

DURHAM • CHAPEL HILL • CARRBORO METROPOLITAN PLANNING ORGANIZATION



ANNUAL REPORT

FY2017-18



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"Now more than ever, transportation needs and travel patterns are inextricably linked to economic, environmental, and social trends."

WELCOME MESSAGE

The Durham -Chapel Hill - Carrboro Metropolitan Planning Organization (DCHC MPO) is pleased to present our third Annual Report. The Annual Report has grown into a key line of communication between the MPO and our partners, stakeholders, and the wider public. Since 2015, the report has provided a snapshot of DCHC MPO's role in stewarding the region's transportation planning and investment each year. It has laid out the many trends influencing travel, and how DCHC responds to those trends in a fiscally responsible manner. It has also provided an outlook for things to come. The 2017 Annual Report continues this initiative in an effort to provide transparent communication at all levels of the planning process.

The DCHC region includes all of Durham County and portions of Orange and Chatham Counties, including Chapel Hill, Carrboro, and Hillsborough. The DCHC MPO acts as a regional connector and relationship builder - bringing together key players in the region, including local governments, transit agencies, the NC Department of Transportation (NCDOT), and the general public. Together, these partners create a clear transportation vision for our region, and set priorities for implementation of federal transportation funding.

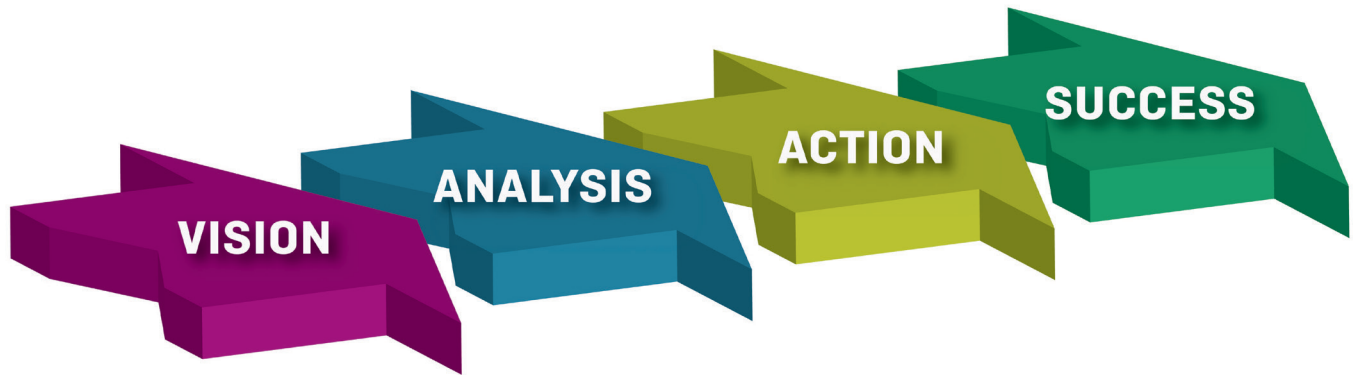
Our region is a successful, growing region. With growth comes a diverse set of transportation opportunities and challenges. Now more than ever, transportation needs and travel patterns are inextricably linked to economic, environmental, and social trends. The public is increasingly interested in the role that transportation plays in their overall quality of life. This report provides integrated, cross-sector insights into current transportation trends and their implications for the region. It also illustrates the ways in which DCHC works every day to leverage transportation opportunities to help make this region one of the nation's best in which to live, work, study, and visit.

I hope this report sparks your interest in transportation planning and implementation, and deepens your understanding of the region-wide dynamics at play. DCHC relies on public participation both to create plans that reflect our collective desires, and to see those plans come to fruition. We encourage your continued involvement and contribution as we shape the future of our transportation system, and our region.

Felix Nwoko, Ph.D.
MPO Manager, DCHC MPO

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REPORT SUMMARY



The Annual Report provides a snapshot of what the MPO is doing to improve our transportation system. The MPO's actions are guided by key trends, established goals, and policy requirements. The aim of the MPO is to create a more inclusive, efficient transportation system that improves the quality of life and economic outcomes for all residents.

KEY MESSAGES

A VISION DRIVEN BY PUBLIC INVOLVEMENT AND DETAILED ANALYSIS

All MPO work is driven by a clear vision statement that is based on public involvement and supported by robust data analysis. Public participation and community surveys, as well as advanced analytical planning tools, offer vital information to support the MPO in planning decisions.

A REGION GROWING TOGETHER

The region is characterized by widespread, rapid population and economic growth. Additionally, communities are increasingly diverse and urban-oriented. The MPO expects that 75% of the region's population will live in urban areas by 2040. Shifts in location preference and continued growth have long term implications for the MPO and for the region's transportation systems.

CONNECTING COMMUNITIES

The MPO is dedicated to ensuring that mobility between our swiftly growing communities continues to improve. Accessible, affordable transportation options that link major activity centers in the region (e.g. Durham, Chapel Hill and Research Triangle Park) are increasingly important investments that will attract new residents to the region, particularly young, working-age adults, in addition to providing safe travel alternatives for the region's senior citizens and no-car households.

THE FUTURE IS MULTIMODAL

A sophisticated, multimodal transportation network that incorporates car, bus, train, bicycle, and pedestrian travel can address the challenges associated with rapid growth and cater to shifting demographics and location preferences. Coordinated infrastructure investment for all modes of transportation will provide safe, reliable, and affordable travel options for all residents and ensure the region remains a competitive, attractive destination.

SAFE AND SUSTAINABLE STRATEGIES

MPO investments aim to protect residents and the natural environment throughout the region. Bicycle, pedestrian, transit and vehicular safety are fundamental to all MPO initiatives, as are the principles of environmental justice and resilience.



