. Barriers to Involvement in Town Government by Years in Carrboro (In Descending Mean Order).**

<b>0-1 (n=51)</b>	<b>2-5 (n=122)</b>	<b>6-10 (n=86)</b>	<b>Over 10 (n=115)</b>	<b>Native (n=28)</b>
Too busy (5.98)	Too busy (6.07)	Too busy (5.63)	Too busy (4.83)	Too busy (4.11)
Don't know opportunities (4.28)	Don't know opportunities (4.42)	Don't know opportunities (3.45)	Don't know opportunities (3.34)	Don't know opportunities (3.29)
Timing inconvenient (2.43)	Timing inconvenient (2.45)	Timing inconvenient (2.52)	Timing inconvenient (2.70)	Timing inconvenient (3.04)
Don't feel qualified (2.43)	Topics don't interest me (2.24)	Don't feel qualified (1.99)	Topics don't interest me (2.14)	Topics don't interest me (2.36)
Issues don't affect me (2.26)	Don't feel qualified (2.15)	Don't understand process (1.61)	Issues don't affect me (2.01)	Don't understand process (2.07)
Topics don't interest me (2.20)	Issues don't affect me (2.03)	Issues don't affect me (1.59)	Don't feel qualified (1.89)	Don't feel qualified (2.00)
Waste of time (1.65)	Don't understand process (1.75)	Topics don't interest me (1.57)	Don't understand process (1.70)	Don't have transportation (1.71)
Don't understand process (1.47)	Waste of time (1.59)	Waste of time (1.38)	Waste of time (1.49)	Issues don't affect me (1.71)
Don't have transportation (1.26)	Don't have transportation (1.39)	Don't have transportation (1.21)	Don't have transportation (1.39)	Waste of time (1.64)

## Carrboro's Efforts at Keeping Residents Informed Crosstabulations

**Table B31. How Well Informed Respondents Feel About Government Services, Projects, Issues, and Programs That Affect Them by Age.**

Age	n	Mean	Not at All Informed 1	2	3	4	Average 5	6	7	8	Very Well Informed 9	% Above 5
18-25	59	5.83	5.1	1.7	0.0	1.7	42.4	18.6	10.2	10.2	10.2	49.2
26-55	269	5.92	6.3	2.6	3.3	2.2	31.2	12.3	14.9	16.7	10.4	54.3
56-65	44	6.64	2.3	0.0	4.5	2.3	20.5	15.9	15.9	18.2	20.5	70.5
Over 65	30	6.17	3.3	0.0	3.3	0.0	43.3	10.0	13.3	6.7	20.0	50.0

**Table B32. How Well Informed Respondents Feel About Government Services, Projects, Issues, and Programs That Affect Them by Education.**

Education	n	Mean	Not at All Informed 1	2	3	4	Average 5	6	7	8	Very Well Informed 9	% Above 5
HS/Some College	126	5.98	9.5	0.0	1.6	0.8	33.3	10.3	16.7	15.1	12.7	54.8
College Degree	197	6.11	3.6	3.0	2.5	2.5	31.0	14.7	14.2	14.7	13.7	57.3
PhD/JD/MD	49	5.98	2.0	4.1	6.1	2.0	28.6	16.3	14.3	18.4	8.2	57.2
Current Student	31	5.36	6.5	0.0	9.7	3.2	45.2	12.9	3.2	12.9	6.5	35.5

**Table B33. How Well Informed Respondents Feel About Government Services, Projects, Issues, and Programs That Affect Them by Gender.**

Gender	n	Mean	Not at All Informed 1	2	3	4	Average 5	6	7	8	Very Well Informed 9	% Above 5
Male	203	6.03	4.9	1.5	3.9	1.0	33.5	13.3	14.8	15.3	11.8	55.2
Female	200	5.96	6.0	2.5	2.5	3.0	31.5	13.5	13.5	15.0	12.5	54.5

**Table B34. How Well Informed Respondents Feel About Government Services, Projects, Issues, and Programs That Affect Them by Housing Type.**

Housing	n	Mean	Not at All Informed 1	2	3	4	Average 5	6	7	8	Very Well Informed 9	% Above 5
Single family	243	6.12	4.1	1.6	4.1	2.5	29.2	14.8	14.4	16.9	12.3	58.4
Apartment	96	5.58	9.4	2.1	2.1	1.0	43.8	10.4	8.3	11.5	11.5	41.7
Townhouse/Condo	55	6.06	5.5	1.8	1.8	1.8	30.9	12.7	21.8	12.7	10.9	58.1
Other	9	6.78	0.0	11.1	0.0	0.0	11.1	11.1	22.2	22.2	22.2	77.7

**Table B35. How Well Informed Respondents Feel About Government Services, Projects, Issues, and Programs That Affect Them by Income.**

<b>Income</b>	<b>n</b>	<b>Mean</b>	<b>Not at All Informed 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Well Informed 9</b>	<b>% Above 5</b>
0-\$45,000	137	5.64	8.0	2.2	2.2	1.5	40.9	11.7	13.1	10.9	9.5	45.2
\$45,001-\$100,000	133	6.38	2.3	1.5	3.0	3.0	24.8	16.5	17.3	17.3	14.3	65.4
\$100,001-\$150,000	41	6.46	7.3	2.4	0.0	0.0	24.4	9.8	14.6	22.0	19.5	65.9
Over \$150,000	55	6.38	0.0	0.0	5.5	1.8	32.7	12.7	14.5	21.8	10.9	59.9

**Table B36. How Well Informed Respondents Feel About Government Services, Projects, Issues, and Programs That Affect Them by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Not at All Informed 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Well Informed 9</b>	<b>% Above 5</b>
0-1	51	5.45	9.8	2.0	2.0	2.0	39.2	19.6	7.8	9.8	7.8	45.0
2-5	122	5.74	4.9	3.3	2.5	4.1	36.9	13.9	13.9	11.5	9.0	48.3
6-10	86	6.26	3.5	3.5	3.5	1.2	24.4	18.6	15.1	11.6	18.6	63.9
Over 10	115	6.28	6.1	0.0	4.3	0.9	28.7	7.0	16.5	24.3	12.2	60.0
Native	28	6.11	3.6	0.0	3.6	0.0	42.9	10.7	10.7	14.3	14.3	50.0

## Carrboro's Efforts at Involving Citizens in Decisions Crosstabulations

**Table B37. Satisfaction with Opportunities the Town Gives to Participate in the Decision-Making Process by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	59	6.20	0.0	3.4	0.0	0.0	44.1	10.2	20.3	8.5	13.6	52.6
26-55	269	6.31	5.9	0.4	0.7	0.4	36.1	4.5	19.3	16.0	16.7	56.5
56-65	44	6.82	6.8	0.0	0.0	0.0	25.0	6.8	13.6	15.9	31.8	68.1
Over 65	30	6.43	3.3	0.0	0.0	0.0	40.0	10.0	13.3	13.3	20.0	56.6

**Table B38. Satisfaction with Opportunities the Town Gives to Participate in the Decision-Making Process by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	126	6.22	6.3	0.0	0.8	0.0	39.7	6.3	14.3	15.9	16.7	53.2
College Degree	197	6.49	4.1	1.0	0.5	0.0	34.5	5.6	20.3	13.2	20.8	59.9
PhD/JD/MD	49	6.47	4.1	0.0	0.0	0.0	34.7	6.1	22.4	18.4	14.3	61.2
Current Student	31	5.77	9.7	3.2	0.0	3.2	35.5	6.5	16.1	12.9	12.9	48.4

**Table B39. Satisfaction with Opportunities the Town Gives to Participate in the Decision-Making Process by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	203	6.34	6.4	1.0	0.5	0.0	33.5	6.4	18.2	15.8	18.2	58.6
Female	200	6.36	4.0	0.5	0.5	0.5	39.0	5.5	18.5	13.5	18.0	55.5

**Table B40. Satisfaction with Opportunities the Town Gives to Participate in the Decision-Making Process by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	243	6.50	4.9	0.8	0.0	0.4	33.3	4.9	20.2	14.4	21.0	60.5
Apartment	96	5.92	6.3	0.0	1.0	0.0	50.0	8.3	6.3	14.6	13.5	42.7
Townhouse/Condo	55	6.29	5.5	1.8	1.8	0.0	29.1	5.5	27.3	16.4	12.7	61.9
Other	9	7.22	0.0	0.0	0.0	0.0	11.1	11.1	44.4	11.1	22.2	88.8

**Table B41. Satisfaction with Opportunities the Town Gives to Participate in the Decision-Making Process by Income.**

<b>Income</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-\$45,000	137	5.99	6.6	0.7	0.7	0.7	45.3	5.1	13.1	12.4	15.3	45.9
\$45,001-\$100,000	133	6.70	1.5	0.0	0.8	0.0	33.8	6.0	21.8	16.5	19.5	63.8
\$100,001-\$150,000	41	6.83	4.9	0.0	0.0	0.0	26.8	4.9	22.0	12.2	29.3	68.4
Over \$150,000	55	6.51	5.5	0.0	0.0	0.0	27.3	12.7	20.0	18.2	16.4	67.3

**Table B42. Satisfaction with Opportunities the Town Gives to Participate in the Decision-Making Process by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	51	5.75	9.8	2.0	0.0	2.0	37.3	7.8	21.6	7.8	11.8	49.0
2-5	122	6.32	4.1	0.8	0.8	0.0	40.2	4.9	17.2	14.8	17.2	54.1
6-10	86	6.58	3.5	0.0	0.0	0.0	36.0	3.5	22.1	15.1	19.8	60.5
Over 10	115	6.50	6.1	0.9	0.0	0.0	30.4	7.8	16.5	16.5	21.7	62.5
Native	28	6.21	3.6	0.0	3.6	0.0	42.9	3.6	14.3	17.9	14.3	50.1



## Solid Waste: Curbside Garbage Collection Crosstabulations

**Table B43. Satisfaction with Curbside Garbage Collection by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	32	8.47	0.0	0.0	0.0	0.0	0.0	6.3	3.1	28.1	62.5	100.0
26-55	191	8.47	0.5	0.0	0.0	0.0	2.1	1.6	7.3	20.9	67.5	97.3
56-65	39	8.39	0.0	0.0	0.0	0.0	5.1	0.0	7.7	25.6	61.5	94.8
Over 65	22	8.50	0.0	0.0	0.0	4.5	4.5	0.0	0.0	9.1	81.8	90.9

**Table B44. Satisfaction with Curbside Garbage Collection by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	68	8.57	1.5	0.0	0.0	0.0	0.0	1.5	1.5	23.5	72.1	98.6
College Degree	159	8.43	0.0	0.0	0.0	0.6	3.1	1.9	6.3	22.6	65.4	96.2
PhD/JD/MD	37	8.43	0.0	0.0	0.0	0.0	2.7	0.0	13.5	18.9	64.9	97.3
Current Student	20	8.35	0.0	0.0	0.0	0.0	5.0	5.0	10.0	10.0	70.0	95.0

**Table B45. Satisfaction with Curbside Garbage Collection by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	139	8.48	0.0	0.0	0.0	0.0	2.2	1.4	10.1	18.7	67.6	97.8
Female	145	8.44	0.7	0.0	0.0	0.7	2.8	2.1	2.8	24.1	66.9	95.9

**Table B46. Satisfaction with Curbside Garbage Collection by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	233	8.45	0.4	0.0	0.0	0.4	3.0	2.1	6.4	18.5	69.1	96.1
Apartment	15	8.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7	100.0
Townhouse/Condo	27	8.41	0.0	0.0	0.0	0.0	0.0	0.0	7.4	44.4	48.1	99.9
Other	9	8.67	0.0	0.0	0.0	0.0	0.0	0.0	11.1	11.1	77.8	100.0

**Table B47. Satisfaction with Curbside Garbage Collection by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	64	8.44	1.6	0.0	0.0	0.0	3.1	1.6	3.1	20.3	70.3	95.3
\$45,001-\$100,000	96	8.53	0.0	0.0	0.0	1.0	0.0	1.0	6.3	26.0	65.6	98.9
\$100,001-\$150,000	38	8.66	0.0	0.0	0.0	0.0	0.0	0.0	10.5	13.2	76.3	100.0
Over \$150,000	53	8.28	0.0	0.0	0.0	0.0	5.7	3.8	7.5	22.6	60.4	94.3

**Table B48. Satisfaction with Curbside Garbage Collection by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	23	7.83	4.3	0.0	0.0	0.0	13.0	0.0	4.3	21.7	56.5	82.5
2-5	79	8.51	0.0	0.0	0.0	0.0	0.0	2.5	7.6	26.6	63.3	100.0
6-10	61	8.49	0.0	0.0	0.0	0.0	1.6	3.3	8.2	18.0	68.9	98.4
Over 10	95	8.54	0.0	0.0	0.0	1.1	3.2	1.1	6.3	12.6	75.8	95.8
Native	25	8.52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0	52.0	100.0

## Solid Waste: Curbside Bulk Item Collection Crosstabulations

**Table B49. Satisfaction with Curbside Bulk Item Collection by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	9	8.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	44.4	100.0
26-55	74	8.31	2.7	0.0	1.4	0.0	1.4	1.4	4.1	21.6	67.6	94.7
56-65	19	7.84	0.0	0.0	0.0	5.3	0.0	15.8	15.8	10.5	52.6	94.7
Over 65	9	8.00	0.0	0.0	11.1	0.0	0.0	0.0	11.1	11.1	66.7	88.9

**Table B50. Satisfaction with Curbside Bulk Item Collection by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	30	8.13	3.3	0.0	0.0	0.0	3.3	3.3	3.3	30.0	56.7	93.3
College Degree	65	8.23	1.5	0.0	1.5	1.5	0.0	4.6	7.7	18.5	64.6	95.4
PhD/JD/MD	12	8.25	0.0	0.0	8.3	0.0	0.0	0.0	8.3	8.3	75.0	91.6
Current Student	4	8.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	100.0

**Table B51. Satisfaction with Curbside Bulk Item Collection by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	51	8.45	0.0	0.0	2.0	0.0	0.0	2.0	11.8	13.7	70.6	98.1
Female	60	8.02	3.3	0.0	1.7	1.7	1.7	5.0	1.7	28.3	56.7	91.7

**Table B52. Satisfaction with Curbside Bulk Item Collection by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	84	8.12	2.4	0.0	2.4	1.2	1.2	4.8	6.0	17.9	64.3	93.0
Apartment	12	8.50	0.0	0.0	0.0	0.0	0.0	0.0	8.3	33.3	58.3	99.9
Townhouse/Condo	11	8.46	0.0	0.0	0.0	0.0	0.0	0.0	9.1	36.4	54.5	100.0
Other	4	8.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	100.0

**Table B53. Satisfaction with Curbside Bulk Item Collection by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	25	8.12	4.0	0.0	0.0	0.0	0.0	4.0	4.0	36.0	52.0	96.0
\$45,001-\$100,000	41	8.46	0.0	0.0	2.4	0.0	0.0	2.4	7.3	17.1	70.7	97.5
\$100,001-\$150,000	16	8.44	0.0	0.0	0.0	0.0	0.0	6.3	12.5	12.5	68.8	100.1
Over \$150,000	20	7.95	0.0	0.0	5.0	5.0	5.0	5.0	0.0	15.0	65.0	85.0

**Table B54. Satisfaction with Curbside Bulk Item Collection by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	Very Dissatisfied <b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Neutral <b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	Very Satisfied <b>9</b>	<b>% Above 5</b>
0-1	7	5.43	28.6	0.0	14.3	0.0	0.0	0.0	0.0	42.9	14.3	57.2
2-5	28	8.46	0.0	0.0	0.0	0.0	0.0	3.6	7.1	28.6	60.7	100.0
6-10	27	8.41	0.0	0.0	3.7	0.0	0.0	0.0	7.4	22.2	66.7	96.3
Over 10	39	8.39	0.0	0.0	0.0	2.6	2.6	5.1	5.1	12.8	71.8	94.8
Native	10	8.30	0.0	0.0	0.0	0.0	0.0	10.0	10.0	20.0	60.0	100.0

## Solid Waste: Curbside Yard Waste Collection Crosstabulations

**Table B55. Satisfaction with Curbside Yard Waste Collection by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	15	8.13	0.0	0.0	0.0	0.0	0.0	13.3	13.3	20.0	53.3	99.9
26-55	102	8.14	1.0	1.0	1.0	0.0	4.9	3.9	5.9	22.5	59.8	92.1
56-65	24	7.88	0.0	0.0	0.0	4.2	4.2	8.3	20.8	8.3	54.2	91.6
Over 65	14	7.36	0.0	0.0	0.0	14.3	14.3	0.0	14.3	7.1	50.0	71.4

**Table B56. Satisfaction with Curbside Yard Waste Collection by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	42	8.05	2.4	0.0	0.0	2.4	2.4	7.1	9.5	14.3	61.9	92.8
College Degree	85	8.08	0.0	0.0	1.2	2.4	5.9	3.5	7.1	24.7	55.3	90.6
PhD/JD/MD	20	7.50	0.0	5.0	0.0	0.0	10.0	10.0	20.0	5.0	50.0	85.0
Current Student	8	8.63	0.0	0.0	0.0	0.0	0.0	0.0	12.5	12.5	75.0	100.0

**Table B57. Satisfaction with Curbside Yard Waste Collection by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	75	8.05	0.0	1.3	1.3	0.0	5.3	8.0	6.7	18.7	58.7	92.1
Female	80	8.00	1.3	0.0	0.0	3.8	5.0	2.5	12.5	18.8	56.3	90.1

**Table B58. Satisfaction with Curbside Yard Waste Collection by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	126	7.98	0.8	0.8	0.8	2.4	5.6	4.8	9.5	18.3	57.1	89.7
Apartment	8	7.75	0.0	0.0	0.0	0.0	12.5	12.5	12.5	12.5	50.0	87.5
Townhouse/Condo	15	8.40	0.0	0.0	0.0	0.0	0.0	6.7	6.7	26.7	60.0	100.0
Other	6	8.50	0.0	0.0	0.0	0.0	0.0	0.0	16.7	16.7	66.7	100.0

**Table B59. Satisfaction with Curbside Yard Waste Collection by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	30	8.07	3.3	0.0	0.0	0.0	6.7	6.7	3.3	13.3	66.7	90.0
\$45,001-\$100,000	57	8.19	0.0	0.0	0.0	3.5	0.0	3.5	12.3	28.1	52.6	96.5
\$100,001-\$150,000	20	7.85	0.0	5.0	0.0	0.0	5.0	10.0	10.0	10.0	60.0	90.0
Over \$150,000	31	7.81	0.0	0.0	3.2	3.2	9.7	3.2	9.7	16.1	54.8	83.8

**Table B60. Satisfaction with Curbside Yard Waste Collection by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	6	6.67	16.7	0.0	0.0	0.0	16.7	0.0	0.0	33.3	33.3	66.6
2-5	36	8.19	0.0	0.0	0.0	0.0	5.6	5.6	8.3	25.0	55.6	94.5
6-10	39	8.08	0.0	0.0	2.6	0.0	2.6	7.7	15.4	12.8	59.0	94.9
Over 10	60	8.00	0.0	1.7	0.0	5.0	5.0	5.0	6.7	15.0	61.7	88.4
Native	14	8.14	0.0	0.0	0.0	0.0	7.1	0.0	14.3	28.6	50.0	92.9

## Solid Waste: Curbside Loose Leaf Collection Crosstabulations

**Table B61. Satisfaction with Curbside Loose Leaf Collection by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	17	8.41	0.0	0.0	0.0	0.0	0.0	5.9	11.8	17.6	64.7	100.0
26-55	117	7.80	1.7	0.9	1.7	0.9	6.8	3.4	12.8	23.1	48.7	88.0
56-65	27	7.89	0.0	0.0	0.0	0.0	7.4	3.7	25.9	18.5	44.4	92.5
Over 65	10	7.00	0.0	0.0	0.0	10.0	30.0	0.0	10.0	10.0	40.0	60.0

**Table B62. Satisfaction with Curbside Loose Leaf Collection by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	42	8.17	2.4	0.0	0.0	0.0	0.0	7.1	11.9	19.0	59.5	97.5
College Degree	99	7.76	1.0	0.0	1.0	2.0	10.1	2.0	14.1	25.3	44.4	85.8
PhD/JD/MD	19	7.21	0.0	5.3	0.0	0.0	15.8	5.3	26.3	10.5	36.8	78.9
Current Student	11	8.18	0.0	0.0	9.1	0.0	0.0	0.0	9.1	9.1	72.7	90.9

**Table B63. Satisfaction with Curbside Loose Leaf Collection by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	81	8.05	0.0	1.2	1.2	0.0	7.4	1.2	13.6	18.5	56.8	90.1
Female	90	7.62	2.2	0.0	1.1	2.2	7.8	5.6	15.6	23.3	42.2	86.7

**Table B64. Satisfaction with Curbside Loose Leaf Collection by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	146	7.73	1.4	0.7	1.4	1.4	8.2	4.1	15.8	19.9	47.3	87.1
Apartment	7	7.86	0.0	0.0	0.0	0.0	14.3	0.0	14.3	28.6	42.9	85.8
Townhouse/Condo	14	8.57	0.0	0.0	0.0	0.0	0.0	0.0	7.1	28.6	64.3	100.0
Other	4	8.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	100.0

