7. MOVE
Providing Transportation Choices

In This Chapter:

- Challenges and Opportunities
- Policy Direction
- Transportation Elements and Maps
- How We Will Achieve Our Vision
- Related Policy Direction in Other Chapters

~~The wise investments made in transportation infrastructure over the last few decades has created a transportation system that functions for users of all modes - walkers, bikers, drivers, and transit riders. In the future, Cary's transportation system will provide efficient travel for all Cary residents, workers, and visitors.~~

The strategic investments in transportation infrastructure made over the past few decades have resulted in a system that effectively serves all users, including walkers, bikers, drivers, and transit riders. In the future, Cary's transportation system will ensure a system of choice for all residents, workers, and visitors.

Cary Values:
~~**An Efficient System for All Users**~~ **A Multimodal System of Choice for All Users**
Cary will ~~continue to provide an~~ maintain an attractive network of ~~streets and a wide range~~ of functional and well-designed transportation facilities for all modes of travel ~~choices~~ - driving, walking, biking, and transit. This multimodal system will facilitate moving into, out of, and around the community, with a design emphasis on people and the human experience.

We dedicate Chapter 7 – MOVE – to Cary's former Transportation and Facilities Director, Lori Cove, P.E.
As an accomplished engineer, dedicated public servant, and six-time Ironman, no one better understands or appreciates the life-changing opportunities that extraordinary transportation offers to each person in our community. Her hard work will help keep Cary great for generations to come, and her friendship, strength, and inspiration will remain with us always.

CHALLENGES AND OPPORTUNITIES

Cary has a strong existing transportation network, with well-designed streets, ~~good~~ significant sidewalk coverage, a variety of bicycle facilities, ~~and~~ an efficient transit system, and advanced technology systems. The quality of the existing system is a result of past prudent investments in infrastructure. As Cary looks to the future, continued investments in infrastructure and implementation of policies will improve mobility for Cary residents, workers, and visitors.

There are several local and national trends and factors that may affect future travel in Cary. These trends present challenges and opportunities for Cary as the transportation, demographic,

and technological landscape shifts. ~~Many of these trends are only beginning to emerge and the full extent of their impact on travel and transportation is not fully known.~~ Some of the trends are a result of shifting professional practices, like increased understanding of the interaction between land use and transportation. Together, these trends provide context to the transportation recommendations as factors that currently affect travel in Cary or may in the future.

Nationally, a broad measure of travel behavior is vehicle miles traveled per capita. Since the 1970s, this measure has risen steadily, pausing only during recessions and the COVID-19 pandemic. Encapsulated in the historic rise of vehicle miles traveled are ~~a number of~~ several economic and social trends, including ~~such as~~ suburbanization, increasing household incomes, women entering the workforce in greater numbers, and decreasing costs of vehicle ownership.

~~More recently, per capita driving has declined. Much of the decrease can be explained by the 2008 economic downturn and increases in gas prices. However, per capita vehicle miles traveled peaked in 2005, before the recession, and has not fully rebounded since the recession ended, indicating other factors may be affecting people's decision to drive. In the last year, vehicle miles traveled has begun to trend upwards again, perhaps signaling a resumption of historic trends. How demographic, technological, and personal trends affect vehicle miles traveled will help determine the needed transportation network in Cary.~~

Per capita vehicle miles traveled (VMT) in the United States peaked in the mid-2000s. Although total VMT reached record levels in 2024, per capita VMT has not fully returned to the highs seen in 2004, reflecting lasting changes in travel behavior. The COVID-19 pandemic, along with the rise of remote and hybrid work, has reduced commuting demand and shifted some trips toward shorter, non-work travel. Migration patterns, demographic shifts, and increasing urbanization also influence driving trends, leading to variations between regions and communities. While national driving levels are on the rise again, evolving lifestyle, technological, and demographic factors suggest that historic growth patterns may not fully return. Understanding these dynamics is essential for shaping the future transportation network in Cary.

Integration of Land Use and Transportation

Transportation networks and surrounding land uses are often viewed as independent systems; however, both are very much intertwined, and changes to one will influence the other. Transportation infrastructure, services, and policies can determine development patterns, while demand created by businesses and homes creates a need for streets, sidewalks, transit services, and bike facilities. For example, businesses may locate along major streets and transit lines to increase visibility to customers and accessibility for employees. New transportation infrastructure or transit services can lead to accompanying changes in land use, such as the development of homes or businesses.

Similarly, land use and development patterns influence new transportation infrastructure. Major commercial developments and trip-generating destinations may require expanded

streets, new transit services, connected bike facilities, intelligent transportation devices, or additional sidewalks to provide choices and better serve the people traveling to those locations. As development and redevelopment occur throughout Cary, it is important to continually reevaluate the transportation network and services to ensure the system functions and provides adequate access to the locations that people desire to go to.

Growing Population

Proper coordination between transportation and land use is increasingly important as the population of Cary continues to grow. Cary's population tripled between 1990 and 2010, increasing from 43,858 in 1990 to 125,234 in 2010. Cary's population in 2020 was approximately 175,000, and it has consistently upheld a healthy population growth rate of 2 to 2.5 percent over the past 17 years. ~~This G~~growth ~~trend~~ is expected to continue through 2040. ~~albeit at a slower rate, with an expected population of 193,000 residents in 2040.~~ New growth will have positive impacts on many aspects of the community, but also places pressure on the transportation infrastructure to continue to function effectively and efficiently with the additional users.

Changing Trip Purpose

~~Planners and professionals often focus on work trips because they are regular and occur at times of peak demand for transportation infrastructure. In recent decades, however, the importance of work trips has declined as other trip types have increased at a faster rate than work trips. Now, trips like shopping, dining out, taking the kids to school, and visiting friends make up a larger share of total trips. For Cary, this means more demand throughout the day, not just during the morning and evening commute times. Shifting trip purpose can also mean transit service is more complicated, leading to the need for more connections between destinations and increased frequency of service in traditionally off-peak hours.~~

Planners and professionals have traditionally focused on work trips because they occur regularly and drive peak demand on transportation infrastructure. However, the nature of commuting has changed in recent years. The rise of remote and hybrid work arrangements has decreased the share of daily trips associated with work. Instead, trips for shopping, dining, school, childcare, recreation, and social activities now constitute a larger portion of total travel. Additionally, e-commerce and delivery services have increased vehicle trips outside of the typical commute. In Cary, this shift means that travel demand is now more evenly spread throughout the day, rather than being concentrated during morning and evening peak hours. These changes present new challenges for transit planning, necessitating better connections between various destinations and more frequent service during off-peak hours to meet the community's needs.

Diverse Mobility Needs and Preferences

The transportation system in Cary is designed to function for all residents, workers, and visitors. This means creating a network that allows individuals to choose a preferred mode of travel

- driving, walking, biking, transit. It also means adjusting to changing preferences and ensuring all mobility needs are met.

Aging Population

Nationally, the population is aging as the baby boomer generation reaches retirement age and life expectancies increase. This trend is accelerated for warm southern states like North Carolina, and Cary's population reflects this trend. The fastest growing segment of Cary's population is nearing retirement age; between 2000 and 2011 the proportion of Cary's population over 55 increased from 12% to 18%. In 2020, 25% of Cary's population was aged 55 and older. Cary's population of over 65 individuals is projected to continue to increase in the future.

The aging population has several impacts on transportation. First, older individuals drive less than other age groups and tend to make fewer trips at peak travel times (the morning and evening rush hours). Many older individuals choose not to drive - or are no longer able to drive - and must rely on walking, transit, or friends and family for trips. As a result, demand may increase for non-driving modes of travel and travel options at non-peak times.