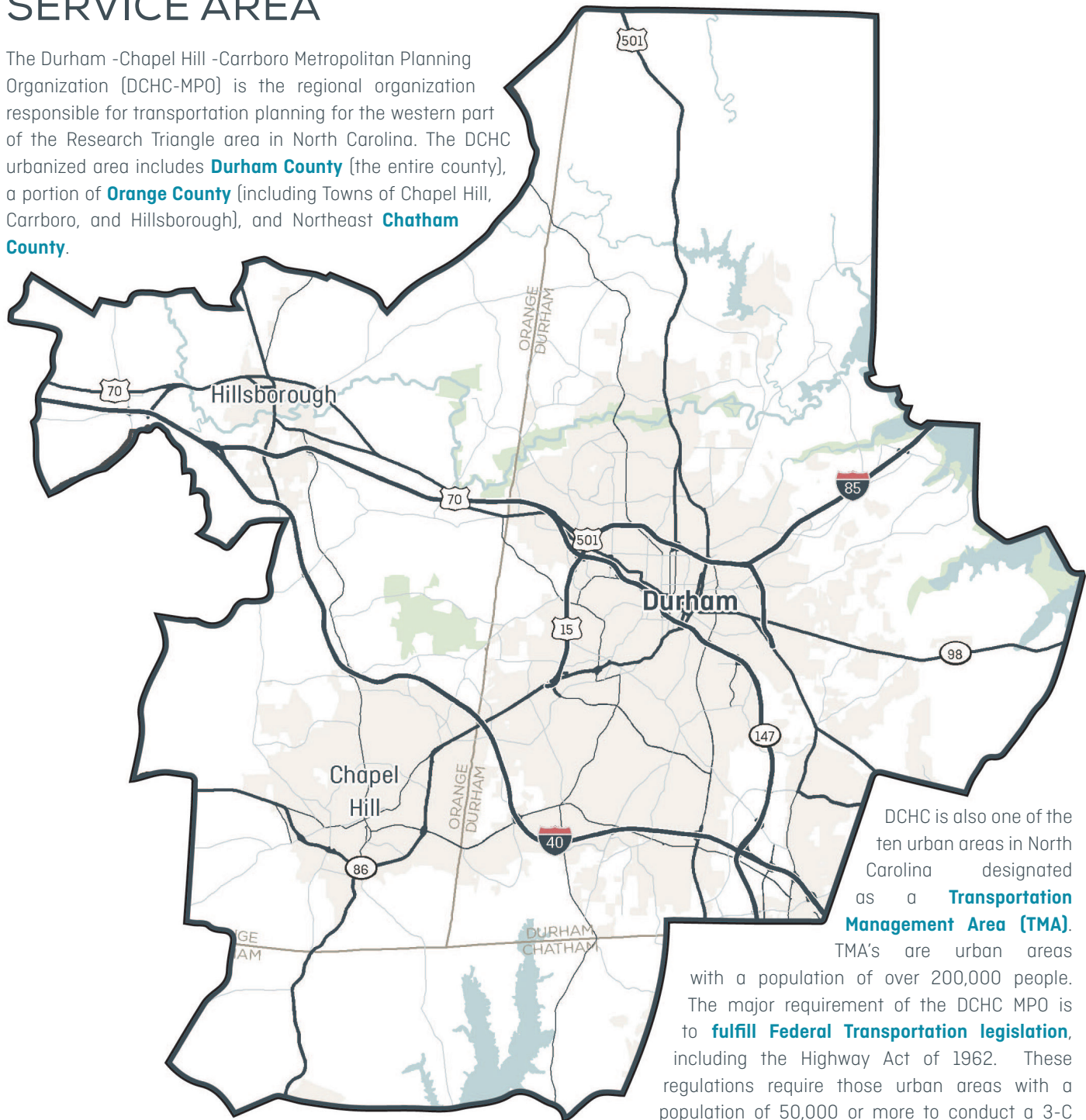
“By 2040, 75% of North Carolina residents are expected to live in urban areas.”

OUR REGION

2

SERVICE AREA

The Durham -Chapel Hill -Carrboro Metropolitan Planning Organization (DCHC-MPO) is the regional organization responsible for transportation planning for the western part of the Research Triangle area in North Carolina. The DCHC urbanized area includes **Durham County** (the entire county), a portion of **Orange County** (including Towns of Chapel Hill, Carrboro, and Hillsborough), and Northeast **Chatham County**.



DCHC is also one of the ten urban areas in North Carolina designated as a **Transportation Management Area (TMA)**.

TMA's are urban areas with a population of over 200,000 people. The major requirement of the DCHC MPO is to **fulfill Federal Transportation legislation**, including the Highway Act of 1962. These regulations require those urban areas with a population of 50,000 or more to conduct a 3-C transportation planning process. The Continuing, Comprehensive, and Cooperative [3-C] planning includes the development of a long-range transportation plan.



MPO VISION

"A seamless integration of transportation services that offer a range of travel choices and are compatible with the character and development of our communities, sensitive to the environment, improve quality of life, and are safe and accessible for all."

OUR REGION

The MPO region includes: the larger municipalities of Durham and Chapel Hill; the growing small towns of Hillsborough and Carrboro; all of Durham County; and portions of Orange and Chatham County. Collectively, it is one of the strongest, fastest growing economies in the United States. This growth has improved quality of life for many residents and continues to attract new residents.

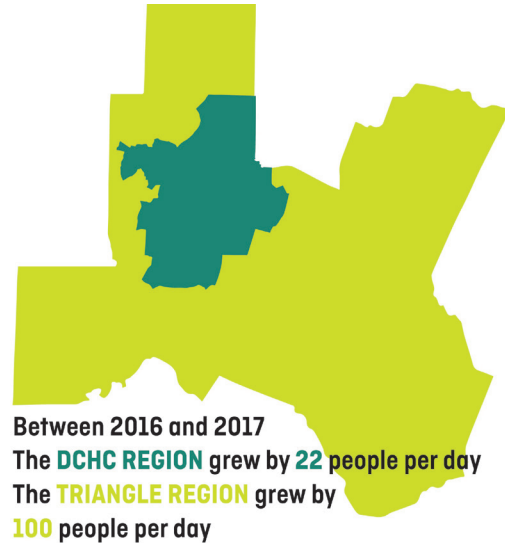
TRENDS AFFECTING TRANSPORTATION

The DCHC MPO relies on timely and reliable data to inform decisions about where and how to make transportation investments with limited funding. A standard method to help inform investment decisions is to monitor the condition and use of all transportation infrastructure, such as highways, streets, sidewalks, bike lanes, and transit. Additionally, the MPO tracks development and demographic trends that demonstrate how the region is growing to build and apply tools that help identify future transportation needs and evaluate potential projects. For example, more than three quarters of the MPO's population is concentrated in Durham, Chapel Hill, and along the roads that connect them. Thus, the MPO has prioritized improving multi-modal access between Durham and Chapel Hill, as well as mobility along the major routes throughout the region, including US 15-501, NC 54 and NC 751. This section addresses some of the key trends that the MPO considers when making transportation investment decisions in the DCHC region.

