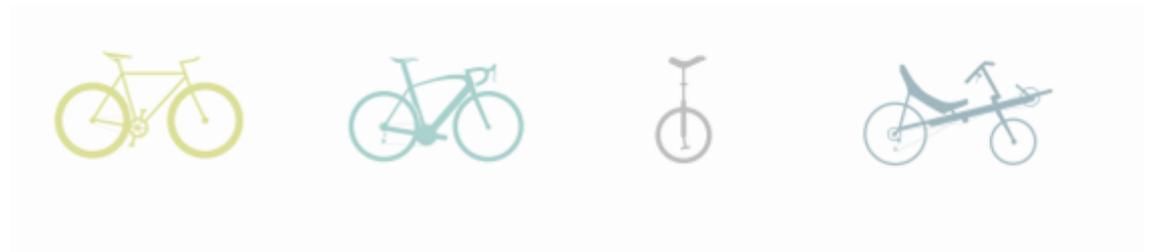
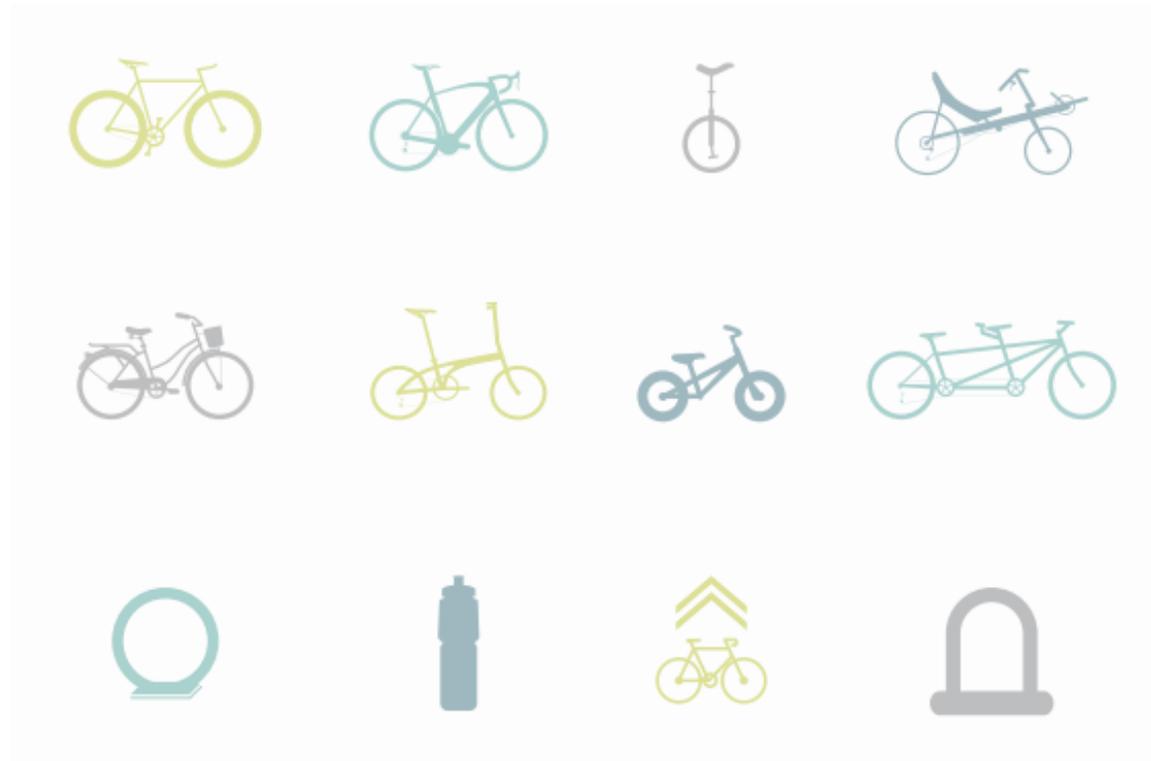


# City of Dunwoody Bicycle Friendly Assessment

2015 Edition

Prepared by the Atlanta Bicycle Coalition for the City of Dunwoody



## ACKNOWLEDGEMENTS

City of Dunwoody

Department of Public Works  
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Pattie Baker



*“The City of Dunwoody preserves the past, promotes economic vitality, protects the residential nature of its neighborhoods, presents viable options as a place to live through all stages of life and ability, and prepares for the future.”*

- Dunwoody Citywide Vision Statement



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## EXECUTIVE SUMMARY

Commissioned in the fall of 2014, this assessment is intended to accurately and thoroughly answer the question “Is Dunwoody a bicycle friendly city?” In particular the goal is to assess whether Dunwoody is prepared to apply for recognition by the League of American Bicyclists (a national advocacy organization) as a Bike Friendly Community. Under this program, communities apply to be recognized as bike friendly on a scale of Bronze to Diamond; hundreds of communities nationwide have applied and been recognized. Currently, only 8 cities in Georgia have been recognized, all at the Bronze level (including metro area peers Roswell and Peachtree City). In this modern age of information and mobility, bicycle friendliness is quickly becoming a metric by which cities assess their progress, families consider their residency, and employers choose to locate.

Put simply, Dunwoody is just beginning to reach the point of being ready to apply for BFC recognition. Currently, the city is settling in to making the most of a Complete Streets Policy and an influential Comprehensive Plan that will shape the fabric of the built environment. As a heavily residential community, the opportunity for greater education and encouragement efforts are substantial, and an enthusiastic and well-regarded Police Department suggests great potential for positive enforcement efforts. The next few years will see tremendous expansion of the city’s infrastructure network, and with some well-planned investments of time and resources into programming support (discussed at length below), Dunwoody could be well-equipped to make a push for Silver status (and be the first such city in Georgia).

The following page outlines in brief the priority recommended steps for Dunwoody as it prepares to formally apply for BFC recognition. While some tasks are larger than others, every one is feasible and has been demonstrably effective in communities across the country. The tasks have been generally ordered by their potential and priority given current conditions and the community’s vision for the future, but they also offer room for innovation, experimentation, and incremental progress. These recommendations have placed a priority on providing the conditions and encouragement for more people to be able to choose to bicycle. Additionally, these recommendations focus on the community and economic development benefits of increased bicycling, with the secondary benefits of improved health and reduced congestion.

Although Dunwoody has a list of steps to take to claim one of the loftier BFC titles, the progress made during its brief time as a formal municipality suggests a very bright future and a tremendous opportunity for success. Dunwoody could implement these recommendations over the next 3-5 years with a plan to apply for Bronze recognition in fall of 2015/spring 2016, then again for an upgrade to Silver by the end of 2016/early 2017. Given the enthusiasm and support of residents, elected officials, and city staff in the community, Dunwoody has the potential to become a regional leader and role model for other communities as they seek to preserve their historic character and community fabric while also growing to become better places for residents and employers alike.



## Priority Recommendations

### Engineering:

- Incorporate recommendations into Sustainability Committee's work plan
- Designate a city staff person to manage bike/ped initiatives
- Expand protected/separated infrastructure, including buffered bike lanes, cycle tracks, and multi-use trails
- Emphasize neighborhood access to commercial nodes and connectivity between nodes (use this principle to guide future projects)
- Adopt a bike parking standard and incentives or requirements

### Education:

- Expand Safe Routes to School efforts to focus on education of students; sponsor/operate regular bike rodeos and other training programs/events
- Offer adult bike skills and safety training classes
- Have city staff person and designated Police Officer both certified as League Cycling Instructors (LCI)
- Require bike-specific training for all city vehicle operators

### Encouragement:

- Develop and maintain a community event where bicycles and families are core component (recommend an Open Streets-style event)
- Focused encouragement periods and programs (Bike to Work Month)
- Work with employers to offer bike commute incentives
- Develop local Bike Friendly Business program
- Develop local bike map and install wayfinding signage

### Enforcement:

- Adopt Vulnerable User law
- Train all officers on bicycle law and safe cycling practices
- Provide free and voluntary bike registration
- Street and trail lighting

### Evaluation:

- Experiment with automated counters
- Conduct 2x annual manual counts
- Survey residents annually on bicycling preferences, behavior, etc.
- Pilot projects and conduct pre- and post-project data collection
- Collect BLOS data on network; use public engagement to assess accuracy of ratings and update rating of city network

## INTRODUCTION



### ABOUT THE CITY

Dunwoody is a historic suburban community, settled in the 1830s as a farming community along the railroad corridors essential to Georgia's growth in the era. References to the historic community have remained since its settlement, yet the community was only formally incorporated in 2008. Situated just north of the City of Atlanta at the intersection of two major interstates with a burgeoning commercial district, Dunwoody aspires to be both a major regional economic hub and also a quiet residential community. While at times a challenging duality, the city is enthusiastic in its vision and has a population of residents who are active and engaged in the growth and vitality of their community. The city is home to more than 47,000 residents across 13 square miles of predominantly residential development, punctuated throughout by a number of enclaves of commercial and retail development, most notably the Perimeter Center. Despite being predominantly residential in land area (only 16% of the land area is zoned for commercial purposes), the presence of the dense Perimeter Center and the city's proximity to other major employment centers gives the community a strong emphasis on economic sustainability and growth. With a median income of \$75,671, Dunwoody is wealthier than the regional average, supplying the community with the resources to make high quality investments in infrastructure and public safety.

### City of Dunwoody

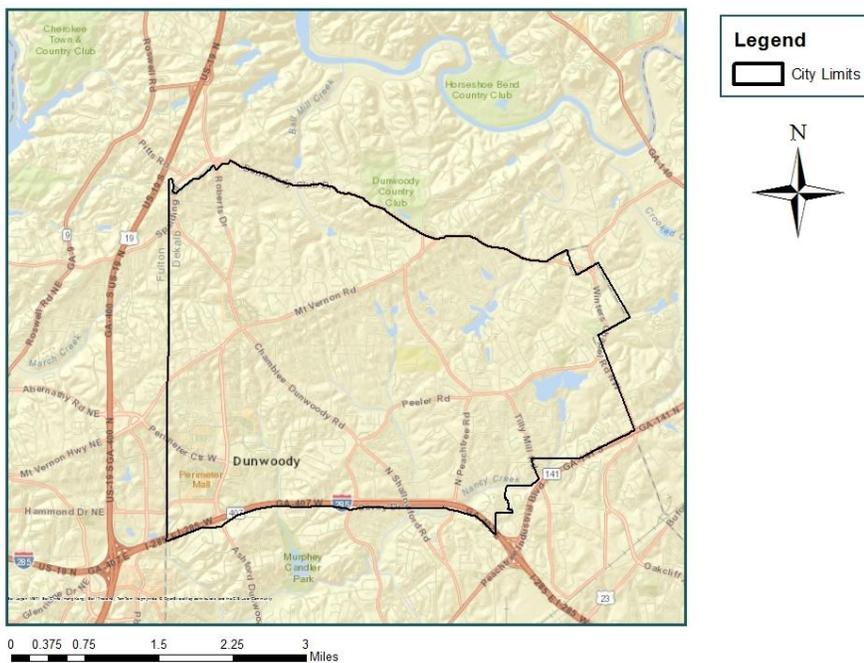


Figure 1. Map of Dunwoody

**PURPOSE**

Residents and city leaders who seek to make Dunwoody welcoming to families, employers, and innovation consider bicycling an increasingly important component of their city’s future. To that end, the city has commissioned this assessment of its “bicycle friendliness.” a reference to the growing national recognition program known as Bicycle Friendly America, operated by the League of American Bicyclists (a national bicycle advocacy organization). To be recognized as a Bicycle Friendly Community cities must demonstrate support for bicycling across five broad categories: engineering, encouragement, education, enforcement, and evaluation. Communities that demonstrate action and leadership across these criteria are awarded a status in accordance with the scale of their support for bicycling, ranging from Bronze (such as local community Roswell, GA) to Platinum (Portland, OR) and recently even Diamond (no cities have yet met this standard).

This document is the first step toward a competitive Bicycle Friendly Community recognition for the City of Dunwoody, with the support and participation of its residents and stakeholders such as the PCIDs and Dunwoody’s various city offices (including Community Development, Sustainability, Public Works, Economic Development, and Police). These partners are responsible for the future of bicycling in the city, and their collaboration and action will make Dunwoody a city that others look to as a future leader and role model. When other cities ask how Dunwoody accomplished its vision and surpassed its goals, the answer will be these motivated public servants and the passionate residents of their community.





Courtesy Pattie Baker

**BENEFITS OF BICYCLING**

Advocates have touted bicycling for a wide array of benefits, including health benefits (such as reducing the incidence of cardiac disease, obesity, and diabetes) and environmental benefits (reducing green house gas emissions and manufacturing byproducts). One meta-analysis of the costs and benefits of bicycle infrastructure found that on average, investments in bicycling generated benefits worth more than 5 times the costs of the projects<sup>i</sup>. Despite this bevy of benefits (a brief inventory of which is captured in Table 1, below), it is chiefly Dunwoody’s pursuit of economic sustainability and livability that drives its interest in bicycling.

**Table 1. Benefits of Bicycling**

To Individuals	To Businesses	To Community
<ul style="list-style-type: none"> <li>- Reduced cost of transportation</li> <li>- Physical health benefits</li> <li>- Mental health benefits</li> <li>- Reduced stress levels</li> </ul>	<ul style="list-style-type: none"> <li>- Reduced parking costs</li> <li>- Reduced demand for parking (increases available area)</li> <li>- Reduced healthcare costs</li> <li>- Greater access and visibility</li> <li>- Improved image</li> <li>- Competitive advantages</li> </ul>	<ul style="list-style-type: none"> <li>- Reduced traffic congestion</li> <li>- Increased Community Interaction and quality of life</li> <li>- Reduced emissions and noise</li> <li>- Improved air quality</li> </ul>

Bicycling offers a suite of economic benefits to individuals, businesses, and the community at large. Although bicycling can offer many benefits as a recreational activity, it is most effective when utilized for transportation purposes as well. Transportation costs account for more than 17% of the average household’s annual income, making it the second largest cost Americans face (after housing)<sup>ii</sup>. Although the short-term per-mile savings from bicycling compared to driving are small, a more bicycle and pedestrian-friendly Dunwoody could offer families the opportunity to require fewer vehicles per household (and thus enjoy substantial savings) while at the same time



having greater flexibility and access for all members of the family. Investments in bicycle infrastructure such as off-street trail networks have been demonstrated to increase adjacent property values—in one case as much as 11% higher than a comparable house further from the trail<sup>iii</sup>. In addition to spending less on automobiles, insurance, and gas, residents of Dunwoody could enjoy improved cardiovascular health, weight loss and management, reduced stress levels, and greater mental acuity. Dunwoody residents have a lot of claims on their time and attention, and bicycling could offer a chance for residents to replace often-stressful experiences of traffic and delays with a more comfortable and rewarding experience.