Millennial Preferences

~~Millennials (the generation born roughly between 1980 and 2000) and their travel preferences have been a frequent point of discussion over the past several years. In general, surveys have shown millennials prefer walking, biking, and transit at higher rates than other age groups. Also, millennials' economic experiences and personal trends have reduced car ownership and driving. Factors include lower employment, wage stagnation, higher debt levels than previous generations, pursuing more schooling, and postponing marriage and children.~~

~~There is some evidence that the prevalence of social networking and ubiquity of internet access has impacted the desire for automobile ownership; the cell phone is the millennial generation's symbol of freedom and connectivity, not the car. Many millennials prefer a transit trip to a car trip, because that time can be spent on other tasks such as reading, working, or connecting with others via a smart phone.~~

Millennials, born roughly between 1981 and 1996, continue to influence transportation demand, but their life stage now affects travel patterns differently than it did when Imagine Cary was adopted in 2017. Previous studies indicated that millennials preferred walking, biking, and using public transit more than older generations, partly due to economic factors such as wage stagnation, higher debt levels, and delays in homeownership, marriage, and starting families. These circumstances led to reduced car ownership and less driving during their young adulthood. Furthermore, technology transformed their perspectives; for many millennials, the smartphone—not the car—has become a symbol of freedom and connectivity. This shift made public transit and shared mobility more attractive, as these options allowed for productive or social engagement during travel time.

Today, as many millennials reach middle age, increases in homeownership, family formation, and suburban living have resulted in a greater reliance on automobiles compared to their 20s. Nonetheless, their earlier inclination towards active transportation, public transit, and shared mobility services continues to shape their long-term expectations for multimodal options and technology-enabled travel choices.

Gen-Z

Gen-Z, born roughly between 1997 and 2012, is coming of age in a post-pandemic world with unique economic and social conditions that shape their travel behavior. Early evidence suggests that Gen-Z is less eager to own cars compared to previous generations at the same age. This shift is influenced by the high costs of vehicles, insurance, and housing. As digital natives, they heavily rely on technology for navigation, mobility apps, and ride-hailing services. They prioritize flexibility and convenience over vehicle ownership.

Furthermore, Gen-Z's experiences with remote learning, hybrid work, and widespread e-commerce during their formative years may have led to a reduced demand for traditional commuting and a wider variety of trip purposes. Additionally, climate awareness is particularly strong among Gen-Z, making them more open to sustainable transportation options such as public transit, biking, walking, and emerging micro-mobility solutions. Their preferences are likely to accelerate the demand for transportation networks that are flexible, technology-integrated, and environmentally conscious.

Changing Market Preferences and Technologies

Technology's Effect on Transit

Surveys have shown uncertainty, particularly worrying about missing the bus or taking the wrong bus, is one of the leading reasons people choose not to take transit. Technology improvements have helped allay these fears. Smart phone ~~apps~~ options, such as ~~Transloc~~ the GoCary app, ~~can now~~ show bus locations in real time, ~~bus locations~~ and predict bus arrival times at selected bus stops. The GoCary Explorer also helps to familiarize people with bus stops including amenities, pictures of the bus stops, and proximity to points of interest such as parks, greenways, bike routes, sidewalks, residential communities, etc. GoCary, like all transit providers in the Triangle, uses these systems to alleviate uncertainty associated with transit and make transit a more appealing option.

Intelligent Transportation Systems

As street infrastructure becomes built out and mature, there is an increasing focus on managing the existing infrastructure rather than building new infrastructure. This is commonly referred to as Transportation Systems Management and Operations, or TSMO. TSMO includes a variety of approaches to improve efficiency, one such approach is through the use of Intelligent Transportation Systems (ITS).

Demands on the existing infrastructure can be better managed through ITS ~~intelligent transportation systems~~ that marry technology and infrastructure, which can yield cost savings and limit the need for building new infrastructure. High-speed communication and data networks, CCTV cameras, real-time traffic signal timing and phasing enhancements, ~~real-time signal timing adjustments~~, transit signal prority ~~preemption~~ for transit vehicles, emergency vehicle preemption for emergency response, and sensors are examples of technologies that monitor the infrastructure usage and adjust the system in response to demand to manage congestion.

Healthy Communities

The healthy communities movement is a trend in community planning as a response to the increase in preventable diseases that are linked to the built environment. Concerns over the impact sedentary lifestyles have on personal health have led to a focus on incorporating activity into daily routines, not just as a separate exercise activity. Healthy communities considers land use issues like the proximity of desired destinations (restaurants, parks, schools, jobs) to homes and businesses. Similarly, transportation issues are also reflected in planning efforts. Sidewalks are available and connected, bike accommodations are built into street designs, and street crossings are safe and comfortable. A well-planned healthy community encourages people to incorporate activity into their daily life by making biking and walking a safe, easy, and comfortable choice.

A Balanced and Efficient Multimodal Transportation System

Complete Streets

In almost all communities, right-of-way for streets represents the largest assemblage of public land in the community, outpacing public parks and buildings. Although commonly considered space for vehicles, streets are for everyone. Complete Streets is an effort to design streets with all people in mind, regardless of mode of choice. Mode is a simple concept that refers to the method someone uses to get around ~~a town~~ - driving, walking, biking, transit, or some other choice. Complete streets are designed and built so that all modes can move safely and efficiently around a community.

Cary strives to apply this concept and design streets that work for all Cary residents, workers, and visitors. Therefore, sidewalks are programmed for at least one side of new residential streets and ~~often on~~ both sides of ~~the~~ collector streets and thoroughfares to allow safe and comfortable walking. Bike accommodations include greenways, street-side trails, separated bike lanes, and neighborhood bikeways ~~routes~~. ~~or wide outside lanes, and well-marked bike routes~~. Transit service connects major destinations and provides Cary residents and workers access to jobs and amenities. The transportation network, specifically transit service and pedestrian infrastructure, is designed to provide safe mobility for individuals with disabilities and considers the needs of all Cary residents. This way of planning and designing ensures that the transportation network is truly for all Cary residents and workers.

Attractive Streetscaping

Attractive streetscaping is a crucial component in street design~~s~~, one that Cary residents take pride in. Streetscaping includes plantings in the medians of thoroughfares and collectors and along the sides of streets. These plantings enhance the pleasantness and attractiveness of the streets in Cary, providing additional green space and beauty throughout Cary ~~the town~~. Corridors lined with flowers, trees, and bushes enhance the travel experience along those corridors, be it by driving, walking, biking, or by bus.

In addition to street plantings, Cary incorporates other streetscaping elements to improve the aesthetic look of its transportation corridors ~~the town~~. Decorative and pedestrian-focused lighting fixtures, brick pavers in sidewalks, benches along sidewalks, attractive signs, and a unified aesthetic for other street elements, like waste receptacles and traffic lights are all techniques to beautify the street. Combined, all of these street elements create a pleasant experience for people traveling around Cary, and enhance the beauty and sense of place ~~within the town~~.

Streetscaping can also improve safety. The use of planted medians, street trees, and brick pavers can reduce motorists' travel speeds. Medians can provide refuge for crossing pedestrians while street lighting improves visibility of bicyclists and pedestrians that are in or near the roadway.

VISION ZERO

By resolution of the Council in April 2025, Cary adopted Vision Zero as a strategy to reduce traffic deaths and serious injuries within the community's transportation network. This commitment highlights the continuing evolution of the policies established in this chapter, specifically Policy 1: Ensure Safety for All Users and Modes. Cary's endorsement of this strategy supplements policies that focuses investments on multimodal infrastructure and improving safety. The resolution supports Cary's commitments to greenways, sidewalks, traffic calming, intersection improvements, and traffic signal operations, and encourages continued research, learning, and collaboration on Vision Zero.