REGIONAL GROWTH

The DCHC region is growing as evidenced by the consistent

growth in jobs and population, as well as in development and vehicular travel. In addition to increasing travel demand, regional growth influences travel patterns through the *types* of jobs and development, and the demographic breakdown of population in the region.



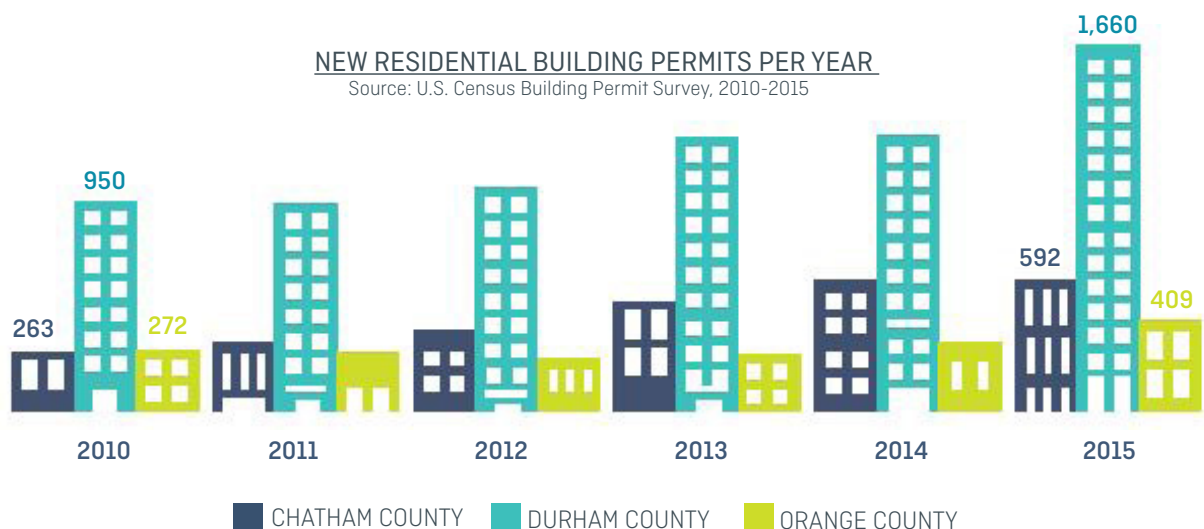
Source: 2012-2016 American Community Survey (ACS) 5-Year Estimate

HOUSING

The area has experienced a housing boom in recent years: 8,780 new housing units have been added to the Durham-Chapel Hill Metropolitan Area since 2010.¹ In the greater Triangle area, 37,838 new housing units have been added since 2010.² By 2040, 75% of North Carolina residents are expected to live in urban areas. The growth and development occurring in the MPO's downtowns and city centers reflects this trend.

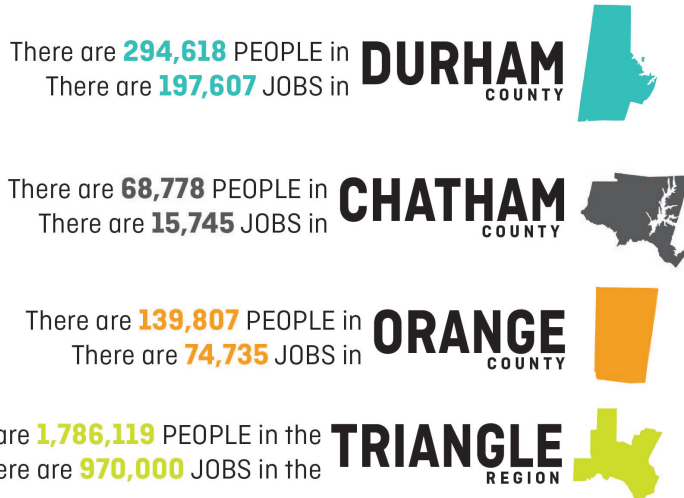
NEW RESIDENTIAL BUILDING PERMITS PER YEAR

Source: U.S. Census Building Permit Survey, 2010-2015



PEOPLE

Between 2016 and 2017, the Durham-Chapel Hill Metropolitan Area grew by approximately 22 people every day. The larger Triangle area (includes DCHC and Raleigh Metro areas) grew by 100 people per day in that same period.³ The Triangle area is attractive to residents of all ages – from millennials to seniors. It is critical that a wide range of transportation options are provided to meet a variety of needs. By 2040, the MPO region is expected to add over 230,000 new residents. Twenty percent of Triangle residents will be 65 or older in 2030, compared to 10% in 2000⁴.



Source: 2012-2016 ACS 5-Year Estimate

JOBS

The Durham-Chapel Hill metro area, and greater Triangle metro area, consistently rank as areas in the United States with the high job growth and quality of life. In 2016, the DCHC Metro hosted approximately 297,000 jobs – a 14% increase from 2010 employment.⁵ The larger Triangle area hosted approximately 970,000 jobs in 2016, representing a 17% increase since 2010.⁶

TRAVEL

From 2010 to 2016, the DCHC regional population increased by roughly 48,000 (or 10%).⁷ Approximately two thirds of that growth occurred in the region's five cities and towns. Population growth contributes, in part, to increases in vehicle travel. However, daily vehicle miles traveled (VMT) in the region increased by approximately 2,900 VMT, or a rate 19%.⁸ VMT is therefor growing almost twice as fast as population. This increase could be attributed to a rise in employment within the three counties, but also demonstrates the auto-dependency of residents in the region. The MPO anticipates that vehicles miles traveled (VMT) will double between 2010 and 2040.⁹