For businesses, a bicycle friendly Dunwoody offers the opportunity to reduce the costs associated with constructing and maintaining extensive parking options, while freeing up that space for additional business opportunities. With less need for parking and more residents visiting on foot and by bike, businesses can actually increase their visibility and foot traffic, reducing the advantage that large chains have and providing an opportunity for small and historic businesses to thrive. Studies of retail corridors across the United States have shown that improving bicycle and pedestrian access increases revenue and produces more return trips to businesses<sup>iv</sup>. The bicycle-friendly business is a family-friendly business, a place that attracts people to walk in and look around, that encourages a spirit of community.

Not only retail establishments benefit from being bicycle friendly. As employers compete to attract and retain talent they are increasingly aware of the importance that modern employees place on the livability and quality of their work place<sup>v</sup>. Attracting and retaining employees requires distinguishing Dunwoody from thousands of other competing communities. In this competitive market, being a bicycle friendly place not only says that employees will be able to bike to work or to lunch if they so choose, but also that this is a place where health, happiness, and quality of life are priorities. A bicycle friendly Dunwoody is a community that is proud of being a desirable place to live, and an enviable place to work.



**Bikes Bring Business (picture from Long Beach, CA)**

The benefits of bicycling are experienced not only by those who bicycle, but also by those who do not, through reduced overall congestion. In particular, higher afternoon peak congestion is a result of non-commute trips also introduced into the network<sup>vi</sup>. These trips to grocery stores, schools, restaurants, or other destinations within the community are the ideal bicycle trip in a bicycle friendly Dunwoody<sup>vii</sup>, making a bicycle friendly Dunwoody less congested, with cleaner air and quieter streets. There is also the hard-to-quantify value of providing a physical environment that is more conducive to community building, as residents have more opportunities to interact with each other and build the bonds that are so essential to the spirit and character of historic Dunwoody.

**GOALS AND VISION**

The essential question to answer is this: “What is a Bicycle Friendly Dunwoody?” While there are hundreds of formally recognized Bicycle Friendly Communities, there is no formula for success. Each community has carved its own path and selected its own priorities, led by passionate residents and visionary leaders. This document is intended as a guide, but the most successful communities are those where investments and policy changes have been selected to suit the community’s needs and their vision of the future. For this reason we recommend that this document be updated regularly to provide for an organic development alongside the community. At the same time, Dunwoody is just beginning to carve its own path forward, so some guidance is essential to help steer the ship out of the harbor. To that end, this document represents an attempt to provide a critical assessment of the current status of Dunwoody’s bicycle infrastructure, programs, and policies, as well as a series of recommendations to assist the community in making its way into a more bicycle-friendly future. Throughout this document, recommendations for projects, programs, and policies to support a bicycle friendly Dunwoody will be highlighted by the use of **colored text**.



Dunwoody’s city-wide vision statement reads as follows: *“The City of Dunwoody preserves the past, promotes economic vitality, protects the residential nature of its neighborhoods, presents viable options as a place to live through all stages of life and*



*ability, and prepares for the future.*” Dunwoody’s Comprehensive Plan builds upon the city vision statement and highlights the community’s focus on preservation of historic character, the development of Perimeter as an economic engine for the area, the conservative redevelopment of other commercial areas, the cultivation of a variety of living options, and enhanced transportation options. Residents of the city have chosen to live in Dunwoody because it offers the comfort and calm that they seek in a community, while also being accessible internally and to neighboring communities (to work, shop, or recreate), and ambitious in its economic growth (through the careful development of Perimeter and other smaller commercial areas). A bicycle friendly Dunwoody must embody this vision for the city, by serving to reinforce the historic character of the city while also facilitating economic growth through enhanced access for the full spectrum of city residents. If the bicycle is to have a meaningful presence in Dunwoody, it must find a place within the community’s developing identity.

Dunwoody’s current Comprehensive Transportation Plan (CTP) identified three “core principles” that should guide all transportation investments in the community: Choice, Connectivity, and Community. Choice means providing a transportation system that offers mobility for all users and gives users the freedom to choose how to connect an origin and a destination. In the context of this document, choice means not just providing the conditions suited to the most fearless bicyclists, but offering conditions that serve the families that comprise Dunwoody’s population. Truly providing choices in a bicycle friendly Dunwoody means offering infrastructure that teenage children could comfortably use to ride bicycles with their friends to the movies, a park, or school. It means a network that a grandparent could use to easily and safely visit their grandchildren in another neighborhood. Connectivity means offering a system that connects people to their destinations. A connective network should bridge the residential heart of the city to Dunwoody’s variety of unique commercial nodes (the Village, Georgetown, Perimeter, etc.) as well as important sites such as schools, parks, and multi-family housing. Lastly, the system should offer community, identified by residents as the opportunity to build connections with each other through positive interaction, activity, and recreation. A bicycle friendly Dunwoody will focus on investments that maximize these core principles.

Though the principles identified by the CTP and the Comprehensive Plan offer a useful structure for a vision of a Bicycle Friendly Dunwoody, it may be worthwhile to set some specific, achievable goals for the community to meet as it moves forward. For the purposes of this document we focus on accomplishing three specific, measurable goals by 2025: (1) a bicycle commute mode share of 2%, (2) 75% of arterial street centerline mileage providing a place for bicyclists, and (3) 25 miles of protected infrastructure (including buffered and separated bike lanes and off-street trails). While ambitious enough to demonstrate Dunwoody’s commitment to a bicycle friendly future, these goals are also highly actionable and feasible in the context of both timeline and scale. Accomplishing these goals would be a clear, public statement of Dunwoody’s commitment to livability and would make it a major regional leader and a model for other historic suburban communities across the southeast.



To provide some comparison and motivation for Dunwoody, occasional reference will be made to two cities that have been identified as reasonable target cities: Folsom, California and Weston, Florida. Both communities are heavily residential with an interest in preserving the suburban and family-focused development patterns that have historically characterized them. They also have reasonably similar demographics, population, and physical characteristics to Dunwoody. At the same time, Weston and Folsom have both demonstrated significant bicycle friendliness in their own unique ways. A silver-level Bicycle Friendly Community (BFC), Folsom has almost 100 miles of bicycle infrastructure (either in the form of trails or on-street dedicated infrastructure), and Weston has 26 miles of infrastructure supporting its Bronze BFC designation. While Dunwoody has not yet matched these communities, there are many reasons to believe that Dunwoody could easily match or exceed these standards.

In accordance with the principles of the Bicycle Friendly Community program, this assessment document is oriented around what are called “the Five E’s”: Engineering, Encouragement, Education, Enforcement, and Evaluation. Each “E” represents a critical piece of a thriving bicycle-supportive community, from the built environment to incentives, data collection, etc. Any one piece can be a valuable step forward, but is made more impactful with the support of the other pieces. For example, a new multiuse trail may itself draw more people to ride bicycles, but it can become even more popular when it is advertised to its residents, when police and the public preserve its safe operation, and when residents have opportunities to learn how to ride confidently and comfortably. So, while each section may seem to stand alone, a bicycle friendly community is a place where all five pieces of the puzzle are combined in a way that maximizes the value of resources invested to generate far greater value than the components alone.



## ENGINEERING

Of the five E's, engineering is without doubt the one that receives the most attention, and for generally good reason: while encouragement, enforcement, and education are invaluable tools for supporting the growth of bicycling, engineering is inescapably influential when it comes to transportation. Design provides the circumstances conducive to people navigating a space in a certain way. Bicycling is especially vulnerable to the impact of engineering, as choices about mode and route choice (whether and where to ride a bike) are highly vulnerable to the impact of traffic speed, traffic volume, and perceptions of safety<sup>viii</sup>. If the built environment emphasizes the priority of one mode over all others, or goes so far as to make it actively difficult, stressful, or dangerous to choose another mode, then the choice itself can become lost. In order to provide residents with the ability to choose, the transportation network must provide conditions that allow any given user (be they 8 years old or 80) to viably navigate the system. For this reason, the presence of quality, comfortable bicycle infrastructure is the foundation of any bicycle friendly community. Without infrastructure that serves riders' needs, bicycling will likely never become popular in the community, except for those people who have no choice or are motivated enough to endure unnerving conditions.



Courtesy of Bike Walk Dunwoody

With the right infrastructure, however, a city can draw people of all types and attitudes onto bicycles. Given good connectivity and access to major destinations, sufficient separation or protection from high speed motor vehicle traffic, and end-of-trip facilities, bicycling could become a significant option for residents of Dunwoody, as it is in places like Folsom and Weston. Though there may be hurdles to overcome to provide this infrastructure support, the truly great challenge (and opportunity) in engineering a more bicycle friendly is finding the path forward. While there are numerous design manuals to inform the selection of specific projects and a large body of research on mode and route

choice, with guidance from AASHTO, NACTO, and the MUTCD (we recommend at this point to defer to the more innovative NACTO guide, until such time as USDOT releases a more comprehensive guide), in the end it is the community that will determine the selection and success of any infrastructure investments.

Much of the engineering category consists of physical projects (such as bike lanes, shared-lane markings or “Sharrows”, and trails), but it can be equally or more important to provide the institutional support necessary for good decision-making to occur. This means three primary things: (1) provide resources and training for staff assigned to bicycle projects, (2) designate a central point of contact and expertise for bicycle projects (and programs), and (3) develop a process to support decision-making through the involvement of knowledgeable and resourceful local stakeholders.

### DECISION MAKING

While city staff are knowledgeable and experienced, the unique qualities of bicycle infrastructure and rapidly evolving guidelines and best practices make it essential that the city provide access to conferences (such as industry-specific Pro Walk/Pro Bike/Pro Place), online training (such as the Association of Pedestrian and Bicycle Professionals’ webinar series), and continuing education (through FHWA, NACTO, etc.). Exposure to these resources will support innovation and improvement from visioning to planning, and implementation to evaluation. Secondly, Dunwoody’s staff are currently stretched thin, with a small portion of time allocated to bicycle programs and projects and no dedicated contact for bicycle program questions, issues, or opportunities. We recommend that the city allocate the resources to designate a formal city Bike/Ped Coordinator (potentially as one of the responsibilities of a full-time sustainability or transportation position). A common position at municipal governments across the United States, this person could provide programming and planning support as well as funding research and partnership building (and leveraging).

One key task for this position should be to lead the city in supporting the operations of a Bicycle and Pedestrian Advisory Committee, consisting of city staff, local and regional partners, citizens, and other stakeholders. This BPAC should meet at least monthly to review past projects and programs, discuss future efforts, coordinate resources and guide implementation, and support any other bicycle-related opportunities that may arise. It may make sense to begin by having these functions contained with the existing Sustainability Committee until the city’s bike/ped efforts begin to require narrower and more intense focus.

These administrative/organizational changes are priority recommendations due to the critical role that coordination and commitment play when executing any planning, programming, or project implementation activities. Regardless of what projects the Dunwoody community wishes to implement moving forward, having a BPAC will provide the coordination structure, accountability, and buy-in that are no less than vital to fulfilling the city’s vision for a more bicycle friendly community. Likewise, the more

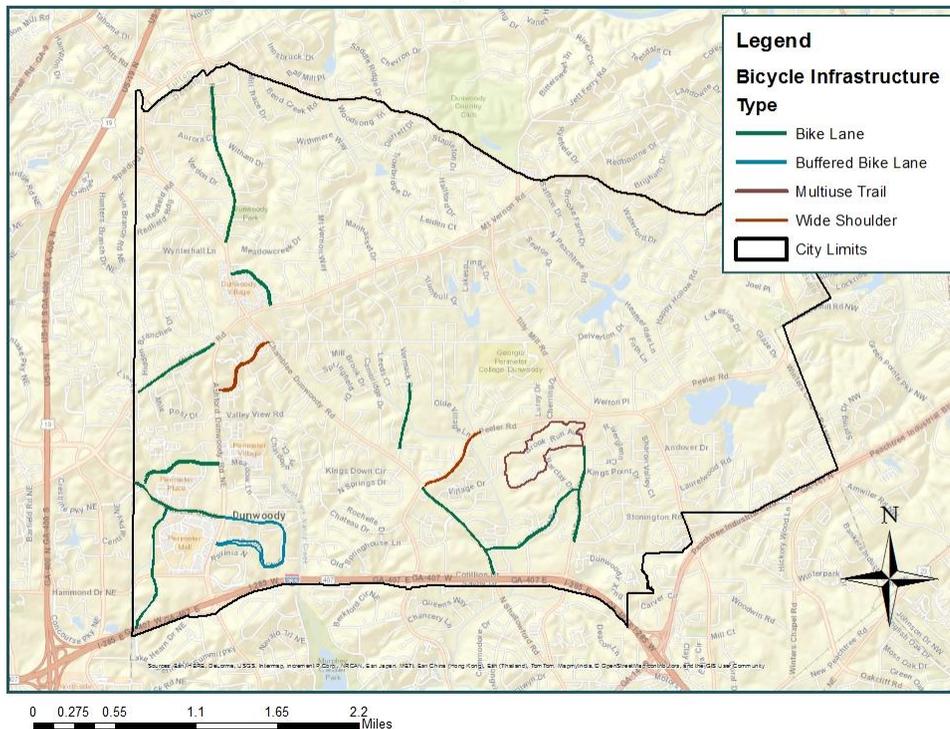


focused staff time that can be allocated to bicycle (and pedestrian) projects, the more likely it is that projects will be chosen and executed properly and successfully.

**CURRENT CONDITIONS**

Considering that Dunwoody contains 145 centerline miles of roadway, and only 11.15 miles of bicycle infrastructure, it is clear that there are still many gaps in the city’s network. However, that network has grown consistently since 2011. Between Dunwoody’s incorporation and the end of 2010, only 2.1 miles of bicycle infrastructure were introduced, all installed and operated by the Perimeter CIDs. In fact, the entirety of the City of Dunwoody’s implementation of bicycle infrastructure has occurred over the last three years, due in large part to the adoption in 2011 of a Complete Streets Policy<sup>ix</sup>, which has supported the implementation of bicycle infrastructure as components of other projects. This policy requires that all new roadway projects and all major resurfacing projects (along a previously identified bicycle route or facility corridor) include bicycle accommodations in line with best practices and standards for the given context. Perhaps more than anything else in the City’s BFC application, the existence of (and demonstrated commitment to) this policy is a strong indicator of a bicycle friendly community in the making.

**City of Dunwoody - Current Infrastructure**



**Figure 2. Current Bicycle Infrastructure**

As noted before, there are 11.15 miles of bicycle infrastructure (including bike lanes, buffered lanes, and multi-use trails) in the city of Dunwoody. Figure 2 displays the current dedicated infrastructure, while Figure 3 shows a breakdown of the mileage of



each type as of early 2015. Currently, only 4% of the city’s roadway mileage includes any bicycle accommodations; however, 22% of the city’s arterial roadways (essential for access to and connection across the community) include bicycle accommodations. Since almost the entirety of the remaining network consists of low-volume and low-speed residential streets, a vast majority of the city provides for the presence of bicycles.