What is Vision Zero

Vision Zero is a public health-based strategy to reduce traffic deaths and serious injuries through a systems-based approach to the transportation/mobility network. A Safe System is one that takes a view of all the elements that impact the survivability of crashes on the mobility network and guides improvements to reduce severity. Roads in a Safe System are designed to accommodate predictable human limitations and behavior. People are held accountable for reasonable behavior, but with a recognition that humans make mistakes.

Implementation of a Vision Zero strategy includes:

- Integrating the needs of all road users, including pedestrians, bicyclists, and other non-motorists,

- Providing a "safety net" for road users by trying to anticipate human error and accommodate human injury tolerance,
- Adopting a safety culture wherein responsibility is shared between road designers, operators, and users,
- Applying tactics that proactively focus on the survivability of crashes, not necessarily on the reduction of all crashes,
- Accepting that the strategy may decrease vehicle throughput and may limit the range of behavioral choices for users.

The MOVE chapter is rooted in Cary's values, including a multimodal transportation system that emphasizes people and the human experience, and adopting Vision Zero's people-first strategy that acknowledges humans make mistakes and that human bodies have a limited ability to tolerate crashes, is a natural evolution for Cary. Vision Zero concepts, like a systems-based approach to safety, shared responsibility, and a focus on non-motorists, seek to address some of the same challenges and opportunities outlined in this chapter. Dynamics like Cary's growth and densification, aging population, and changing travel preferences are all supported by this philosophy, as is the movement toward healthier communities.

POLICY DIRECTION

In order to respond to the transportation challenges and opportunities, and to provide an efficient, functional, and well-designed transportation system that provides mobility choices, Cary's transportation policies are below. Policies are not ordered by priority.

Policy	Policy Intent
Policy 1: Ensure Safety for All Users and Modes	
Evaluate Cary's ~~the Town's~~ transportation network to ensure the safety of all roadway users, regardless of age or ability including pedestrians, bicyclists, transit riders, and motorists.	▪ ~~Make safety the top goal by designing streets that seek to minimize crashes and the potential for conflicts.~~ Champion a positive traffic safety culture that embraces the shared responsibility between road users, designers, and maintainers to reduce deaths and serious injuries on the mobility network. ▪ Use a systems-based approach to safety in the design of all transportation elements ~~with safety in mind~~. ▪ Continue to evaluate and reevaluate crash and safety data to identify areas

	that may need targeted safety improvements.
Policy 2: Apply Multimodal Street Designs	
Apply "complete street" design guidelines for the cross-sections and intersections of all streets, collectors, and thoroughfares based on system demand and each street's land use context.	▪ Design streets that are accessible and usable for all Cary residents, workers, and visitors. ▪ Address changing national trends in trip preferences and needs by designing streets that allow individuals to choose their preferred mode of travel. ▪ Address needs of individuals who have a variety of mobility needs and abilities. ▪ Encourage a shift in focus away from vehicular level of service and throughput, giving the safety of pedestrians, bicyclists, and other non-motorists priority in transportation decisions.
Policy 3: Design Transportation Infrastructure to Address Land Use Context	
Incorporate transportation improvements along corridors in a context-sensitive way, balancing community character, historic preservation, environmental protection, and aesthetics with transportation and mobility needs.	▪ Recognize the connection between transportation and land use. ▪ Recognize that different intensities and types of land use require various transportation elements and configurations of transportation infrastructure.
Policy 4: Focus Investments on Improving Connections and Closing Gaps	
Focus transportation investments on bridging connectivity gaps between employment centers, neighborhoods, and mixed use commercial developments. Improve connectivity within and between these destinations by providing opportunities for all modes of transportation: driving, walking, biking, and taking transit.	▪ Recognize that much of the transportation infrastructure in Cary is mature or in established neighborhoods. ▪ Maximize transportation investments by focusing on the highest need areas and places where targeted

This also includes improving opportunities for connectivity via greenways ~~and~~ trails.	investments will yield significant benefits. ▪ Utilize data platforms to assist in identifying opportunities and prioritizing project investment.
Policy 5: Minimize Thoroughfare Widths	
Major streets that are being developed or widened to add additional lanes should be limited to four through lanes, wherever possible. Any expansions beyond this standard should be focused in areas with the highest levels of congestion and critical bottlenecks.	▪ Recognize the public desire to keep most Cary thoroughfares at four through lanes wherever possible. ▪ Help address needs of pedestrians and bicyclists who find ~~crossing smaller~~ narrower streets ~~easier and~~ more comfortable. ▪ Create a ~~more attractive~~ street network that encourages lower travel speeds and greater multi-modal use by designing thoroughfares that are not excessively wide and feature landscaped medians. ▪ TSMO strategies should be employed to make better use of the existing transportation network as a method to limit the expansion of streets.
Policy 6: Improve Pedestrian and Bicycle Crossings	
Improve pedestrian and bicycle crossings in commercial areas, across major streets, and where greenways and bikeways cross streets to build connected bicycle and pedestrian networks that are comfortable for all ages and abilities.	▪ Incorporate pedestrian and bicycle crossing improvements to places that are often the most challenging for pedestrians and bicyclists to navigate and have the most conflict points. ▪ Grade separate pedestrian and bicycle crossings (via bridges or underpasses) along major greenway corridors, where feasible, to provide unimpeded crossings, as envisioned in the Parks, Recreation, and Cultural Resources ~~Master~~ System Plan. ▪ Continue investment in the bicycle and pedestrian system. ▪ Separate pedestrians and bicyclists from vehicles in time or space

	whenever feasible and seek to heighten driver awareness where conflict may occur, as aligned with Safe Systems and Vision Zero principles.
Policy 7: Target Transit Investments	
Target transit investments to support and sustain mobility choice and improve GoCary through increased frequency to major destinations, expanded service to new locations, reliability improvements to reduce travel time, and efficient interconnections with other transit systems throughout the region.	▪ Continue GoCary's rapid growth through wise investments in infrastructure and services. ▪ Add new routes and destinations that respond to the demands of current GoCary riders and that attract new riders to the system.
Policy 8: Ensure a Well-Maintained System	
Ensure a well-maintained transportation system by emphasizing the need to provide adequate funding for system maintenance needs.	▪ Recognize that continued good maintenance is a sound investment policy that yields future benefits. ▪ Improve safety for users by ensuring facilities are well-maintained. ▪ Enhance the attractive streetscaping in Cary with ongoing maintenance and care.

STREETS ELEMENT

Cary's street network is a vital component of its success as a growing and vibrant community, providing access to the services, jobs, and amenities that make Cary a wonderful place to live, work, and visit. Cary has been proactive in planning and building high-quality street facilities, working in a collaborative manner with federal agencies, NCDOT, metropolitan planning organizations, neighboring municipalities, and developers to create this infrastructure and vital regional connections. Because of the complex funding and regulatory structure, many streets in Cary, in particular the interstates, US routes, and NC routes, are planned and maintained by federal agencies or NCDOT, although ~~the Town of~~ Cary provides input and helps to make decisions regarding changes to these streets.

Functional Classification

Streets in Cary, as in all communities, are designed in a hierarchical manner with different street types serving different purposes within a unified system. At a conceptual level, the design of streets is balanced between two general goals, mobility and accessibility. Mobility is the ability to travel quickly without delay and most streets that focus on mobility are designed

to carry high volumes of traffic. Accessibility is the ability to reach destinations. There is a trade-off between mobility and accessibility, and the transportation network in Cary seeks to balance these two broad goals to create an efficient system.

For public streets in Cary, there are three major street types: thoroughfares, collectors, and local streets. Thoroughfares are larger streets that form the backbone of the transportation system in Cary, providing mobility to travel around Cary. Thoroughfares are designed to focus on vehicle mobility more than access. Local streets perform the opposite function; they are smaller, slower speed, and feature more driveways and intersections in order to provide access to businesses and homes. Collectors balance the two functions of access and mobility and provide linkages between local streets and thoroughfares. In the hierarchical street system, collectors collect vehicular traffic from local streets and distribute to thoroughfares. At a system-wide level, a hierarchical arrangement of streets helps to minimize congestion and maximize safety.