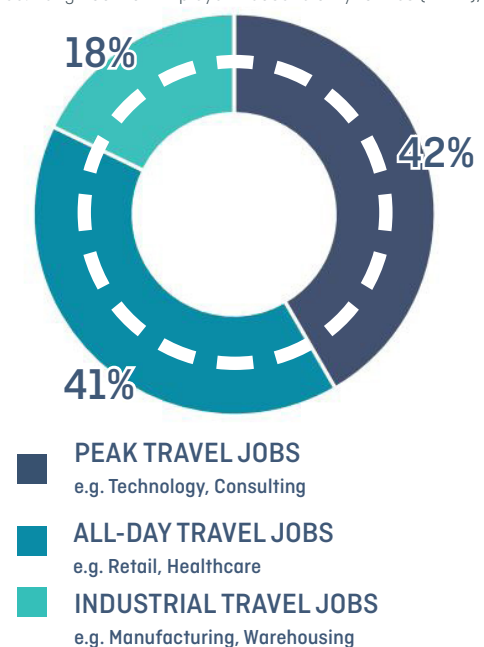
THE JOBS-TRAVEL RELATIONSHIP

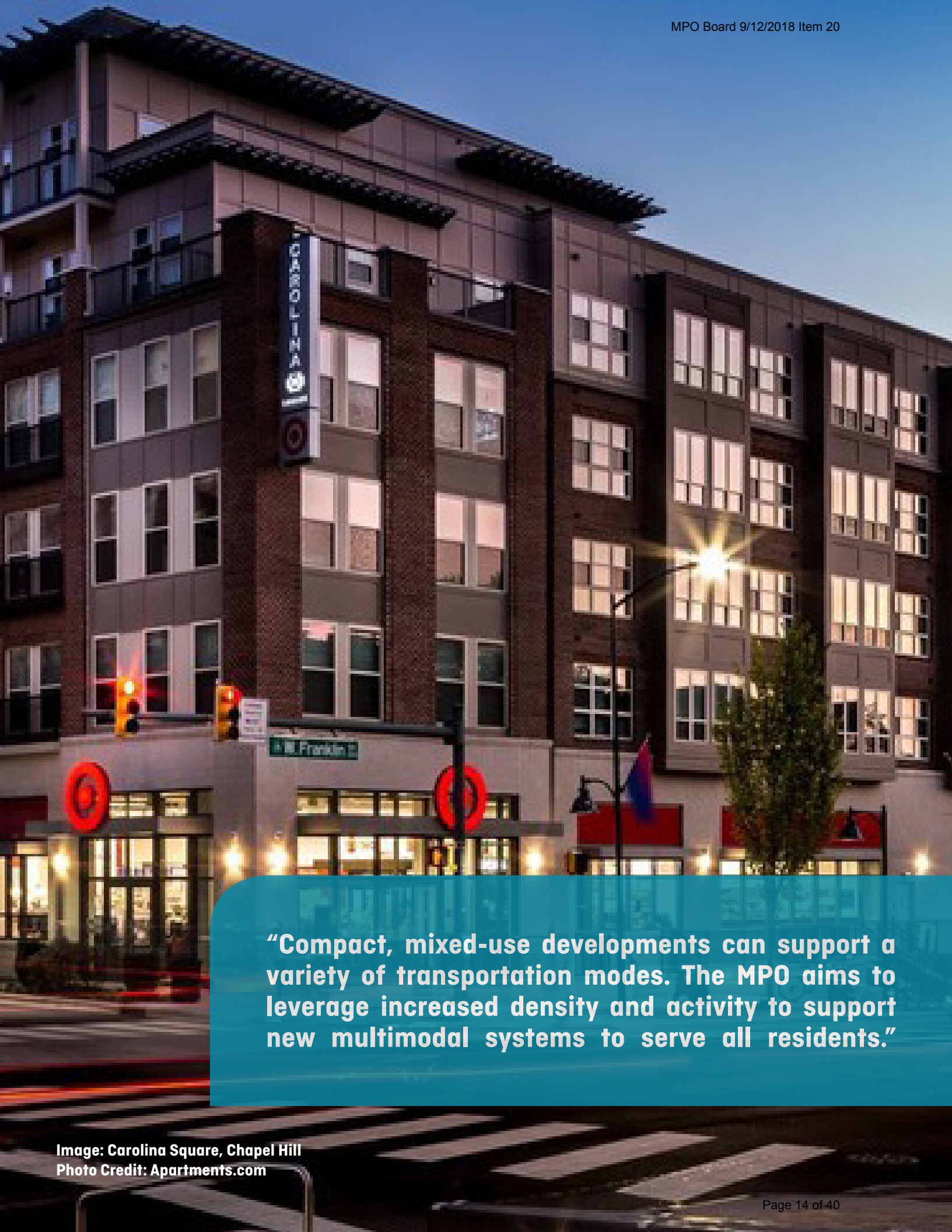
Different types of jobs use transportation networks differently. Industrial jobs (i.e. warehousing, manufacturing) can generate round-the-clock truck traffic. In addition, these sectors often locate in larger, lower density locations, requiring employees to commute via car. These jobs are classified as 'Heavy Traffic' jobs. In contrast, knowledge sector jobs (such as education and finance) generate mostly commuting trips and are often situated in higher density, heavily populated locations which allows employees a wider set of transportation options for their commute. These jobs primarily generate worker arrival and departure trips, and are characterized as 'Peak Travel' jobs. Jobs that rely on customers or visitors, such as retail and health services generate trips throughout the day, and are considered 'All Day Travel' jobs.

In the DCHC region, more than 80% of all jobs fall in the Peak Hour or All Day Traffic categories, and these industries have grown considerably over the last 5 years. Heavy Traffic jobs, including manufacturing, have decreased. Rising peak hour trips can lead to major congestion challenges in suburban landscapes like the DCHC region. In addition, the types of jobs that are thriving in this region generally locate in denser, urban areas. These development patterns allow for more multimodal transportation options such as transit, biking, and walking. Finally, a decrease in truck-oriented jobs may lead to lower demand for inter-regional travel and the major highways and interstates those trips require.

TRAVEL GENERATION BY JOB TYPE

Source: Longitudinal Employer-Household Dynamics (LEHD), 2016





“Compact, mixed-use developments can support a variety of transportation modes. The MPO aims to leverage increased density and activity to support new multimodal systems to serve all residents.”