Type:	Miles:	Mi / Sq. Mi
Traditional Bike Lanes:	7.93	0.63
Sharrows:	0	0
Multi-Use Trails:	2	0.15
Protected/Separated Bike Lanes	1.21	0.09
Bicycle Boulevard:	0	0
Wide Shoulders:	1.27	0.09

**Figure 3. Miles of Infrastructure**

Current planned projects for the City of Dunwoody include the addition of bicycle accommodations along almost the entire span of Mt. Vernon and Chamblee Dunwoody Roads. This will provide a much-needed connection from Dunwoody Village and northwestern Dunwoody to the forthcoming Dunwoody Trailway (which connects Georgetown to Brook Run Park via a multi-use trail). The combination of these various projects (depicted in Figure 4) will provide a much higher level of connectivity, as well as more than 6 additional miles of bicycle infrastructure.



### City of Dunwoody - Current and Planned Infrastructure

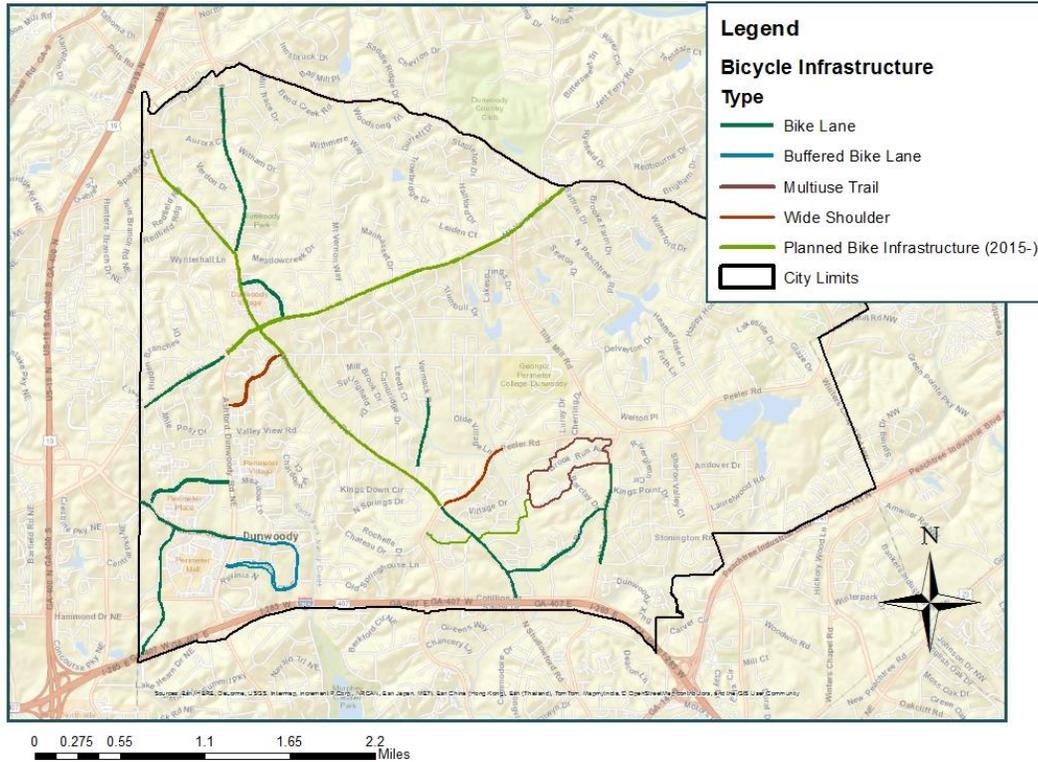


Figure 4. Current and Planned Bicycle Infrastructure

## RECOMMENDATIONS

### Land-Use and Planning

In order to effectively implement bicycle infrastructure projects Dunwoody must first provide a planning and development context that supports the success of those projects. Currently, Dunwoody is predominantly zoned for suburban residential development, with small character areas identified as commercial (office), industrial, or mixed-use (and mixed-use/multi-family)<sup>x</sup>. This land-use plan embodies the community’s vision for its future, with a growing place for accessible commercial space distributed throughout the community and a stable but vertically expanding high-density mixed-use district as the community anchor to the metropolitan area. The city also provides streetscape regulations which assist in ensuring an appealing environment for bicyclists and pedestrians, a major boon to providing bicycle friendly corridors and commercial access.

While offering greater flexibility in zoning and a larger place for mixed-use zoning, as well as smaller property tract sizes, are all generally considered better practices for providing a bicycle-friendly built environment, pursuing those changes might also challenge the local vision for a bicycle friendly Dunwoody. Instead, we recommend building upon the natural strengths of Dunwoody’s land-use profile to preserve the



suburban, residential fabric of the community while also expanding connectivity and access. Specifically, **the city should capitalize on its distributed commercial and mixed-use areas** (Perimeter, the Village, Georgetown, and the various gateways) **by emphasizing neighborhood bicycle and pedestrian access to those communities within a 1-mile radius of the area, as well as connections between nodes to allow for greater flexibility in accessing stores, restaurants, and activities.** Simply put, we recommend ensuring a mix of uses at a slightly larger scale (the nearby community) with a high degree of access, the combination of which will allow a suburban environment with a semi-urban level of connection from home to destinations. Additionally, while the city currently has a bicycle accommodation policy, it applies only to higher speed corridors or when the Development Director specifies a need; updates to **make this code (16-244-h) stronger and broader in scope** would provide a stronger signal of the city's priorities.

The aforementioned planning recommendations will help ensure that as the city continues to update and expand its infrastructure, that the resulting bicycle accommodation network will offer a reasonable alternative to driving for trips within the city of Dunwoody, particularly between residential areas and commercial destinations. Given time and a high quality network, this will offer the opportunity to alleviate afternoon and evening congestion on the roadway network, as well providing a stronger attachment between residents and community businesses. Numerous studies<sup>xi</sup> have shown that businesses experience more traffic and (often) higher sales when bicycle access is improved, and that local businesses experience a higher proportion of this boost, helping to expand Dunwoody's place as an economic hub while also supporting greater access between residents and local business (and jobs).

### **Infrastructure Network**

While much of the city's roadway network affords some space for bicyclists, there are some major gaps and issues with the current bicycle infrastructure network that make the network less effective than it has the potential to be. Though some of these issues will be addressed through currently planned projects (see Figure 4), other issues remain. Although arterial roads such as Mt. Vernon and Chamblee Dunwoody have or are planned to have traditional bike lanes, the speed and volume of traffic on these roads make it unlikely that a traditional bike lane is sufficient to encourage anything other than the most confident of riders. Though right-of-way constraints may make it difficult to add the width needed for buffers or barriers (which are **recommended for these corridors**), it may be possible to use traffic calming techniques to reduce traffic speeds during non-peak times (for example, the use of timed signals and reduced speed limits), which will avoid impacting peak congestion and also provide for enhanced bicycle access. Reduced speed limits and traffic calming are particularly valuable for improving safety for users of all types, a high priority for a community that is home to so many children and families.

More problematic is the 40% of arterial road mileage not currently planned to have bicycle accommodations of any kind by 2016, including Ashford Dunwoody Road (a



critical connection from Perimeter to Dunwoody Village) and Dunwoody Club Drive (a major northern arterial for the city). Both streets should be flagged for bicycle accommodations, especially Ashford Dunwoody as it is the central commercial corridor in Dunwoody, connecting the Perimeter area to Dunwoody Village. Given the speed of these streets (over 45mph on Ashford Dunwoody), **we recommend that a protected bike lane or parallel multi-use trail be considered for Ashford Dunwoody and at least a buffered bike lane for Dunwoody Club Drive.** Similar high-quality, separated, and protected accommodations should be provided wherever possible. Though the 2011 CTP update recommends focusing on low-volume streets as an alternative to these busy roads, a lack of connectivity on these roads makes them only plausible alternatives if a **series of cut-throughs and multi-use paths are implemented to support connecting previously separated neighborhoods.** For example, the forthcoming Dunwoody Trailway could be extended from its western conclusion at Chamblee Dunwoody Road further west to connect with the Perimeter area (perhaps at Perimeter Center West, an existing buffered bike lane segment). Likewise, the Brook Run Park trail segments could be extended northwards to connect with schools along nearby Womack Road. Providing these connections will help to improve the safety and comfort of bicycling for citizens of all types, making it possible to ride for transportation, fitness, and pleasure, the benefits of which are myriad (as noted previously).



### **Other Recommendations**

To further support a network of neighborhood trails while also managing concerns about safety, **street and trail lighting should be installed along all trailway corridors and access areas.** Additionally, **residential roads should be designed to encourage an effective speed of less than 20 mph.** These changes will support a safer Dunwoody for children

and families, and enable the use of neighborhood roads for recreation, activity, and social interaction in the spirit of traditional Southern communities. A major consideration in selecting the appropriate infrastructure for a bicycle friendly Dunwoody is the demand for a variety of uses. Given the presence of a sizable recreational cycling club and high interest among residents in bicycling for health and fitness (according to survey findings from the 2011 CTP process), it seems likely that an appealing infrastructure network should **provide not only transportation service but also function well for recreation and enjoyment**, and perhaps provide access for people walking, running, or using skateboards or scooters.

Finally, a few additional development guidelines could greatly support bicycling in Dunwoody. The community needs bicycle parking; private provision of bicycle parking is well below desirable levels and in many cases hampers the ability of people on bikes to visit area businesses. The city should **adopt a bicycle parking standard and phase in a requirement for all development to incorporate bicycle parking** in a scaling manner, as well as **provide incentives/support for the addition of bike racks to existing businesses**. Begin with requirements for Perimeter Center and Dunwoody Village and then revisit for citywide expansion in 2017. Similarly, the city's current minimum car parking standard represents an outdated mandated singular reliance upon car access; **removing this standard could allow businesses greater flexibility in development and cost reduction**. Additional end-of-trip facilities, such as lockers and showers, should also be incentivized in new development wherever possible, perhaps through a bicycle friendly business incentive (discussed later). These business-level changes are important for commercial districts to experience the benefits of improved access that will be available as infrastructure changes occur throughout the city's network. At a certain point the value of better bike access will be evident to all businesses, but as these changes currently represent high positive externalities, it's important that the city provide the policy or price signals needed to encourage improved end-of-trip facilities.



## EDUCATION

Although engineering is often treated as the largest barrier to bicycling, a more fundamental barrier for many can be the ability to bicycle or to bicycle confidently. While survey data suggests that the proportion of adults in the United States who do not ride a bicycle because they do not know how is small (around 3%)<sup>xii</sup>, knowledge and experience play such an important role when bicycling that just being able to ride a bike is not usually sufficient for an individual to get started or to continue riding in the face of challenging experiences/conditions.



Because of the important role that knowledge plays in bicycling, there is substantial value to offering educational programming (such as skills training, safety presentations, online videos, etc.) for bicycling. However, education is a unique institutional challenge, as the responsibility for educating bicyclists is not as clear as for motorists. While this has led some to advocate for registration and licensing of bicyclists, the fact that most beginner bicyclists are children makes it highly implausible to effectively execute a mandatory program of bicycle licensing. In addition, such registration and licensing programs would provide a substantial barrier to bicycling that would likely disproportionately impact those who rely on bicycles for transportation due to cost and create another barrier to a behavior that those communities are hoping to encourage. Fortunately, there are other options for providing training and information to regular, new, and potential bicyclists, as well as to the motorists and other users who will be interacting with bicyclists in a community.

There are currently few formal opportunities for residents of Dunwoody to learn how to ride a bike or learn how to ride comfortably on city streets. The city does not currently offer any such programming, nor do any private or nonprofit organizations. Local

community or advocacy organizations such as Sopo Bicycle Collective and the Atlanta Bicycle Coalition (ABC) both offer such classes, but no classes have been offered in the Dunwoody area during the last year. Moving forward, these organizations and others like them offer one of the best opportunities for Dunwoody to build a base of educational programming for residents. By partnering with these nonprofit groups Dunwoody offer a variety of skills and safety training as well as educational resources through local civic channels. The Atlanta Regional Commission (ARC), Atlanta's Metropolitan Planning Organization (MPO), offers a program called the Livable Centers Initiative that can fund educational offerings and has previously supported ABC classes and trainings (ranging from 1-hour Lunch n' Learn to the 5-hour long Confident City Cycling course). Employers and building managers are also frequent supporters of educational offerings; the city should provide coordination resources so employers can connect with each other and with program operators to give employees of Perimeter and other areas access to the bicycle skills and knowledge they seek.

Learning how to ride a bicycle is often a meaningful family experience, with children learning how to ride a bicycle from a parent through practice and patience. However, for those who do not learn how to ride at a young age, the idea of learning how to ride a bicycle can be an intimidating thought, made more difficult by the challenge of finding someone trained and patient enough to teach an adult. Many communities rely on League Cycling Instructors, individuals extensively trained and certified by the League of American Bicyclists to teach a variety of bicycle-related skills. These instructors are also resources to offer training on bicycle commuting, mechanical skills, and bike handling (among other topics). Although currently no LCIs call Dunwoody home, 17 reside throughout nearby Atlanta. Nonetheless, we strongly recommend identifying a staff contact at the City (ideally the bike/ped coordinator or other designated individual) and having him or her trained as an LCI to be able to understand safety education and provide informed guidance to others. There may also be value to having a designated contact within Dunwoody Police do the same to provide a resource within the Police Department (as officers are frequently the party with the most opportunity to pass along guidance and information to bicyclists, motorists, and other users).

For individuals interested in improving their mechanical knowledge (useful for self-repairing the small and manageable issues that a bicycle may experience), the City of Chamblee (which borders Dunwoody on the southeastern corner) is home to a bicycle cooperative, Communicycle<sup>xiii</sup>. Bicycle cooperatives such as Communicycle function on the work of primarily volunteers, who teach customers how to conduct their own repairs and assist them in making repairs; the relative proximity of Communicycle offers a great opportunity for Dunwoody residents seeking to expand their ability to make their own repairs. As Communicycle is currently in need of renewed volunteer interest, it may be a good time to encourage a partnership between their organization and city staff (as well as local advocates).