Corridor Profiles

~~The following corridor profiles describe typical street designs in Cary and their corresponding elements and widths. The design of streets in Cary is dependent on its function within the street network, its land use context, the demand for travel along it, and engineering and environmental considerations. Cary's streets are designed to support users of all modes (driving, walking, biking, taking transit) and to be attractively landscaped and well-maintained.~~

The cross-sections shown in this plan are conceptual and intended to illustrate the full range of elements that may be included within a transportation corridor—such as vehicle lanes, bicycle and pedestrian facilities, buffers, and medians—rather than to dictate specific widths or configurations. These examples are meant to communicate Cary's desired balance of modes and corridor functions. The design of streets in Cary is dependent on their function within the street network, their land use context, the demand for multi-modal travel along them, and engineering and environmental considerations. More detailed dimensions, materials, and construction requirements are established through Cary's adopted standard specifications, details, and project-level design, utilizing engineering judgment and context-sensitive design consistent with Cary and American Association of State Highway and Transportation Officials (AASHTO) design guidance.

Common Elements

Pedestrian Accommodations

In general, Cary's collectors and thoroughfares are designed to include ~~five-foot~~ sidewalks on both sides of the street; local streets may ~~only~~ include sidewalks at least on one side. For all street types, sidewalks are typically separated from the roadway by a ~~five-foot~~ grass buffer. High visibility and physically separated intersection crossing treatments are also planned to help increase safety and the comfortable feel of walking in Cary. All sidewalks and crosswalks will be designed according to Americans with Disabilities Act requirements to ensure that all Cary residents can use the facilities, regardless of mobility status. In some areas of Cary ~~town~~,

specified on the Parks, Recreation and Cultural Resources System Plan Map ~~Pedestrian Elements Map~~, the pedestrian accommodations will be in the form of a street-side trail or sidepath, ~~which are typically ten feet wide and only on one side of the street~~. ~~Street side trails are designed to meander instead of being linear, like sidewalks.~~

Bicycle Accommodations

~~Most Cary streets are also designed to have some form of bicycle accommodation, appropriate for their speed, volume of traffic, volume of truck traffic, function within the street network, and status within in the Town-wide and regional bike networks~~. ~~Most Collector Streets and Collector Avenues are designed to have four- foot bike lanes on both sides of the street. Most thoroughfares are designed to have a wide outside lane which allows vehicles traveling in the outside lane to pass bicyclists safely. Local streets typically do not have specific bike accommodations, but due to their slow speeds and low volumes of traffic are generally appropriate for bikers without special accommodations.~~

Cary's Bike Plan lays out a vision for bicycling as a comfortable and routine transportation option for people of all ages and abilities, providing the framework for integrating bikeways into both public and private projects. The plan aligns Cary's practices with current national design guidance from AASHTO, NACTO, and MUTCD, ensuring consistency with best practices. By clarifying bikeway types and defining a connected network, the plan offers a foundation for strategic, context-sensitive investments that support bicycle and pedestrian mobility.

The Bike Plan Vision Network map, including separated bikeways and neighborhood bikeways, serves as the basis for requiring bicycle facilities in projects and gives Cary a path for implementing bikeways while maintaining flexibility to respond to changing conditions and opportunities.

On higher-volume or higher-speed streets—such as thoroughfares and many collector streets—design emphasizes physical separation between bicyclists and motor vehicles through facilities like separated bike lanes or behind-the-curb street-side trails and sidepaths. Where traffic speeds and volumes are lower, especially on neighborhood and local streets, bicyclists and drivers may safely share the roadway. In these cases, Cary uses strategies such as traffic calming, pavement markings, and signage to reinforce a comfortable shared environment.

Landscaped Medians

Most thoroughfares and many collectors within Cary are designed to have planted and landscaped medians. The plantings may be formal or informal and may be different combinations of flowers, decorative plants and grasses, shrubs, and trees, depending on environmental and street characteristics. Landscaped medians are a hallmark of Cary streets; they enhance the natural beauty ~~of the town~~ and make traveling along Cary streets a more pleasant experience. The aesthetic appeal of Cary ~~the town~~ is improved through these attractively landscaped medians. Based on engineering and environmental constraints and the judgment of ~~Town~~ staff, medians may vary from their typical size in certain locations.

Corridor Profiles - Thoroughfares

Thoroughfares are designed with the primary goal of providing mobility around Cary. They are designed with speeds between 35 and 55 miles per hour. Thoroughfares have between two and seven lanes. In general 2-, 4-, and 6-lane thoroughfares have a landscaped median. 3-, 5-, and 7-lane thoroughfares feature a two-way left turn lane in place of a median. The following cross sections illustrate typical thoroughfare profiles in Cary. ~~Each cross section image contains a colored band on the left side of the image which corresponds to where each the profile is deployed on the Planned Roadway Widths Map.~~

Corridor Profiles - Collectors and Local Streets

~~The Town of~~ Cary has two types of collectors – Collector Avenues and Collector Streets. The purpose of collectors is to link local streets and thoroughfares and balance the mobility and access needs of Cary residents and workers. As their name implies, they collect traffic from local streets and funnel it to thoroughfares. Collectors typically have a maximum speed limit of 35 mile per hour.

Collector Avenues – Collector Avenues have two vehicle travel lanes. They are designed to have limited curb cuts, so driveways are held to a minimum. There are two types of Collector Avenues: Collector Avenue – Residential and Collector Avenue – Non-Residential. The residential version is intended for use in residential areas and features a landscaped ~~11 foot~~ median to enhance the natural beauty of the area. The non-residential collector avenue does not have a median and is primarily intended for use around commercial, industrial, or institutional areas that are primarily non-residential in focus.

Collector Streets – Collector Streets have a similar functional role to Collector Avenues, but are intended for locations that feature more curb cuts and driveways and higher volumes of traffic than Collector Avenues. There are two Collector Street types: Collector Street - Residential and Collector Street – Non-Residential. The residential version is for use in residential areas and features two lanes without a median. The non-residential version has a two-way left turn lane and is for use around commercial, industrial, or institutional areas that are primarily non-residential in focus.

Local Streets - Local streets are designed for slow speeds and low volumes of traffic. They have frequent curb cuts and driveways that provide access to homes and businesses. Vehicle speeds are limited to 25 or 35 miles per hour. Local streets feature two vehicle travel lanes and do not have medians. Sidewalks may be provided on one or both sides. ~~The~~ A typical local street profile is shown below.

Future Conditions Modeling

To develop the street recommendations contained in this plan, future transportation and land use conditions were modeled to simulate traffic conditions in 2040. The Triangle Regional Model (TRM), developed and maintained by the Triangle Regional Model Service Bureau was used to model current and future regional transportation conditions. The TRM is based on

projected land use development for the entire Triangle region and a set of roadway and transit improvements planned out ~~to 2040~~ on ten-year horizons. The transportation projects included in the TRM ~~were~~ are developed as part of the ~~2040~~ Metropolitan Transportation Plan (MTP) developed by the Capital Area Metropolitan Planning Organization. The MTP is fiscally-constrained, meaning the projects included in the plan are programmed within a budget of reasonably expected revenues. Updated every five years, ~~Also included in~~ the MTP also includes the set of projects eligible to be included in the Metropolitan Transportation Improvement Program (TIP). The TIP is a set of projects programmed to be implemented ~~by 2020~~ that have specific funding sources and amounts allocated to them.