DOWNTOWN AND ACTIVITY CENTER DEVELOPMENT

The MPO area is experiencing an increase of infill development in the region's downtowns and activity centers. Infill closes the geographic gap between housing, jobs, and services, and reduces stress on transportation infrastructure. The MPO supports infill development by investing in transit, bicycle and pedestrian infrastructure.

This development trend is in response to shifting location preferences. Surveys indicate that nearly 30% of current Triangle residents would prefer to live in compact, walkable neighborhoods with a mix of uses. Given the forecasted population and employment growth, the region's downtown areas could expect to see even more of that growth. Specifically, these areas should expect to serve a growing market of approximately 600,000 to 900,000 people in 2040.¹⁰

DURHAM COUNTY

One key employment center in the region is downtown Durham. Employment has significantly increased in this area in the past twenty years. Major mixed-use, infill projects have been constructed to accommodate the increasing demand for Class A office space and to provide nearby amenities and housing options. An example of this type of development is One City Center in downtown Durham, a 27-story, mixed-use high-rise. Construction is still underway; however, the overall building footprint includes 30 condos, 109 luxury apartments, 130,195 SF of Class A office space, and 22,828 SF of retail space.¹¹ The development has already signed on tenants, ranging from national companies such as WeWork, a coworking company, to local establishments like Buldega, a specialty grocer.¹² A development of this size will have a significant impact on downtown Durham. The MPO will ensure that new and existing residents have their transportation needs met.

ORANGE COUNTY

The construction of Carolina Square, at the corner of Franklin Street and Church Street in Chapel Hill, was completed in 2017. The new mixed use development is anchored by a 21,000 SF urban Target, and offers 42,000 SF of additional retail space, 159,000 SF of Class A office space, and 246 apartment units. The development provides increased housing options to the growing Chapel Hill population and offers residents convenience and access to services downtown.¹³ The property has a walk score of 84, meaning errands can be accomplished by foot.¹⁴

Another example of a walkable mixed-use district is the strategic redevelopment of the Ephesus-Fordham Boulevard District, formally re-branded to the "Blue Hill District". The District covers approximately 180 acres between South Elliott Road, East Franklin Street, Fordham Boulevard, and Ephesus Church Road. Chapel Hill Town Council identified this area as a priority for redevelopment for two primary reasons – a need to improve traffic flow and the areas lack of existing development density. The ultimate goal is to transform this district into a destination from its current use as a pass-through for many commuters and residents of the area. Developers and investors envision the district transforming into a walkable environment with urban character that is attractive to the area's younger residents. The district has attracted over \$125 million in investments since 2014, when Chapel Hill adopted a new form-based code to incentive new development through expedited development review processes.¹⁵ This reinvestment and redevelopment strategy, focused around particular thoroughfares and aimed to generate new business and attract new residents, will also generate more demand for a multimodal transportation network.

CHATHAM COUNTY

While most high-density development in the region is occurring in activity centers in Durham and Orange counties, both development and population are on the rise in Chatham County, as well. In particular, the Chatham Park development is a 7,000-acre mixed use development adjacent to Pittsboro, and along the border of the DCHC MPO boundary. Construction of Chatham Park began in 2014.¹⁶ By early 2018 a number of retail outlets and services were online including 14,000 SF retail space Penguin Place, UNC Hospice, and the popular Roots Cellar Café.¹⁷

An important part of the MPO's job is to facilitate new transportation connections and services that will support market demand and increase access to opportunities for all residents. Compact, mixed-use developments can support a variety of transportation modes. Therefore, the MPO aims to leverage increased density and activity to support new multimodal systems to serve all residents.



"A multimodal transportation network is equitable, serving populations at all income levels and ensuring that mobility in the region is not reserved to vehicle owners."

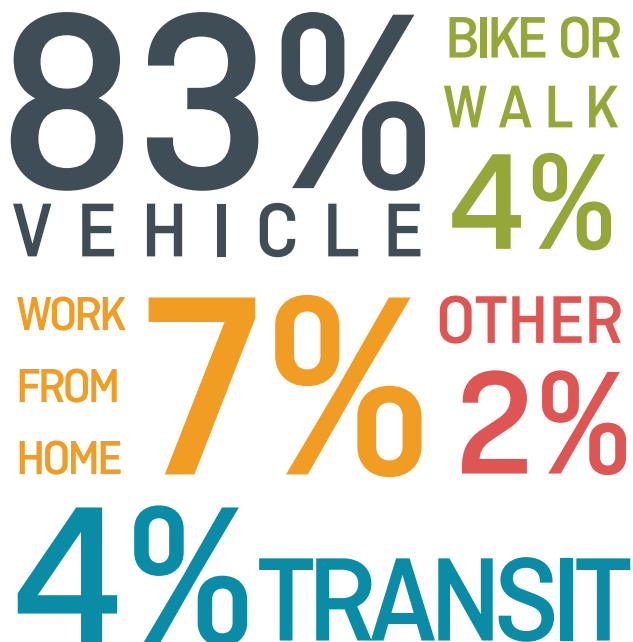
MULTIMODALISM

Population and job growth in the region has continued and while much of the new development to accommodate this growth is located in existing downtowns and city centers, development is also occurring along the region's periphery, contributing to sprawl. Many residents cross city and county lines to reach major employment centers such as UNC, Duke, and Research Triangle Park, contributing to increasingly high road congestion. The MPO is employing multimodal solutions to these transportation challenges to alleviate crowded roadways and offer residents a greater variety of transportation options.

A multimodal transportation network is equitable, serving populations at all income levels and ensuring that mobility in the region is not reserved to vehicle owners. Demographic changes, including an aging, diversifying population and a growing urban population, will shape the future travel demand and development of a multimodal network future. As ride-sharing programs expand across the region, vehicle ownership is no longer key to regional mobility. Thus, non-motorized transportation options are expanding to meet mobility needs and achieve multimodal network goals.

Source: 2009-2013 ACS 5-Year Estimate and 2011-2015 ACS 5-Year Estimate (right). 2011-2015 ACS 5-Year Estimate (below).