**Table B65. Satisfaction with Curbside Loose Leaf Collection by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	33	7.85	3.0	0.0	3.0	0.0	9.1	3.0	6.1	15.2	60.6	84.9
\$45,001-\$100,000	59	8.07	0.0	0.0	0.0	3.4	5.1	0.0	15.3	25.4	50.8	91.5
\$100,001-\$150,000	26	7.77	0.0	3.8	0.0	0.0	7.7	0.0	26.9	11.5	50.0	88.4
Over \$150,000	35	7.46	0.0	0.0	2.9	0.0	14.3	8.6	14.3	25.7	34.3	82.9

**Table B66. Satisfaction with Curbside Loose Leaf Collection by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	11	5.64	18.2	0.0	9.1	0.0	18.2	9.1	0.0	36.4	9.1	54.6
2-5	36	8.14	0.0	0.0	0.0	0.0	2.8	5.6	16.7	25.0	50.0	97.3
6-10	39	7.77	0.0	0.0	2.6	2.6	7.7	2.6	20.5	15.4	48.7	87.2
Over 10	65	7.99	0.0	1.5	0.0	1.5	9.2	3.1	9.2	18.5	56.9	87.7
Native	20	8.05	0.0	0.0	0.0	0.0	5.0	0.0	25.0	25.0	45.0	95.0



**Carrboro Focus Area: Effectiveness in Keeping Carrboro the Best Place  
To Live, Work, and Raise a Family Crosstabulations**

**Table B67. Effectiveness of Board of Aldermen in Working to Keep Carrboro the Best Place to Live, Work, and Raise a Family by Age.**

<b>Age</b>	<b>n</b>	<b>Mean</b>	<b>Very Ineffective 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Effective 9</b>	<b>% Above 5</b>
18-25	58	7.33	0.0	0.0	0.0	0.0	17.2	8.6	20.7	31.0	22.4	82.7
26-55	264	7.40	1.1	0.0	1.5	0.8	11.4	6.1	22.3	29.9	26.9	85.2
56-65	44	7.23	0.0	4.5	0.0	0.0	11.4	6.8	22.7	34.1	20.5	84.1
Over 65	29	6.90	0.0	0.0	0.0	0.0	27.6	6.9	27.6	24.1	13.8	72.4

**Table B68. Effectiveness of Board of Aldermen in Working to Keep Carrboro the Best Place to Live, Work, and Raise a Family by Education.**

<b>Education</b>	<b>n</b>	<b>Mean</b>	<b>Very Ineffective 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Effective 9</b>	<b>% Above 5</b>
HS/Some College	126	7.39	0.8	0.0	0.0	0.8	18.3	4.0	17.5	31.0	27.8	80.3
College Degree	195	7.29	1.0	0.0	1.5	0.0	13.3	8.2	23.1	29.2	23.6	84.1
PhD/JD/MD	47	7.32	0.0	4.3	2.1	2.1	2.1	6.4	25.5	36.2	21.3	89.4
Current Student	28	7.21	0.0	0.0	3.6	0.0	10.7	7.1	35.7	21.4	21.4	85.6

**Table B69. Effectiveness of Board of Aldermen in Working to Keep Carrboro the Best Place to Live, Work, and Raise a Family by Gender.**

<b>Gender</b>	<b>n</b>	<b>Mean</b>	<b>Very Ineffective 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Effective 9</b>	<b>% Above 5</b>
Male	199	7.32	1.0	1.0	2.0	0.5	11.1	5.5	23.1	31.7	24.1	84.4
Female	197	7.33	0.5	0.0	0.5	0.5	15.7	7.6	21.8	28.4	24.9	82.7

**Table B70. Effectiveness of Board of Aldermen in Working to Keep Carrboro the Best Place to Live, Work, and Raise a Family by Housing Type.**

<b>Housing</b>	<b>n</b>	<b>Mean</b>	<b>Very Ineffective 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Effective 9</b>	<b>% Above 5</b>
Single family	238	7.22	1.3	0.8	0.8	0.8	13.4	7.6	24.8	26.5	23.9	82.8
Apartment	96	7.39	0.0	0.0	2.1	0.0	15.6	6.3	17.7	32.3	26.0	82.3
Townhouse/Condo	54	7.52	0.0	0.0	1.9	0.0	9.3	3.7	24.1	40.7	20.4	88.9
Other	8	8.13	0.0	0.0	0.0	0.0	12.5	0.0	0.0	37.5	50.0	87.5

**Table B71. Effectiveness of Board of Aldermen in Working to Keep Carrboro the Best Place to Live, Work, and Raise a Family by Income.**

<b>Income</b>	<b>n</b>	<b>Mean</b>	<b>Very Ineffective 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Effective 9</b>	<b>% Above 5</b>
0-\$45,000	135	7.22	0.7	0.0	0.7	0.0	22.2	5.9	18.5	23.7	28.1	76.2
\$45,001-\$100,000	132	7.54	0.8	0.0	1.5	0.8	7.6	6.8	18.9	38.6	25.0	89.3
\$100,001-\$150,000	41	7.10	2.4	0.0	4.9	2.4	7.3	2.4	34.1	24.4	22.0	82.9
Over \$150,000	54	7.44	0.0	1.9	0.0	0.0	9.3	9.3	24.1	29.6	25.9	88.9

**Table B72. Effectiveness of Board of Aldermen in Working to Keep Carrboro the Best Place to Live, Work, and Raise a Family by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Ineffective 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Effective 9</b>	<b>% Above 5</b>
0-1	50	7.36	2.0	2.0	0.0	0.0	8.0	8.0	22.0	34.0	24.0	88.0
2-5	121	7.23	0.0	0.0	1.7	0.0	17.4	6.6	22.3	33.1	19.0	81.0
6-10	86	7.58	2.3	0.0	1.2	1.2	8.1	4.7	17.4	29.1	36.0	87.2
Over 10	110	7.36	0.0	0.9	1.8	0.0	10.9	7.3	26.4	29.1	23.6	86.4
Native	28	6.68	0.0	0.0	0.0	3.6	32.1	7.1	25.0	14.3	17.9	64.3

## Carrboro Focus Area: Satisfaction with Environmental Protection Crosstabulations

**Table B73. Satisfaction with the Job the Town is Doing on Environmental Protection by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	61	7.23	0.0	0.0	0.0	0.0	18.0	6.6	26.2	32.8	16.4	82.0
26-55	267	7.40	1.1	0.0	0.0	0.0	11.2	8.2	24.7	32.2	22.5	87.6
56-65	43	7.30	2.3	0.0	0.0	0.0	7.0	9.3	34.9	25.6	20.9	90.7
Over 65	30	6.53	0.0	0.0	0.0	6.7	26.7	10.0	26.7	23.3	6.7	66.7

**Table B74. Satisfaction with the Job the Town is Doing on Environmental Protection by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	128	7.48	0.0	0.0	0.0	0.8	17.2	2.3	21.9	28.1	29.7	82.0
College Degree	195	7.18	2.1	0.0	0.0	0.5	10.8	10.8	28.2	31.3	16.4	86.7
PhD/JD/MD	48	7.21	0.0	0.0	0.0	0.0	12.5	14.6	25.0	35.4	12.5	87.5
Current Student	31	7.32	0.0	0.0	0.0	0.0	12.9	6.5	32.3	32.3	16.1	87.2

**Table B75. Satisfaction with the Job the Town is Doing on Environmental Protection by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	202	7.38	1.0	0.0	0.0	0.5	9.9	7.9	29.7	28.7	22.3	88.6
Female	200	7.20	1.0	0.0	0.0	0.5	16.5	8.5	22.5	33.0	18.0	82.0

**Table B76. Satisfaction with the Job the Town is Doing on Environmental Protection by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	241	7.20	1.7	0.0	0.0	0.8	12.4	10.0	28.2	26.6	20.3	85.1
Apartment	97	7.46	0.0	0.0	0.0	0.0	16.5	2.1	21.6	38.1	21.6	83.4
Townhouse/Condo	55	7.26	0.0	0.0	0.0	0.0	12.7	10.9	29.1	32.7	14.5	87.2
Other	9	8.11	0.0	0.0	0.0	0.0	0.0	11.1	0.0	55.6	33.3	100.0

**Table B77. Satisfaction with the Job the Town is Doing on Environmental Protection by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	138	7.33	0.0	0.0	0.0	0.0	21.0	3.6	21.7	29.0	24.6	78.9
\$45,001-\$100,000	133	7.35	1.5	0.0	0.0	0.8	8.3	9.0	29.3	30.8	20.3	89.4
\$100,001-\$150,000	41	7.22	0.0	0.0	0.0	0.0	14.6	12.2	29.3	24.4	19.5	85.4
Over \$150,000	54	7.22	3.7	0.0	0.0	0.0	5.6	14.8	20.4	40.7	14.8	90.7

**Table B78. Satisfaction with the Job the Town is Doing on Environmental Protection by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	Very Dissatisfied <b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Neutral <b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	Very Satisfied <b>9</b>	% Above 5
0-1	51	7.47	0.0	0.0	0.0	0.0	13.7	5.9	21.6	37.3	21.6	86.4
2-5	123	7.23	0.0	0.0	0.0	0.0	15.4	11.4	24.4	32.5	16.3	84.6
6-10	84	7.51	1.2	0.0	0.0	0.0	10.7	4.8	26.2	29.8	27.4	88.2
Over 10	115	7.17	1.7	0.0	0.0	1.7	13.0	7.0	31.3	25.2	20.0	83.5
Native	28	7.07	3.6	0.0	0.0	0.0	10.7	14.3	21.4	35.7	14.3	85.7

## Carrboro Focus Area: Satisfaction with Transportation Crosstabulations

**Table B79. Satisfaction with the Job the Town is Doing on Transportation by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	61	6.98	0.0	0.0	1.6	1.6	23.0	9.8	21.3	19.7	23.0	73.8
26-55	267	7.03	0.7	0.0	1.5	1.1	16.1	13.5	22.8	25.5	18.7	80.5
56-65	44	6.89	0.0	0.0	2.3	4.5	15.9	25.0	9.1	18.2	25.0	77.3
Over 65	30	6.67	0.0	0.0	0.0	3.3	23.3	23.3	20.0	13.3	16.7	73.3

**Table B80. Satisfaction with the Job the Town is Doing on Transportation by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	127	7.24	0.0	0.0	0.0	1.6	19.7	10.2	18.9	21.3	28.3	78.7
College Degree	196	6.88	1.0	0.0	1.5	1.0	17.3	17.3	22.4	23.0	16.3	79.0
PhD/JD/MD	49	6.74	0.0	0.0	4.1	4.1	16.3	16.3	22.4	22.4	14.3	75.4
Current Student	31	6.90	0.0	0.0	3.2	3.2	16.1	16.1	16.1	29.0	16.1	77.3

**Table B81. Satisfaction with the Job the Town is Doing on Transportation by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	202	6.96	0.5	0.0	2.0	3.0	14.4	14.9	25.2	20.8	19.3	80.2
Female	201	7.00	0.5	0.0	1.0	0.5	21.4	14.9	16.4	24.9	20.4	76.6

**Table B82. Satisfaction with the Job the Town is Doing on Transportation by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	242	6.91	0.8	0.0	1.7	2.1	15.7	17.4	24.0	19.4	19.0	79.8
Apartment	97	7.01	0.0	0.0	1.0	2.1	24.7	11.3	13.4	22.7	24.7	72.1
Townhouse/Condo	55	7.06	0.0	0.0	1.8	0.0	18.2	12.7	20.0	32.7	14.5	79.9
Other	9	8.00	0.0	0.0	0.0	0.0	0.0	0.0	22.2	55.6	22.2	100.0

**Table B83. Satisfaction with the Job the Town is Doing on Transportation by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	138	7.05	0.0	0.0	0.7	1.4	25.4	12.3	10.9	23.2	26.1	72.5
\$45,001-\$100,000	133	7.17	0.8	0.0	2.3	0.8	14.3	10.5	21.1	29.3	21.1	82.0
\$100,001-\$150,000	41	6.63	2.4	0.0	0.0	4.9	17.1	14.6	34.1	12.2	14.6	75.5
Over \$150,000	54	6.85	0.0	0.0	3.7	1.9	11.1	18.5	31.5	20.4	13.0	83.4

**Table B84. Satisfaction with the Job the Town is Doing on Transportation by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	51	7.12	0.0	0.0	2.0	2.0	17.6	7.8	19.6	33.3	17.6	78.3
2-5	123	6.90	0.8	0.0	1.6	0.8	17.9	20.3	17.9	21.1	19.5	78.8
6-10	86	7.05	1.2	0.0	2.3	1.2	15.1	9.3	25.6	26.7	18.6	80.2
Over 10	114	6.84	0.0	0.0	0.9	3.5	21.1	15.8	21.9	17.5	19.3	74.5
Native	28	7.32	0.0	0.0	0.0	0.0	14.3	17.9	17.9	21.4	28.6	85.8

## Carrboro Focus Area: Satisfaction with Parking Crosstabulations

**Table B85. Satisfaction with the Job the Town is Doing on Parking by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	61	6.25	1.6	0.0	6.6	4.9	23.0	16.4	21.3	14.8	11.5	64.0
26-55	266	6.66	1.9	0.8	1.9	3.8	20.3	13.2	22.2	18.8	17.3	71.5
56-65	44	7.09	0.0	0.0	4.5	0.0	18.2	6.8	25.0	20.5	25.0	77.3
Over 65	30	6.20	0.0	0.0	6.7	6.7	30.0	6.7	26.7	13.3	10.0	56.7

**Table B86. Satisfaction with the Job the Town is Doing on Parking by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	127	6.43	2.4	0.8	3.1	5.5	26.8	9.4	19.7	11.0	21.3	61.4
College Degree	195	6.68	1.5	1.0	2.1	3.1	18.5	13.3	24.6	22.1	13.8	73.8
PhD/JD/MD	49	6.94	0.0	0.0	6.1	4.1	8.2	14.3	26.5	20.4	20.4	81.6
Current Student	31	6.23	0.0	0.0	6.5	0.0	35.5	16.1	16.1	16.1	9.7	58.0

**Table B87. Satisfaction with the Job the Town is Doing on Parking by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	202	6.59	2.0	0.5	3.0	4.0	19.8	13.4	22.3	20.3	14.9	70.9
Female	200	6.61	1.0	1.0	3.5	3.5	22.5	11.5	23.0	15.5	18.5	68.5

**Table B88. Satisfaction with the Job the Town is Doing on Parking by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	241	6.62	1.2	0.4	3.7	3.7	19.9	12.9	23.7	18.7	15.8	71.1
Apartment	97	6.30	3.1	2.1	3.1	3.1	28.9	11.3	16.5	14.4	17.5	59.7
Townhouse/Condo	55	6.91	0.0	0.0	1.8	3.6	16.4	12.7	27.3	21.8	16.4	78.2
Other	9	7.33	0.0	0.0	0.0	11.1	0.0	11.1	33.3	11.1	33.3	88.8

**Table B89. Satisfaction with the Job the Town is Doing on Parking by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	137	6.40	2.9	0.7	2.9	3.6	28.5	10.2	18.2	14.6	18.2	61.2
\$45,001-\$100,000	133	6.83	0.8	0.8	3.0	3.0	18.0	10.5	23.3	22.6	18.0	74.4
\$100,001-\$150,000	41	6.46	0.0	0.0	0.0	9.8	22.0	22.0	19.5	12.2	14.6	68.3
Over \$150,000	55	7.16	0.0	0.0	1.8	1.8	9.1	12.7	32.7	23.6	18.2	87.2

**Table B90. Satisfaction with the Job the Town is Doing on Parking by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	51	6.45	3.9	0.0	7.8	2.0	23.5	5.9	15.7	23.5	17.6	62.7
2-5	122	6.72	1.6	0.8	0.8	1.6	19.7	16.4	25.4	17.2	16.4	75.4
6-10	85	6.49	2.4	0.0	3.5	8.2	20.0	10.6	20.0	17.6	17.6	65.8
Over 10	115	6.65	0.0	1.7	2.6	3.5	22.6	12.2	23.5	15.7	18.3	69.7
Native	28	6.39	0.0	0.0	7.1	3.6	21.4	14.3	25.0	21.4	7.1	67.8



## Satisfaction with the Job the Town is Doing for Senior Citizens Crosstabulations

**Table B91. Satisfaction with the Job the Town is Doing for Senior Citizens by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	47	6.60	0.0	0.0	0.0	0.0	44.7	0.0	23.4	14.9	17.0	55.3
26-55	225	6.70	0.4	0.4	0.9	0.4	36.4	3.1	19.1	22.7	16.4	61.3
56-65	40	6.83	0.0	2.5	2.5	0.0	27.5	7.5	17.5	17.5	25.0	67.5
Over 65	29	6.03	10.3	0.0	6.9	0.0	24.1	6.9	13.8	27.6	10.3	58.6

**Table B92. Satisfaction with the Job the Town is Doing for Senior Citizens by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	118	6.75	2.5	0.8	1.7	0.0	31.4	3.4	15.3	22.0	22.9	63.6
College Degree	164	6.43	1.2	0.6	1.8	0.6	39.0	4.9	20.1	17.7	14.0	56.7
PhD/JD/MD	41	7.17	0.0	0.0	0.0	0.0	24.4	0.0	24.4	36.6	14.6	75.6
Current Student	19	6.32	0.0	0.0	0.0	0.0	52.6	0.0	21.1	15.8	10.5	47.4

**Table B93. Satisfaction with the Job the Town is Doing for Senior Citizens by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	175	6.70	1.1	0.0	1.7	0.0	35.4	2.9	19.4	21.1	18.3	61.7
Female	167	6.55	1.8	1.2	1.2	0.6	35.3	4.2	18.6	21.6	15.6	60.0

**Table B94. Satisfaction with the Job the Town is Doing for Senior Citizens by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	204	6.65	1.5	0.5	1.0	0.5	33.3	3.4	23.5	20.6	15.7	63.2
Apartment	83	6.31	2.4	1.2	1.2	0.0	47.0	3.6	9.6	15.7	19.3	48.2
Townhouse/Condo	48	6.94	0.0	0.0	2.1	0.0	27.1	4.2	18.8	35.4	12.5	70.9
Other	7	7.43	0.0	0.0	14.3	0.0	14.3	0.0	0.0	14.3	57.1	71.4

**Table B95. Satisfaction with the Job the Town is Doing for Senior Citizens by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	117	6.25	3.4	0.9	1.7	0.0	44.4	4.3	12.8	15.4	17.1	49.6
\$45,001-\$100,000	117	6.91	0.0	0.0	1.7	0.9	29.1	4.3	21.4	23.1	19.7	68.5
\$100,001-\$150,000	33	7.12	0.0	0.0	3.0	0.0	21.2	3.0	21.2	33.3	18.2	75.7
Over \$150,000	44	7.00	0.0	0.0	0.0	0.0	29.5	2.3	25.0	25.0	18.2	70.5

**Table B96. Satisfaction with the Job the Town is Doing for Senior Citizens by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	Very Dissatisfied <b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Neutral <b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	Very Satisfied <b>9</b>	% Above 5
0-1	37	6.38	2.7	0.0	0.0	0.0	40.5	2.7	24.3	21.6	8.1	56.7
2-5	104	6.66	0.0	1.0	0.0	0.0	42.3	1.9	16.3	19.2	19.2	56.6
6-10	75	6.60	1.3	0.0	2.7	1.3	34.7	5.3	13.3	25.3	16.0	59.9
Over 10	99	6.62	3.0	1.0	3.0	0.0	27.3	3.0	24.2	22.2	16.2	65.6
Native	26	6.96	0.0	0.0	0.0	0.0	34.6	3.8	19.2	15.4	26.9	65.3

## Satisfaction with the Job the Town is Doing for Citizens with Disabilities Crosstabulations

**Table B97. Satisfaction with the Job the Town is Doing for Citizens with Disabilities by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	46	6.67	0.0	0.0	0.0	0.0	41.3	0.0	26.1	15.2	17.4	58.7
26-55	225	6.75	0.4	0.4	0.4	0.4	37.8	3.6	14.2	23.6	19.1	60.5
56-65	40	7.03	0.0	2.5	0.0	0.0	30.0	5.0	12.5	20.0	30.0	67.5
Over 65	28	6.75	3.6	0.0	3.6	0.0	28.6	0.0	10.7	39.3	14.3	64.3

**Table B98. Satisfaction with the Job the Town is Doing for Citizens with Disabilities by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	117	6.87	1.7	0.9	0.9	0.0	33.3	0.9	17.1	17.9	27.4	63.3
College Degree	164	6.61	0.6	0.6	0.6	0.6	39.6	4.9	13.4	23.2	16.5	58.0
PhD/JD/MD	41	7.15	0.0	0.0	0.0	0.0	24.4	2.4	22.0	36.6	14.6	75.6
Current Student	18	6.39	0.0	0.0	0.0	0.0	55.6	0.0	5.6	27.8	11.1	44.5