One avenue some communities take advantage of for conveying bicycle skills and knowledge is at-school bike education. For example, the Portland Bureau of



Transportation offers extensive resources for schools in the city to educate (and encourage) children on how to bike and walk safely to and from school. Schools frequently partner with local advocacy organizations and funding partners to provide hands-on bicycle training for children as part of their school day, in addition to providing the operational resources needed to encourage bicycling and walking to school. Dunwoody has designated Safe Routes to School contacts at each of the city's public schools, but has no current programming to encourage bicycling, educational or otherwise. **Expansion and coordination of the city's Safe Routes efforts** is an important step toward matching best practices in other communities such as Weston and Folsom. Some short-term targets should be the **formalization of a recurring "bike rodeo" and the development of a small incentive and education program for children to participate** in (perhaps organized around a particular day or week of the year). Ideally, these programs will serve as a microcosm of the city's larger efforts, combining engineering, education, encouragement, enforcement, and evaluation around bicycling (and walking) to school for thousands of Dunwoody students.



Although training bicyclists is a major component of a bicycle friendly community, it is equally important to provide other users with the best training and information on how to safely coexist with bicyclists when sharing facilities or interacting at places such as crossings, intersections, or in areas where separated infrastructures merge. Emphasizing these components during driver's education and driver's license testing can be highly valuable and is highly recommended; We recommend coordinating with state and county offices to further this mission and build collaborative bonds with other jurisdictions pursuing similar ends. One easy internal step in the same spirit is to **require bike-specific training for all city staff and other professionals who operate vehicles on behalf of the city**. For example, introducing a training module on how to safely pass, turn, notice, and otherwise share roadways with bicyclists is a small but valuable short-term step towards greater roadway safety for all parties.

Providing child- and adult-specific classes on how to ride a bike can be valuable in a community with as many children and families as Dunwoody. It may also be useful to consider offering a brief training course for parents to prepare them to teach their children how to ride a bike, as well as giving them the resources they need to pass on accurate information and guidance to their kids. Taking advantage of a population of caring and motivated parents, as well as enthused local and regional bike advocates and educators, could produce a regular but not overwhelming set of how-to-ride offerings within Dunwoody. **Committing the resources to advertise and support these and other education programs** (especially in their infancy) is an important step toward a bicycle-friendly Dunwoody.

In many cities bicycle crashes reveal flaws in engineering, as particular problem areas reveal themselves through the occurrence of repeated crashes or collisions. In Dunwoody, however, the last five years of data reveal no regular problem areas, but rather a rash of problem behavior. Half of the crashes that occurred during the last five years involved what are known as right or left “hooks”, crashes that occur between bicycle and motor vehicle when a motor vehicle makes an unsafe turn in front of the path of the person on bike. This is an issue that is common in many other communities as well, and generally comes down to a lack of understanding on the part of the motorist of relative speed and a misjudgment of how to safely proceed when making a turn with bicyclists nearby (particularly when the bicyclist is in a bike lane or parallel trail). **A focused education (and enforcement) campaign on hooks and other motor vehicle-bicycle interactions is needed to help avoid similar issues down the road.**



## ENCOURAGEMENT

Like education, encouragement is an important complement to good engineering practice. While infrastructure and information comprise two major barriers to bicycling, individuals may encounter other barriers to action or motivation that must be addressed through encouragement programs and projects. Survey findings have established a strong base of understanding around the role of conditions like traffic speed and traffic volume as prominent barriers to bicycling<sup>xiv</sup>, but often just as important are motivators to bicycling<sup>xv</sup>. Simply put, removing barriers may facilitate an action, but without motivation a barrier-less environment is worthless for changing behavior. On the other hand, motivation can overcome many barriers, as evidenced by the enthused riders who currently navigate many of Dunwoody's higher-stress streets. A bicycle friendly Dunwoody not only removes barriers that prevent bicycling, but also provides the conditions to excite and motivate more people to bicycle.

To effectively encourage bicycling it's best to identify common local barriers and motivators to bicycling and addressing them through the combination of different programmatic "tools". For example, a community might identify major financial gain and extra free time as motivators for area employees. This knowledge then informs the development of an encouragement program that provides cash incentives to bicycle commuters for riding. Alternatively, the city might **encourage employers to capture the financial benefits to the company of having employees bike to work** (such as reduced healthcare costs, higher productivity, etc.) and providing some of that return back to employees in the form of special benefits, extra paid vacation, or bonuses. Packaging best practice examples and information about these programs as well as publicly highlighting companies that take steps in this direction is a manageable step that will quickly provide incentives to bike commuting at the employer level, which provides direct benefits to the employees, employers, and the community at large.

Since encouragement programs can require a detailed and evolving understanding of a local community, it can be harder to recommend specific encouragement efforts than it is to recommend engineering actions. Fortunately, this also makes encouragement one of the areas where innovation and ambition can catapult a city into national-level recognition. St. Paul and Minneapolis (the Twin Cities) are well known for their encouragement programs, with a large incentive-based data collection program known as Zap (which is operated with bike rack manufacturing Dero), as well as notable examples of large employers (such as QBP) capturing the financial value of bike commuting to their company and investing some of that value into bike commuting resources and incentives<sup>xvi</sup>. On its path to becoming more bicycle friendly, we recommend that Dunwoody **commission or partner with PCIDs on a study to assess the interest and opportunities related to bicycling among large area employers, and select a number of viable pilot encouragement programs or practices** (and of course evaluate their value after a given period of time). The city might identify that something truly ambitious, such as a bicycle commuter tax credit for residents who bike to work or for



employers who provide specific bicycle facilities, is not only viable but quite desirable for their bicycle friendly future.

An important partner in providing encouragement programs in Dunwoody will be the Perimeter Community Improvement District (PCID), which has a history of providing transportation demand management (TDM) encouragement programs in the Perimeter area. While PCIDs' funding and mandate will limit its ability to operate beyond the CID boundaries, a partnership with Dunwoody could provide a cohesive approach to identifying needs and opportunities and then optimally implementing a context-driven approach. One programming opportunity that may have value for both partners could be a "Bicycle Friendly Business" program, utilizing the League of American Bicyclists' BFB program in tandem with incentives (tax, development, or otherwise) to encourage businesses to apply for and earn BFB recognition. Alternatively, PCID and Dunwoody together could develop their own BFB priorities and a local program of their own.

Although understanding the unique barriers, motivators, and opportunities of an area can be essential to developing effective encouragement efforts, there are some general approaches that have been successful in other communities and can be quickly implemented locally. Many cities focus on a particular period of time for their bike-focused marketing and communications efforts, such as National Bike Month (May), Bike to Work Day, or a Bike to Work Week. Cities may also choose to select their own time period and build events and exposure around it. Commute competitions or other challenges built around logging bicycle trips or encouraging new riders can be a more focused way to build excitement and offer incentives (such as prizes from local businesses) without requiring a more extended financial commitment. PCID and the City of Dunwoody have both offered special programming during Bike to Work Week in the past, and a return to and expansion of this programming would be an easy and effective way to promote the value of bicycling and Dunwoody's commitment to encouraging bicycling.



It is also recommended that Dunwoody **work with local recreational bike groups** (such as the Dunwoody Cycling Club) **on the development of a signature bike-related event**. Ideally, this event should fit the spirit of the community in multiple ways and have the full backing of the city leadership and business community. A growing number of communities are implementing “open streets” events, where a prominent roadway is closed to motor vehicle traffic for a few hours on a Sunday afternoon, making the space available for children and families to play, interact, and celebrate their city<sup>xvii</sup>. Such an event in Dunwoody could include a central corridor (such as Womack or Mt. Vernon) with local vendors, food trucks, and special activities. Other event options include a historic site bike tour or a competitive race for residents to spectate.

The Open Streets event is a particularly appealing option for Dunwoody due to the very immediate impact that these programs have on community development in the places they’ve been held. Atlanta Streets Alive, a comparable program held 2-3 times annually throughout Atlanta, regularly brings together more than 100,000 residents of the area to walk their neighborhoods together, to visit businesses they may not have seen before, to meet their neighbors and build the social bonds that make for safer and happier communities, all at a reasonably low cost. Most importantly, these programs give residents a chance to experience the different ways that public space (such as parks and roads) can be used to provide a benefit to the residents who pay for those facilities. These events can be game-changing ways to showcase how walkable or bikeable a community already is, simply by providing a spectacular opportunity for everyone to walk and bike where they may currently feel intimidated to do so.

Not all encouragement programming has to be so large in scope or ambition, however; some of the best encouragement tools are resources that help interested individuals to find the answers to their questions or to effectively navigate their community by bike. For this reason, we recommend that Dunwoody **produce and distribute (both in print and electronically) a citywide bicycle map** (a draft of such a map is included as an appendix here), as well as **consider implementing strategically located way-finding** signage tailored to individuals navigating throughout the community by bicycle. Especially as Dunwoody’s trail network expands, such signage will be an important tool for addressing information barriers. Examples of such way-finding systems can be found in cities like Chicago and Portland, and detailed guidance on said markings is available in the Manual on Uniform Traffic Control Devices (MUTCD).

One last simple encouragement step that Dunwoody could take is to focus on providing positive reinforcement and incentives for children who bike (and walk) to and from school. For example, **children who bike to school should have priority in arrival and departure from schools, and access to necessary support/resources** to reinforce the spirit of independence and responsibility that come with bicycling to school. Providing the necessary safety steps in place to make bicycling to school a viable choice for students is an important step toward a bike friendly Dunwoody. Focusing on Safe Routes and other child-based programming is a priority recommendation for Dunwoody for two major reasons: (1) it ensures that children are knowledgeable and aware of how



to safely bike and walk around their neighborhoods, helping them to be safer as well as healthier (and more attentive in school), and (2) riding and walking with their children is often a great way to engage adults in bicycling and walking. Additionally, having families as the indicator group for Dunwoody’s bicycle projects and programs will ensure that city investments are as effective as possible across the entire community, rather than only appealing to a narrower segment of the population.



## ENFORCEMENT

No matter how comprehensive the engineering and/or education, there will always arise cases where users come into conflict, make mistakes, or are unaware. In these cases, it becomes especially important to provide a legal and institutional framework that manages issues well and is consistently supporting the same goals. Additionally, those goals should be critically assessed to match the community's priorities and principles. Having rules that provide clear guidance and assign responsibility accurately and fairly is critical to the operation of a transportation system, especially when users of different types and abilities begin to cross paths. More often than not, it is a community's police force that is responsible for preserving and fostering that safe and harmonious coexistence, so it is important to provide them with the guidance and tools they need to be optimally effective. Police forces serve important roles as ambassadors for civic values and as the bridge between citizens and the seemingly abstract rules that govern them.



Courtesy of BikeWalk Dunwoody

Like most communities, Dunwoody's traffic laws are drawn from the Uniform Vehicle Code, with most of the city's traffic laws created through express duplication of Georgia state traffic law, also known as the Uniform Rules of the Road. Although the vast majority of these state traffic laws are also shared with other states, Georgia is one of a selected number of states with a 'safe passing distance' law. This law governs the passing of a bicyclist by a motorist, and requires that the passing vehicle motorist at least three feet of distance between their vehicle and the bicyclist being passed. This law is a notable example of deference to safety over convenience, and enforcement of this law and other traffic laws is an important part of a bicycle friendly community. By being aware of all applicable laws and ensuring that all users follow those laws, police

can act to protect the sanctity and function of laws that protect bicyclists and other users alike, ensuring that the priorities of a community are truly reflected in its practices.

While the safe passing distance law is a great boon to the safety of all users, it is also recommended that Dunwoody **implement local ordinances that place additional penalties on the harassment or harming of people on bicycle (and other vulnerable road users)**. These ‘vulnerable user’ laws allow for the punishment of dangerous and injury-causing traffic behaviors that are poorly captured by existing laws. For example, a collision of a motor vehicle with a bicyclist due to unsafe following distance is currently only a small traffic citation due to its innocuous ramifications when applying to fender-benders; for an automobile-bicycle collision, however, this could cause serious injury and should be treated more seriously. The city should also review other traffic laws that might improve safety for all users, such as a cell phone restriction for all users. Having such a law makes it clear to all parties that Dunwoody takes the safety of its citizens seriously, and will not allow the reckless behavior of anyone to threaten or endanger its residents.

Enforcement can mean a number of things, not solely the punitive punishment of violators of state and city law. It may on occasion be the case that the best approach to managing a problematic situation is not to wait for rule breaking and then punish violators, but rather to provide a more proactive, preventative stance or a flexible response structure. For example, many police departments **place a large emphasis on community engagement, requiring their officers to rotate through an extended period as a community liaison**. During this time the officers work with residents and local civic organizations to focus on crime prevention through education, awareness, and encouragement of safe practices. Opportunities for such programs in Dunwoody include the development of programs such as helmet and light giveaways (which encourage following state laws regarding helmet and light use on bikes), and local ticket diversion programs for violators of bicycle laws or motor vehicle laws pertaining to bicyclist safety. Since Dunwoody currently offers a first-time offender diversion program, the city should also consider partnering in a similar manner with other police forces to provide a bicycle ticket diversion program (which could intersect well with increased local education programs). These **community engagement roles should also place a greater focus on time spent walking and bicycling through the community** as part of the effort to build a stronger rapport with the community. **Consider having a police officer that can focus on teaching children (and adults) traffic safety from all perspectives, as well as providing additional traffic-safety programming as desired**. Police are an invaluable resource in addressing safety issues, but are far more effective when they have a strong relationship with the community they serve.

Perhaps the most valuable and in many ways easiest step in enhanced enforcement is to **train all officers of the force on state and local bike laws, as well as safe bicycling practices**. Georgia Bikes, the statewide advocacy group, offers on-demand police training courses that are POST-certified; Dunwoody PD should **host a series of local training sessions and require them as part of the department’s in-service training**



schedule. Another simple resource to offer is a **free and voluntary bike registration program**, which will assist in reducing bike theft and also better support the reclaiming of lost or stolen bicycles in the community. Finally, some basic infrastructure improvements can also improve safety and support good policing – **consider implementing street and trail lighting along all major bicycle and pedestrian corridors**. Lighting will reduce the likelihood of pretty crime, as well as improve conditions for those bicycling or walking during low or no-light conditions such as early or late commutes or evening errands or social outings.