MODAL BREAKDOWN FOR COMMUTERS 2015



CHANGE IN MODAL CHOICE FOR COMMUTERS 2013 - 2015



An example of this is the dock-less bikeshare program in the City of Durham. Launched in November 2017, the City has issued permits to three service providers – Ofo, LimeBike and Spin – each offering short-term rentals throughout the city. The program has a high utilization rate of more than 50,000 trips since the launch.¹⁸ In its permitting, the City stipulates that approximately 20% of all deployed bikes be located and made available in eight target census tracts (the majority of which are adjacent to downtown) that previously have been the focus of city initiatives for poverty reduction, economic opportunity, and accessibility.¹⁹ Investments and plans for bicycle and pedestrian improvements are aligned with planned transit infrastructure investments. Major projects under way include the Durham Orange Light Rail Transit (DOLRT) line and the North-South Bus Rapid Transit (BRT) project in Chapel Hill.

KEY PRIORITIES

SPOTLIGHT ON SAFETY

A major focus of the MPO is creating a safer region-wide transportation network. Creating a safer built environment, and reducing the harm experienced by users, are key steps to ensuring that residents can enjoy a high quality of life across the region. Bicycle and pedestrian safety improvements in particular are becoming increasingly important issues as the region becomes more urbanized. As more development occurs in city centers and downtowns, residents are more likely to depend on non-motorized transportation options, and the MPO is dedicated to planning for a safe and vibrant future.

SAFETY METRICS

CRASHES

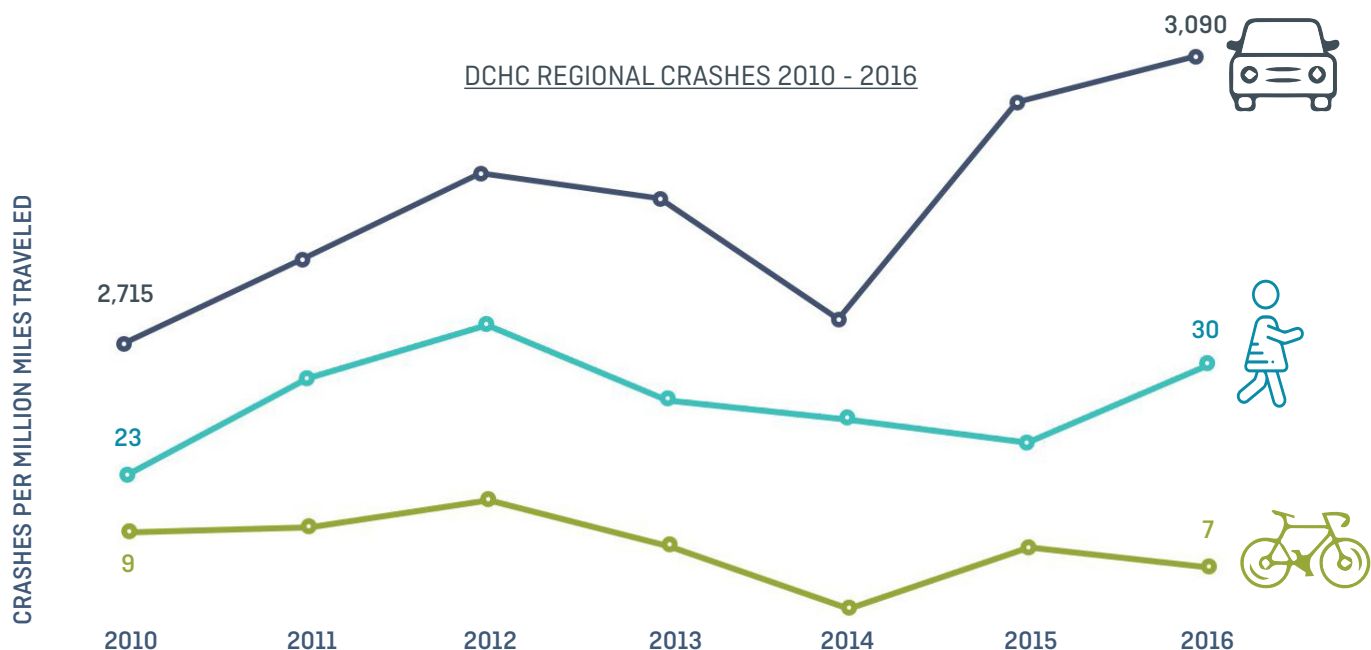
Between 2010 and 2016, the average crash rates across the region for vehicles and pedestrians rose. The vehicular crash rate rose by 14%.²⁰ But of the 3 counties, only Durham saw a rise in the rate of fatalities.²¹ As the largest county by population and VMT, it is no surprise that Durham has the highest number of crashes and fatalities in the region. However, Durham is also experiencing the highest crash rate in the region – twice that of Orange County – and needs to be closely monitored for root causes. The rise in the pedestrian crash rate may suggest that walking is on the rise, but the infrastructure to support this mode choice may still be insufficient.²²

CONGESTION

Average speed fell in all three counties between 2013 and 2017.²³ In contrast, the number of crashes has generally increased. Reduced speeds that are accompanied by higher rates of vehicular crashes can be an indicator of increased congestion. This finding suggests that speed management alone is insufficient to address the rise in crashes. Effective intervention will require improvements to safety infrastructure coupled with speed regulation.

PERFORMANCE TARGETS

The MPO sets performance targets for vehicular fatalities and non-motorized fatalities and serious injuries. Despite a small decline in the number of non-motorized fatalities and injuries between 2012 and 2013, the overall average number of motorized and non-motorized fatalities has increased steadily each year beyond the DCHC safety targets.²⁴ According to this metric, the region is not meeting its standards for safety, and interventions will be required to reduce fatalities for drivers, pedestrians and cyclists.²⁵



Source: NCDOT TEAAS Crash Data, 2010-2016

ANNUAL FATALITY METRICS AND TARGETS

Source: DCHC MPO Safety Targets



ANNUAL SERIOUS INJURY METRICS AND TARGETS

Source: DCHC MPO Safety Targets



INTERVENTIONS

To address the safety issues that are identified and quantified through careful monitoring, the MPO initiatives, participates in, and supports a wide range of safety initiatives and programs. The MPO works with federal, state, and local agencies to ensure that safety is a top priority in all planning processes and that agencies are able to implement effective interventions. Some of these initiatives include:

MAP-21, FAST ACT, AND HSIP

The MPO works to address safety and security issues in accordance with policies outlined with the Moving Ahead for Progress in the 21st Century (MAP-21) and subsequent Fixing America's Surface Transportation (FAST) Act. Federal requirements maintain the existing core program called the "Highway Safety Improvement Program" (HSIP). This program is structured and funded to make significant progress in reducing fatalities on highways as well as other modes that use highway, railroads, and other conduits within the transportation

network. The HSIP increases the funds for infrastructure safety and requires strategic highway safety planning focused on measurable results. Other programs target specific areas of concern such as work zones and older drivers. Pedestrians, including children walking to school, are also a focus area for the program.