**Table B99. Satisfaction with the Job the Town is Doing for Citizens with Disabilities by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	175	6.79	1.1	0.0	0.6	0.0	36.6	2.9	16.0	21.1	21.7	61.7
Female	165	6.71	0.6	1.2	0.6	0.6	36.4	3.0	14.5	25.5	17.6	60.6

**Table B100. Satisfaction with the Job the Town is Doing for Citizens with Disabilities by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	202	6.82	0.5	0.5	0.5	0.5	33.7	4.0	16.3	25.7	18.3	64.3
Apartment	83	6.37	2.4	1.2	0.0	0.0	47.0	1.2	14.5	14.5	19.3	49.5
Townhouse/Condo	48	7.02	0.0	0.0	0.0	0.0	33.3	2.1	14.6	29.2	20.8	66.7
Other	7	7.43	0.0	0.0	14.3	0.0	14.3	0.0	0.0	14.3	57.1	71.4

**Table B101. Satisfaction with the Job the Town is Doing for Citizens with Disabilities by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	116	6.41	2.6	0.9	0.0	0.0	47.4	0.9	11.2	17.2	19.8	49.1
\$45,001-\$100,000	117	7.00	0.0	0.0	1.7	0.9	28.2	6.0	14.5	25.6	23.1	69.2
\$100,001-\$150,000	33	7.24	0.0	0.0	0.0	0.0	24.2	3.0	18.2	33.3	21.2	75.7
Over \$150,000	44	7.05	0.0	0.0	0.0	0.0	29.5	2.3	22.7	25.0	20.5	70.5

**Table B102. Satisfaction with the Job the Town is Doing for Citizens with Disabilities by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	37	6.30	2.7	0.0	0.0	0.0	43.2	2.7	27.0	13.5	10.8	54.0
2-5	104	6.73	0.0	1.0	0.0	0.0	41.3	1.9	13.5	22.1	20.2	57.7
6-10	75	6.72	1.3	0.0	0.0	1.3	38.7	5.3	6.7	26.7	20.0	58.7
Over 10	97	6.93	1.0	1.0	2.1	0.0	26.8	2.1	18.6	28.9	19.6	69.2
Native	26	6.96	0.0	0.0	0.0	0.0	38.5	0.0	19.2	11.5	30.8	61.5

## Satisfaction with Job the Town is Doing in Providing Affordable Housing Crosstabulations

**Table B103. Satisfaction with the Job the Town is Doing in Providing Affordable Housing by Age.**

Age	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
18-25	45	5.31	4.4	4.4	8.9	4.4	40.0	8.9	17.8	4.4	6.7	37.8
26-55	215	5.34	8.8	4.2	7.9	2.8	42.3	3.7	7.0	10.2	13.0	33.9
56-65	39	5.56	10.3	5.1	5.1	5.1	33.3	2.6	10.3	7.7	20.5	41.1
Over 65	27	5.56	14.8	3.7	7.4	14.8	29.6	14.8	7.4	3.7	3.7	29.6

**Table B104. Satisfaction with the Job the Town is Doing in Providing Affordable Housing by Education.**

Education	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
HS/Some College	115	4.85	17.4	6.1	8.7	5.2	29.6	4.3	9.6	4.3	14.8	33.0
College Degree	158	5.57	5.7	3.8	6.3	3.2	43.0	5.7	8.2	11.4	12.7	38.0
PhD/JD/MD	36	5.50	0.0	2.8	11.1	5.6	50.0	0.0	11.1	13.9	5.6	30.6
Current Student	18	5.11	5.6	0.0	5.6	5.6	55.6	16.7	5.6	0.0	5.6	27.9

**Table B105. Satisfaction with the Job the Town is Doing in Providing Affordable Housing by Gender.**

Gender	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Male	165	5.27	9.1	4.2	10.3	1.2	41.2	2.4	10.9	8.5	12.1	33.9
Female	162	5.30	9.3	4.3	4.9	7.4	38.3	8.0	6.8	8.6	12.3	35.7

**Table B106. Satisfaction with the Job the Town is Doing in Providing Affordable Housing by Housing Type.**

Housing	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
Single family	187	5.62	6.4	1.6	5.9	5.9	41.2	7.5	8.0	7.5	16.0	39.0
Apartment	86	4.38	16.3	9.3	12.8	2.3	37.2	3.5	7.0	4.7	7.0	22.2
Townhouse/Condo	47	5.55	4.3	6.4	6.4	2.1	42.6	0.0	14.9	17.0	6.4	38.3
Other	7	5.57	28.6	0.0	0.0	0.0	14.3	0.0	14.3	28.6	14.3	57.2

**Table B107. Satisfaction with the Job the Town is Doing in Providing Affordable Housing by Income.**

Income	n	Mean	Very Dissatisfied 1	2	3	4	Neutral 5	6	7	8	Very Satisfied 9	% Above 5
0-\$45,000	121	4.24	18.2	8.3	12.4	3.3	37.2	5.0	8.3	1.7	5.8	20.8
\$45,001-\$100,000	107	5.95	4.7	1.9	4.7	4.7	39.3	3.7	10.3	14.0	16.8	44.8
\$100,001-\$150,000	31	5.71	6.5	0.0	12.9	0.0	41.9	6.5	0.0	12.9	19.4	38.8
Over \$150,000	42	6.36	0.0	2.4	0.0	4.8	42.9	4.8	11.9	14.3	19.0	50.0

**Table B108. Satisfaction with the Job the Town is Doing in Providing Affordable Housing by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Mean</b>	<b>Very Dissatisfied 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Neutral 5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Very Satisfied 9</b>	<b>% Above 5</b>
0-1	35	4.89	11.4	0.0	14.3	2.9	45.7	2.9	11.4	5.7	5.7	25.7
2-5	94	5.43	7.4	3.2	4.3	3.2	47.9	2.1	12.8	10.6	8.5	34.0
6-10	73	5.26	9.6	9.6	8.2	4.1	32.9	2.7	6.8	6.8	19.2	35.5
Over 10	98	5.14	11.2	3.1	7.1	6.1	37.8	10.2	5.1	9.2	10.2	34.7
Native	26	6.00	3.8	3.8	7.7	3.8	30.8	7.7	11.5	7.7	23.1	50.0

## Source of Transportation Around Town Crosstabulations

**Table B109. Source of Transportation Around Town by Age.**

Age	n	Vehicle	Bicycle	Public Transportation	Carpool	Walking
18-25	60	43.8	15.6	14.1	0.0	26.6
26-55	268	54.2	11.0	4.3	0.6	29.8
56-65	44	61.7	12.8	4.3	0.0	21.3
Over 65	30	53.1	6.3	15.6	6.3	18.8

**Table B110. Source of Transportation Around Town by Education.**

Education	n	Vehicle	Bicycle	Public Transportation	Carpool	Walking
HS/Some College	127	59.3	8.6	12.9	2.1	17.1
College Degree	196	52.5	12.9	3.7	0.5	30.4
PhD/JD/MD	49	55.4	7.1	3.6	0.0	33.9
Current student	31	27.3	24.2	6.1	0.0	42.4

**Table B111. Source of Transportation Around Town by Gender.**

Gender	n	Vehicle	Bicycle	Public Transportation	Carpool	Walking
Male	201	50.6	13.2	5.5	0.4	30.2
Female	202	55.9	10.0	8.1	1.4	24.6

**Table B112. Source of Transportation Around Town by Housing Type.**

Housing	n	Vehicle	Bicycle	Public Transportation	Carpool	Walking
Single Family	242	53.0	12.6	4.1	0.7	29.6
Apartment	98	54.5	9.1	12.7	1.8	21.8
Townhouse/Condo	54	50.0	13.3	6.7	0.0	30.0
Other	9	44.4	11.1	22.2	0.0	22.2

**Table B113. Source of Transportation Around Town by Income.**

Income	n	Vehicle	Bicycle	Public Transportation	Carpool	Walking
0-\$45,000	139	47.4	14.1	14.1	1.9	22.4
\$45,001-\$100,000	131	52.4	9.7	4.8	0.0	33.1
\$100,001-\$150,000	41	46.0	20.0	4.0	2.0	28.0
Over \$150,000	55	67.7	9.7	0.0	0.0	22.6

**Table B114. Source of Transportation Around Town by Years in Carrboro.**

<b>Years in Carrboro</b>	<b>n</b>	<b>Vehicle</b>	<b>Bicycle</b>	<b>Public Transportation</b>	<b>Carpool</b>	<b>Walking</b>
0-1	50	54.0	20.0	6.0	2.0	18.0
2-5	124	45.3	10.9	8.0	0.7	35.0
6-10	86	53.6	12.4	4.1	1.0	28.9
Over 10	114	57.7	10.0	6.2	0.8	25.4
Native	28	58.8	8.8	14.7	0.0	17.6



## **Appendix C**

### **Town Government Staff Interaction**

15. Town Government Staff – Please tell us specifically what you recall about this interaction (for responses below 5).

- I left messages and talked to several people about a roach infestation and health concerns and no one would do anything and we have children in the house.
- I contacted them in regards to getting speed bumps in my neighborhood and they really just don't do anything to help.
- They were very dismissive to me.
- They were not very in touch with the situation I was discussing.
- They do not stick to the issue at hand.
- South Greensboro Street needs a sidewalk. I was almost hit by a bus. It has been a year since contacting them.
- I contacted them about Lloyd Properties behind our street.
- Very polite, great people.
- Very poor – I went to Mayor's Office to address the issue of bike riders on sidewalks running people over.

## Appendix D

### Streets/Roads That Need Attention

7. Can you provide specific examples of streets and roads (# of comments) that need more attention (for responses below 5)?
- Throughout town (7) – rough pavement, potholes.
  - Throughout town (4) – snow removal.
  - Throughout town (3) – too much winter weather preparation.
  - Main Street (2) – potholes, needs washing.
  - Blueridge Road – needs paving.
  - Carol Street – potholes, rough pavement.
  - Crest Street – snow removal.
  - Daffodil Lane – potholes.
  - Gardner Circle – potholes, rough pavement.
  - Greensboro Street at Main Street – widen, potholes.
  - Hillcrest Avenue – when they smooth out my gravel road they didn't pack the driveways and that is causing potholes at the ends of the driveways where the road meets.
  - Hillsborough Road – potholes.
  - Lincoln Lane – paving not completed.
  - Pittsboro Road – managing the curves and speed.
  - Prince Street – paving not completed.
  - Robert Hunt Drive – rough pavement.
  - Smith Level Road – potholes.
  - Throughout town – too many speed bumps.
  - Weaver Street – needs washing and lines.
  - Wild Oak Lane – it was covered for half a week with ice last year.

## Appendix E

### Public Areas That Need Attention

6. Can you provide specific examples of public areas (# of comments) that need more attention (for responses below 5)?
- Carol Street (2) – flood control.
  - South Greensboro Street (2) – needs a sidewalk.
  - Estes Drive Extension (2) – needs a sidewalk.
  - Everywhere (2) – not enough sidewalks.
  - Weaver Street (2) – rundown buildings.
  - Aberdeen Court – speeding.
  - Barnes Street – creek has trash in it.
  - Bel Arbor Lane – flood control.
  - Bim Street – trash in creek.
  - Bolin Creek Drive – stop the greenway and put in a sidewalk instead.
  - Bolin Forest – save from urbanization.
  - Collins Crossings – drugs and sex offered in the area.
  - Eugene Street – cars park on side blocking traffic, trash build up.
  - High Street – needs a sidewalk.
  - Hillsborough Road – needs a lower speed limit.
  - James Street – debris on sidewalk.
  - James Street – flood control.
  - Jones Ferry Road – creek is extremely polluted.
  - Libba Cotten Bikeway – debris and trash.
  - Lorraine Street – flood control.
  - Main Street – downtown area undeveloped across from Weaver owned by CVS.
  - North Greensboro Street – on recycling day the recycling bins are thrown about the area and need to force the landlords to keep the tenants in check.
  - North Greensboro Street – narrow drop offs with no sidewalk.
  - North Greensboro Street – rundown buildings.
  - North Greensboro Street – stoplight needed.
  - Oleander Road – needs bulk pickup on items.
  - Robert Hunt Drive – sidewalks are buckling.
  - Watters Road – trim the sidewalks.
  - West Poplar Street – debris on bike lane.

## Appendix F

### Town Parks & Recreation or Cultural Program Participation

22. Please tell me which program (# of comments) you or a member of your household most frequently participated in and where?

- Music Festival (12)  
Location: Downtown
- Ultimate Frisbee (6)  
Location: Anderson Park
- Basketball (5)  
Location: Recreation Center, numerous locations
- Baseball (4)  
Location: Numerous locations
- Pottery (3)  
Location: Art Center
- Christmas Events (2)  
Location: Downtown
- Dancing (2)  
Location: Century Center
- Events/festivals (2)  
Location: Century Center
- Halloween Carnival (2)  
Location: Town Commons
- July 4<sup>th</sup> (2)  
Location: Downtown
- Marathons (2)  
Location: Numerous routes
- Open Streets (2)  
Location: Weaver Street
- Various sports (2)  
Location: Numerous locations
- Acting  
Location: Library
- Aquatics Program  
Location: Parks & Recreation
- Art Festival  
Location: Mall
- Babysitters class  
Location: Parks & Recreation Building
- Children's events  
Location: Century Center
- Classes  
Location: Art Center
- Craft Fair  
Location: Downtown
- Family Fun  
Location: Century Center
- Field Hockey  
Location: Numerous locations

- Film Festival  
Location: Arts Center
- Garden Class  
Location: Downtown
- Gymnastics  
Location: Century Center
- Habitat for Humanity  
Location: Craig Street
- Karate  
Location: Community Center
- Mountain bike  
Location: Wilson Park
- Photography  
Location: Art Center
- PORCH  
Location: Numerous locations
- Self-defense classes  
Location: Community Center
- Senior programs  
Location: Numerous locations
- Soccer  
Location: Numerous locations
- Social Skills  
Location: Library
- Spanish class  
Location: Century Center
- Special events  
Location: Wilson Park
- Spooky Movie Night  
Location: Downtown
- Stories Under the Stars  
Location: Downtown
- Summer bike  
Location: Wilson Park
- Summer Camp  
Location: Numerous locations
- Tennis  
Location: Wilson Park
- Yoga  
Location: Downtown
- Zumba classes  
Location: Community Center

## **Appendix G**

### **Reasons for Low Ratings (Below 3) for Quality of Life in Carrboro**

2. Please tell us which aspects of the quality of life in Carrboro seem worse? (# of comments)
  - Traffic. (6)
  - Cost of living. (3)
  - Overcrowding. (3)
  - Overdevelopment. (3)
  - Finding a nice clean house or apartment on a fixed income.
  - Crime in the area.
  - Nothing specific.
  - Taxes are getting higher.
  - Some things are not being maintained.
  - Nowhere to shop and no ethnic restaurants.
  - Economies over people – need to put people first.

## Appendix H

### Most Important Issue Facing the Town

3. What do you feel is the one most important issue facing the Town of Carrboro? (# of comments)
- None/no issues. (121)
  - Controlling growth/overcrowding. (44)
  - Affordable housing. (39)
  - Controlling development/overdevelopment. (38)
  - Traffic. (35)
  - Rising cost of living. (18)
  - High taxes. (14)
  - Need for more sidewalks/improve sidewalks. (8)
  - Crime. (8)
  - Jobs/economic development. (8)
  - Improve safety for bike lanes/wider bike paths. (7)
  - Diversity in the area. (7)
  - Parking downtown. (6)
  - Retain the small-town feel. (6)
  - Not sure. (5)
  - Homeless/poverty. (5)
  - Add more bike lanes. (4)
  - Improve walkability (4)
  - Vacant eyesore building by Town Hall. (4)
  - No opinion. (4)
  - The national election results – Trump. (4)
  - Downtown development. (4)
  - Bike lane connectivity. (2)
  - Construction. (2)
  - Public transportation needs to run more, longer hours, and on Sundays. (3)
  - Rate of property values going up. (2)
  - Too many deer and coyotes in the area. (2)
  - Taxes are not going to good management of the town with decrease in services.
  - Utility bill is high.
  - Everything is great. I am from New York so it is a wonderful comparison.
  - Older residents are being pushed out of homes due to not enough income. They are working just to pay the taxes. Seniors who have lived in the area for long periods of time should be grandfathered in not to have increased taxes.
  - Continue to bring in outside businesses but make sure locals have the final say on the development.
  - Need to put more focus on keeping affordable housing areas updated and in good order such as Oak Avenue and need more basketball hoops added for the kids.
  - Carrboro is amazing.
  - Need to stop laborers standing on corner of Jones Ferry Road at 7am drunk while waiting to be picked up for work.
  - I worry about police and handling sexual assaults. No issues in Carrboro directly but police need to be trained to properly help the victim.
  - The mail delivery service is very poor, sometimes mail doesn't come until after 8pm.
  - Need more support for culture in the art area.
  - Stop taking too much money from the school system. Education is number one for our kids.

- Royal Park, Carolina Apartments, and apartments on Highway 54 are roach infested and the owners get away with doing nothing. A lot of places in Carrboro have a roach problem. Renters are moving because they don't do anything about it.
- Don't take money away from Parks & Recreation to give to seniors; find money elsewhere to fund.
- Build the library, it has already taken 30 years.
- No smoking not enforced even after passing a law banning smoking in public.
- The Lloyd Farm area development is very displeasing and will lower the appeal of the area. This was bad planning.
- Weaver Street Market development and making sure that the area can handle the growth.
- Need more options in food and retail.
- Carrboro will eventually be just a bunch of empty store fronts if they don't manage better. We need more affordable commercial buildings that are already in place.
- Lloyd Farm area is a very poor idea. There is already shopping availability right up the road. It will have a negative impact on the area.
- Teachers in the high schools need to pay more attention to the students.
- Need more restaurants.
- The roads need work.
- Vertical construction is a real issue.
- Fix phone and electric wires and put underground.
- I do not see anything for seniors, definitely needs improvement in every aspect.
- Need to add public financing for local political race so information is accessible and easier to find.
- Don't have enough resources for helping seniors or they are not communicating well. Need curbs and push button to open doors at Carr Mill Mall for those with disabilities.
- Need more growth for small businesses near Main Street.
- Need a more diverse tax base.
- The elderly need more focus. Create more affordable activities for seniors such as classes and further education.
- Recycling needs to be more clear on what can and cannot be recycled.
- Rail system getting completed in the area.
- Maintain the affordable housing that are already in place.
- Not business friendly – taxes rest on property owners.
- Segregation – areas formerly owned by African-Americans were pushed out making it white.
- Shelton Street is too crowded.
- Less amount of Section 8 housing.
- Lloyd Farm has massive flooding. Town does not know how to manage money, there is corruption.
- Need to maintain downtown foot traffic and bike lanes.
- Drugs.
- Students.
- People who have not grown up bringing negativity.
- Development – building too small.
- Community engagement, more public events.
- Not enough housing.
- Flooding on Lorraine Street.
- Maintaining environmental uniqueness.
- Certain neighborhoods within Carrboro are unclean with rundown cars in the yards. Need to enforce cleanliness throughout Carrboro.
- Racism toward blacks is still a big issue and more so in Carrboro.
- Unchecked government.
- Chlorine in water does not seem healthy.
- Greenway plans, Bolin Creek area is not a good thing.



- Art Center – no information on what is going on with this or who is involved.
- Footpaths with better connectivity and lighting.
- Traffic light timing.
- The eyesore of buildings going up across town.
- Stormwater management with new developments coming in.
- A variety of larger businesses such as Target would be nice closer to the area.
- Carrboro Elementary needs upgrading, it is very outdated.
- Air quality.
- The State government is a threat to the way of life at the local level.
- Liberal place – healing past election and getting along with others in the community who are different or different values.
- Dog park needed closer to downtown.
- School curriculum.
- Stop restricting people to build on their own property.
- Speed limit on Highway 54 is too fast and needs to be lowered and enforced.
- The conflict with the State government and US government and keeping Carrboro a safe place for migrants.
- Carrboro needs to support its local businesses.
- Take generic medications as well as prescription at the police station.
- Safe space and not guaranteed safe space.
- Weaver Street needs to be safer and traffic pattern needs to change.
- Durham has much better prices.
- Food and water quality. Fracking is a big concern.
- Very dark, need street lights.
- Should not do FoodFirst program at the current plant location.
- Carrboro is not adhering to the 2020 plan.
- Too many parking lots.
- Tall buildings are overcrowding small town.