## EVALUATION

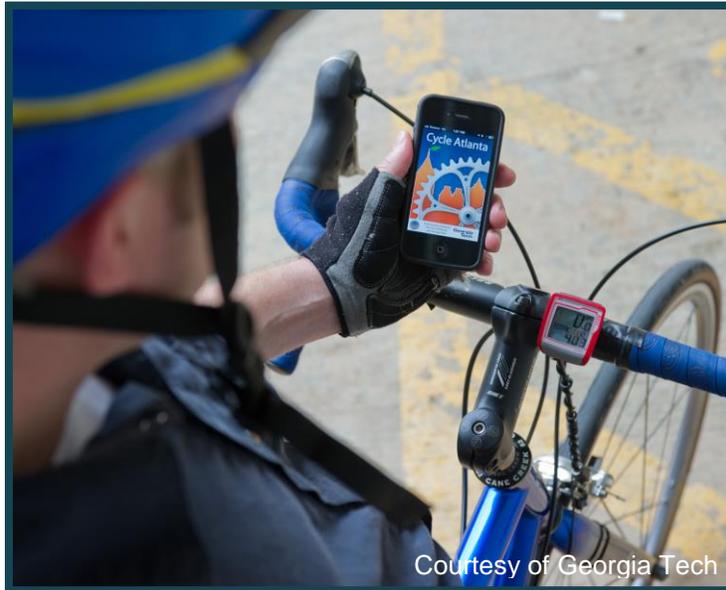
The final component of a bicycle friendly Dunwoody is the evaluation of bicycling, infrastructure, and associated programs. At its heart, evaluation is about ensuring that investments in engineering, encouragement, education, and enforcement provide the returns and outcomes desired, as well as collecting the information necessary to improve future investments. While some national-level data sources (such as the Census Bureau's American Community Survey (ACS) and the National Household Travel Survey (NHTS)) provide useful information about bicycling rates and bicycle commuting, the level of detail and accuracy at the municipal level is insufficient to accurately inform planning or policy choices. Rather, additional data collection is usually considered necessary; fortunately that data collection is also fairly feasible, though it may require time, volunteers, and/or other resources.

The principle methods that most cities use to collect information about bicycling behavior are surveys (which can be conducted by mail, phone, or online), manual counts, or automated counts. Each method comes with its own tradeoffs, and often cities elect to utilize multiple tools. Surveys offer the ability to gather additional information about respondents, such as demographic and trip data, preferences, and feedback. However, surveys require development, administration, and analysis, making them a time and labor (or cost) intensive affair. The selection of a survey format (via phone, mail, or online) can also mean sampling more or less of certain groups, though surveys do offer the ability to use statistical inference to generate broader findings than other methods. Finally, surveys can also be prone to deceit or misunderstanding, though these issues are usually manageable especially with practice and a quality survey instrument<sup>xviii</sup>.

Counts are another common evaluation tool, usually split into manual and automatic varieties. Automatic counts rely on a mechanical instrument (such as a pneumatic tube, infrared, or video counter) to capture a tally of people passing by a given spot on bicycle. Manual counts by contrast rely on volunteers stationed at a location to make note of passing bicyclists. While manual counts are for more time and labor intensive (almost always relying on volunteers), they do offer the ability to gather some additional information (riding behavior, gender, some survey questions if riders are willing to stop) and are far less costly than automatic counters, which are traditionally limited in their data collection range but offer the ability to collect data constantly<sup>xix</sup>.

The final data collection tool being commonly used by municipalities in the United States is the GPS application. In these cases, rather than collecting information from riders at a particular point or hoping to hunt them down with a survey, cities develop an application (such as Atlanta's CycleAtlanta app) or partner with an existing application developer (such as Strava or Endomondo). Riders use these apps as a way to keep track of their rides or to earn certain rewards, as in the case of Strava, Endomondo, and the encouragement application Love to Ride. Trip data and rider data is collected by the app, and then made available to the city as a way to inform investments in bicycle infrastructure, programs, and policies.





Courtesy of Georgia Tech

While Dunwoody currently has base bike commute information courtesy of the ACS, it is difficult to assess how accurate it is or to use it as the basis for any decision-making. A bicycle friendly Dunwoody needs to have access to better information about bicycling rates, bike commuting rates, preferred routes, issues and opportunities, etc. For the purposes of Dunwoody's first foray into data collection and evaluation we recommend using a mixture of different tools to build an operational comfort with each and establish a local appreciation for their mixture of benefits and limitations. Specifically, we recommend that the city **consult with ARC's bike/ped data collection project to secure an opportunity to use an automated counter** at a couple of prioritized locations. This counter can also be used as a way to generate a base estimation of how utilized a corridor currently is, prior to infrastructure or program changes. Additionally, **manual counts should be conducted twice annually in specific (and consistent) locations**, such as Brook Run Park (at Peeler and N Peachtree), Perimeter Center at Ashford Dunwoody, or other key bicycle intersections. Finally, a **survey should be made available to residents in a variety of formats to gauge their frequency of bicycling, as well as their interest, motivations, and barriers**.

While much of the evaluation discussion above focuses on collecting rider and trip information, we also recommend using the survey instrument and other tools, as well as public participation opportunities, to engage with the residents of Dunwoody regarding their priorities, concerns, and vision for a bicycle friendly Dunwoody. Especially useful might be **implementing experimental pilot projects along particular corridors and evaluating user experiences and preferences**, or providing other opportunities to try out different projects and programs and allow residents to try them out. As is often the case with transportation projects, seeing and experiencing are critical parts of understanding.

Trip data and rider data are major components of a good evaluation program and can assist in a number of ways, particular when planning and designing additions, updates, or other changes to the bicycle infrastructure network. However, decision-making around planning and implementation for bicycle infrastructure often requires being aware of myriad, unique experiences of people on bikes compared to other users. Bicycling is generally hampered by traffic speed and volume, factors that are considered positive for motor vehicle level of service. Because of the unique needs and priorities of a bicycle network, many cities (and other agencies) collect data about the quality of infrastructure segments, intersections, and the network at large. These performance measures<sup>xx</sup> are often a variant on similar measures adopted for other modes, with an emphasis on the particular aspects of user experience that have been identified as essential. The most common evaluation tool for this is Bicycle Level of Service (BLOS)<sup>xxi</sup>, though others have been developed as well, such as Multi-Modal Level of Service (MMLOS)<sup>xxii</sup>. Though there are many variants on BLOS, and some strong criticisms of relying too heavily upon performance metrics, BLOS is a valuable basis for comparison between segments and across time.

Currently, Dunwoody does not collect BLOS or other bicycle-specific data about their network, including frequency counts or other volume-based information. We recommend that Dunwoody **collect preliminary BLOS data** (much of which is easily calculated with existing roadway data) **and then conduct a public engagement process to evaluate the accuracy of the BLOS ratings for the local network, then establish targets for BLOS grades across the network**. This will greatly assist the optimal implementation of the city's Complete Streets policy.

It is important to note that BLOS is not without its flaws and criticisms, so it's important to recognize not as a replacement for good, conscientious and context-sensitive decision-making and other evaluation mechanisms, but as a useful and informative supplement. As other potentially superior alternatives arise they should likewise be considered as replacements or supplements to BLOS and other evaluation metrics.



## CONCLUSION

With a rapidly growing infrastructure network fueled by a hard-working Complete Streets Policy, active and supportive city staff, and motivated citizenry and advocates, Dunwoody is quickly climbing toward bicycle friendliness. With a little expansion of that effort and focus on the part of city government and local stakeholders into education, encouragement, and evaluation, Dunwoody would have a solid application for Bicycle Friendly Community status and could reasonably expect a Bronze-level recognition. Alternatively, the city could elect to take the more ambitious and ultimately more rewarding route: build upon this assessment and select a suite of recommended projects and programs to implement over the next 2 to 3 years. Dunwoody should evaluate the impact of those efforts on selected key metrics (mode share, survey feedback, crash incidence, BLOS, bicycle network connectivity, etc.) in order to expand the programs providing the most value and improve those proving less effective.

Perhaps most valuable would be to identify one prominent infrastructure project (ideally one that can be implemented in stages, such as the Dunwoody Trailway) aimed to connect the city's geographic resources and destinations, eventually beyond the city limits; an education program (perhaps focused on bicycle education in schools); an encouragement program (we recommend an Open Streets event); an enforcement program (adopt a vulnerable user law); and an evaluation program (regular counts and surveys). Together, these five elements will showcase Dunwoody's commitment to bicycling and make a strong case for Silver BFC status-which would make Dunwoody the highest-rated BFC in the state of Georgia, and among the highest in the entire Southeast. That message would resonate loudly as a positive sign to potential residents and employers alike, a signal of Dunwoody's appealing work and life environment. Those improvements will also create a safer, more livable community for all residents, and contribute positively to the long-term vision of this historic suburban community.

## APPENDIX

### Appendix 1. Bicycle Friendly Community Application

#### NAME OF COMMUNITY

Name of Community **Dunwoody**

County **Dekalb**

State **Georgia**

Has the community applied to the Bicycle Friendly Community program before? **No**

If yes, what was the result of the last application?

If designated, what year was your community first awarded a Bronze or higher award?

Mayor or top elected official (include title) **Mayor Mike Davis**

Phone **678-382-6707**

Email **mike.davis@dunwoodyga.gov**

Address **41 Perimeter Center East, Suite 250, Dunwoody, GA 30346**

Community Website **[www.dunwoodyga.gov](http://www.dunwoodyga.gov)**

#### BFC CONTACT PROFILE

*Note: This person will receive any future BFC related communication from the League.*

Name of BFC contact **Rebecca Keefer**

Title **Director of Sustainability**

Department

Employer **City of Dunwoody**

Address **41 Perimeter Center East, Suite 250**

City **Dunwoody**

State **Georgia**

Zip **30346**

Phone **678-382-6811**

Email **Rebecca.keefer@dunwoodyga.gov**

Is the BFC contact also the Bicycle Program Manager?

**Yes**

**No**

If no, does your community have a Bicycle Program Manager?

**Yes**

**No**

If different from above, what is the Bicycle Program Manager’s contact information?  
Please include name, email and phone number.



If different from above, what is the contact information of the Director of your community's Department of Transportation (or equivalent). Please include name, email and phone number.

Mike Smith, Director of Public Works, (678-382-6700), michael.smith@dunwoodyga.gov

Applicant name and email, if different from BFC contact or Bicycle Program Manager contact

## COMMUNITY PROFILE

1. Type of Jurisdiction (*Note: The application will be referring to your type of jurisdiction as "community" throughout the application, which does not include bicycle amenities, services and other resources outside your boundaries.*)

- Town/City/Municipality**
- County**
- Metropolitan Planning Organization/Council of Governments**
- Regional Planning Organization**
- Rural Planning Organization**
- Census Designated Place**
- Indian Country**
- Military Base**
- Other**

If other, describe (*50 word limit*)

2. For purposes of comparison, would you describe your community as largely

- urban**
- suburban**
- rural**

3. Climate

Average daytime temperature (*in °F*)

**January 45**

**April 61**

**July 78**

**October 61**

Average precipitation (*in inches*)

**January 3.5"**

**April 3.7"**

**July 4.5"**

**October 4.0"**

4. Size of community (*in sq. mi.*)



**Total area 13.7 sq mi**  
**Water area .23 sq mi**  
**Land area 12.95 sq mi**

5. Total Population **47,591**

5a. College/University student population (*during semester*)

- 10% or less**
- 10-25%**
- 25-50%**
- 50-75%**
- more than 75%**
- N/A**

6. Population Density (*Person per sq. mi. of land area*) **3,474/sq mi**

7. Median Household Income **\$75,671**

8. Age distribution (in percent)

**Under 5 7.3%**

**Age 5-19 23.4%**

**Age 20-64 57%**

**Age 65+ 12.3%**

**Totals (should equal 100)**

9. Race (in percent)

**White 64%**

**Black or African American 12.6%**

**American Indian and Alaska Native 0%**

**Asian 11.1%**

**Native Hawaiian and Other Pacific Islander**

**Some other race**

**Two or more races**

**Totals (should equal 100)**

**Hispanic or Latino (of any race) 10.3%**

10. How many government employees (including the Bicycle Program Manager), *expressed in full-time equivalents (FTE)*, work on bicycle issues in your community?

**.25**

Learn how to calculate FTE here:

[anfponline.org/Resources/DMAResources/calculate\\_FTEs.shtml](http://anfponline.org/Resources/DMAResources/calculate_FTEs.shtml)

11. What percentage of the community's Bicycle Program Manager's time is spent on bicycling issues?

- 10% or less**
- 11-25%**



- 26-50%
- 51-75%
- 76-100%
- N/A

12. Do you have an officially recognized Bicycle Advisory Committee?

**Yes**

**No**

12a. How often does it meet?

- Monthly or more frequently
- Every two months
- Quarterly
- Annually

12b. How many members serve on the committee?

12c. Which of the following groups are represented or regularly attend the Bicycle Advisory Committee?

*Check all that apply*

- User Group
- Law Enforcement
- Chamber of Commerce
- Public Health
- Planning Department
- Transportation Department
- School Board
- Parks Department
- Recreation Department
- Transit Agency
- Other

If other, describe (*50 word limit*)

12d. Name and email of Bicycle Advisory Committee Chair

13. List all bicycle advocacy groups in your community **Bike Walk Dunwoody**

13a. List the name and email of the primary contact for each bicycle advocacy group. If a primary contact is the applicant or BFC contact, list an alternative contact.

**Joe Seconder, jseconder@yahoo.com**

13b. List all advocacy groups that are working with you on this application **Bike Walk Dunwoody**

14. What are the primary reasons your community has invested in bicycling?



Check all that apply

- Improved quality of life
- Improving public health
- Community connectivity
- Transportation options
- Reduce car-parking demands
- Climate change/environmental stewardship concerns
- Decrease traffic congestion
- Increase tourism
- Increase property values
- Cooperation with adjacent communities
- Public demand
- Economic development
- Support Smart Growth or other growth management goals
- Traffic and bicycle/pedestrian safety
- Meet local or state requirements
- Other

If other, describe (50 word limit)

15. What was your community's most significant achievement for bicycling in the past 12 months? (500 word limit)

**Have demonstrated the city's commitment to implementing its Complete Streets Policy without fail since adoption. Though the process will take time, this demonstrates a long-term vision for a comprehensive multi-modal transportation network in Dunwoody. Additionally, Dunwoody opened its first multi-use trail and first buffered bike lanes in the last year!**

16. If you have applied to the BFC program before, describe any improvements that have occurred for cycling in your community since your last application. (500 word limit)

17. What specific improvements do you have planned for bicycling in the next 12 months? (250 word limit)

**Major resurfacing projects on central arterials will leave those roads with new bicycle infrastructure for the first time, and provide 3+ miles of centerline mileage connecting across the community (enough to bridge a major portion of the city). In addition, the community's first multi-use trail will be expanded from a 2 mile loop to a 3.1 mile loop-and-spur trail connecting the community's major park to an area of dense housing and mixed use development.**

**ENGINEERING**

18. Does your community currently have any of the following policies in place?



*Check all that apply*

- Local complete streets policy**
- Local bicycle accommodation policy**
- Neither**

18a. When was it adopted? **August 2011**

18b. Provide a link or attach a copy of this legislation or policy

<http://www.smartgrowthamerica.org/documents/cs/policy/cs-ga-dunwoody-policy.pdf>

18c. What tools are in place to ensure implementation?