SAFETY METRICS AND AUDITS

The DCHC MPO is dedicated to reducing crashes and fatalities throughout the region. Setting targets for reducing fatalities and serious injuries, and comparing them against incidents each year, helps the MPO track its progress towards its goals for a safer regional transportation network for all residents. The MPO also receives Traffic Engineering Accident Analysis (TEAAS) data from NCDOT's Transportation Mobility & Safety Division, and uses this data to guide decision-making. In addition, the data is used for Road Safety Audits which help the county prioritize and fund future state road projects, in collaboration with NCDOT.

VIDEO SURVEILLANCE.

The transit agencies in the DCHC region (GoDurham, GoTriangle, Chapel Hill Transit, and area human service providers) have or are in the process of providing on-board video surveillance cameras and transit station camera detection as a deterrent to crime, as well as providing Mobile Data Computers/Automatic Vehicle Locators on their vehicles.

FOCUS ON BICYCLE AND PEDESTRIAN PLANNING

With the increased interest in non-motorized transit options across the region, many of the MPO's safety initiatives focus on bicycle and pedestrian implementation programs. In addition, the FHWA considers North Carolina a Pedestrian Emphasis" state. For this reason, the four urban centers in the region – Chapel Hill, Durham, Carrboro and Hillsborough have adopted pedestrian plans and bicycle plans. Chatham County has also adopted a county-wide bicycle plan. These plans bring attention to the importance of safety as a central tenant of the region-wide transportation network. To support these plans, the MPO has invested in bicycle accommodations and walkway infrastructure, including on-road and off-road facilities. Constructing walkway infrastructure is a vital step to pedestrian crashes, particularly because 88% of pedestrian crashes involve pedestrians "walking along road".²⁶ The MPO also remains active in promoting bicycle and pedestrian activities by supporting events such as Bike to Work Week and the SmartCommute Challenge, and attending pedestrian safety classes hosted by NCDOT.

WATCH 4 ME NC CAMPAIGN

The MPO, in cooperation with the North Carolina Highway Safety Research Center (HSRC) and NCDOT, participated in the initial “Watch 4 Me NC” campaign. This campaign is intended to improve pedestrian safety through educational messages directed at pedestrians and drivers as well as encouraging police enforcement of current pedestrian laws. The MPO, along with NCDOT and HSRC, continues to build off of the initial campaign in Raleigh, Durham, Chapel Hill, and Carrboro, and to extend the campaign to the region’s other communities in the future. In addition, the MPO runs safety programs in schools, bringing the principals of safe walking and biking to classrooms across the country.

SAFETY COUNTERMEASURES

State and local agencies in the DCHC region continue to invest in safety countermeasures and infrastructure upgrades including:

- » Reconfiguring intersection geometrics and adding traffic calming elements;
- » Adjusting signal timing and phasing to improve the pedestrian experience;
- » Installing protective elements such as buffers, planting strips, marked cross walks, contraflow bike lanes, multi-use paths, and raised pedestrian street crossings; and,
- » Conducting road diets by narrowing or eliminating travel lanes on roadways, or adjusting turning radii.

FUTURE SAFETY CONSIDERATIONS

The impending introduction of autonomous and semi-autonomous vehicles (AV/ SAV) to our roadways will add a new component to the transportation mix that is forecast to result in significant improvements to safety and drastic reductions in injuries and fatalities. While we are still at least five years away from commercially-available AVs, it will be critical to begin to plan for the shifts in transportation patterns that will likely result from their introduction to the market.


SUSTAINABLE AND RESPONSIBLE TRANSPORTATION INVESTMENTS

Recent federal transportation policy and legislation has focused on ensuring the sustainability of funding for transportation investments. In 2015, Congress passed the Fixing Americas Surface Transportation (FAST) Act, authorizing \$305 billion in transportation-related spending in the following five fiscal years. The FAST Act is notable in that it extends the length of federal funding authorization to five years, contributing to the funding reliability at the local level.

The FAST Act also continues requirements for fiscal responsibility in transportation spending through practices such as performance-based planning and programming (PBPP). The performance-based standard was first introduced as a part of the 2012 legislation Moving Ahead for Progress in the 21st Century (MAP-21). The goal of PBPP is to help agencies make transportation investments that align with agency goals, objectives, and performance measures. Monitoring, evaluating and reporting on these performance measures over time will demonstrate whether goals and objectives are being met through transportation policy and investment.



The DCHC MPO Board recognizes Mayor Bill Bell for his many year's of service. Photo Credit: DCHC MPO

A photograph of an outdoor dining area at dusk. In the foreground, several bicycles are parked, including one with a red basket and a bright green helmet. In the background, many people are seated at long wooden tables, eating and drinking. The area is illuminated by warm string lights hanging from the ceiling of the outdoor space. The overall atmosphere is relaxed and social.

“With the increased interest in non-motorized transit options across the region, many of the MPO’s safety initiatives focus on bicycle and pedestrian implementation programs.”

Image: A warm summer evening in Durham
Photo Credit: Renaissance Planning

“In light of nationwide trends towards performance oriented planning, the MPO is working to integrate performance metrics and monitoring into regional planning initiatives.”



Image: GoTriangle Express Bus
Photo Credit: GoTriangle

ACCOMPLISHMENTS

3

ANNUAL ACCOMPLISHMENTS

The MPO has a long list of accomplishments each year. Some are annual projects designed to advance the organization's key missions. Others are special projects that create cost-effective solutions, expanded transportation options, and regional improvements whose impacts extend beyond our borders. This section highlights several of the MPO's current work efforts.

INVESTING IN COST EFFECTIVE SOLUTIONS

In a time of financial austerity for transportation, efficiency and effectiveness have never been more important. DCHC is committed to investing in cost-effective solutions to transportation problems so that our dynamic region continues to thrive.