## Appendix I

### Well Informed on Town Government Aspects Services, Projects, Issues, and Programs That Come to Mind

27. Overall, how well informed do you feel about Town Government services, projects, issues, and programs affecting you? What specific projects, activities, or issues came to mind when you decided on that rating? (Rating)
- I do not look for it. (Rated 4)
  - I work all the time. (Rated 2)
  - I am immersed in my research. (Rated 2)
  - I don't see much on the Town Government, don't keep up with it. (Rated 1)
  - I just don't see much on anything; I mostly find information on the local news channel. (Rated 1)
  - It is my own fault, I don't look or keep up. (Rated 3)
  - It's my fault. Just don't see anything. (Rated 1)
  - My own fault. I don't have time to stay informed. (Rated 1)
  - I don't look for information, it is my fault. (Rated 1)
  - I don't look for information. (Rated 2)
  - Nothing specific but I find it very difficult to find any information on anything going on around town. (Rated 1)
  - Nothing specific. (Rated 2)
  - I personally don't seek out information, but rarely see information readily available. (Rated 2)
  - Nothing specific. (Rated 4)
  - I don't know anything about anything. (Rated 1)
  - My own fault, I don't keep up with town information. (Rated 1)
  - It is my fault, I don't get involved. (Rated 1)
  - I never see anything and I know nothing. (Rated 1)
  - None specifically, personally I just don't stay informed. (Rated 3)
  - Nothing specific. (Rated 3)
  - Nothing specific, I just don't know or see much. (Rated 3)
  - Music festival – it is a great event yet you never see anything about it. (Rated 5)
  - All, I stay very well informed. (Rated 8)
  - I read the meeting minutes and a friend who is a local reporter attends the meeting. (Rated 8)
  - South Green Development. (Rated 6)
  - I am so busy with school and work, I have no time. (Rated 5)
  - Across the board – housing, homeless, new immigrants. (Rated 8)
  - No follow through. (Rated 5)
  - Taxes going up. (Rated 5)
  - Century Center electronic sign needed a five-day planner. (Rated 8)
  - Improving flooding and construction of sidewalks. (Rated 4)
  - Lloyd Farm. (Rated 7)
  - Section 8 housing. (Rated 9)
  - South Greensboro Street, development, water, traffic. I have not sought it out. (Rated 6)
  - Only when I go to Town Hall meetings and they only let you know what they want you to know. (Rated 5)
  - Lloyd Properties. (Rated 7)
  - Nothing specific, not as aware, not involved. (Rated 5)
  - General government issues. (Rated 8)
  - Nothing, I am active on Carrboro website. (Rated 8)
  - Carrboro Farmer's Market. (Rated 4)

- I don't really keep up with government issues. (Rated 1)
- Just not hearing about things. (Rated 4)
- Flooding and discussion of the development of Lloyd Properties. (Rated 7)
- Just not interested. (Rated 2)
- Nothing comes to mind. (Rated 5)
- Anything related to protecting the forest. (Rated 9)
- Being that I am a bus driver, street maintenance. (Rated 9)
- No specific reason. (Rated 8)
- All events – no real information put out. (Rated 3)
- Everything – I don't know where to look for information. (Rated 1)
- Art Center and library, I can't find any information. Town is keeping secrets. (Rated 1)
- I don't look for information, it is my fault. (Rated 1)
- Everything. (Rated 1)
- Everything, specifically events. I would love to know when and where events are taking place. (Rated 1)
- I don't look for information, it is my fault. (Rated 1)
- It is a mix of not looking for information and it not being available, no specific issue. (Rated 3)
- All – I don't know where to find information. I always find out about something at the last second. (Rated 1)
- I am sure the information is made available. It just does not interest me. (Rated 5)
- I am not really informed. I don't know too much about it. (Rated 3)
- Vandalism. (Rated 7)
- I do get notified when events happen around my area. (Rated 9)
- I know about downtown events. (Rated 9)
- Downtown and parks. (Rated 7)
- Activities. (Rated 7)
- Food stamps. (Rated 5)
- I don't see information, nothing specific, maybe my own fault. (Rated 2)
- I don't look for information, it is my fault. (Rated 1)
- I don't know where to find information on anything. (Rated 3)
- Need more information in Spanish. (Rated 4)
- It is my own fault. (Rated 3)
- Development planning, affordable housing, most everything. (Rated 1)
- My own fault, I don't look for it. (Rated 3)
- Don't know where to find information on anything. (Rated 1)

## Appendix J

### **Satisfaction with Making Information Available to Citizens Services, Projects, Issues, and Programs That Come to Mind**

28. How satisfied are you with the Town of Carrboro making information available to citizens about important town services, projects, issues, and programs? What specific projects, activities, or issues came to mind when you decided on that rating? (Rating)
- Too much is being spent on issues the government should not be involved in. (Rated 3)
  - I am not aware of what they use. (Rated 2)
  - AT&T started working and digging up my yard and I had no warning. Need to let citizens know before they start. (Rated 6)
  - I love the street signs they are very good at keeping everyone informed. (Rated 9)
  - I don't see much about the town in general. (Rated 1)
  - It is difficult to find any information; should do more on social media and advertise. (Rated 3)
  - I don't know about classes such as yoga because no information is put out to easily find. (Rated 3)
  - I don't see information, but I don't really look. (Rated 1)
  - Nothing specific but I find it very difficult to find any information on anything going on around town. (Rated 3)
  - Nothing specific – information is not easy to find. You have to really seek it out to find anything. (Not rated)
  - I don't see anything. Information not easily available. (Rated 1)
  - Should send out mailers and use social media more to get information out. (Rated 1)
  - I don't see information, I always have to seek the information on my own. (Rated 3)
  - Cutting of trees. (Rated 2)
  - Bringing in more businesses, expanding streets, parking. (Rated 7)
  - Lloyd Farm. (Rated 4)
  - Development issues. The town's website provides enough information if looking. (Rated 7)
  - I have not looked closely. (Rated 6)
  - Meetings should be same time and night, they are moving the schedule around. (Rated 7)
  - They don't put materials online, they put the agenda not the plans. (Rated 3)
  - I live across the street from Town Commons and I don't hear about events. (Rated 4)
  - Just not interested. (Rated 2)
  - Keeping updated on traffic issues. (Rated 9)
  - All I need to know I watch the news. (Rated 5)
  - Buildings and growth. (Rated 9)
  - Nothing specific, I just don't see anything. (Rated 3)
  - I would like more information but don't know where to look. I never really see anything. (Rated 1)
  - Art Center – ask for money and keep secrets about it. No information on the library. (Rated 1)
  - Bus schedule is impossible to find. (Rated 6)
  - Everything. (Rated 1)
  - Events. (Rated 1)
  - All – no information available that I see. (Rated 1)
  - Personally, I don't take time to say updated so I can't give an honest opinion. (Rated 5)
  - Really good communication. (Rated 9)
  - Recreation and parks. (Rated 9)
  - Billboards and announcements. (Rated 9)
  - Very satisfied, I get to know about holiday events. (Rated 9)
  - The notices get around through people. (Rated 9)
  - I don't see many notices. (Rated 7)

- Clean water. (Rated 9)
- Nothing specific. (Rated 2)
- I don't know where to find information. (Rated 3)
- I just never see information on anything other than local papers. (Rated 3)
- Everything. (Rated 1)
- Don't know where to find information on anything. (Rated 1)

## Appendix K

### Satisfaction with Opportunities to Participate in Decision Making Services, Projects, Issues, and Programs That Come to Mind

29. How satisfied are you with the opportunities the town gives you to participate in the decision-making process. What specific projects, activities, or issues came to mind when you decided on that rating? (Rating)
- Unaware of any. (Rated 1)
  - I am unaware, I never see any opportunities for anything. (Rated 1)
  - I don't know of any. (Rated 1)
  - I don't know of any, but I don't really look. (Rated 1)
  - I don't pay attention, don't have time. (Rated 5)
  - I don't know of any opportunities for anything. (Rated 1)
  - I don't listen to what people actually say. (Rated 2)
  - Unaware of any. (Rated 1)
  - They let you participate but you lose before you start. (Rated 1)
  - You can give your opinion but they don't listen. (Rated 5)
  - Section 8 housing. (Rated 9)
  - They need ways to hear from people that work at night. (Rated 7)
  - Not interested. (Rated 5)
  - They love for me to participate. (Rated 9)
  - Not really interested in participating. (Rated 5)
  - At this age in my life, not able to anyway. (Rated 5)
  - Low income housing and opportunities are hard to find to do on work schedule. (Rated 1)
  - I do not know of any opportunities. (Rated 1)
  - I would really like to get involved but don't know of opportunities. (Rated 1)
  - Art Center and library – no information on opportunities. (Rated 1)
  - Everything. (Rated 1)
  - Unaware, probably my own fault. I don't look to get involved. (Rated 1)
  - Always a good opportunity to participate. (Rated 9)
  - Elections. (Rated 8)
  - They respect my opinion. (Rated 9)
  - I don't see options to participate very often. (Rated 6)
  - I never heard about the opportunity. (Rated 8)
  - I don't see opportunities to participate. (Rated 6)
  - Not sure. (Rated 5)
  - Nothing specific, I just don't know of any. (Rated 2)
  - I don't know where to find information. (Rated 1)
  - Fracking – they would not take any questions when I tried getting involved. (Rated 5)
  - Board of Alderman information was easy to use without downloads. The Board meeting should be posted for viewing much faster. (Rated 1)
  - I would like to get involved but I never know when they are. I would like more information. (Rated 1)
  - Don't know where to find information on anything. (Rated 1)
  - I am unaware of any opportunities. (Rated 1)
  - I am completely unaware that citizens could participate in any specific things that go on in the area. (Rated 1)
  - I don't see any information on decision making until after the results are published. (Rated 2)

## Appendix L

### What Drew Respondent to Visit Downtown Carrboro

25. (Yes responses) What drew you to visit downtown in the last year? (# of comments)

- Restaurants (130)
- Weaver Street (85)
- Shopping (76)
- Everything (58)
- Events/festivals (48)
- Farmer's Market (29)
- Atmosphere (27)
- Bars (26)
- Grocery store (26)
- Music/music festival (23)
- Fun/pleasure (19)
- I live in or near downtown area (18)
- Walkability/exercise (17)
- I work downtown (12)
- Coffee shop (10)
- Conduct business (8)
- Mall (8)
- Nothing specifically (7)
- Family time (6)
- Steel String Brewery (6)
- Local businesses (4)
- Diversity (3)
- Free parking (3)
- Franklin Street (3)
- Nightlife (3)
- Pharmacy (3)
- Wilson Park (3)
- Art Center (2)
- Art Walk (2)
- Craft shop (2)
- Food Co-op (2)
- Gym (2)
- Meet friends (2)
- Thrift store (2)
- Yoga (2)
- Always something going on
- Beehive Hair Salon
- Car repair
- Community Center
- Dancing
- Fifth Season Gardening
- Flea Market
- Food truck
- Glasshalfull
- Hardware store

- Outdoor activities
- Pedestrian friendly
- Performing Arts
- Southern Rail
- This & That Gift Gallery
- UNC game
- Veterinarian
- Voting



## **Appendix M**

### **Why Respondent Did Not Visit Downtown Carrboro Last Year**

25. (No responses) Why did you not visit downtown in the last year? (# of comments)

- I am too busy (4)
- No reason (3)
- Disabled (3)
- No interest (3)
- Illness (2)
- Age (2)
- Too crowded
- Parking

## Appendix N

### Amenities That Bring People Downtown - Other

#### 26. Other? (# of comments)

- Nothing else is needed (14)
- Family and children oriented things (6)
- More parking (5)
- Need affordable pricing throughout downtown amenities (5)
- Pedestrian friendly – sidewalks, walking area, and crossings (5)
- More ethnic restaurants (4) – Asian, Ethiopian
- Later hours (3)
- Movie theater (3)
- Dog Park (2)
- Library (2)
- Public park downtown (2)
- Maple View Ice Cream Shop needs to reopen
- Convenience store
- Laundromat
- Shoe store
- Music groups
- More small business promotion
- Some new things might be nice but it depends on how they plan on bringing it to the area and how it will affect development
- Street art festival
- Children's museum
- Bowling alley
- Trader Joes
- Craft Fairs
- Vegan food
- Pizza restaurant
- Need coffee shop in Carrboro Plaza
- Christmas festival
- Daytime events for those that don't work 9 to 5
- Bike paths
- Food festivals with multiple cultures
- Breakfast restaurant
- Improved transit into the area – this will help bring more to the area if they don't have to worry about parking
- Need more for African-Americans
- Bakery
- Need more multicultural events, not just folk music
- Rock and heavy metal concerts
- Money should go into local artists to help them grow and don't put money into bringing new to the area, it is already here
- Book store
- Technology programs (software classes) for kids
- Indoor market with small vendors
- Organic food store
- Amphitheater

- Lounge
- More food truck festivals
- Clothing shop for women
- Bike friendly
- Health Department would be nice
- Diversity in shopping
- Bagel shop
- Outside seating
- Weaver Street really needs something put up to block kids from running into the street maybe a small fence on the edge
- Post Office extension

## Appendix O

### Specific Actions the Town Could Take to Improve Satisfaction with Parks, Recreation, and Cultural Issues

13. Could you please tell us specific actions the town could take to make you more satisfied with parks, recreation, and cultural resources?
- It is hard to rent out a pavilion. Need more information on how to do it and who to contact. There is a need for more pavilions in the area. (Rated 9)
  - It is a slow-moving process, need to hurry up. (Rated 6)
  - Need to have a European style area where no cars are allowed and people come together to hang out, eat, and play soccer. (Rated 8)
  - There are more tennis courts than soccer fields. Need more useful recreation things than unused tennis courts everywhere. (Rated 4)
  - Need more parks and greenways. (Rated 6)
  - Wonderful parks, but Anderson Park is not as accessible. I don't know of many cultural issues. (Rated 6)
  - The greenways are horrible. I don't see the building of new parks or greenspaces in the area at all. (Rated 1)
  - Need more waste baskets. (Rated 4)
  - We need full size soccer fields. Stop cutting into park areas and keep the greenspace. (Rated 4)
  - Need more parks. (Rated 5)

## **Appendix P**

### **Specific Actions the Town Could Take to be More Effective with Keeping Carrboro the Best Place to Live, Work, and Raise a Family**

9. Could you please tell us specific actions the town could take to be more effective with keeping Carrboro the best place to live, work, and raise a family?
- Work harder on social programs. (Rated 3)
  - They have no vision, be more open-minded. (Rated 2)
  - Taxes are too high and need to do more to help families find clean affordable housing. (Rated 3)
  - Families can't afford to live in Carrboro, the cost of living is too high. (Rated 3)
  - Slowness in getting things done. (Rated 7)
  - They don't listen to residents. (Rated 2)
  - Taxes are high and the town is crowded. (Rated 4)
  - Drugs coming in and out of town. Need more patrols. (Rated 5)
  - No one takes responsibility for the planning & development causing flooding. (Rated 4)
  - Racism needs to be addressed. (Rated 3)
  - Eyesore of old building on Weaver Street. (Rated 8)
  - Trying to buy Carrboro out. They need to stop. (Rated 1)
  - They will not allow me to build on my property. (Rated 5)
  - They should stop listening to the same few people over and over. Need to hear multiple ideas and directions. (Rated 3)

## Appendix Q

### Specific Actions the Town Could Take to Improve Satisfaction with Environmental Protection

8. Could you please tell us specific actions the town could take to make you more satisfied with the town is doing with environmental protection?
- Flooding – Plantation Acres, new developments are causing more and more flooding in my area. (Rated 5)
  - Deer are overpopulated and need to be hunted. (Rated 6)
  - Rushing water is flooding apartment area. (Rated 5)
  - Flooding needs to be addressed. (Rated 6)
  - Hunt to control the deer population – there is a lack of food and deer are starving out and it is cruel. Need more trees and flowers around the area. (Rated 5)
  - Lloyd Farms development brings real concerns of drainage issues to homes in my neighborhood. (Rated 5)
  - North Greensboro Street makes no sense and I don't understand what's going on in that area. (Rated 7)
  - There was major flooding throughout the area due to poor infrastructure. Need to fix the problem (storm drains) before adding new development. (Rated 1)
  - Drainage in neighborhood is getting worse with bad flooding. (Rated 4)
  - The town needs to deal with the stormwater drains due to flooding in the area. (Rated 4)
  - Bowlin Forest has bad erosion. Flooding in the entire area brings down trees. Stormwater needs to be fixed ASAP. (Rated 1)
  - Water drainage is an issue with lots of rain. (Rated 7)
  - Stormwater runoff is an engineering problem. (Rated 8)
  - Lloyd Farm flooding. (Rated 1)
  - Water drains clog up on Eugene Street. (Rated 5)
  - Development is undermining the stormwater system. (Rated 6)
  - Keep leaves out of storm drains. (Rated 9)
  - Chlorine in water. (Rated 8)
  - Should have water fountains and recycling containers around town to encourage refilling of water bottles and encourage recycling. (Rated 5)
  - Stop greenway projects throughout town. (Rated 1)
  - The buses need to be upgraded to be more environmentally friendly. (Rated 7)
  - Keep pushing. (Rated 9)

## Appendix R

### Specific Actions the Town Could Take to Improve Satisfaction with Transportation

10. Could you please tell us specific actions the town could take to make you more satisfied with transportation?

- The bus is unreliable but I love that it is free; need more traffic lights. (Rated 6)
- Need busing in my area, I never see any. (Rated 6)
- Bike lanes need to be wider and have more connections. (Rated 7)
- Longer hours on weekdays for transit would be nice and pedestrian crossings need to be monitored because people just drive through. (Rated 5)
- The connectivity of greenways, sidewalks, and bike lanes. Downtown has no dedicated bike lanes. (Rated 5)
- Need more bike lanes on Weaver Street. (Rated 6)
- Rocky gravel in bike lanes needs to be cleaned. (Rated 7)
- Better planning needed as area grows. (Rated 4)
- Need transportation specifically for seniors. (Rated 7)
- Need more bike lanes and buses need to run Sundays and later at night. (Rated 5)
- More sidewalks and bike paths needed. (Rated 6)
- Need more sidewalks to encourage more walking. (Rated 4)
- Need three-wheel transportation for seniors and parking for them as well. (Rated 7)
- Wider roads for Chapel Hill Transit and Gotriangle. (Rated 3)
- There is no way to get to bus stop on Estes Drive. The pedestrian crossing is almost impossible to use, very scary. Estes Drive Extension is a nightmare to drive on with major traffic jams. (Rated 1)
- Bike lanes need better connectivity. (Rated 3)
- Not sure what the town could do to help fix the traffic congestion. (Rated 4)
- Expansion of sidewalks is needed. It would be great if lights beeped so blind could be signaled when to walk. (Rated 8)
- We need more dedicated bike lanes. (Rated 6)
- Speed bumps are needed on Lloyd Street because people drive too fast through the area. (Rated 5)
- Need more comprehensive bike paths. Connectivity is extremely poor. (Rated 7)
- Crooks - Dominos area needs a pedestrian crossing. It is very busy and dangerous when having to cross. (Rated 6)
- Need more bike lanes and sidewalks. (Rated 7)
- Improve bike lanes, it is hard to get across town safely. (Rated 6)
- Need safer bike lanes, widen bike lanes on Old Fayetteville Road. The town should put out a map showing the location of bike lanes. (Rated 5)
- Pedestrian crossings need to be monitored. (Rated 7)
- More sidewalks are needed so kids can ride bikes safely and not on the road. (Rated 6)
- Synchronizing traffic lights in downtown is an issue. (Rated 9)
- Bus service needs to run on Sundays, midday, and later. (Rated 7)
- The greenways need to connect more. (Rated 8)
- Need more bike lanes. (Rated 5)
- Light synchronization is bad on Main Street and Greensboro Street. (Rated 8)
- Speed bumps need warning. Get rid of them altogether. (Rated 5)
- Rail system is desperately needed. It would be a big help with transportation. (Rated 3)
- Bike lanes and pedestrian crossings need improvement. Transit to other areas needs to be improved like direct to RTP routes. (Rated 6)
- Need a better app for bus scheduling – app tells you 5 minutes and it comes 50 minutes later and when it says 50 minutes it comes in 5 minutes. (Rated 7)

- Add bike lanes. (Rated 8)
- Put in real bike lanes on Estes Drive. (Rated 4)
- Improve North Greensboro Street and Wilson Park entrance. (Rated 5)
- Slow down traffic on Weaver Street to make it safer for bikers and walkers. (Rated 5)
- Need covered benches at bus stops, bad weather beats down on seniors. (Rated 7)
- Bikers need to have better connectivity to UNC; protected bike lanes are needed throughout town. (Rated 5)
- Need to pave Bolin Forest path to prevent erosion because of such a high traffic area. (Rated 7)
- Estes Drive really, really needs something done for horrible traffic. I can walk faster than it takes to drive anywhere. Synchronize lights better. (Rated 5)
- Sidewalk needed on Estes Drive. (Rated 9)
- Need more bike lanes with better connectivity. Main Street and Smith Level Road are very scary. I don't use because I don't feel safe. (Rated 8)
- Need more sidewalks and street lighting. (Rated 7)
- The pedestrian crossings need a flashing signal or sound. (Rated 6)
- Readily available bike lanes needed. (Rated 6)
- I am not sure what they can do but everything needs improvement. (Rated 4)
- Bike lanes are very dangerous for both bikers and vehicles so need to widen the bike lanes. Sidewalks and bike lanes are very poor in connectivity. Pedestrian crossings are not safe. Drivers don't acknowledge them – add some safety. (Rated 3)
- Greenway plan through Bolin Creek is horrible. (Rated 5)
- Estes Drive and South Greensboro Street need bike lanes and sidewalks. (Rated 7)
- Add a bus that goes all the way to Estes Drive. Estes Drive is a dangerous road to ride bikes and walk. (Rated 8)
- South Greensboro Street is unsafe. (Rated 5)
- Bad traffic flow – need to change pattern. Change Weaver Street to make it one-way and Main Street the other way. (Rated 4)
- Estes Drive is very unsafe, heavily traveled, lots of children and no sidewalks. (Rated 6)
- Need better pedestrian crossings; need more and safer bike lanes and sidewalks. (Rated 3)
- Overcrowded roads – can't handle all the traffic. Add free bus service cost .25 or .50 so drunks and bums stay off the street. (Rated 4)
- Very congested traffic intersections need better signal light synchronization. (Rated 5)
- Public transportation needs to keep up with the growth and adjust the schedule to run later and weekends. (Rated 8)
- Greensboro Street needs better connectivity and more lighting. Estes Drive needs sidewalks and safer bike lanes. I don't feel comfortable crossing over to Wilson Park. (Rated 5)
- Should put flashing lights at pedestrian crossings for biker's safety and cars know people are crossing in advance. (Rated 5)
- Greensboro Street and Estes Drive are dangerous. All bike lanes need to be clearly marked and safe for kids and adults to be able to use. (Rated 6)
- Not enough sidewalks. Shelton Street really needs one, not safe for kids. (Rated 5)
- Crossing Highway 54 is nonexistent, very hard to get anything across. (Rated 5)
- Need more sidewalks and pedestrian crossings. (Rated 7)
- South Greensboro Street needs a sidewalk. (Rated 7)
- Estes Drive really needs sidewalks. It is extremely dangerous to walk or bike. (Rated 8)
- I have not seen improvement in 10 years. (Rated 6)



## Appendix S

### Specific Actions the Town Could Take to Improve Satisfaction with Planning and Development

11. Could you please tell us specific actions the town could take to make you more satisfied with planning and development?