To model the future traffic conditions in ~~the Town of~~ Cary, modifications were made to the TRM land use and transportation network within ~~the Town of~~ Cary limits, but data outside ~~the Town of~~ Cary was unaltered. Employment and population numbers were generated for the Future Growth Framework land use plan developed for this comprehensive plan and edited in the existing TRM. Edits were made to the TRM transportation network to test the street recommendations envisioned in this plan.

The Triangle Regional Model contains a number of assumptions about trip generation, trip distribution, mode of travel, and route choice. The model simulates traffic conditions based on travel behavior assumptions and predicted street conditions. A common measure of network functionality is the volume to capacity ratio (V/C), i.e., demand vs. supply. This represents the volume of traffic estimated to use a street segment compared to the capacity of that street segment. Capacity is a function of many factors like number of lanes, speed limit, left-turn volumes, traffic signal density, and truck volumes, among other factors. The higher the volume/capacity ratio, the greater the congestion.

A planning-level model analysis was performed at Level of Service (LOS) D, where LOS is measure of the traffic conditions assigned a grade between A (least congested) and F (most congested). LOS D is typically the maximum acceptable congestion in urbanized areas. Generally, streets that are under capacity at LOS D (V/C < 1) have minimal congestion and streets that are at or above LOS D capacity (V/C => 1) have congested conditions. In the map below, green and blue represent uncongested conditions, yellow represents LOS D conditions, and red represents over congested conditions.

Overall, the Future Growth Framework land use plan and the streets recommendations envisioned in this plan are compatible. When examining the busiest hour of travel, the afternoon peak hour, conditions on most streets remain at or below acceptable levels of congestion. Where congestion in excess of acceptable levels occurs during the peak period, these conditions typically do not extend beyond the peak hour. This indicates that the street plan and Future Growth Framework are compatible. The planned street network is generally able to handle future expected demand. Complete model results analysis is included in the Technical Appendix.

Travel Behavior Assumptions

Underpinning the TRM are a number of assumptions on travel behavior, demographics, growth, and personal preferences. These assumptions are based on detailed survey data and travel diaries of individuals in the Triangle. The surveys include information on mode of travel, trips, time of trips, origins and destinations, preferences, and other travel behavior characteristics. The TRM uses this information, demographic data, and national experience with travel behavior to simulate transportation conditions, through a four- step process. First, the number of trips is estimated according to land uses to generate the level of trip origins and destinations at each location. Second, trips are distributed by pairing up origins and distributions throughout the model region. Third, modes are assigned based on demographic, income, and travel behavior and preference assumptions. Finally, routes are assigned to link each trip between its origin and destination. This process is performed for all estimated trips in a region to generate a simulation of transportation conditions in the region.

For the modeling work for this process, no changes were made to the regional travel behavior assumptions contained in the TRM. The model is rigorously built on robust data to create a complex, but methodologically sound, set of trip assumptions and patterns throughout the region. The TRM assumes that trip and travel behavior in the model's base year (2010) is the same as trip and travel behavior in the model's future year (2040). Therefore, the number of trips, mode preferences, and the algorithms that determine route selection are assumed to be the same in 2040 as 2010.

Financial Assumptions

The ~~2040~~ updated Metropolitan Transportation Plan includes a set of fiscally-constrained projects planned to be implemented by the year ~~2040~~ 2050. Fiscally-constrained means that the projects fit within a budget of revenues that are reasonably expected to be available throughout the timeline of the plan. This includes revenues from multiple sources - federal formula funds, state matching funds, user fees, transportation taxes, local matching funds, and private transportation revenues. Some projects included in the MTP are already attached to specific funding that has been allocated by federal, state, and local agencies and municipalities. These projects are included in a short-range Metropolitan Transportation Improvement Program, which covers projects out to ~~2020~~ 2030. For the modeling work on this project, the financial assumptions that underpin the regional projects were assumed to be valid.

The model for Cary does include some transportation projects within Cary that are not part of the region's 2040 MTP. This planning effort is an update to ~~the Town's~~ Cary's Comprehensive Transportation Plan, which is not required to be fiscally-constrained, meaning projects are not expected to fit within a projected budget of costs and revenues. The projects envisioned in this plan which are not part of the regional MTP might be funded through bonds or other sources.

Projects that are in the MTP can compete for funds through North Carolina's competitive program, Prioritization, outlined in the Strategic Transportation Investments (STI) law and may be eligible to compete for funds through the Capital Area MPO's Locally Administered Projects Program (LAPP). STI aims to efficiently fund infrastructure improvements while supporting

economic growth, job creation, and higher quality of life. STI also established the Strategic Mobility Formula which is a quantitative ranking of projects to determine funding. The Strategic Mobility Formula uses project costs, benefits, economic impacts, and job impacts, along with local input, to determine which projects receive funding.

In general, street projects funded through LAPP are eligible to receive up to 80 percent federal funding with a 20 percent local match; however there are additional funding programs that have different funding allocations. Some local streets and intersection improvements may be built by developers as part of a development agreement. Funding decisions are coordinated with neighboring municipalities, regional decision makers, statewide agencies, and federal agencies.

Planned Roadway Widths Map

The recommendations in this plan are an update of the 2008 Comprehensive Transportation Plan and based on input from Cary residents, Cary Town Council, and Cary staff. The Planned Roadway Widths Map shows the locations different corridor profiles will be implemented. ~~The colors on the map correspond to the color bands on the left side of each corridor profile typical section~~. The cross-section profile list includes a colored band on the left side of the corridor type, which corresponds to the Planned Roadway Widths Map.

PEDESTRIAN ELEMENT

The most common type of pedestrian facility is sidewalks, and Cary has extensive coverage of sidewalk facilities. In general, Cary collectors and thoroughfares are designed to include a minimum five-foot sidewalk on both sides of the street. All sidewalks and crosswalks will be designed according to Americans with Disabilities Act requirements to ensure that all Cary residents can use the facilities, regardless of mobility status. Greenways and street-side trails are other important infrastructure elements for pedestrians. Street crossing treatments, traffic calming in certain locations, programs, and policies are all important components of the pedestrian experience in Cary as well.

Traffic Calming

Traffic calming describes a range of improvements that reduce traffic speeds and are intended to improve safety for all street users. They are primarily appropriate for local streets, not meant for significant through traffic. Traffic calming makes streets more comfortable for pedestrians. ~~The Town of~~ Cary has existing policies on traffic calming criteria and guidelines that set up a process for the installation of traffic calming devices.

~~Trails~~ Shared-use Paths

~~Greenway Trails~~

~~Greenway Trails are paved multi-use trails separated from the roadway and designed for both bicycling and walking, which conforms to the AASHTO Guidelines for Development of Bicycle Facilities ('AASHTO') and Cary Greenway Construction Standards. Greenway Trails are often located along wooded stream corridors. Those within or adjacent to railroad right-of-ways, such as the American Tobacco Trail, are called 'Rail-Trails.' The minimum width is 10 feet but can be increased upwards to accommodate higher user volume and a variety of user types. Detailed design guidance on greenway trails is documented in the Cary Parks, Recreation, and Cultural Resources Master Plan.~~

Greenway

Greenways, sometimes referred to as greenway trails, are linear, paved, shared-use paths for walking, running, cycling, and other non-motorized uses. They are most often located in natural settings such as stream corridors but may parallel roadways in place of sidewalks when needed for connectivity. Greenways function as linear recreational facilities that also provide access to open spaces, offer opportunities for respite in nature, and serve as important routes for active transportation. Street-side trails are included in the greenway system mileage as they provide shared use opportunities along roadways that tie the off-road greenways together, helping complete connections to destinations and to other active and alternative transportation facilities. Cary has developed greenway design standards based on AASHTO standards as a minimum.