*Check all that apply*

- Implementation Guidance**
- Design Manual**
- Training**
- Oversight by Bicycle Program Manager**
- Implementation checklist**
- None of the above**

19. Does your community currently have any of the following additional policies in place?

*Check all that apply*

- Design manual that ensures the safe and appropriate accommodation of bicyclists in every new road project**
- Streetscape design guidelines**
- Mixed-use zoning**
- Form-based/design-based codes**
- Connectivity policy or standards**
- Policy to preserve abandoned rail corridors for multi-use trails**
- Other`**
- None of the above**

If other, describe (50 word limit)

20. How do you ensure your engineers and planners accommodate cyclists according to [AASHTO](#), [MUTCD](#) or [NACTO](#) standards?

*Check all that apply*

- Offer FHWA/NHI Training Course**
- Hire outside consultants to train staff**
- Send staff to bicycle-specific conferences/training**
- APBP webinars**
- Require project consultants to have bike/ped qualifications**
- Adopted a local design manual**
- Other**
- None of the above**



If other, describe (50 word limit)

21. Which of the following significant physical barriers to cycling exist in your community?

*Check all that apply*

- Major highways**
- Bridges that are inaccessible or unsafe for cyclists**
- Tunnels that are inaccessible or unsafe for cyclists**
- Large body of water (e.g. river)**
- Roads with bicycle bans**
- Railroad corridors**
- Other**
- No significant physical barriers**

If other, please describe (100 word limit)

22. How do you ensure that there are end-of-trip facilities for bicyclists?

*Check all that apply*

- Bike parking ordinance for existing buildings specifying amount and location**
- Bike parking ordinance for all new developments specifying amount and location**
- Ordinance requiring showers and lockers in existing non-residential buildings**
- Ordinance requiring showers and lockers in new non-residential buildings**
- Building accessibility ordinance (Bicycles are allowed to be parked inside non-residential buildings)**
- On-street bike parking/bicycle corrals**
- Ordinance that allows bike parking to substitute for car parking**
- Requirement for new developments to meet LEED-Neighborhood Development silver standards or higher**
- Developers are eligible for density bonuses for providing end-of-trip facilities**
- Other**
- None**

If other, describe (250 word limit)

23. Do your standards for bicycle parking conform with [APBP guidelines](#)?

**Yes**

**No**

**No standards**

24. What is the total number of public and private bike parking spaces in your community? **Unknown**



24a. What percentage of bike racks conform with [APBP guidelines](#)?

- 10% or less
- 11-25%
- 26-50%
- 51-75%
- more than 75%

**Unknown**

24b. Of the total bike parking available, please specify the percentage of bike parking spaces that are:

**Bike lockers 0%**

**In bike depots (i.e. Bikestation) 0%**

**In bike corrals (on-street bike parking) 0%**

25. Approximately *what percentage* of the following locations has bike racks or storage units?

*Answer all that apply (in percent)*

**Public & private schools 100%**

**Higher Education Institutions 100%**

**Libraries 100%**

**Transit stations and major bus stops 100%**

**Parks & recreation centers 62.5%**

**Other government owned buildings and facilities 100%**

**Event venues (e.g. convention center, movie complex) Unknown**

**Hotels & restaurants Unknown**

**Office buildings Unknown**

**Retail stores Unknown**

**Multi-family housing Unknown**

**Public housing Unknown**

26. Does your community have transit service (bus, light rail, heavy rail)?

**Yes**

**No**

26a. What percentage of buses are equipped with bike racks?

- 10% or less
- 11-25%
- 26-50%
- 51-75%
- 75-99%
- All

26b. Are bikes allowed inside transit vehicles?

**Yes**

**Sometimes**



**No**

If yes or sometimes, describe (50 word limit)

*Bikes are allowed inside all MARTA heavy rail vehicles at all times*

27. What is the centerline mileage of the *existing* off-street bicycle network within your community? **2 miles**

27a. How many miles of the following off-street bicycle accommodations do you have?  
*Answer all that apply (in miles)*

**Paved shared use paths (≥10 feet) 2 miles**

**Natural surface shared use paths (≥10 feet) 0**

**Singletrack 0**

**Other**

If other, describe (250 word limit)

27b. What percentage of all natural surface trails and singletrack are open to bicyclists?

**None**

**1-25%**

**26-50%**

**51-75%**

**76-99%**

**All**

**Not applicable**

27c. What are the exceptions? (100 word limit)

28. What is the centerline mileage of your road network (including state owned and private roads)? **145 miles**

28a. What is the street network density? (*centerline miles of road per sq. mi. of land area*) **22.63 miles/sq mile of land area**

28b. What percentage of roads has posted or design speeds of 25mph and lower?  
**94%**

28c. What percentage of roads has posted or design speeds of 35mph and higher?  
**6%**

28d. What percentage of the existing on-street bicycle network *meets or exceeds* current [AASHTO](#), [MUTCD](#) or [NACTO](#) standards?

**99%**

28e. List your existing on-road bicycle accommodations that *meet or exceed* [AASHTO](#), [MUTCD](#) or [NACTO](#) standards.

*Answer all that apply (in centerline miles)*



Conventional bike lanes (*ridable surface  $\geq 4$ feet*) **9.15**

Shared lane markings (on roads with  $\leq 35$ mph speed limits) **0.17**

Contra-flow bike lanes **0**

Protected or buffered bike lanes (one-way) **1.21**

Protected or buffered bike lanes (two-way) **0**

Raised cycle tracks **0**

Left-side bike lanes **0**

Bike boulevards or Neighborhood Greenways **0**

Wide paved shoulders (*ridable surface  $\geq 4$ feet and minimum clear path of  $\geq 4$ feet between rumble strips*) **1.27**

29. What other ways have you improved conditions for bicyclists?

*Check all that apply*

- Road diets**
- Area wide traffic calming**
- Speed limits 20 mph or less on residential streets**
- Bike cut-throughs**
- Signed bike routes**
- Off-street way-finding signage with distance and/or time information**
- On-street way-finding signage with distance and/or time information**
- Shared Space/Home Zone/Living Street/Woonerf**
- Roundabouts that accommodate bicycles**
- Colored bike lanes outside of conflict zones**
- Bike/pedestrian overpasses/underpasses**
- Removal of on-street car parking**
- Speed tables to calm traffic**
- Car-free/Car-restricted zones**
- Advisory bike lanes**
- Other**
- None**

If other, describe (*250 word limit*)

30. What percentage of arterial street centerline mileage provides a designated space for cyclists that meets or exceeds AASHTO standards? Please note that bike route signage, bikes may use full lane signage (R4-11), and sidewalks/trails  $< 10$ feet are not considered bicycle facilities in this context.

**22% (currently; programmed to be  $> 61\%$  by the end of 2016)**

31. Which of the following broader transportation policies and programs are in place in your community?

*Check all that apply*

- Maximum car parking standards**
- No minimum car parking standards**
- Paid public parking**
- Shared-parking allowances**



- Congestion charges**
- Prioritization of active mobility in planning and design processes**
- Other**
- None**

If other, describe (250 words)

32. What maintenance policies or programs ensure the *on-street* bicycle facilities remain usable and safe?

*Select all that apply*

**Maintenance and repairs are conducted in the same fashion and schedule as for all other transportation facilities (city uses a cycle of sweeping and resurfacing, and uses See-Click-Fix system for reporting and responding to other issues).**

32a. Street sweeping

- Before other travel lanes**
- Same time as other travel lanes**
- Weekly**
- Monthly**
- Quarterly**
- Annually**
- Never**
- No on-street bicycle facilities**

32b. Snow clearance

- No snow**
- Before other travel lanes**
- Same time as other travel lanes**
- Within 48 hours of storm**
- Never**
- No on-street bicycle facilities**

32c. Pothole maintenance

- Within 24 hours of complaint**
- Within one week of complaint**
- Within one month of complaint**
- Never**
- No on-street bicycle facilities**

32d. Describe any other maintenance policies or programs for the on-street bicycle network. (100 word limit)

**All city maintenance and repairs are prioritized based on urgency and severity; some issues are fixed within 24 hours max, others less immediately.**



33. What maintenance policies or programs ensure the *off-street* bicycle facilities remain usable and safe?

*Check all that apply*

33a. Path sweeping

- Weekly**
- Monthly**
- Quarterly**
- Annually**
- Never**
- No off-street bicycle facilities**

33b. Vegetation maintenance

- Weekly**
- Monthly**
- Quarterly (as needed)**
- Annually**
- Never**
- No off-street bicycle facilities**

33c. Snow clearance

- No snow (if snow, cleared within 5 days)**
- Before roadways**
- Same time as roadways**
- Within 48 hours of storm**
- Never**
- No off-street bicycle facilities**

33d. Surface repair

- Within 24 hours of complaint**
- Within one week of complaint**
- Within one month of complaint**
- Never**
- No off-street bicycle facilities**

33e. Describe any other maintenance policies or programs for the off-street bicycle network, if applicable. *(100 word limit)*

**All city maintenance and repairs are prioritized based on urgency and severity; some issues are fixed within 24 hours max, others less immediately.**

34. Is there a mechanism in place for cyclists to identify problem intersections or areas to traffic engineers and planners?

*Check all that apply*

- Online reporting**



- Hotline**
- Monthly meeting**
- Other**
- None**

If other, describe (100 word limit)

35. How do you accommodate cyclists at intersections in your community?

*Check all that apply*

- Most signals are timed**
- Most signals are timed for bicycle speeds**
- Green wave for cyclists in some locations**
- Demand activated signals with loop detector (and marking) or bike accessible push-button**
- Video or microwave detection**
- Bicycle Signal Heads**
- Advanced Stop Line or Bike Box**
- Path crossing with high visibility markings or signs**
- Raised path crossings**
- Colored bike lanes in conflict areas**
- Other**
- None of the above**
- No signals**

If other, describe (100 word limit)

36. Describe any other amenities or infrastructure improvements that your community provides or requires that create a comfortable and attractive bicycling environment. (500 word limit)

## EDUCATION

37. What percentage of your public and private schools offer bicycle education, e.g. through a Safe Routes to School or similar program?

37a. Elementary

- None**
- 1-25%**
- 26-50%**
- 51-75%**
- 76-99%**
- All**
- Not applicable**

37b. Middle School

- None**
- 1-25%**
- 26-50%**



- 51-75%
- 76-99%
- All
- Not applicable

37c. High School

- None
- 1-25%
- 26-50%
- 51-75%
- 76-99%
- All
- Not applicable

38. Outside of schools, how are children taught safe cycling skills?

*Check all that apply*

- Youth bike clubs
- Bike clinics or rodeos
- Youth recreation programs
- Helmet fit seminars
- Safety town
- Trail riding classes
- Other
- None of the above

If other, describe (250 word limit)

39. Do you have a ticket diversion program?

*Check all that apply*

- For motorists
- For cyclists
- No

40. What have you done in the last 18 months to educate motorists and bicyclists on sharing the road safely?

*Check all that apply*

- Public service announcements
- Share the Road educational videos on community website/TV channel
- Community newsletter/magazine article
- Information in new resident packet
- Utility bill insert
- Flyer/handout
- Info sessions/lunch seminars
- Bicycle ambassador program
- Newspaper column/blog on bicycling
- Dedicated bike page on community website
- Billboards



- Share the Road Signs**
- Share the Road information in driver's education**
- Other**
- None of the above**

If other, describe (250 word limit)\

**Dunwoody Police uses social media to regularly promote awareness of specific issues through focused education campaigns.**

41. How many times per year are the following adult bicycling education classes held within your community?

Answer all that apply (in numbers)

**Traffic Skills 101 classes or equivalent (full-day training course, including classroom and on-bike instruction) 0**

**Cycling Skills classes (three to four hour classroom training courses) 0**

**Commuter classes (one to two hour classes) 0**

**Bicycle maintenance classes or workshops 0**

42. Do you offer regular bicycle skills courses for your city engineers and planners that include on-bike instruction and in-traffic cycling?

**Yes**

**No**

43. Has your community hosted a League Cycling Instructor seminar in the past two years?

**Yes**

**No**

43a. How many League Cycling Instructors are there in your community? *Tip: Enter your community name under "Connect Locally" at bikeleague.org. Then click "Find League Cycling Instructors in the top right corner of the map to see a list of active instructors.*

**0 (though 17 reside in neighboring Atlanta)**

43b. List League Cycling Instructors that have taught *at least one class during the past 12 months.* (250 word limit)

**N/A**

44. Which of the following groups of professional drivers have training that includes information on sharing the road with cyclists?

Check all that apply

- City staff**
- Taxi drivers**
- Transit operators**
- School bus operators**
- Delivery drivers**
- Other**



**None of the above**

If other, describe (100 word limit)

45. Describe any efforts your community has made to ensure your education programs reach traditionally underserved populations of all age groups, particularly seniors, women, youth and adult minorities and non-English speakers, and persons with disabilities. (250 word limit)

N/A

46. Describe any other education efforts in your community that promote safe cycling. (500 word limit)

N/A

## ENCOURAGEMENT

47. How do you promote National Bike Month/your own dedicated Bike Month?

Check all that apply

- Official Proclamation**
- Community Rides**
- Mayor-led/Council-led Ride**
- Public Service Announcements**
- Videos promoting bicycling on community website/TV channel**
- Publish a guide to Bike Month Events**
- Bike Month Website**
- Commuter Challenge**
- National Bike Challenge**
- Bike Commuter energizer stations/breakfasts**
- Car-free days**
- Open Streets/Ciclovia/Sunday Parkways**
- Mentoring program for new riders**
- Bike valet parking at events**
- Bike to School Day**
- Bicycle-themed festival/parade/show**
- Public education campaign relating to cycling (e.g. with a focus on public health or environmental benefits)**
- Trail construction or maintenance day**
- Other**
- No promotion**

If other, describe (250 word limit)

47a. What percentage of the population participates in Bike Month events? <1%



47b. Do you actively promote Bike to Work Day or other bicycle commuting incentive programs?

**Yes**

**No**

If yes, describe (500 word limit)

**Local Community Improvement District (CID) promotes Georgia Commute Options cash and prize commute incentives year round**

47c. Approximately what percentage of the community workforce do you reach on Bike to Work Day?

- None**
- 1-25%**
- 26-50%**
- 51-75%**
- 76% or more**

48. How do you promote bicycling *outside* of your official Bike Month?

*Check all that apply*

- Community and charity rides**
- Mayor-led/Council-led Rides**
- Videos on bicycling on community website/TV channel**
- Public Service Announcements**
- Trail construction or maintenance day**
- Open Streets/Ciclovia/Sunday Parkways**
- Commuter Challenge**
- [National Bike Challenge](#)**
- Business program that provides discounts for customers arriving by bicycle**
- Triathlons and bicycle races**
- Bike commuter events**
- Car-free days**
- Publish a guide to community bicycle events**
- Mentoring program for new riders**
- Bike valet parking at events**
- Bike to School Day**
- Bicycle-themed festivals/parades/shows**
- Public education campaign relating to cycling (e.g. with a focus on public health or environmental benefits)**
- Community celebration/ride each time a bicycle project is completed**
- Other**
- No promotion**

If other, describe (250 word limit)

49. List the signature cycling events that occur in your community. (250 word limit)

**Lunch Ride with the Mayor, 4<sup>th</sup> of July Bike Parade**



49a. How does the municipality sponsor or actively support these events?