- Don't add buildings to the area that pull from its charm. The five and six story building on top of the area are not appealing. (Rated 2)
- Planning is very weak. Poor planning when it comes to making sure old developments are not hurting such as flooding. (Rated 4)
- More affordable senior housing. (Rated 7)
- More flexibility to allow aging in place – allow seniors to make architectural change to their home to add second living quarters for help to live in same home. (Rated 7)
- The infrastructure is not in place for all the fast growth. (Rated 3)
- There are too many condemned houses that hurt property values and is not healthy. Roads cannot handle the traffic and I am not sure if its fixable at this point. (Rated 1)
- There is a lot of traffic congestion – not sure how to fix it. (Rated 5)
- Lloyd Farm was poorly planned considering the exact same thing is already a small distance away. (Rated 4)
- Poor planning and overdeveloping. (Rated 3)
- The more trees come down, the more the town loses its character. Keep the greenspace. (Rated 5)
- Improve traffic. (Rated 6)
- Highway 54 does not need another shopping center. Enough empty buildings that can bring in business, no need for new buildings. (Rated 1)
- I love the idea of Carrboro working with partners to provide affordable housing. Carrboro needs to lay out a plan and inform residents to get more funding. (Rated 8)
- I am concerned with the Art Center project idea. I worry about pressure for more tax dollars for development. (Rated 5)
- I worry that development is not being properly managed. (Rated 4)
- Storm drains and flooding are a major problem that needs to be addressed before future development. (Rated 4)
- Focus on what they have and don't get too big. (Rated 5)
- Can't keep approving developments, it is unsustainable. (Rated 3)
- Just don't seem to be balancing growth and development well. (Rated 1)
- Allow more businesses to come into the town. (Rated 6)
- Paving is needed on path at Bolins Creek. (Rated 6)
- It falls back to the Aldermen not listening and building. (Rated 2)
- Need more fast food or affordable restaurants on Highway 54 near Food Lion. Downtown is too expensive. (Rated 5)
- Lack of small area plans has a large impact on fairness of development. It is not set up to make it easy for developers to put in dense and affordable housing. Process is so long and cost more. (Rated 5)
- Have builders commit to affordable housing. (Rated 3)
- Wrong sort of commercial development. (Rated 3)
- Too much development taking away from the beauty of the small town I grew up in. (Rated 5)
- Need a welcome sign on South Greensboro. Have an art contest and let the best do the welcome sign free of charge. (Rated 5)
- Progress is too slow. (Rated 5)
- Lloyd Farms is poorly planned. It could be good but it is not being done right. (Rated 4)
- Just overall poor planning. (Rated 1)

- I am unsure how to fairly rate. Out of room for new developments but better than Chapel Hill. (Rated 5)
- Start making signage laws, more natural signs not huge eyesore signs. (Rated 6)
- The road system cannot support the traffic with the new development near Lloyd Park area. Chatham is my shopping place because Carrboro is focusing on college students rather than the regular needs of a 45-year old woman with a family. (Rated 1)
- Traffic issue on 15-501 and Franklin Street is very bad and not sure what can be done at this point. Something has to be done. (Rated 4)
- Running out of room. (Rated 8)
- Need to knock down the old building/house on the corner in downtown. (Rated 7)
- Projects are stalled or wrong projects are put first. Need to rethink the order of the projects being done. (Rated 3)
- Too much building and apartments. (Rated 4)
- Better balance between business and residential needed. Due to the imbalance, the taxes are extremely high and cost of living is high. (Rated 7)
- Putting in too many businesses. (Rated 3)
- Their head is in the sand. They don't seem to really understand how to do things, actually plan ahead. (Rated 3)
- Too much development. (Rated 4)
- Developing too much, too many apartments. (Rated 4)
- Too much development. (Rated 4)
- I have mixed emotions on this. I love everything about town but the town will not let me build on my property yet allows others who have far less land. (Rated 5)
- Traffic has gotten so bad and noise is bad from the traffic. The high-rise buildings are not appealing. (Rated 3)
- I worry about water runoff due to new developments. (Rated 5)
- The old rundown building in town is an eyesore. (Rated 6)
- Stop building and fix current buildings. Try to develop older neighborhoods. Need to update abandoned areas in Carrboro such as Franklin Street. The older neighborhoods need dire attention. (Rated 4)
- The big five story buildings are not compatible with the old ones. Need to plan better. Good heart but not good plans. (Rated 5)
- Franklin Street has such high taxes it pushes business out. (Rated 5)
- Homes seem to be squeezed into small areas. (Rated 7)
- Hurting small order development. (Rated 6)
- The rundown building across from Weaver Street Market needs something done. It is an eyesore. (Rated 8)
- Not sure they can do much at this point. Need better planning. (Rated 4)
- Stop throwing all these huge buildings up. It takes from the area. (Rated 6)
- Too much construction all the time. (Rated 4)

## Appendix T

### Specific Actions the Town Could Take to Improve Satisfaction with Parking Within the Town

12. Could you please tell us specific actions the town could take to make you more satisfied with parking?

- More parking is needed. (Rated 3)
- Just overall more parking is needed. (Rated 3)
- Need a public parking garage. (Rated 4)
- There is planning for more businesses but not adequate parking. (Rated 1)
- Need shuttle from senior building to downtown for events because it is hard to find a parking spot and not have to walk forever. (Rated 3)
- Hard to find parking spaces and need more free parking. (Rated 3)
- There is no parking. During events, it is really bad. Need to add some form of additional parking. (Rated 1)
- Overgrowth in the area. There is no parking available and no place to really add parking. (Rated 2)
- Just need more parking. (Rated 3)
- I don't drive so I am not aware of the situation. (Not rated)
- Need a parking garage. (Rated 3)
- Need more parking. (Rated 3)
- The town lacks parking. Could use the old drugstore across from Weaver Street Market to put in ground level parking. (Rated 4)
- Just add more parking. (Rated 4)
- Should only park on one side of the road on Saturdays during the Farmer's Market, it blocks road too much and emergency vehicles can't get through. (Rated 7)
- Need more parking, it is a good thing everything is walkable but more parking a must. (Rated 1)
- Need more park & ride. Allow developments to require less parking and combine parking together with other small businesses. (Rated 4)
- Need more parking. There was some increase with the Hampton Inn. (Rated 4)
- Not charging for parking is a plus. (Rated 4)
- Need more parking. (Rated 6)
- Need more parking. (Rated 3)
- When there is a big football game there is very little parking. (Rated 5)
- Vacant lots could be used for parking. (Rated 1)
- Not sure, I don't go downtown much. (Rated 5)
- There is no place for parking, need more parking. (Rated 2)
- Crowded mostly around Weaver Street area and during events. (Rated 7)
- Need more parking. (Rated 4)
- There is a need for more parking. (Rated 2)
- Seems okay. (Rated 5)
- Need more parking. (Rated 1)
- Really need more parking. (Rated 3)
- Only during events is parking bad. (Rated 8)
- Add parking. (Rated 4)
- Need more parking somewhere. (Rated 3)
- Add parking. (Rated 1)
- Very bad, need parking. (Rated 4)
- Not a lot of parking in town limits. Need to add parking. (Rated 4)
- Need more parking. (Rated 3)

- It is hard to find parking, need more parking. (Rated 4)
- Parking really needs to be increased. (Rated 4)
- Terrible, need more parking. (Rated 3)
- Need more parking. (Rated 4)
- Events can cause no availability. (Rated 8)
- Need more parking but not sure how or what they can do. (Rated 5)
- Parking deck was a great addition. Really fix the parking issue. (Rated 8)
- Good for now, as they add more to the area parking will get much worse. (Rated 5)
- Need more parking, but it is better than Chapel Hill. (Rated 5)
- Need more parking. (Rated 5)
- Need more parking somewhere, somehow. (Rated 4)
- Too much parking. (Rated 9)

## Appendix U

### Places in Carrboro Where Wi-Fi is not Available

35. In the last year, where have you been in Carrboro where you expected to be able to use public Wi-Fi but couldn't because it wasn't available? (# of comments)
- Nowhere/not an issue (263)
  - Do not use it/never tried (53)
  - Very slow/not reliable/spotty (19)
  - Weaver Street (16)
  - Coffee shop/Looking Glass Café (13)
  - Never been able to use anywhere (8)
  - Downtown – spotty in areas, kicks user off, needs stronger signal (7)
  - Unaware it was available (7)
  - Carr Mill Mall (3)
  - Bus stop near railroad (2)
  - I have not paid attention
  - Tyler's/Speakeasy
  - Inside buildings and in the evening the service gets weak
  - Not sure of the area but it does not work all the time
  - Sometimes bogged down during busy times
  - By the Fire Department and running trails
  - Community Center
  - Carrboro Plaza
  - Franklin Street
  - Library





# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Agenda Item Abstract

**File Number:**17-011

---

**Agenda Date:** 1/24/2017

**File Type:**Agendas

**In Control:** Board of Aldermen

**Version:** 1

---

### **TITLE:**

Public Hearing for Community Input on Town Budget for Upcoming FY 2017-18

**PURPOSE:** This is a public hearing to receive comments from the public regarding the upcoming budget for the Town beginning July 1, 2016.

**DEPARTMENT:** Town Manager

**CONTACT INFORMATION:** David Andrews, Town Manager

**INFORMATION:** The Board of Aldermen is required to adopt an annual operating budget ordinance by July 1st. As part of the budget development process, the Board holds a public hearing at the beginning of the process to receive comments from residents about Town services. These comments are considered in developing the recommended operating and capital budgets for FY 2017-18.

A notice of this public hearing was advertised in [The Chapel Hill Herald](#) and on the Town's website. The advertisement notifies residents of a public hearing to receive public input and invites residents to submit written comments about the budget for the upcoming year. Residents may also email their comments to the Town Clerk via the Town's website ([townofcarrboro.org](http://townofcarrboro.org)). Residents will have another opportunity to speak about the Town Manager's Recommended Budget for FY 2017-18 at a public hearing planned for Tuesday, May 23, 2017.

The Board of Aldermen is also requested to provide comments, suggestion and inputs to the Town Manager on needs or service improvements they consider important in developing the recommended budget for FY 2016-17.

**FISCAL & STAFF IMPACT:** None

**RECOMMENDATION:** Staff recommends that the Board of Aldermen hold a public hearing to receive community comments on Town services and needs for the upcoming budget year and provide input to the Town Manager on needs and service improvements to consider when developing the budget for FY 2016-17.

TOWN OF CARRBORO

7-Year Revenue & Expense History

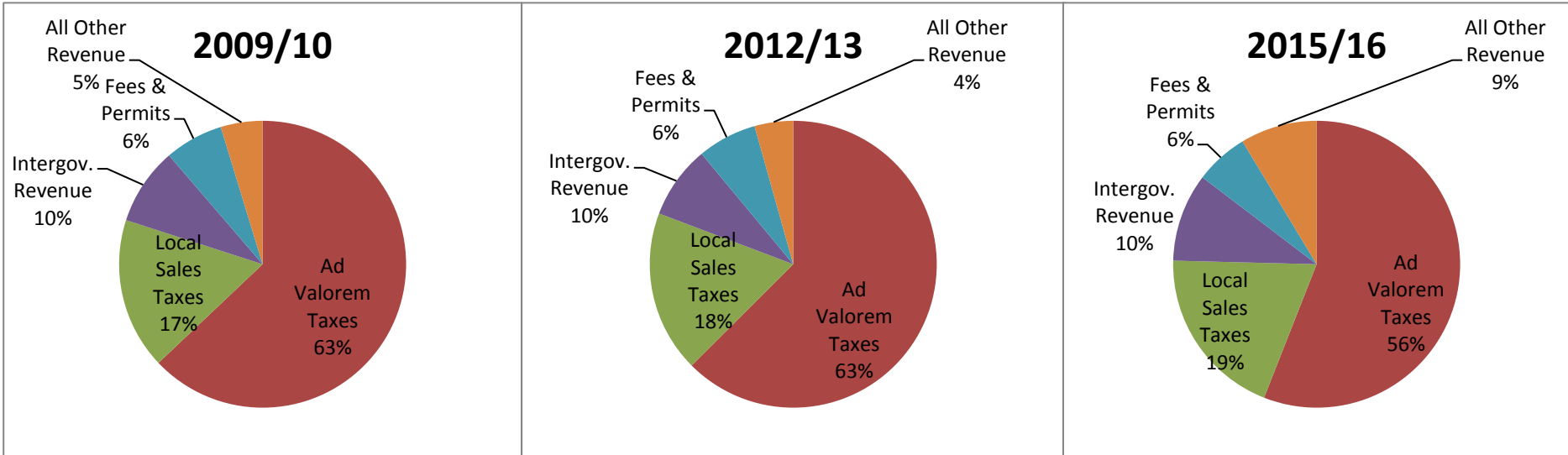
FY2009/10 - FY2015/16







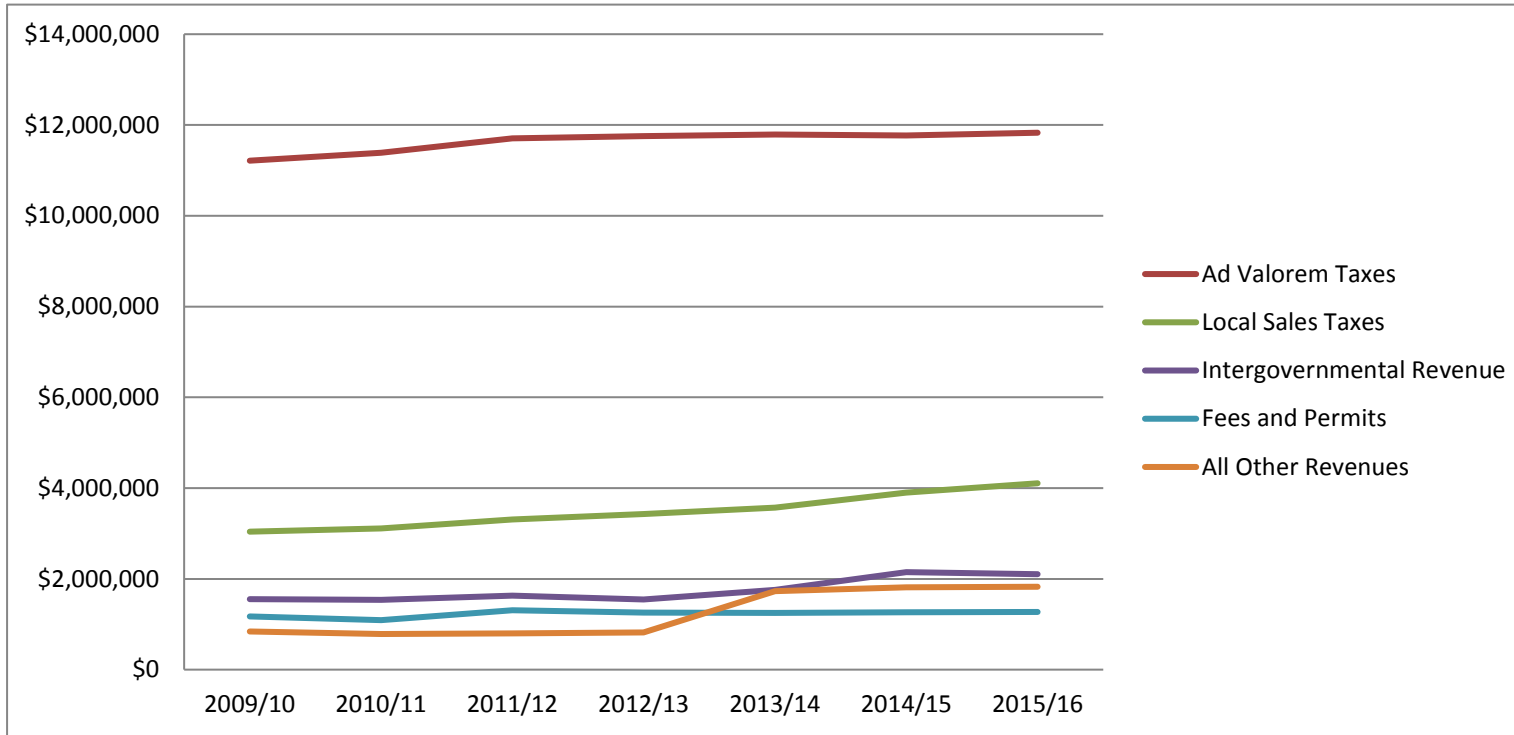
# Town of Carrboro 7-Year Revenue History



	2009/10	% of Total Revenue	2012/13	% of Total Revenue	2015/16	% of Total Revenue
	Actual		Actual		Actual	
<b>Revenues:</b>						
Ad Valorem Taxes	\$ 11,213,669	62.9%	\$ 11,754,299	62.5%	\$ 11,829,436	56.0%
Local Sales Taxes	\$ 3,039,931	17.1%	\$ 3,427,678	18.2%	\$ 4,105,283	19.4%
Intergovernmental Revenue	\$ 1,554,121	8.7%	\$ 1,543,673	8.2%	\$ 2,103,432	10.0%
Fees and Permits	\$ 1,175,313	6.6%	\$ 1,255,930	6.7%	\$ 1,270,187	6.0%
All Other Revenues	\$ 839,068	4.7%	\$ 817,578	4.3%	\$ 1,825,875	8.6%
<b>Total Revenues</b>	<b>\$ 17,822,102</b>	<b>100.0%</b>	<b>\$ 18,799,158</b>	<b>100.0%</b>	<b>\$ 21,134,213</b>	<b>100.0%</b>