Street-side Trails

~~Street-side trails are pedestrian and bicyclist accommodations on or adjacent to a roadway where a greenway trail conforming to the standards above is not feasible. Street-side trails may take the form of sidewalks and on-street bicycle facilities or paved multi-use facilities parallel to the roadway. A minimum of 10 feet is recommended. Detailed design guidance on street-side trails is documented in the Cary Parks, Recreation, and Cultural Resources Master Plan.~~

Street-side trails, also known as sidepaths, are paved, shared-use facilities located parallel to roadways. They provide a minimum 10' wide shared-use space or, where appropriate, a minimum 8' wide pedestrian/shared-use area with an adjacent separated bikeway. Final design and configuration are determined in accordance with the Cary Bike Plan which also incorporates AASHTO standards as a minimum.

Sidewalks

Sidewalks are facilities designed primarily for pedestrians and located adjacent to the roadway. Sidewalks are typically concrete and should be 5 feet in width at minimum and wider in areas with higher user volume. Grass buffers and trees between the sidewalk and street offer additional protection and comfort to pedestrians on higher order roadways. ~~The Town of~~ Cary's Land Use Plan provides detailed guidance for sidewalk placement based on development context and roadway characteristics.

Programs

~~**Introduction to the 5 E's**~~

Cary has been recognized as a ~~Bronze~~ Silver level Walk Friendly Community (WFC) for its ~~staff resources devoted~~ commitment to non-motorized travel, extensive trails system, downtown streetscape project, connectivity ordinance, and sidewalk request program. The WFC program is a national initiative intended to encourage communities across the country to improve the local pedestrian environment and to recognize communities who are successfully doing this. A WFC provides safe accommodation for walking and encourages its residents to walk for transportation and recreation. The WFC program is administered by the Pedestrian and Bicycle Information Center (PBIC).

Cary has also been recognized as a Bronze level Bicycle Friendly Community (BFC) for its policies to engineer streets with the consideration of bicyclists, education classes and campaigns, enforcement efforts for bicycle-related laws, and bicycle planning. The BFC campaign is an award program that recognizes municipalities that actively support bicycling activities and safety. A BFC provides safe accommodation for bicycling and encourages its residents to bicycle for transportation and recreation. The program is administered through the League of American Bicyclists.

~~The WFC and BFC programs recommend a multifaceted approach to bicycle and pedestrian planning based on five categories often referred to as the Five E's: Engineering, Education, Encouragement, Enforcement, and Evaluation & Planning. The Engineering category refers to infrastructure-related elements, such as sidewalks, ADA accommodations, pedestrian amenities, etc. The other four E's refer to non-infrastructure efforts, such as pedestrian safety campaigns, walking events, media campaigns, etc. Research has shown that a comprehensive approach to non-motorized modes of travel is more effective than a singular approach that would address infrastructure issues only. Cary uses the 5 E's framework for bicycle and pedestrian planning. A snapshot of the non-infrastructure four E's is provided below:~~

- ~~Education – Distributing information about existing facilities and rules of the road, and building skills and confidence for alternative modes~~
- ~~Encouragement – Creating a strong bicycling and pedestrian culture that welcomes and supports these modes~~
- ~~Enforcement – Encouraging cyclists, motorists, and pedestrians to recognize and respect each other's rights on the roadway~~
- ~~Evaluation & Planning – Planning for walking and biking modes as safe and viable transportation options and tracking progress against this goal~~

~~Specific recommendations, within all 5 E's, to further promote walking and bicycling in Cary in the short and long term, are provided in the Act chapter.~~

BIKE ELEMENT

~~Neighborhood and Commuter~~ ~~Bikeways~~

~~The bicycling community has varying levels of comfort in biking with vehicular traffic; some riders are comfortable riding in mixed traffic and others prefer to be separated from vehicular traffic. In order to address the spectrum of different types of bicyclists in Cary, two distinct bikeway typologies have been developed. This approach parallels a similar movement across the United States towards developing low-stress bicycle networks that provide separated space for bicycling or routes along calmer streets. This development is supported by growing research evidence finding that low-stress bikeways and separated bikeway facilities increase ridership. Wide outside lanes and bike lanes along higher traffic volume/speed roadways are generally only used comfortably by experienced bicyclists, a small percentage of the population. Signed neighborhood routes, multi-use trails, greenways, street-side trails, separated bike lanes, and buffered bike lanes are used by a larger percentage of the population.~~

~~The existing and recommended Neighborhood Bikeway system includes a network of low-stress on-street bikeways, along on streets with lower speed limits and traffic volumes or streets with side paths or separated bicycle lanes, as well as the off-street trail system, along greenway trails and street-side trails. This network will serve those bicyclists who feel most comfortable completely separated from motor vehicle traffic or along residential roadways. The existing and recommended Commuter Bikeway system includes a network of bike lanes, wide outside lanes, and shared lane markings along streets that provide more direct routes for advanced bicycle commuters and those who are comfortable riding in traffic. These two systems are not mutually exclusive.~~

Cary's bikeway network is designed to serve people with a wide range of comfort levels and experience. On higher-volume or higher-speed streets, Cary emphasizes physically separated facilities such as separated bike lanes and street-side trails or sidepaths to provide low-stress options that attract the broadest range of users.

On neighborhood and local streets with lower speeds and volumes, bicyclists and drivers can safely share the roadway, supported by traffic calming, pavement markings, and signage that reinforce a comfortable riding environment.

The Bike Plan advances this approach by defining a connected network of bikeway types—each designed for different street conditions and comfort levels—so that Cary can match the right facility to the right location. Together, these strategies create an interconnected system of bikeways—greenways, street-side trails, neighborhood routes, and separated bike lanes that enable people of all ages and abilities to choose bicycling as a routine and appealing form of transportation.

~~Neighborhood~~ Bikeway Types

~~Signed Neighborhood Routes~~ ~~Bikeways~~

~~Signs are the minimum treatment necessary to designate a street as a neighborhood bikeway. They visibly reinforce a shared roadway environment to both bicyclists and motorists. Signs, and in some cases pavement markings, provide wayfinding to help bicyclists remain on the designated route. Signed neighborhood routes are recommended on local streets with speed limits below 30 MPH, no centerline stripe, and traffic volumes below 53,000 AADT (below 1,500 AADT is preferred).~~

Neighborhood Bikeway:
A neighborhood bikeway is a low-stress street designed to prioritize bicycle travel on low-volume, low-speed local or residential streets. Rather than adding a traditional bike lane, these corridors use traffic calming, wayfinding signage, pavement markings, and intersection improvements to slow motor vehicle speeds and reduce cut-through traffic, creating a more comfortable and predictable environment for people biking. Signs, and in some cases pavement markings, provide wayfinding to help bicyclists remain on the designated route and connect to key destinations. Neighborhood bikeways often form critical links between off-street trails, schools, parks, and commercial areas, providing a parallel, low-stress alternative to busier streets.

Shared Lane Markings
Shared lane markings or "Sharrows" are pavement markings that signal a shared lane environment for bicyclists and automobiles. They recommend where cyclists should position laterally within a travel lane and indicate to drivers that cyclists are expected and are legitimate street users. Sharrows ~~can be used to provide continuity of on-street striped facilities like bike lanes through constrained roadway sections, and~~ are useful on neighborhood bikeways and on lanes adjacent to on-street parking to help cyclists position outside of the door zone. ~~The use of sharrows was recommended in the 2008 CTP and have since been implemented on several streets in Cary. Shared lane markings are typically recommended on neighborhood bikeways streets with a speed limit at or below 305 MPH.~~

~~Neighborhood~~ Bike Lanes
On-street bike lanes designate an exclusive space for bicyclists through the use of pavement markings and signage. The bike lane is located directly adjacent to a motor vehicle travel lane and is used in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street, between the adjacent travel lane and curb, street edge, or parking lane. ~~Neighborhood bike lanes are recommended on collector streets with speed limits at or below 30 MPH, two travel lanes, and traffic volumes below 10,000 AADT~~. Buffered bike lanes are a variation of a standard bike lane that include a painted buffer—typically with diagonal striping—between the bike lane and the travel lane or parking lane to provide additional horizontal separation and comfort for bicyclists.