*Check all that apply*

- Organize the event**
- Fund event**
- Contribute in-kind funding (i.e. police presence, closing roads, etc)**
- Assist in promoting the event**
- Other**
- No support/ Not applicable**

If other, please describe (*100 word limit*)

50. Does your local tourism board or chamber of commerce promote bicycling in your area?

**Yes**

**No**

If yes, describe (*250 word limit*)

**Economic Development Department is strong supporter of value of bicycle infrastructure to community's economic future, interested in partnering with business community to build on this aspect.**

51. Are there cycling clubs in your community?

*Check all that apply*

- Recreational bike clubs**
- Mountain bike clubs**
- Friends of the Trail groups**
- National Mountain Bike Patrol**
- Racing clubs or teams**
- Other**
- No**

If other, describe (*100 word limit*)

51a. List the names of the clubs.

(*500 word limit*)

### **Dunwoody Cycling Club**

52. How many for-profit specialty bicycle retailers (shops dedicated primarily to selling bikes and bike-related equipment) are there in your community?

**0 (though there are a number in neighboring communities, some less than 1 mile from the city boundary, such as REI)**

52a. List their names.

(*250 word limit*)

53. Which of these bicycling amenities do you have in your community?

*Check all that apply*



- BMX track**
- Velodrome**
- Cyclocross course**
- Mountain bike park**
- Pump tracks**
- Themed Loop route(s) around the community**
- Other**
- None**

If other, describe (*100 word limit*)

53a. Is there a skate park in your community?

**Yes**

**No**

If yes, do bikes have access to the skate park?

**Always**

**Sometimes**

**Never**

54. Are there opportunities to rent bicycles in your community?

**Yes**

**No**

55. Does your community currently have a bike sharing program that is open to the general public?

**Yes**

**No**

**Launching this year**

55a. If yes, please provide details about the system below.

**How many bikes are in the system?**

**How many stations are in the system?**

**How many trips are being made annually?**

56. Do you have any current League of American Bicyclists designated [Bicycle Friendly Businesses](#) in your community?

**Yes**

**No**

If yes, list the names of the businesses and their award level. (*250 word limit*)

57. Do you have any current League of American Bicyclists designated [Bicycle Friendly Universities](#) in your community?

**Yes**

**No**

**No institutions of higher education**

If yes, list the names of the institutions and their award level. (*250 word limit*)



58. Does your community have a bike co-op or non-profit community bike shop?

**Yes**

**No**

If yes, describe its services (250 word limit) **Neighboring Chamblee has one, Communicycle, that is currently trying to reestablish itself.**

58a. If yes, does the co-op/non-profit community bike shop receive support from the local government?

- Grants
- Free or subsidized property/space for a duration of at least 5 years
- Contracts for services, e.g. bicycle skills or maintenance education, event support, etc
- Free bicycle safety accessories for distribution, e.g. helmets or lights
- Provision of abandoned or impounded bicycles for resale
- Free PSA or advertizing space
- Other

If other, describe (250 word limit)

If the local government provides grants and/or free/subsidized property/space to the co-op/non-profit community bike shop, please list the annual value for each (*in Dollar*).

59. Does your community have youth recreation and/or intervention programs centered on bicycling?

*Check all that apply*

- Trips for Kids chapter**
- Earn a Bike program**
- Create a Commuter program**
- Other**
- None**

If other, describe (100 word limit)

60. What mapping and route finding information is available for your community, which has been updated in the last 18 months?

*Check all that apply*

- Web-based route finding service**
- Smart phone app**
- Printed/digital bicycle network map**
- Printed/digital mountain bike trails map**
- Printed/digital greenways and trails map**
- None of the above**

61. Describe any other programs or policies your community has to encourage cycling. (500 word limit)



## ENFORCEMENT

62. How does your police department interact with the local cycling community?

*Check all that apply*

- A police officer is an active member of bicycle advisory committee**
- Identified law-enforcement point person to interact with cyclists**
- No current formal interaction**
- Other**

If other, describe (100 word limit)

63. What kind of training is offered to police officers regarding traffic law as it applies to bicyclists?

*Check all that apply*

- Basic academy training**
- International Police Mountain Bike Association training**
- Law Enforcement Bicycle Association training**
- National Highway Traffic Safety Administration Law Enforcement Training**
- Completion of Smart Cycling course by one or more officers**
- Presentation by League Cycling Instructor or local cyclist**
- Institute for Police Training and Development bicycle training**
- No training offered**

64. What enforcement programs that target improving cyclist safety are in place?

*Check all that apply*

- Helmet giveaways**
- Light giveaways**
- Bike lock giveaways**
- Targeting motorist infractions**
- Targeting cyclist infractions**
- Positive enforcement ticketing**
- Share the road campaigns**
- Other**
- None of the above**

If other, describe (100 word limit)

65. What percentage of patrol officers are regularly on bikes?

**None**

**1-10%**

**11-20%**

**21-30%**

**31-40%**

**41-50%**

**More than 50%**



66. Are any other public safety (e.g. EMS) employees regularly on bikes?

**Yes**

**No**

If yes, describe (*50 word limit*)

67. Do police officers report cyclist crash data or potential hazards to traffic engineers and planners to identify sites in need of safety improvements for cyclists?

**Yes**

**No**

68. Which of the following safety services and amenities are available in your community?

- Emergency call boxes/phones along trails**
- Trail watch programs/ Trail patrols**
- Street lighting on most arterials**
- Street lighting on most non-arterials**
- Lighting of most shared-use paths**
- Stolen or impounded bikes recovery system or assistance**
- Non-mandatory bike registration**
- None of the above**

69. Are there any local or state ordinances that protect cyclists?

*Check all that apply*

- Specific penalties for failing to yield to a cyclist when turning**
- It is illegal to park or drive in a bike lane (intersections excepted)**
- Penalties for motor vehicle users that 'door' cyclists**
- Ban on cell phone use while driving**
- Ban on texting while driving**
- Photo enforcement for red lights and/or speed**
- Vulnerable road user law**
- Safe passing distance law**
- It is illegal to harass a cyclist**
- Other**
- None of the above**

If other, describe (*250 word limit*)

70. Do your local ordinances place any restrictions on cyclists?

*Check all that apply*

- Local law requires cyclists to use side paths regardless of their usability**
- Local law requires cyclists to use bike lanes when provided**
- Local law requires that cyclists are required to ride as far to the right of the road as practicable without exceptions**
- Local or school policies restrict youths from riding to school**
- Other**
- None of the above**



If other, describe (100 word limit)

71. Describe any other enforcement programs or policies relating to cycling. (500 word limit)

### EVALUATION AND PLANNING

72. Does your community have a comprehensive bicycle master plan or similar section in another document?

**Yes**

**No**

**Currently under preparation**

72a. If yes, please provide details about the plan below.

**Provide a link to the plan or describe. (250 word limit)**

**Section in Comprehensive Transportation Plan (CTP) on bicycle infrastructure; upcoming CTP update will have more substantial bicycle planning component.**

**When was it passed or most recently updated?**

**2011 update; forthcoming update now (2016)**

**Is there a dedicated funding source for implementation?**

**Yes**

**No**

**If yes, describe the funding source and designated amount (250 word limit)**

**There is no dedicated bike/ped funding, but Complete Streets policy provides for the implementation of much of the planned network.**

**What percentage of the current plan has been implemented?**

**N/A**

**Are you meeting annual target goals for implementation?**

**Yes**

**No**

73. Do you have a trails master plan that addresses mountain bike access?

**Yes**

**No**

If yes, provide the link to the plan or describe. (250 word limit)

74. Is there formal cooperation between the mountain biking community and the community recreation and planning staff?

**Yes**



**No**

If yes, describe (100 word limit)

75. Does your community have an on-going bicycle counting and/or survey program that allows for long-term trend analysis of cycling trips (e.g. participation in the [National Bicycle and Pedestrian Documentation Project](#))?

**Yes**

**No**

If yes, please describe the most recent results. (250 word limit)

75a. If yes, do the counts capture the gender of cyclists?

**Yes**

**No**

If yes, please describe the most recent results. (100 word limit)

76. Does your community routinely conduct pre/post evaluations of bicycle-related road projects?

**Yes**

**No**

If yes, please describe the results. (250 word limit)

77. Does your community establish target goals for bicycle use, e.g. a certain bicycle mode share level?

**Yes**

**No**

If yes, please describe (250 word limit)

78. What is the most current journey-to-work data for your community? *Tip: Search for topic B08301 (Means of Transportation to Work) for your community on the [American FactFinder](#) website (Advanced Search). Choose the most recent data set available for your community. Divide total number of cyclists ("Bicycle") by total number of commuters ("Total") and multiply by 100. Repeat for pedestrians ("Walked") and transit users ("Public transportation [excluding taxicab]").*

**Bicycling (in %) 0.1%**

**Percentage of bicycle commuters who are women** (See topic B08006. Choose the most recent data set available for your community. Divide the total number of women bicycle commuters by the total number of bicycle commuters and multiply the result by 100.)

**Walking (in %) 2%**

**Transit (in %) 0.4%**

79. What is the average commuting distance to work for residents of your community? *Tip: This data is not available nationally and needs to be collected locally (or estimated).*

**Less than 2 miles**

**2-5 miles**



- 5-10 miles**
- Above 10 miles**

80. What percent of children commute to school by bicycle? *Tip: This data is not available nationally and needs to be collected locally.*

**Elementary** (in %) <1%

**Middle School** (in %) <1%

**High School** (in %) <1%

81. How many cyclists have been involved in a crash in your community in the past five years involving a motor vehicle? **12 crashes**

81a. How many cyclist fatalities have occurred in your community in the past five years involving a motor vehicle? **None**

81b. Do you have a specific plan or program to reduce these numbers?

**Yes**

**No**

If yes, describe *(250 word limit)*

82. Do you measure the Bicycle Level of Service of roads and/or intersections?

**Yes**

**No**

If yes, please describe your methodology and recent results. *(250 word limit)*

83. Do you have community-wide trip reduction policies or programs?

**Yes**

**No**

If yes, describe the policy/program and the results. *(250 word limit)*

83a. Does the program use individualized marketing to identify and support current and potential bike commuters in your community?

**Yes**

**No**

If yes, describe the program and the results. *(250 word limit)*

84. Have you done an economic impact study on bicycling in your community?

**Yes**

**No**

If yes, describe the results. *(250 word limit)*

85. Do you have a mechanism to ensure bicycle facilities, programs and encouragement efforts are implemented in traditionally underserved neighborhoods?

**Yes**

**No**

**Not applicable**



If yes, describe (250 word limit)

86. Describe any other programs or policies that your community uses to evaluate and/or plan bicycling conditions, programs, and facilities. (500 word limit)

## FINAL OVERVIEW

87. What are the three primary reasons your community deserves to be designated a Bicycle Friendly Community?

**Reason One** (250 word limit)

**Dunwoody's Complete Streets policy is impressive not only because of the effort it took by city leadership to make it happen, but even more so for the city's tremendous commitment to the policy since its adoption. Many communities adopt a Complete Streets policy as a show of support but then allow it to become weakened by loopholes and other clauses to avoid being beholden to it when the choices become difficult. Dunwoody, in contrast, has used the policy as a way to push forward on much-needed change even when it is difficult or unclear what the best way forward is. As things stand now, the CS policy will be responsible for almost the entire bicycle infrastructure network, an outstanding example of what a CS policy can do given the right commitment from city leadership and staff.**

**Reason Two** (250 word limit)

**While many urban communities are suddenly racing toward mixed-use, denser development patterns that allow for bicycling and walking to be more easily adopted and naturally effective, Dunwoody has faced a challenge more representative of the modern suburban community. Dunwoody residents do not want to part with their large lots and cul-de-sac development patterns, but they also want to have a more accessible and livable community. Instead of seeing the two visions as mutually exclusive, Dunwoody is charting its own path forward to create a model for a historic, southern, and suburban bicycle friendly community.**

**Reason Three** (250 word limit)

**Though Dunwoody's CS policy has been the instigator for physical change, it is the city's elected officials and staff (at all levels and across departments) who have been the true agents for change. In addition, residents of the city are all hugely enthusiastic and passionate about their community. Though it may seem appealing to be able to implement as the city sees fit, the presence of passionate opponents in the community has also helped the city to focus on providing middle-ground solutions and challenged city staff and advocates to validate their choices. Simply put, Dunwoody is a place where decisions are thought out and discussed, with an active public and a productive dialogue that drives decision-making and implementation.**

88. What are the three aspects of your community most in need of improvement in order to accommodate bicyclists?



**Aspect One** (100 word limit)

Currently, Dunwoody’s bicycle infrastructure suggests a particular design rider that is fairly confident and capable, unsurprisingly indicative of the types of riders who are the most ardent advocates in the community.

However, a more fitting design profile for Dunwoody based on its population and community vision might be a teenage child and her middle-aged parents. These riders would be uncomfortable with a basic 4-5’ bike lane on a 35-45mph road, so the city’s goal should always be to provide infrastructure that could suit that design rider (and perhaps to establish who that design rider is). Examples of this are bike boulevards and neighborhood greenways, buffered bike lanes, and a larger multi-use trail network.

**Aspect Two** (100 word limit)

Dunwoody’s coordination efforts are an area for improvement, due in large part to limited organization capacity. One relative easy win the city could claim would be the hiring of a bike/ped coordinator, at least half-time, to assist not only in implementing infrastructure, but also in providing educational and encouragement programs, partnering with Dunwoody PD on enforcement, and collaborating with partners such as Sandy Springs, PCID, Chamblee, ABC, and others. This coordinator could also act as facilitator for a badly-needed Dunwoody Bicycle Advisory Committee, which would bring together city stakeholders to assist in the planning and implementation of projects and programs.

**Aspect Three** (100 word limit)

The city needs to develop a program of education and encouragement opportunities. Specifically, giving children (and adults) numerous opportunities to learn how to ride and how to ride safely, then making it possible for them to ride to school, to the park, and down their own street. Given the right knowledge and support (such as pre and post-school traffic management), many of the community’s children could comfortably ride bikes to school, and this should be considered a serious indicator of Dunwoody’s progress as a bicycle friendly community. In addition, adults need to be equipped with the right information and training to help them as riders and as educators for their children and peers.