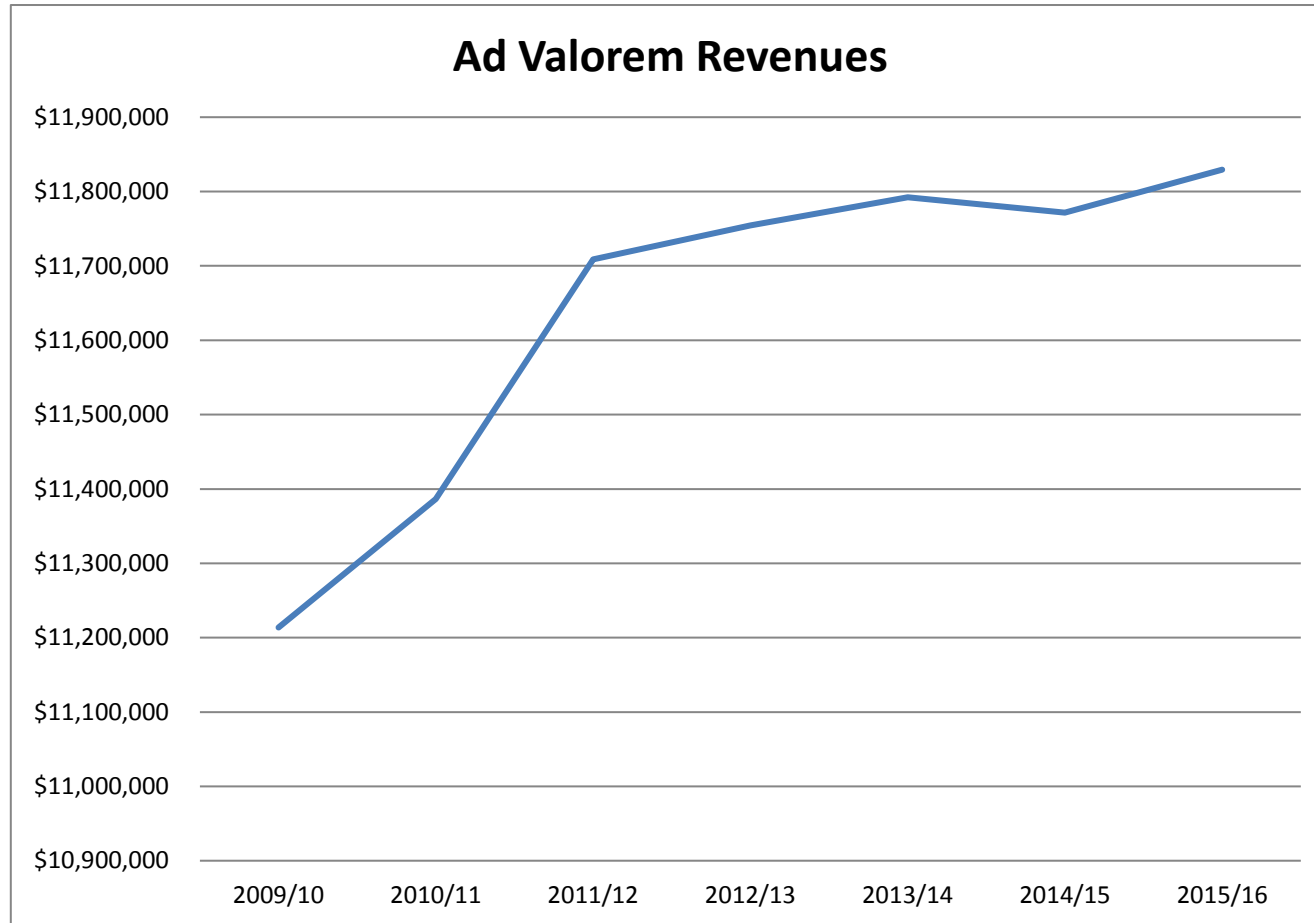
# Town of Carrboro 7-Year Revenue History



	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Revenues:</b>								
Ad Valorem Taxes	\$ 11,213,669	\$ 11,386,243	\$ 11,708,787	\$ 11,754,299	\$ 11,792,234	\$ 11,771,793	\$ 11,829,436	\$ 615,767
Local Sales Taxes	\$ 3,039,931	\$ 3,113,356	\$ 3,308,060	\$ 3,427,678	\$ 3,567,123	\$ 3,897,200	\$ 4,105,283	1,065,352
Intergovernmental Revenue	\$ 1,554,121	\$ 1,537,295	\$ 1,631,211	\$ 1,543,673	\$ 1,757,458	\$ 2,148,129	\$ 2,103,432	549,311
Fees and Permits	\$ 1,175,313	\$ 1,090,101	\$ 1,308,544	\$ 1,255,930	\$ 1,249,319	\$ 1,260,859	\$ 1,270,187	94,874
All Other Revenues	\$ 839,068	\$ 784,935	\$ 797,288	\$ 817,578	\$ 1,732,241	\$ 1,813,840	\$ 1,825,875	986,807
<b>Total Revenues</b>	<b>\$ 17,822,102</b>	<b>\$ 17,911,930</b>	<b>\$ 18,753,890</b>	<b>\$ 18,799,158</b>	<b>\$ 20,098,375</b>	<b>\$ 20,891,821</b>	<b>\$ 21,134,213</b>	
<b>Dollar Change</b>		<b>\$ 89,828</b>	<b>\$ 841,960</b>	<b>\$ 45,268</b>	<b>\$ 1,299,217</b>	<b>\$ 793,446</b>	<b>\$ 242,392</b>	<b>\$ 3,312,111</b>
<b>Percentage Change</b>		<b>0.5%</b>	<b>4.7%</b>	<b>0.2%</b>	<b>6.9%</b>	<b>3.9%</b>	<b>1.2%</b>	<b>18.6%</b>
<b>Compound Annual Growth Rate</b>								<b>2.9%</b>



## Town of Carrboro 7-Year Revenue History

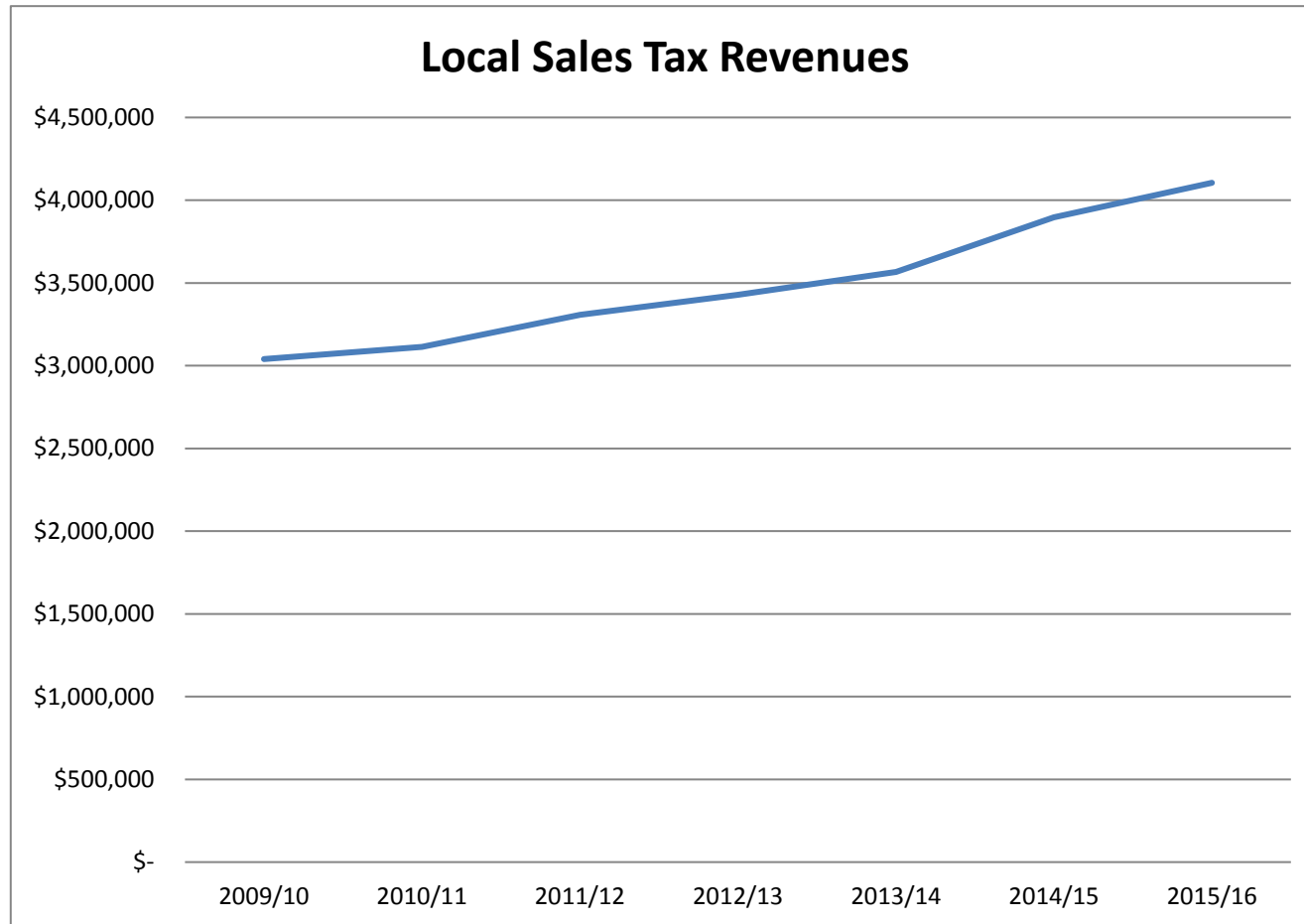


### Ad Valorem Taxes

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Revenues</b>	\$ 11,213,669	\$ 11,386,243	\$ 11,708,787	\$ 11,754,299	\$ 11,792,234	\$ 11,771,793	\$ 11,829,436	
<b>Dollar Change</b>		\$ 172,574	\$ 322,544	\$ 45,512	\$ 37,935	\$ (20,441)	\$ 57,643	\$ 615,767
<b>Percentage Change</b>		1.5%	2.8%	0.4%	0.3%	-0.2%	0.5%	5.5%
<b>Compound Annual Growth Rate</b>								<b>0.9%</b>



## Town of Carrboro 7-Year Revenue History

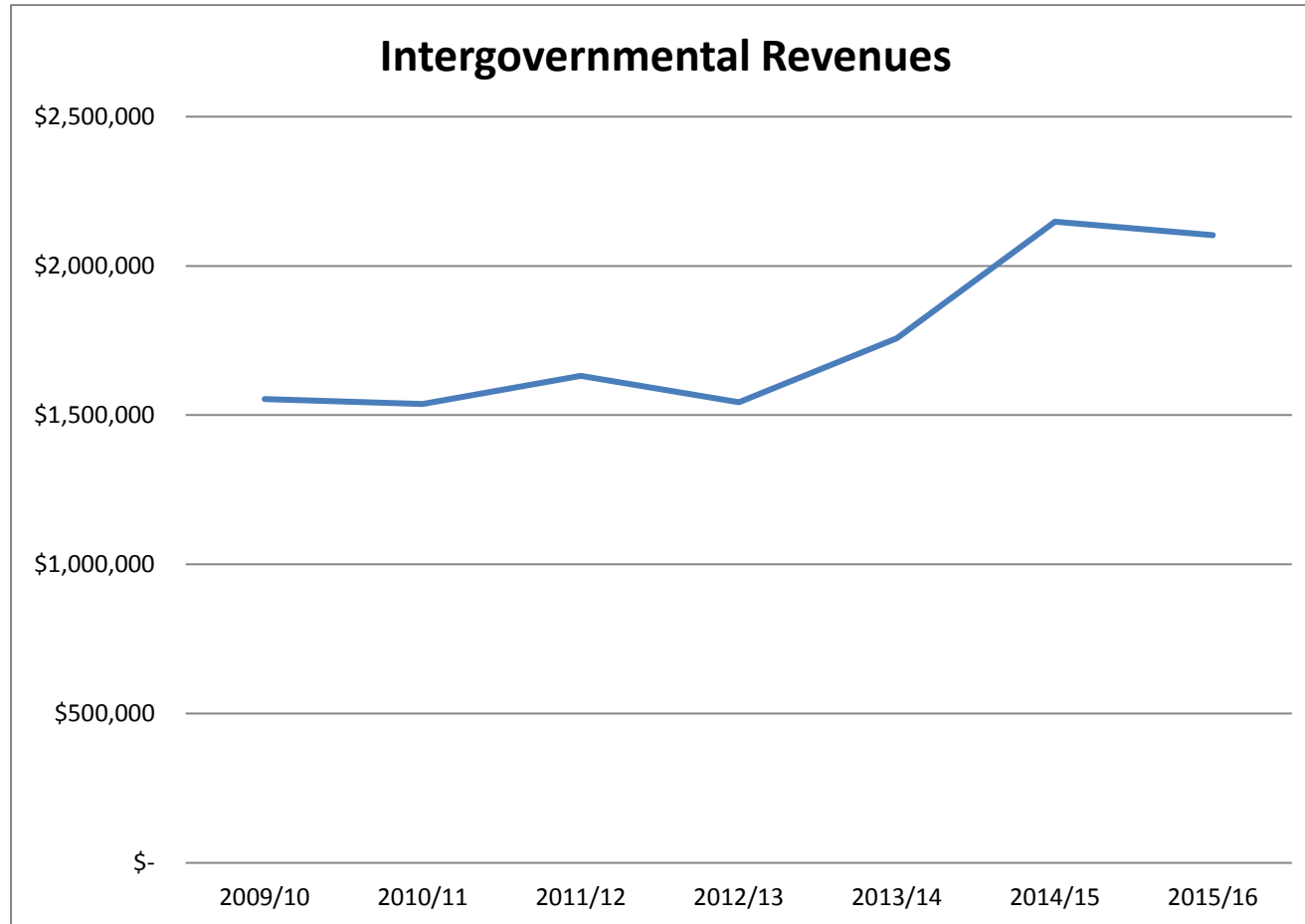


### Local Sales Tax

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Revenues</b>	\$ 3,039,931	\$ 3,113,356	\$ 3,308,060	\$ 3,427,678	\$ 3,567,123	\$ 3,897,200	\$ 4,105,283	
<b>Dollar Change</b>		\$ 73,425	\$ 194,704	\$ 119,618	\$ 139,445	\$ 330,077	\$ 208,083	\$ 1,065,352
<b>Percentage Change</b>		2.4%	6.3%	3.6%	4.1%	9.3%	5.3%	35.0%
<b>Compound Annual Growth Rate</b>								<b>5.1%</b>



## Town of Carrboro 7-Year Revenue History

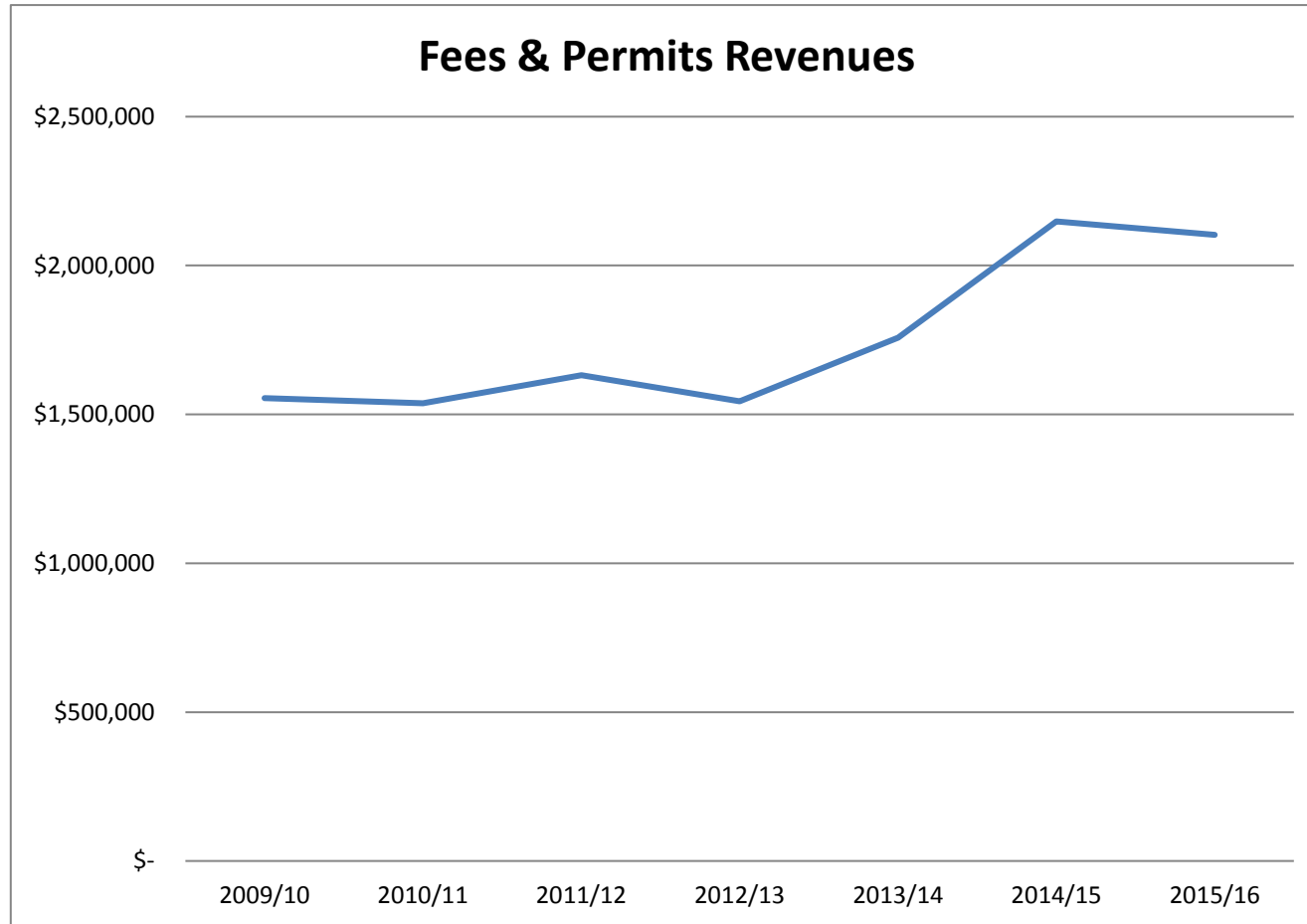


### Intergovernmental Revenue

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Revenues</b>	\$ 1,554,121	\$ 1,537,295	\$ 1,631,211	\$ 1,543,673	\$ 1,757,458	\$ 2,148,129	\$ 2,103,432	
<b>Dollar Change</b>		\$ (16,826)	\$ 93,916	\$ (87,538)	\$ 213,785	\$ 390,671	\$ (44,697)	\$ 549,311
<b>Percentage Change</b>		-1.1%	6.1%	-5.4%	13.8%	22.2%	-2.1%	35.3%
<b>Compound Annual Growth Rate</b>								<b>5.2%</b>



# Town of Carrboro 7-Year Revenue History

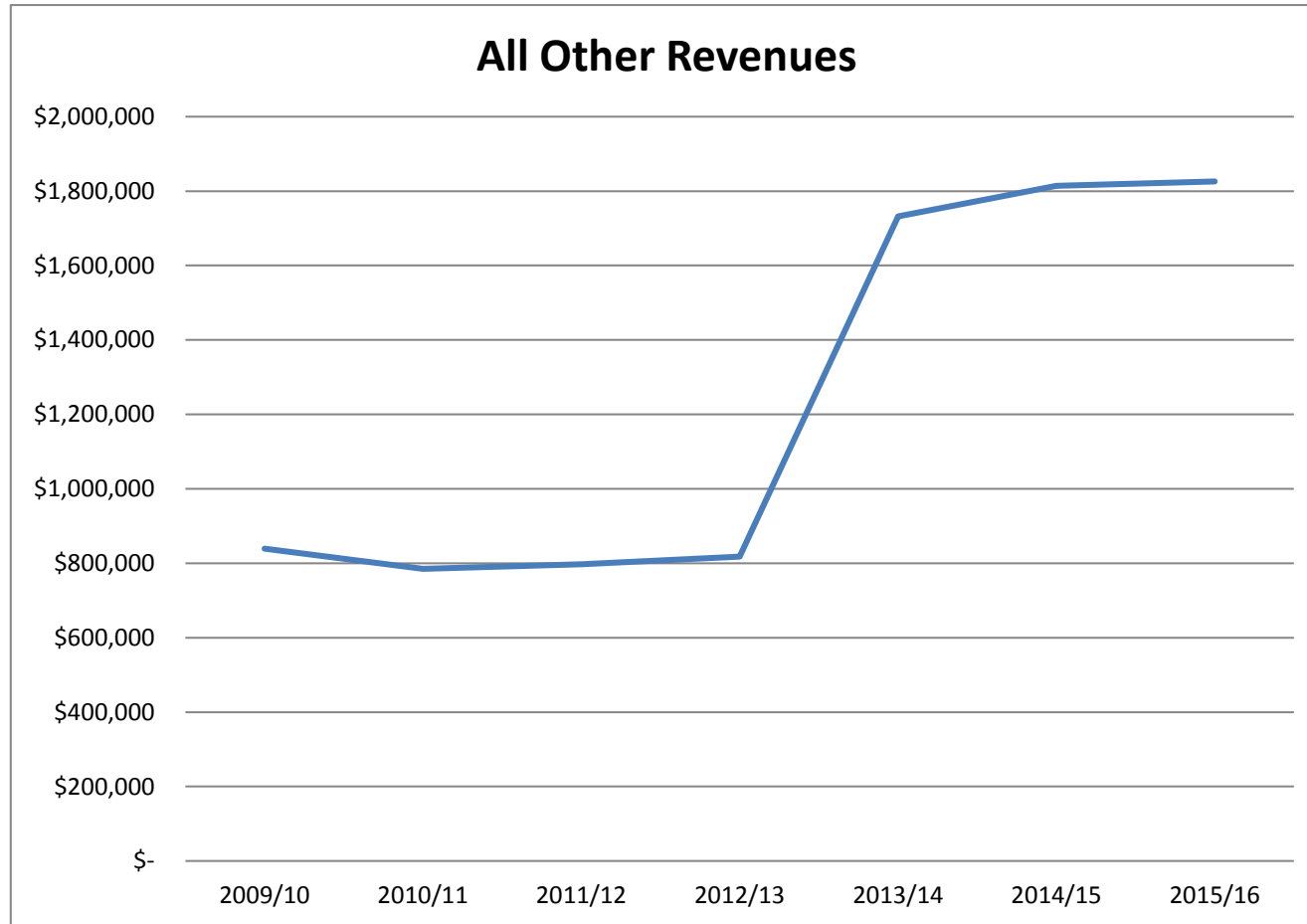


## Fees and Permits

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Revenues</b>	\$ 1,175,313	\$ 1,090,101	\$ 1,308,544	\$ 1,255,930	\$ 1,249,319	\$ 1,260,859	\$ 1,270,187	
<b>Dollar Change</b>		\$ (85,212)	\$ 218,443	\$ (52,614)	\$ (6,611)	\$ 11,540	\$ 9,328	\$ 94,874
<b>Percentage Change</b>		-7.3%	20.0%	-4.0%	-0.5%	0.9%	0.7%	8.1%
<b>Compound Annual Growth Rate</b>								<b>1.3%</b>