Separated Bike Lanes
Separated bike lanes are conventional bicycle lanes paired with a designated buffer space and vertical separation, physically separating the bicycle lane from the adjacent motor vehicle travel

lane and/or parking lane. Separated bike lanes may be one-way or two-way facilities at street level, at sidewalk level, or in between. When used at the sidewalk level, separation from the street is achieved by a curb or median and separation from the sidewalk is achieved by pavement color or texture. When used at street level, vertical separation often consists of on-street parking, bollards, planters or raised medians. Separated bike lanes require more right-of-way than regular bike lanes to accommodate their buffer space.

Greenway Trails and Street-side Trails - (see pedestrian section)

~~**Commuter Bikeway Types**~~

~~**Signed Commuter Routes**~~
~~Signed commuter routes are similar to signed neighborhood routes, but used on higher order streets with higher speed limits and traffic volumes. They are selected based on trade-offs between directness, posted speed limit, roadway width, and traffic volumes. Signed commuter routes may overlap with other bicycle facility types like shared lane markings and wide outside lanes.~~

~~**Wide Outside Lanes**~~
~~Wide outside lanes are found on single- or multi-lane roadways with extra width in the outermost travel lane to accommodate cyclists. The outermost lane width is 14 feet on roadways in Cary. Wide outside lanes are most appropriate on routes with moderate traffic volumes and higher speeds.~~

~~**Commuter Bike Lanes**~~
~~Commuter bike lanes are identical to neighborhood bike lanes, but used on streets with higher speed limits, number of travel lanes, and traffic volumes. Commuter bike lanes are recommended on streets with posted speed limits up to 40 MPH, 2 – 3 travel lanes, and traffic volumes up to 20,000 vehicles per day. When supplemented with a striped buffer of two feet or more, commuter bike lanes may be appropriate on some streets with up to 5 travel lanes and posted speed limits up to 45 MPH.~~

Crossing Improvements
Crossing improvements play a critical role in connected bikeway and pedestrian networks. Many neighborhood bikeways in particular are located along lower-traffic routes parallel to primary roadways that cross multiple thoroughfares with or without traffic signals. Contextually-appropriate pedestrian crossing accommodations are also important to create a comfortable crossing experience and enhance pedestrian safety. Improvements at these locations are therefore the critical link in creating low-stress and comfortable networks of pedestrian infrastructure and bikeways. A set of possible intersection treatment options are provided in the Technical Appendix, standard specifications and the Cary Bike Plan. Each crossing improvement must be evaluated and specific treatments selected based on localized conditions and the crossing's role in the transportation network.

Wayfinding and Maps

Successful wayfinding orients people to their surroundings and informs them on how to best navigate to their destination along preferred pedestrian and bicycle routes. Both wayfinding signage and bicycle and pedestrian user maps help to familiarize new users with the network.

Wayfinding Signage

A wayfinding signage system consists of comprehensive signing and/ or pavement markings to guide users to their destinations along preferred routes. Basic elements that can be included in wayfinding signs include direction of travel, destinations, distances, and estimated travel time. Often, the inclusion of travel times dispels common overestimations of time and distance, thus encouraging walking or cycling instead of defaulting to the car. Signs should be placed at decision points (where the navigator must choose whether to continue their route or change direction) along routes.

Bike & Hike Map ~~and App~~

Cary's Bike & Hike Map displays all existing bikeways and trails along with a guide to greenways and parks. The map itself is supplemented with a user guide including valuable information on the rules of the road, tips on safe cycling techniques, and links to other local resources. ~~Cary's web-based Bike & Hike application makes the Bike & Hike map available on smart-phones and allows users to search and select biking and hiking routes and recreation opportunities.~~

~~Planned Bike and Pedestrian Routes~~ Bike Plan Vision Network Map (*insert final map*)

The recommendations for bicycle ~~and pedestrian~~ facilities are on the map on the following page. ~~The recommendations focus on gaps in the network. Because many pedestrian and bicycle facilities will be built as streets are constructed, the recommendations also focus on areas where street improvements are not planned in the foreseeable future.~~

TRANSIT ELEMENT

As Cary grows, GoCary (formerly C-Tran) also has the opportunity to grow and accommodate an increasing number of trips. This section presents the proposed additions and changes to the GoCary network and service. These changes are based on input from the community open houses, the Transportation Advisory Group (TAG) and Committee for the Future (CFTF) for Imagine Cary, staff input, and analysis of potential transit ridership based on population and employment projections. These recommendations were developed concurrently with the Wake ~~County~~ Transit Plan (W~~C~~TP), and the recommendations developed here as part of the Imagine Cary process are intended to complement the W~~C~~TP.

The main factors that influence the demand for transit service are population and employment densities. Routes that serve higher-density population and employment areas have higher potential for trips per revenue hour of service. These recommendations were developed using counts of population and employment within 1/4-mile of current and potential transit routes

with current year data and 2040 projections from the Future Growth Framework model scenario. Forty-three routes and route permutations were analyzed.

When fully implemented, these recommendations will create a GoCary service with increased service frequency, more service days, increased hours of service, and expanded geographic coverage. Combined with expected transit expansions envisioned by the W~~C~~TP, these recommendations will give Cary residents ~~much~~ more transit service to destinations in Cary and throughout the Triangle region.

The complete analysis of all proposed changes to the transit network, including a comparison of how each proposal ranked for their proximity to residential and employment populations is presented in the Technical Appendix. Highlights of the recommended changes to the GoCary network include:

Additional Service on Existing Routes identified in 2017:

- Increase all routes to a minimum 30-minute weekday and Saturday service frequencies
- Add Sunday service with 60-minute frequency (implemented in 2017)
- Expand span of daily service to 20 hours of service per day (e.g., service between 5:00 am and 1:00 am, daily)
- The 2035 Wake Transit Plan Update proposes increasing the number of local routes with frequent bus service, including all of GoCary's bus routes by 2035. The goal is also to ensure that all of the frequent routes meet the standard of operating for 18 hours a day on weekdays and Saturdays, and 17 hours on Sundays with frequent service for at least 12 hours a day.

New Destinations for Service identified in 2017:

- Cary Depot to Wake Technical Community College
- Cary Depot to downtown Raleigh
- Cary Depot to Crossroads (implemented in 2021)
- Cary Depot to Beaver Creek
- Service on Weston Parkway (implemented in 2021)
- Service to west Cary and the Green Level Church area
- Service on Cary Parkway
- Cary Depot to RDU Airport

More Frequent Service and Expanded Service Hours and Days

~~The first opportunity to grow GoCary's ridership is to increase the frequency of service to every 30 minutes on weekdays and Saturdays. Increasing frequency to every 30 minutes gives riders more choice about when to travel and offers riders confidence that missing or skipping a bus does not cost an hour of their time. Currently, some routes have 30-minute service at peak travel times, but off-peak service and all day service on some routes is at 60-minute frequencies. The change to 30-minute frequencies throughout the day on weekdays and Saturdays will apply to all current routes as well as new routes when they are added to the GoCary system.~~

~~The second opportunity for additional service is to add Sunday service on all routes, which was repeatedly identified as a high priority by the public and TAG throughout the Imagine Cary process. Sunday service is planned with the frequency of service every 60 minutes throughout the day. The addition of Sunday service at 60-minute frequencies is proposed to apply to all current routes as well as new routes when they are added to the GoCary system.~~

The first major opportunity to grow GoCary's ridership was realized in 2017, when service frequency was increased to every 30 minutes on weekdays and Saturdays. This improvement gave riders more flexibility in when to travel and greater confidence that missing or skipping a bus would not result in an hour-long wait. Prior to 2017, only some routes offered 30-minute service at peak travel times, while most off-peak and all-day service operated at 60-minute frequencies. With the change, all routes now provide 30-minute service throughout the day on weekdays and Saturdays, a standard that also applies to any new routes added to the GoCary system.