89. Has completing this application made you more aware of what your community needs to do to be bicycle friendly?

**Yes**

**No**

If yes, describe (250 word limit)

90. Are you planning any new projects based on your completion of the Bicycle Friendly Community application?

**Yes**

**No**

If yes, describe (250 word limit)



We often get requests for model BFC applications from aspiring communities. Would you be willing to share your application?

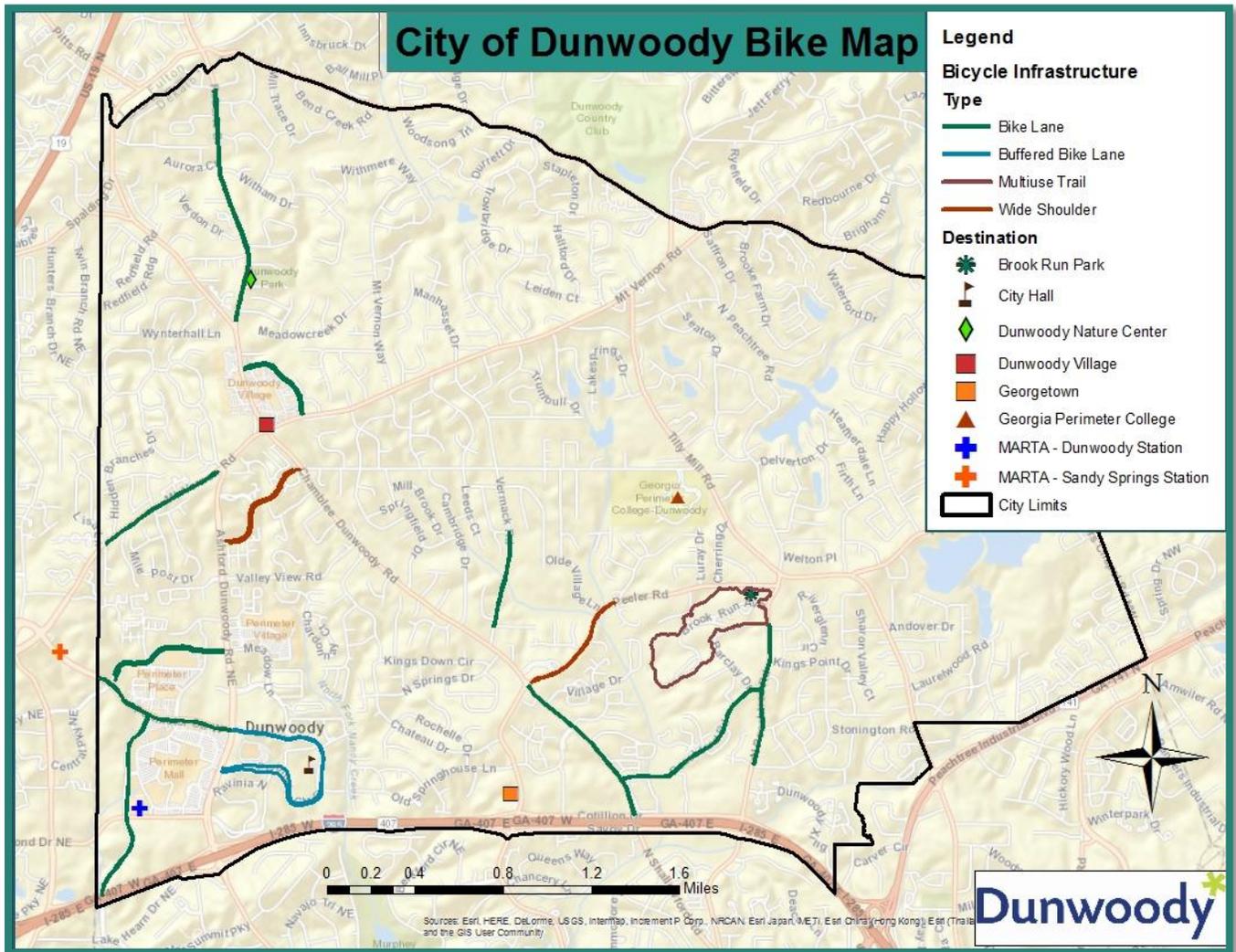
Yes

No

How have you heard about the BFC program?

It is everywhere these days!

Appendix 2. Dunwoody Bike Map



### Appendix 3. Community Survey Instrument

#### Dunwoody Community Bicycle Survey

\*Adapted from the League of American Bicyclists' Community Survey

Please answer the following brief survey to share your perspective on bicycling in the community.

---

1. How often do you bicycle in Dunwoody?

- Almost Daily
- A Few Times a Week
- Weekly
- A Few Times a Month
- Monthly
- Rarer
- Never

---

2. What kinds of bicycling do you do? (Check all that apply)

- Transportation
- Recreation
- Mountain/Off-Road
- Other

---

3. In general, I feel safe and comfortable while riding a bicycle in Dunwoody

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

4. Dunwoody would be a better place to live if bicycling was safer and more comfortable.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

5. I would bicycle more often if it felt safer and more comfortable?

- Strongly Agree
  - Somewhat Agree
  - Somewhat Disagree
  - Strongly Disagree
  - Don't Know
- 



6. Dunwoody is a good place to bicycle, for people of all ages and abilities.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

7. I am satisfied with the convenience and quality of on-street bicycle facilities like bike lanes, buffered bike lanes and protected bike lanes.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know
- Not Applicable

---

8. I am satisfied with the convenience and quality of off-street bicycle facilities like bike/shared-use paths.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know
- Not Applicable

---

9. I am satisfied with the surface conditions and maintenance of on and off-street bicycle facility network.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know
- Not Applicable

---

10. I am satisfied with the surface conditions maintenance of street network that doesn't include dedicated bicycle facilities.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

11. I am satisfied with feasibility of combining bicycling and transit trips.

- Strongly Agree
- Somewhat Agree



- Somewhat Disagree
- Strongly Disagree
- Don't Know
- Not Applicable

---

12. I am satisfied with the availability, convenience and quality of bicycle parking throughout the community.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

13. The majority of bicyclists follow the rules of the road and off-street path network.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

14. In general, I feel motorists in Dunwoody respect bicyclists.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

15. In general, I feel bicycling is looked upon favorably in Dunwoody.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

16. Community leaders are dedicated to making bicycling safer and more convenient throughout Dunwoody.

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

17. Community leaders are responsive to the bicycling community.

- Strongly Agree
- Somewhat Agree



- Somewhat Disagree
- Strongly Disagree
- Don't Know

---

18. What could be done to make bicycling feel more comfortable and safe in Dunwoody?

- More Bike Lanes
- More bike lanes that are physically separated from car traffic
- More low-speed neighborhood routes with wayfinding to destinations
- Additions to bike network that improve connectivity across highways, high-speed streets and other barriers
- More convenient and available bicycle parking
- Bike sharing program
- Open streets/Ciclovia events
- More bicycling education opportunities
- More motorist outreach/public bicycling awareness
- Improving opportunities to combine bicycling and public transportation trips
- More policies and ordinances that make bicycling more convenient and accessible to people of all ages and abilities
- Better enforcement of speed limits
- Eliminating distracted driving (i.e. texting)
- Nothing
- Other

---

19. Is there anything else you would like to suggest to improve the community for bicycling?

## Appendix 4. Bike Count Instruments

### Instructions: Bike Count and Survey

#### Materials

- Bike count sheet (2 copies, 4 pages total)
- Surveys (~25 copies)
- Pens
- Clipboard
- Name Tags (Atlanta Bicycle Coalition Volunteer)
- Signs: “Bike Count in progress” and “Please stop for Survey”

#### Instructions for Tally

- Fill out information about location, time, weather, etc.
- Draw a key to the intersection with streets labeled and key to directions N(orth) E(ast) S(outh) W(est)
- Time blocks represent 15 minute increments – no need to list precise time
- Each line represents an individual cyclist
- Make your best guess as to age
- Most important to get the count and secondarily, to note riding characteristics
- Do NOT count bikes on buses, cars, etc. Only bicycles being ridden by a person.
- ONLY count bikes passing through your intersection – don’t count cyclists a block away

#### Instructions for Surveys

- At low-count intersections (those with few cyclists), attempt to ask every cyclist to stop and take the survey. Say something like “Can you spare a minute to take a brief survey to improve bicycling in the Atlanta area?”
- At high-count intersections, ask every two or every three cyclists passing by to take the survey.
- Keep a count of how many survey requests you made on a notecard so that we can calculate a refusal rate.
- The “name” field is for your name, the surveyor, not the respondent.
- READ the questions to the respondent, and fill in the answers.
- If they ask to fax/email/mail the survey in, that’s okay (but don’t suggest it).
- It is okay if they do not want to fill out the demographic information (but don’t suggest it)

Call \_\_\_\_\_ with any day-of issues

Call 911 in case of emergency

Be careful and visible (wear bright colors or a vest)

Do not set up on private property without prior permission.



7  
0

City of Dunwoody

Bicycle Friendly Assessment





lanes:

\_\_\_\_\_






<u>Bicycle Tally Sheet</u>	15 min block	Direction of travel: NESW or turning (ie N ->E, etc)	Gender		Age			Select Yes (Y) or No (N)					
			M	F	<18	19-39	40+	Helmet	On street	With traffic	In bike lane		
<u>Location</u>	60-75												
	<u>Time (AM/PM)</u>	75-90											
Date -76-		90-105											



105-120											



## Appendix 5. Footnotes and References

<sup>i</sup> Cavill, N., Kahlmeier, S., Rutter, H., Racioppi, F., & Oja, P. (2008). Economic analyses of transport infrastructure and policies including health effects related to cycling and walking: A systematic review. *Transport Policy*, 15(5), 291–304.

<sup>ii</sup> AAA. (2014). *Your Driving Costs: How much are you really paying to drive?*

<sup>iii</sup> Lindsey et al (2004), Property Values, Recreation Values, and Urban Greenways. *Journal of Park and Recreation Administration*, V22(3) 69-90.

<sup>iv</sup> Clifton, Kelly, Sara Morrissey, and Chloe Ritter (2012), Business Cycles: Catering to the Bicycling Market; Exploring the Relationship Between Consumer Behavior and Mode Choice. *Transportation Research News* 280 May–June.

<sup>v</sup> Kane, J., & Tomer, A. (2014). *Millennials and Generation X Commuting Less by Car, But Will the Trends Hold?* Brookings Institute. <http://www.brookings.edu/blogs/the-avenue/posts/2014/10/07-millennials-generation-x-commuting-trends-kane-tomer> ;

Davis, B., Dutzik, T., & Baxandall, P. (2012). *Transportation and the New Generation: Why Young People Are Driving Less and What It Means for Transportation Policy.*

<sup>vi</sup> Dunwoody Comprehensive Transportation Plan (2011 Update)

[http://dunwoodyga.gov/ckeditorfiles/files/Master\\_Plans/Transportation%20Plan/Comprehensive%20Transportation%20Plan.pdf](http://dunwoodyga.gov/ckeditorfiles/files/Master_Plans/Transportation%20Plan/Comprehensive%20Transportation%20Plan.pdf)

<sup>vii</sup> Roughly 50% of all trips in the US are less than 3 miles, perfect for a smaller community like Dunwoody (Gotschi, T., & Mills, K. (2008). *Active Transportation for America: The Case for Increased Federal Investment in Bicycling and Walking.*)

<sup>viii</sup> Pucher, J., Dill, J., & Handy, S. (2010). Infrastructure, programs, and policies to increase bicycling: an international review. *Preventive Medicine*, 50, S106–125.; Heinen, E., Maat, K., & van Wee, B. (2011). Day-to-Day Choice to Commute or Not by Bicycle. *Transportation Research Record: Journal of the Transportation Research Board*, 2230(-1), 9–18

<sup>ix</sup> <http://www.smartgrowthamerica.org/documents/cs/policy/cs-ga-dunwoody-policy.pdf>

x

[http://dunwoodyga.gov/ckeditorfiles/files/Master\\_Plans/Comprehensive%20Land%20Use%20Plan/CLUP%20-%20Community%20Agenda.pdf](http://dunwoodyga.gov/ckeditorfiles/files/Master_Plans/Comprehensive%20Land%20Use%20Plan/CLUP%20-%20Community%20Agenda.pdf)

<sup>xi</sup> See 12 studies discussed here: [http://www.citylab.com/cityfixer/2015/03/the-complete-business-case-for-converting-street-parking-into-bike-lanes/387595/?utm\\_source=SFFB](http://www.citylab.com/cityfixer/2015/03/the-complete-business-case-for-converting-street-parking-into-bike-lanes/387595/?utm_source=SFFB)

xii

[http://www.rita.dot.gov/bts/programs/omnibus\\_surveys/targeted\\_survey/2002\\_national\\_survey\\_of\\_pedestrian\\_and\\_bicyclist\\_attitudes\\_and\\_behaviors/survey\\_highlights/entire.pdf](http://www.rita.dot.gov/bts/programs/omnibus_surveys/targeted_survey/2002_national_survey_of_pedestrian_and_bicyclist_attitudes_and_behaviors/survey_highlights/entire.pdf)

<sup>xiii</sup> Note: currently Communicycle is on an indefinite temporary closure as they rebuild the volunteer base needed for their co-op to operate effectively

<sup>xiv</sup> Reference these studies

<sup>xv</sup> Winters, M., Davidson, G., Kao, D., & Teschke, K. (2010). Motivators and deterrents of bicycling: comparing influences on decisions to ride. *Transportation*, 38(1), 153–168;



Schneider, R. J. (2013). Theory of routine mode choice decisions: An operational framework to increase sustainable transportation. *Transport Policy*, 25, 128–137.

<sup>xvi</sup> <http://www.streetsblog.org/2012/03/23/a-bike-company-offers-a-prescription-for-americas-health-care-cost-crisis/>

<sup>xvii</sup> <http://www.bikewalkalliance.org/download-the-open-streets-guide>

<sup>xviii</sup> A sample survey produced for the City of Dunwoody has been included as an Appendix

<sup>xix</sup> A sample manual count spreadsheet and instruction sheet produced for the City of Dunwoody has also been included as an Appendix

<sup>xx</sup> [http://www.epa.gov/smartgrowth/pdf/Sustainable Transpo Performance.pdf](http://www.epa.gov/smartgrowth/pdf/Sustainable_Transpo_Performance.pdf)

<sup>xxi</sup> Landis, B. W., Vattikuti, V. R., & Brannick, M. T. (1997). Real-Time Human Perceptions Toward a Bicycle Level of Service. *Transportation Research Record*, (1578), 119–126; FHWA. (1998). *The Bicycle Compatibility Index : A Level of Service Concept, Implementation Manual*.

<sup>xxii</sup> <http://www.lewis.ucla.edu/publication/exploration-implications-multimodal-street-performance-metrics-whats-passing-grade-2/>