## Town of Carrboro 7-Year Revenue History



### All Other Revenues

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Revenues</b>	\$ 839,068	\$ 784,935	\$ 797,288	\$ 817,578	\$ 1,732,241	\$ 1,813,840	\$ 1,825,875	
<b>Dollar Change</b>		\$ (54,133)	\$ 12,353	\$ 20,290	\$ 914,663	\$ 81,599	\$ 12,035	\$ 986,807
<b>Percentage Change</b>		-6.5%	1.6%	2.5%	111.9%	4.7%	0.7%	117.6%
<b>Compound Annual Growth Rate</b>								<b>13.9%</b>



## Town of Carrboro 7-Year Revenue & Expense History

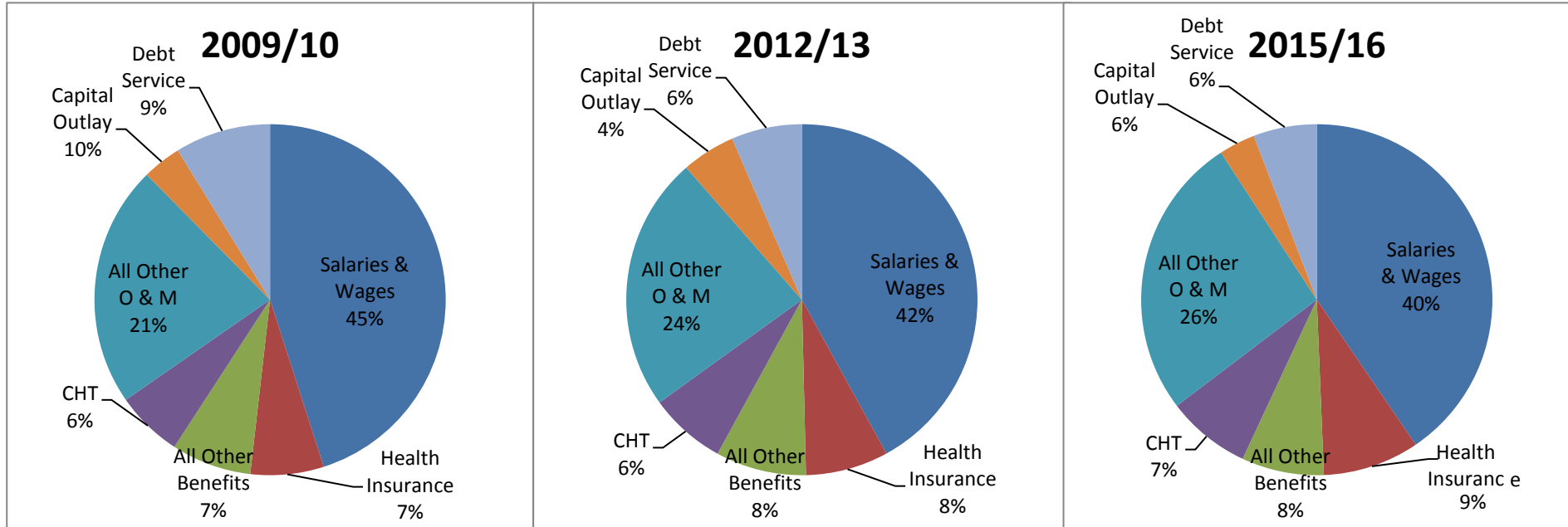
### Revenue Summary

- Ad Valorem (Property Taxes) and Local Sales Taxes make up 75% of the Town's revenue sources.
- The other 25% comes from intergovernmental revenue, fees & permits, and various other revenue sources.
- Total revenues have increased by an average amount of about \$550,000 which is approximately a 2.9% compound annual growth rate (CAGR).
- Ad Valorem (Property Taxes) increased at a CAGR of .9% annually, or an average of \$103,000 per year. The revenue increase of \$322,000 in FY 2011-12 significantly improved the average.
- Local Sales Taxes increased at a CAGR of 5.1%, or an annual average of \$178,000.
- Intergovernmental Revenues and Fees and Permits Revenues increased at a CAGR of 5.2% (\$92,000) and 1.3% (\$16,000) annually, respectively.
- All other revenue sources increased at a CAGR of 13.9%, or \$164,000 annually. However, in FY 2013-14 revenues increased by \$914,663. This number skewed the growth rate of 13.9% and is the result of the state implementing the Tax & Tag System associated with Motor Vehicle License Fees.





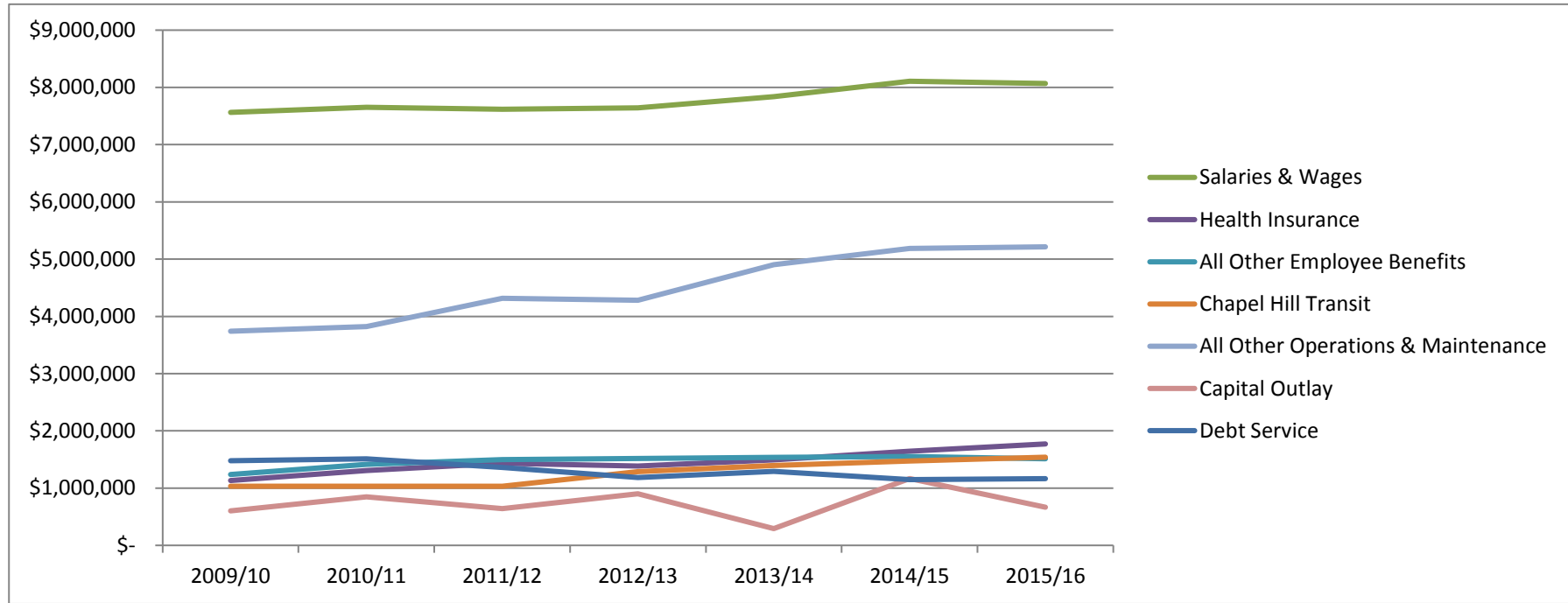
# Town of Carrboro 7-Year Expense History



	2009/10	% of Total	2012/13	% of Total	2015/16	% of Total
	Actual	Expenses	Actual	Expenses	Actual	Expenses
<b>Expenses:</b>						
Salaries & Wages	\$ 7,563,564	45.1%	\$ 7,644,563	42.0%	\$ 8,068,980	40.5%
Health Insurance	\$ 1,132,893	6.7%	\$ 1,387,748	7.6%	\$ 1,771,589	8.9%
All Other Employee Benefits	\$ 1,238,016	7.4%	\$ 1,518,985	8.3%	\$ 1,512,754	7.6%
Chapel Hill Transit	\$ 1,032,835	6.2%	\$ 1,286,714	7.1%	\$ 1,540,288	7.7%
All Other Operations & Maint	\$ 3,740,737	22.3%	\$ 4,280,505	23.5%	\$ 5,214,699	26.2%
Capital Outlay	\$ 601,486	3.6%	\$ 899,356	4.9%	\$ 666,423	3.3%
Debt Service	\$ 1,477,718	8.8%	\$ 1,183,033	6.5%	\$ 1,164,298	5.8%
<b>Total Expenses</b>	<b>\$ 16,787,249</b>	<b>100%</b>	<b>\$ 18,200,904</b>	<b>100%</b>	<b>\$ 19,939,031</b>	<b>100%</b>



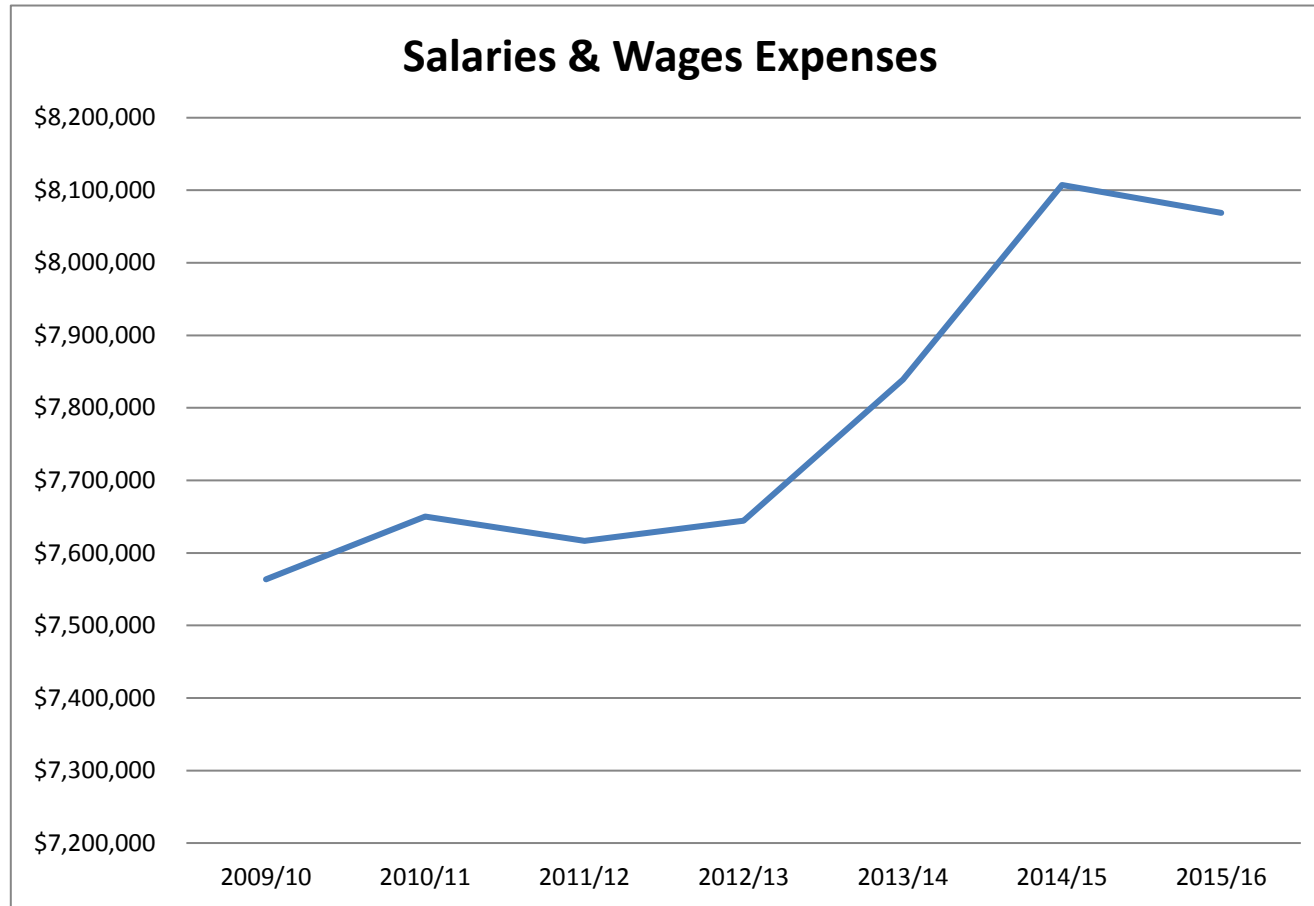
# Town of Carrboro 7-Year Expense History



	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Expenses:</b>								
Salaries & Wages	\$ 7,563,564	\$ 7,650,262	\$ 7,616,653	\$ 7,644,563	\$ 7,838,801	\$ 8,107,261	\$ 8,068,980	\$ 505,416
Health Insurance	1,132,893	1,309,360	1,432,189	1,387,748	1,494,014	1,643,011	1,771,589	\$ 638,696
All Other Employee Benefits	1,238,016	1,414,867	1,499,822	1,518,985	1,538,258	1,552,418	1,512,754	\$ 274,737
Chapel Hill Transit	1,032,835	1,032,832	1,032,825	1,286,714	1,396,423	1,472,508	1,540,288	\$ 507,453
All Other Operations & Maint	3,740,737	3,823,691	4,314,458	4,280,505	4,902,386	5,186,971	5,214,699	\$ 1,473,962
Capital Outlay	601,486	849,204	642,929	899,356	292,559	1,167,056	666,423	\$ 64,937
Debt Service	1,477,718	1,511,630	1,360,087	1,183,033	1,292,484	1,148,954	1,164,298	\$ (313,420)
<b>Total Expenses</b>	<b>\$ 16,787,249</b>	<b>\$ 17,591,846</b>	<b>\$ 17,898,963</b>	<b>\$ 18,200,904</b>	<b>\$ 18,754,925</b>	<b>\$ 20,278,178</b>	<b>\$ 19,939,031</b>	
<b>Dollar Change</b>		<b>\$ 804,597</b>	<b>\$ 307,117</b>	<b>\$ 301,941</b>	<b>\$ 554,021</b>	<b>\$ 1,523,253</b>	<b>\$ (339,148)</b>	<b>\$ 3,151,782</b>
<b>Percentage Change</b>		<b>4.8%</b>	<b>1.7%</b>	<b>1.7%</b>	<b>3.0%</b>	<b>8.1%</b>	<b>-1.7%</b>	<b>18.8%</b>
<b>Compound Annual Growth Rate</b>								<b>2.9%</b>



# Town of Carrboro 7-Year Expense History

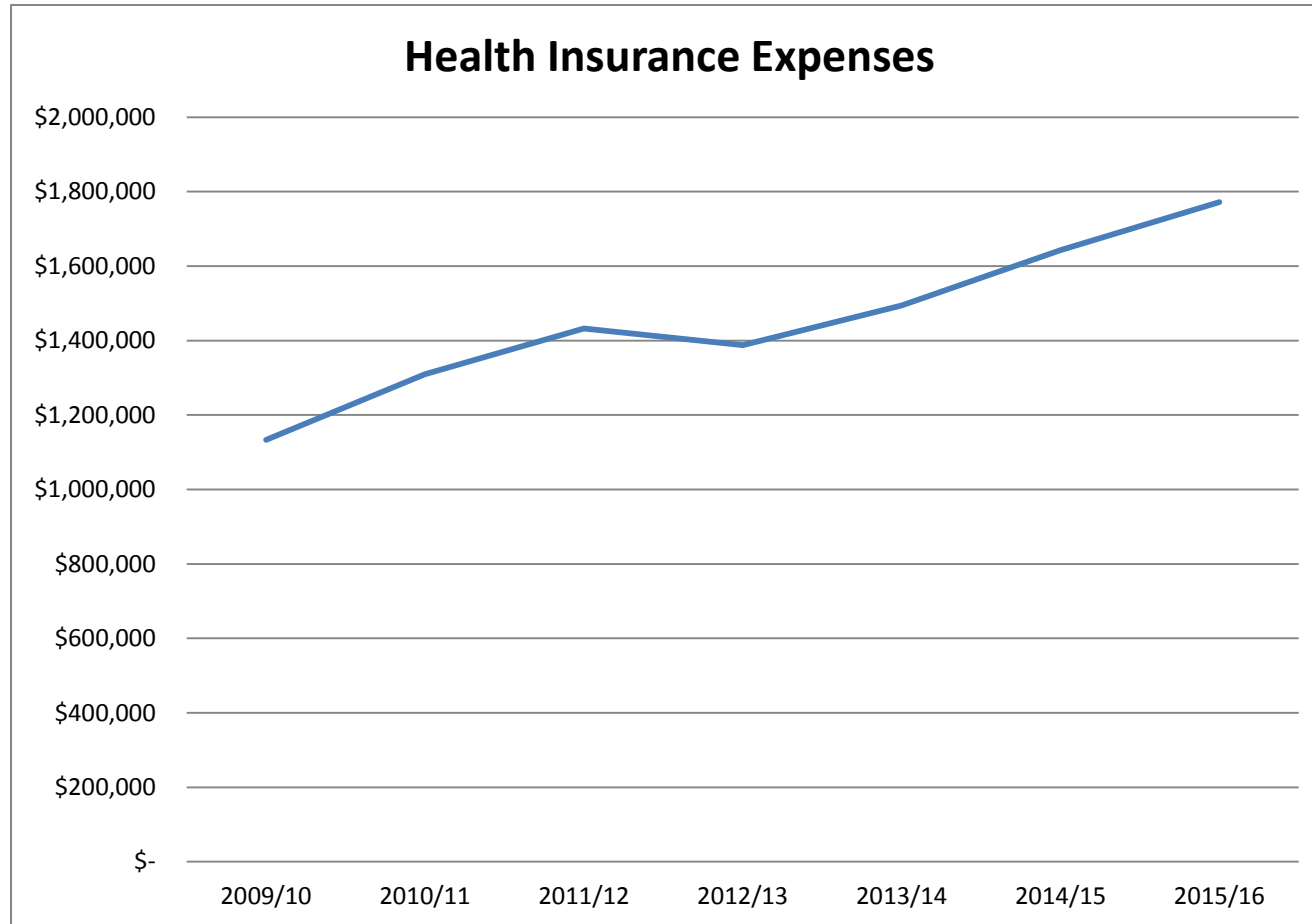


## Salaries and Wages

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Expenses</b>	\$ 7,563,564	\$ 7,650,262	\$ 7,616,653	\$ 7,644,563	\$ 7,838,801	\$ 8,107,261	\$ 8,068,980	
<b>Dollar Change</b>		\$ 86,698	\$ (33,609)	\$ 27,910	\$ 194,238	\$ 268,460	\$ (38,281)	\$ 505,416
<b>Percentage Change</b>		1.1%	-0.4%	0.4%	2.5%	3.4%	-0.5%	6.7%
<b>Compound Annual Growth Rate</b>								<b>1.1%</b>