The next opportunity for additional service was to add Sunday service on all routes, which was repeatedly identified as a high priority by the public and TAG throughout the Imagine Cary process. As of 2017, Sunday service operates at 60-minute frequencies throughout the day and applies to all current and future routes in the GoCary system.

The third opportunity for additional service in Cary is to increase the span of service hours. Currently, service is provided 16 hours per day, from 6:00 am to 10:00 pm. A component of the Wake ~~County~~ Transit Plan is to increase the span of service to 20 hours per day, on area transit providers, including GoCary. Increased service hours help riders who have atypical work hours and to help serve more leisure and non-work trips via transit.

Together these proposed changes to service span and frequency will be a major increase in convenience and will help GoCary better serve existing riders and attract new riders.

Corridors and Growing Areas for Service

In addition to more frequent service and expanded span of service, many areas of ~~town~~ ~~Cary~~ that do not currently have service will be targeted for transit service. This proposed geographic expansion is planned to happen through extensions of existing routes and adding new routes to service. New geographic service areas and new routes are planned to have the same expanded operating services as proposed for the existing GoCary routes - 30-minute frequency Monday through Saturday, 60-minute frequency Sunday, and 20 hours of service per day. This ensures a consistent, high-level of service across the GoCary service area and aids in transfers, both within the system and to other service providers.

The goal of expanded service to new parts of Cary is to respond to growth already being seen outside of the current GoCary service area and to anticipate future growth expected to

occur throughout Cary ~~the Town~~. New services are planned to connect major residential developments, major employment clusters, mixed-use developments, and commercial development areas.

New areas for service include commercial centers such as Parkside Town Commons and Davis Commons. Major residential areas in western Cary are also targeted, including Alston and Amberly. Major destination centers, such as Wake Technical Community College, will have new service. Transit routes will also be provided on several major roads that do not currently have service, including Green Level Church Road, NC 55, Davis Drive, Morrisville Carpenter Road, Cary Parkway, Old Apex Road, and Lake Pine Drive.

Some routes will provide linkages outside of Cary to important destinations, including the neighboring downtowns of Raleigh and Apex, service into Morrisville, and a direct connection to RDU Airport.

A Microtransit Feasibility Study was also completed in the summer of 2024 to determine areas of Cary that may be a good candidate for alternative transit options. Microtransit is a form of on-demand, shared public transportation with flexible routing, using designated stop locations referred to as "hubs" in the study. The final report recommends multiple options for microtransit in two designated zones, the Western Cary Zone and the Southern Cary Zone. The study also highlighted different service level options and costs. Cary anticipates microtransit being a potential option in the future for areas that do not currently have fixed route service.

Bus Rapid Transit and the Wake County Transit Plan

The Wake ~~County~~ Transit Plan (W~~C~~TP) provides a broad set of transit expansion plans for Wake County, including bus rapid transit (BRT) service between the Cary Depot and downtown Raleigh. BRT is a bus service designed and operated to provide a level of service comparable to a rail-transit technology, with more frequent service, fewer stops, and dedicated transit right-of-way. BRT systems also typically have more stop amenities similar to rail stations. The Cary to Raleigh BRT route is proposed to provide frequencies at 15 minutes or better all day.

In addition to the BRT corridor, the W~~C~~TP includes a significant expansion in traditional bus routes throughout the county, providing more connections between Wake County municipalities and destination centers. These new traditional bus routes would have expanded service hours from what is currently available, provide service seven days a week, and have 15-, 30-, or 60-minute frequencies throughout the day. The W~~C~~TP also ~~includes~~ contemplates future commuter rail service between Durham and downtown Raleigh ~~which is~~with a proposed ~~to have a~~stop in downtown Cary. ~~Commuter rail service would operate during peak hours.~~ CAMPO also completed a Major Investment Study to identify and evaluate potential alignments of a Western Rapid Bus Extension between downtown Cary and RTP which has been added to the 2035 Wake Transit Plan Update. Longer term improvements include improved passenger rail service along the S-Line corridor that NCDOT is evaluating and future BRT service along the Harrison/Kildaire Farm corridor.

Funding

Funding is proposed to be provided by existing sources and new sources. The W~~C~~TP includes proposed funding from a 1/2-cent sales tax and other local sources including vehicle registration and rental car taxes. Local general funds would also continue to be needed to fund local bus services and the W~~C~~TP proposes a modest annual increase in local transit funding of 2.5 percent per year. Federal and state contributions would provide significant contributions as well. BRT and commuter rail are projected to be 50 percent funded by federal funds. The W~~C~~TP also includes farebox and long-term bond proceeds.

GoCary funding will continue to be provided through local contributions, farebox revenue, and state and federal matching funds. For routes that cross out of Cary to provide links to other Triangle communities, local contributions will be sought from neighboring municipalities that benefit from the new connections.

Planned Transit Routes Map

The map on the following page shows the future plan for transit service in Cary. This map includes existing GoCary and GoTriangle bus routes plus long-term GoCary recommendations and W~~C~~TP bus routes. The map also shows the proposed Durham to Raleigh commuter rail route and the Cary to Raleigh BRT route that are part of the W~~C~~TP.

HOW WE WILL ACHIEVE OUR VISION

1. Provide for the Safe and Efficient Movement of People and Goods

Major Actions:

- ~~Conduct a pilot program to construct and evaluate a separated bike lane along Chatham Street.~~
- ~~Conduct a study with other public/private partners for a future north-south transportation corridor in western Cary along existing rail infrastructure.~~
- Evaluate holistically more frequent and wider coverage of transit as described by the Wake ~~County~~ Transit Plan.
- Continue the implementation of ADA pedestrian improvements at targeted intersections throughout ~~Town~~Cary.
- Continue research, learning, and collaboration on Vision Zero to build on regional safety initiatives such as the Capital Area Metropolitan Planning Organization's Blueprint for Safety.

2. Create a Balanced Transportation System

Major Action:

- Evaluate and identify feasible corridors for bus rapid transit and opportunities for context-sensitive improvements.

3. Integrate the Built and Natural Environment With an Innovative and Well-Designed Transportation System to Create Great Places and Great Spaces

Major Actions:

- Evaluate the impact of the Future Growth Framework on existing parking/pedestrian/ bicycle/transit standards and requirements (e.g. size facilities appropriately in destination centers), and update as necessary.
- Develop an interdepartmental and multi-disciplinary collaboration process for responding to unique transportation situations and contexts, including impacts to the natural environment, special urban centers, and historic features.

4. Make Strategic and Equitable Transportation Investments

Major Actions:

- Explore intelligent transportation systems and emerging technologies and evaluate their integration into Cary's transportation system.
- Focus on public/private investment opportunities and/or cost-sharing for future transportation projects.

5. Conduct Further Study of the Recommendations on the Planned Roadway Widths Map

~~Major Actions:~~

- ~~Explore context sensitive designs for Green Level Church Road through the Green Level Historic District.~~
- ~~Conduct a land use/transportation study of the recommended NE Cary Parkway Extension as depicted on the Planned Roadway Widths Map.~~

RELATED POLICY DIRECTIONS IN OTHER CHAPTERS

This plan has been organized to address specific topics in specific chapters; however, the policies listed throughout this plan are very much interrelated. Listed here are the policies included in other plan chapters that relate to the ~~Town's~~ Cary policies on transportation and mobility.