## Town of Carrboro 7-Year Expense History

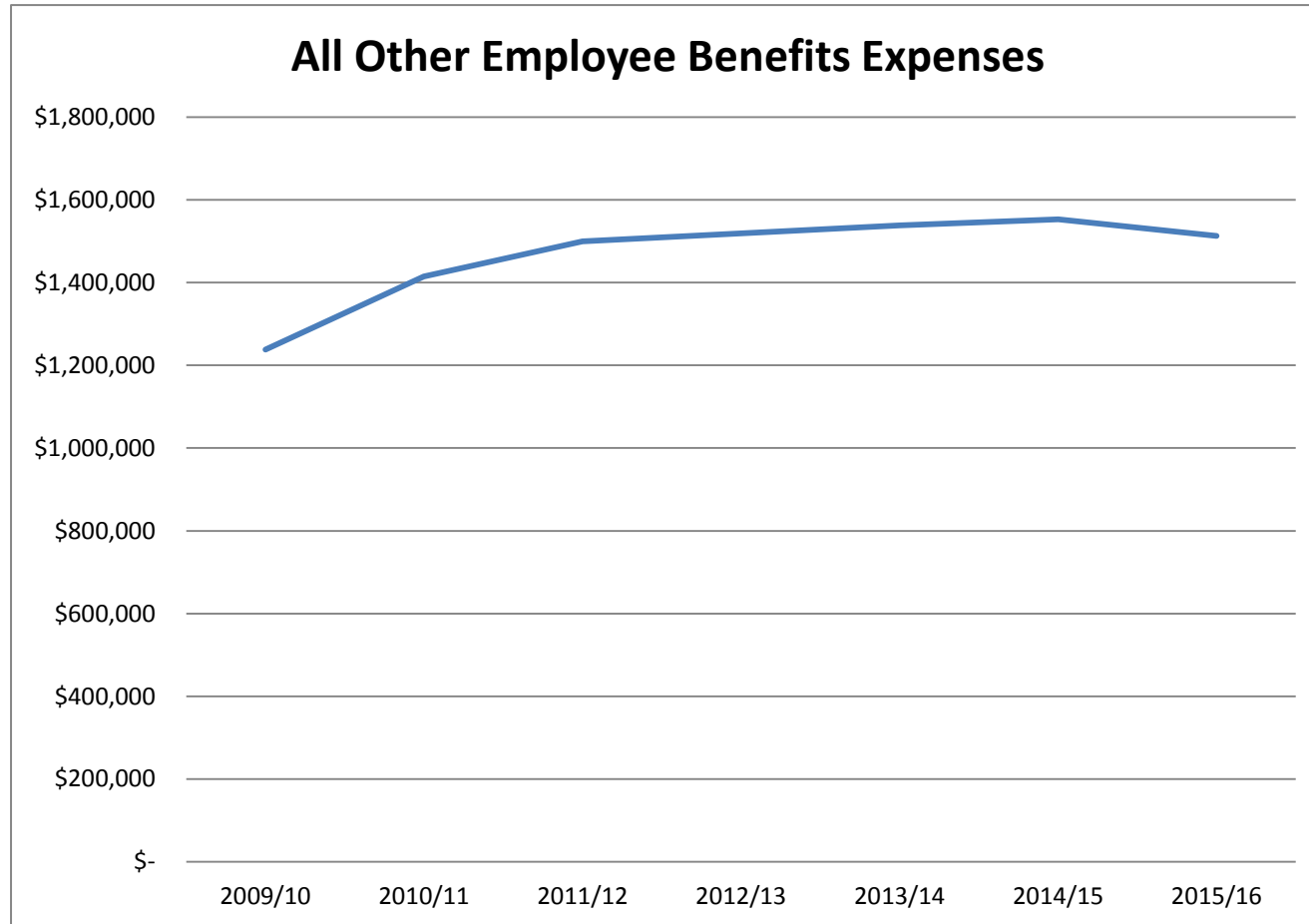


### Health Insurance

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Expenses	\$ 1,132,893	\$ 1,309,360	\$ 1,432,189	\$ 1,387,748	\$ 1,494,014	\$ 1,643,011	\$ 1,771,589	
Dollar Change		\$ 176,467	\$ 122,829	\$ (44,441)	\$ 106,266	\$ 148,997	\$ 128,578	\$ 638,696
Percentage Change		15.6%	9.4%	-3.1%	7.7%	10.0%	7.8%	56.4%
Compound Annual Growth Rate								7.8%



# Town of Carrboro 7-Year Expense History



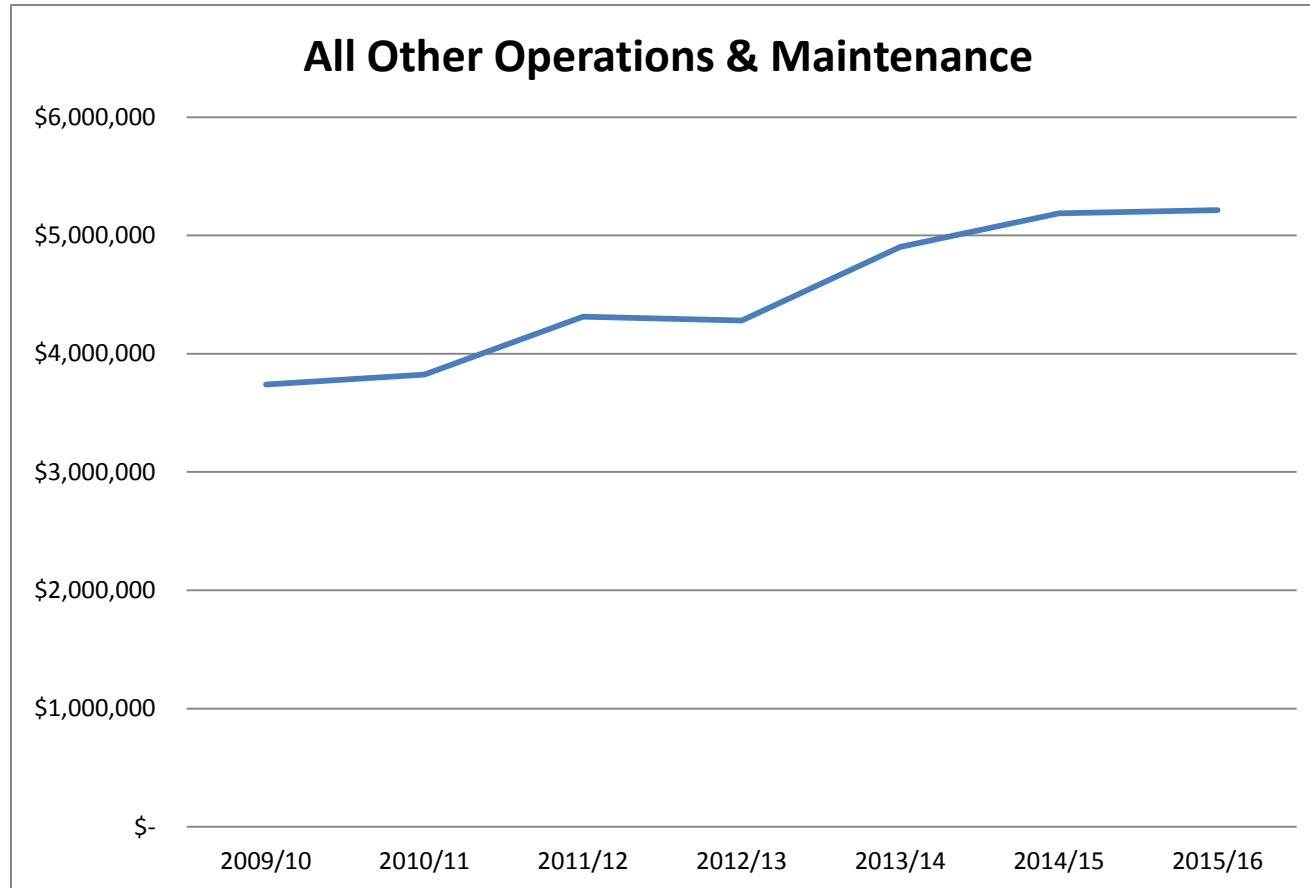
## All Other Employee Benefits

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Expenses</b>	\$ 1,238,016	\$ 1,414,867	\$ 1,499,822	\$ 1,518,985	\$ 1,538,258	\$ 1,552,418	\$ 1,512,754	
<b>Dollar Change</b>		\$ 176,851	\$ 84,955	\$ 19,163	\$ 19,273	\$ 14,160	\$ (39,664)	\$ 274,737
<b>Percentage Change</b>		14.3%	6.0%	1.3%	1.3%	0.9%	-2.6%	22.2%
<b>Compound Annual Growth Rate</b>								<b>3.4%</b>





## Town of Carrboro 7-Year Expense History

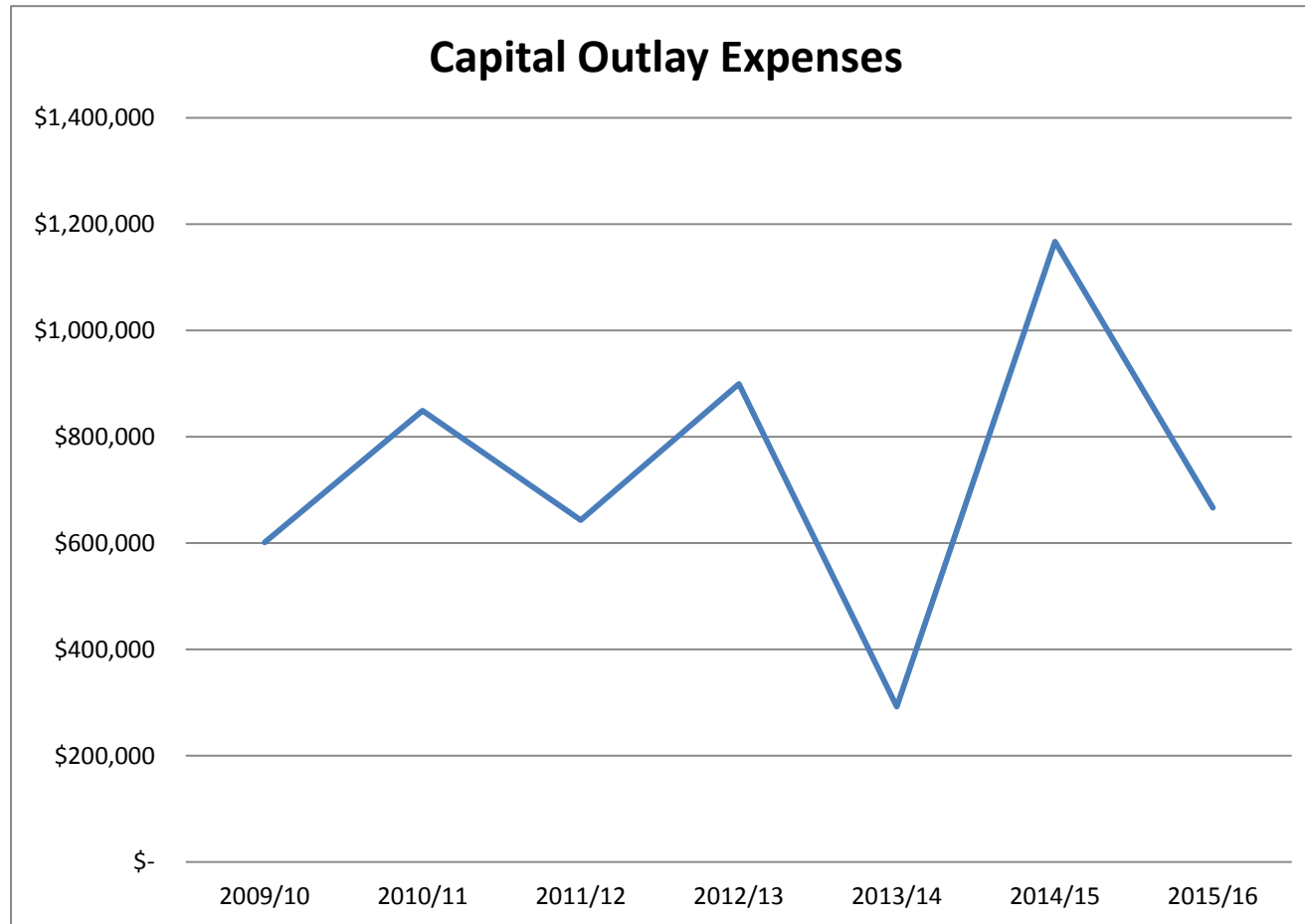


### All Other Operations & Maintenance

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
<b>Expenses</b>	\$ 3,740,737	\$ 3,823,691	\$ 4,314,458	\$ 4,280,505	\$ 4,902,386	\$ 5,186,971	\$ 5,214,699	
<b>Dollar Change</b>		\$ 82,954	\$ 490,767	\$ (33,953)	\$ 621,881	\$ 284,585	\$ 27,728	\$ 1,473,962
<b>Percentage Change</b>		2.2%	12.8%	-0.8%	14.5%	5.8%	0.5%	39.4%
<b>Compound Annual Growth Rate</b>								<b>5.7%</b>



# Town of Carrboro 7-Year Expense History



## Capital Outlay

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Expenses	\$ 601,486	\$ 849,204	\$ 642,929	\$ 899,356	\$ 292,559	\$ 1,167,056	\$ 666,423	
Dollar Change		\$ 247,718	\$ (206,275)	\$ 256,427	\$ (606,797)	\$ 874,497	\$ (500,633)	\$ 64,937
Percentage Change		41.2%	-24.3%	39.9%	-67.5%	298.9%	-42.9%	10.8%
Compound Annual Growth Rate								1.7%





# Town of Carrboro 7-Year Expense History



## Debt Service

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	7-Year Change
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Expenses	\$ 1,477,718	\$ 1,511,630	\$ 1,360,087	\$ 1,183,033	\$ 1,292,484	\$ 1,148,954	\$ 1,164,298	
Dollar Change		\$ 33,912	\$ (151,543)	\$ (177,054)	\$ 109,451	\$ (143,530)	\$ 15,344	\$ (313,420)
Percentage Change		2.3%	-10.0%	-13.0%	9.3%	-11.1%	1.3%	-21.2%
Compound Annual Growth Rate								-3.9%



## Town of Carrboro 7-Year Revenue & Expense History

### Expense Summary

- Salaries & Wages, Health Insurance, and All Other Employee Benefits (such as retirement pension contributions) make up more than half (57%) of the Town's expenses.
- Other major expenses include Chapel Hill Transit (8%), Operations and Maintenance (26%), Debt Service (6%), and Capital Outlay (3%).
- Salaries and Wages increased by \$84,000 per year, which is a 1.1% compound annual growth rate (CAGR).
- Health Insurance Expenses increased by \$106,000 per year, or a 7.8% CAGR.
- All Other Employee Benefits Expenses increased by about \$46,000 per year for a CAGR of 3.4%.
- In the aggregate, these three categories increased by around \$236,000 per year. The CAGR is 2.3%.
- Payment to Chapel Hill Transit increased by \$507,000 over the seven-year period, or \$85,000 annually with a CAGR of 7%.
- All other expenses (Operations and Maintenance, Capital Outlay, and Debt Service) increased by about \$1.2 million over the seven-year period for a CAGR of 3%.



# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Agenda Item Abstract

**File Number:**17-014

---

**Agenda Date:** 1/24/2017

**File Type:**Agendas

**In Control:** Board of Aldermen

**Version:** 1

---

### **TITLE:**

An Update of Economic Development Activities in Carrboro

**PURPOSE:** The purpose of the agenda item is to give the Board an overview of the various projects, programs and activities that support the economic vitality of the Town.

**DEPARTMENT:** Economic and Community Development

**CONTACT INFORMATION:** Annette Lafferty, Economic and Community Development Director  
[alafferty@townofcarrboro.org](mailto:alafferty@townofcarrboro.org) <<mailto:alafferty@townofcarrboro.org>> (919) 918-7319

**INFORMATION:** There are many activities that the Town engages in to support the economic vitality of the community. The attached report is an overview of the status of projects such as Shelton Station, South Green, and the new hotel; economic development initiatives such as the development of Old 86 for affordable new commercial and the progress on updating the Town's Economic Sustainability Plan; the Town's and the CTDA's support for special events including the Music Festival, Film Festival, and Poetry Festival; support for the business community through programs like the revolving loan funds, and the parking study; collaboration with organizations like the Visitor's Bureau and Orange County Council on the Arts.

**FISCAL & STAFF IMPACT:** There is no additional fiscal or staff impact for this agenda item.

**RECOMMENDATION:** Staff recommends the Board receive the report.

## Carrboro Economic Development Report 2017



### Approved/Proposed Commercial Projects

<b>Approved Projects</b>			
Project Name	Current Status	Estimated Property* Value/Taxes	Estimated Sales Tax** (Carrboro Only)
Shelton Station 22,000ft <sup>2</sup> Retail 90 Units Residential	Phase 1 received a CO – Phase 2 will begin early spring UNC Horizons is currently only tenant	\$2,200,000 (Phase 1) \$12,967 \$7,400,000 (Phase 2) \$43,616	\$10,626
South Green 40,000ft <sup>2</sup> Retail	Site work underway Tenants include Atlas Taco Bar and Gimghoul Brewery	\$4,400,000 \$25,934	\$38,640
Hilton Garden Inn 145 Rooms	Construction starts late 3 <sup>rd</sup> quarter	\$14,800,000 \$87,231	\$11,592 \$180,000
<b>Proposed Projects</b>			
CVS 11,000ft <sup>2</sup>	Applied for CZ	\$1,600,000 \$9,430	\$10,626
Arcade Bldg Lot behind Spotted Dog 1900ft <sup>2</sup> Retail 3 Units Residential	Concept Plan Review	\$820,000 4,833	\$1,835

\*based on \$100 per ft<sup>2</sup> building value plus land and current tax rate

\*\*\$500 per ft<sup>2</sup> estimated sales volume

### Non-profit Approved/Proposed Construction Projects

<b>Approved Projects</b>		
Project Name	Status	Square Footage
PTA Thrift Phase 2	Const. Underway	5,364
<b>Proposed Projects</b>		
IFC – Food First	Applied for CZ	6,400
Club Nova	Concept Plan	9,666

### Single Family Housing Projects

Project Name	Lots Approved	Homes Complete	Under Construction	Vacant Lots
610 Homestead Road – SUP approved 12/16	12	-	-	12
Claremont AIS	76	73	-	3
Inara Court – SUP goes to the BdAdj 2/17	6	-	-	6
Claremont South PH4	54	20	13	12
Claremont South PH5 –pending final recording final plat	32	-	-	32
Lloyd Square	15	10	5	-
Winmore	186	145	10	31

### Planning and Economic Development Initiatives

1. Parking Study – findings of study are currently under review.
2. Economic Sustainability Plan (ESP) – this is an update to the Local Living Economy Task Force Recommendations. The plan focuses on the three legs of sustainability – planet, people, and profit. The first two “legs”, planet and people, have been reviewed and recommendations drafted by the ESC.
3. Development of Old 86 town owned property – staff is currently organizing a meeting with Orange County to discuss the planning context, arranging neighborhood informational meetings, and developing an RFP.

### Carrboro Business Support

1. Continued support of the Carrboro Business Alliance – the Alliance leadership continues to meet on a monthly basis, organizing networking (before and after hours) events every other month and continue to be a channel for communication with the business community. The Chapel Hill/Carrboro Chamber is discussing member support services with the CBA leadership.
2. Revolving Loan Funds – we continue to offer loans to new and existing businesses and are currently servicing \$493,470 in loans with an outstanding balance portfolio of \$193,512. Currently there is \$451,859 budgeted available loan funds in the original Revolving Loan Fund, \$109,603 budgeted available to the loan in the Business Loan Fund and \$112,942 budgeted available funds in the Energy Efficiency Revolving Loan Fund. Capital investment and funding are a major focus of the ESP.

The loan funds are available to non-profits and have been used as a source of capital funding to new construction projects, i.e. PTA Thrift Phase I. Another important discussion is around micro-loans/grants to new business starts-up, particularly minority and women. These recommendations will be coming forth in the ESP.

Carrboro businesses also have access to loans and grants from Orange County's economic development .25 cents sales tax.

### Special Events

Month	# per yr.	Event	Attend
MAR		St Paul AME 5K	350
APR		Open Streets	3,150
MAY		Not So Normal Race	2,000
MAY		Carrboro Day	2,200
J-J-A	3	Summer Streets	100
JUL		4th of July	3,250
JUL		4 on the 4th	900
VARIES	3	Cat's Cradle Concert	4,000
SEPT		*Carrboro Music Festival	10,575
OCT		*West End Poetry Festival	300
OCT		Carrboro Halloween Carnival	730
		Carrboro 10K	600
NOV		Gallop and Gorge	1,500
NOV		*Carrboro Film Festival	1,000
DEC		Christmas Parade	5,000
DEC		Tree Lighting	200

### Tourism, Marketing and Promotions

1. Carrboro Tourism Development Authority helped to support the Carrboro signature events with funding in the amount of \$11,000 for the Music Festival, \$9,200 for the Film Festival and \$2000 for the Poetry Festival. In addition to these signature events the TDA supported events such as the Arts Center annual Elf Fair and 10X10 Play series, Shimmer the Art of Light and Terra Vita Food and Wine Festival.

This year the CTDA budgeted \$25,000 for print advertising and updating town photography for publications such as the Indy Beer Guide, Chapel Hill Magazine, Durham Magazine, Indy Finder, Indy Eats, Carolina Performance Arts, Chapel Hill Visitor and Relocation Guides and ads in hotel guides in the Siena, Carolina Inn, and Hampton Inn.

The CTDA also paid to update and print the downtown walking maps. These maps are heavily used by businesses and visitors. And finally, the CTDA pays \$45,000 annually towards the \$90,000 parking lease of the 300 East Main parking deck.

The Chapel Hill Orange County Visitors Bureau continues to be a strong partner with the Town. In May Orange County will be hosting the North American Travel Journalist Association who will bring 100 +/- travel journalist to the community. This conference is expected to generate several million dollars in advertising value for the community.

Recognizing the importance of art to economic development in our community, Carrboro staff is collaborating with Orange County Arts Commission, the clearinghouse for arts information in Orange County. The new OC Arts Commission Director has launched the Orange County Creatives Facebook page in an effort to share ideas, thoughts and opportunities for artist.