BUILDING REGIONAL CONNECTIONS

All sides of the Triangle are growing together. As the boundaries between regions blur, DCHC, CAMPO, and NCDOT must work together on solutions that benefit the entire Triangle region. DCHC is collaborating with these partners on a range of regional solutions.



REINFORCING CORE MISSIONS

DCHC continues to comply with federal and state regulations and requirements by completing vital tasks necessary for the region to maintain eligibility for and access to federal and state funds.

EXPANDING TRANSPORTATION OPTIONS

Investing in projects that will provide people with more choices is a major emphasis of the DCHC MPO. A multi-modal future will ensure that the region remains competitive across the nation, and attracts and retains people and jobs.

2017 ACCOMPLISHMENTS

DCHC continues working on and improving upon the analysis, documentation, and services that inform their core missions. Listed below are examples of some of the ways the MPO achieves this.

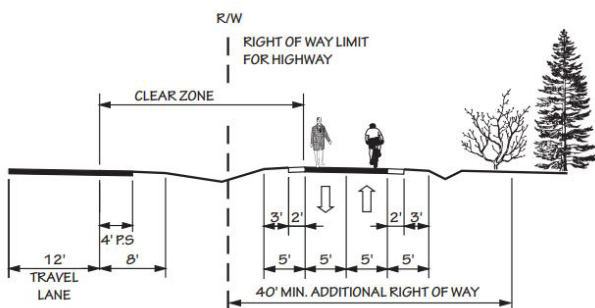
COMPREHENSIVE TRANSPORTATION PLAN (CTP)

The Comprehensive Transportation Plan (CTP) is a long range, multi-modal transportation plan that identifies roadway, transit, bicycle, and pedestrian improvements to be implemented in the future. The CTP is developed cooperatively between NCDOT and DCHC and emphasizes incorporating local land use plans and community and statewide goals (like Strategic Corridors). The CTP planning process and document are required by the state of North Carolina and are similar to the Metropolitan Transportation Plan (MTP), although the CTP evaluates transportation needs beyond a 20-year time horizon and is not restricted by expected funding levels. It is important to note that CTP recommendations are just concepts and any project will go through a rigorous environmental review process before final alignments or designs can be determined.

The Comprehensive Transportation Plan was adopted by MPO Board and NCDOT in August 2017. This included multi-modal maps and tables for highway, transit, rail and bicycle-pedestrian travel. The LPA and NCDOT transportation planning branch worked cooperatively in the development of the CTP.

TYPICAL CROSS SECTION FOR MULTI-USE PATH

Source: Comprehensive Transportation Plan



CONGESTION MANAGEMENT PROCESS (CMP)

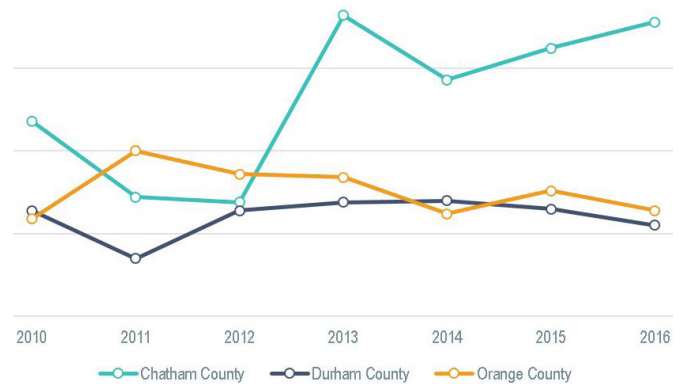
In a fast growing region, with population and jobs trend steadily rising, VMT and congestion are also likely to rise. In 2017, work on the CMP involved federally required updates, analysis and reporting. MPO staff tasks included measuring multimodal transportation system performance, identifying the causes of congestion, evaluating strategies, and preparing a draft report.

MOBILITY REPORT CARD (MRC)

In light of nationwide trends towards performance oriented planning, the MPO is working to integrate performance metrics and monitoring into regional planning initiatives. In 2017 MPO staff continued to measure and monitor multimodal transportation system performance. To this end, a draft State of the System report was prepared. The report analyzes discrete performance measures to index overall system performance for the regional transportation system.

CRASH RATES 2010 - 2016

Source: NCDOT TEAAS Crash Data Reports 2010-2016



2045 METROPOLITAN TRANSPORTATION PLAN (MTP)

The Metropolitan Transportation Plan is a cooperative effort between DCHC and CAMPO. The Plan, referred to as "Connect 2045", was adopted in March 2018. The core of the plan is the set of transportation investments, including:

1. New and expanded roads;
2. Local and regional transit facilities and services, including bus and rail;
3. Aviation and long-distance passenger and freight rail services;
4. Bicycle and pedestrian facilities, both independent projects and in concert with road projects;
5. Transportation Demand Management - Marketing and outreach efforts that increase the use of alternatives to driving alone;
6. Technology-Based Transportation Services - The use of advanced technology to make transit and road

investments more effective—including the advent of autonomous and connected vehicles; and

7. Transportation Systems Management: road projects that improve safety and traffic flow without adding new capacity.

Additionally, the plan focuses on three issues where the ties between development and transportation investments are most critical: transit station area development, major roadway access management and “safe & healthy streets” whose designs are sensitive to the neighborhoods of which they are a part and the needs of a full range of users, including drivers, transit riders, cyclists and pedestrians.

TRANSPORTATION SAFETY TARGETS

The MPO completed analyses related to bicycle and pedestrian safety, transit safety and vehicular safety. Additionally, the MPO set targets for motorized and non motorized fatalities and serious injuries. Setting targets is one way the MPO is working towards a more performance oriented planning approach. Performance. Safety target performance was analyzed and recorded in the 2017 State of the Region and will continue to be monitored via the Mobility Report Card.

ANNUAL VEHICULAR FATALITIES

Source: DCHC MPO Safety Targets



TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The DCHC MPO is responsible for developing a Transportation Improvement Program (TIP) which must be in harmony with the State Transportation Improvement Program (STIP). Accordingly the DCHCMPO developed the FY 2018-2027 TIP in cooperation

with the State, MPO member agencies and with local transit operators. The TIP was developed through a planning process which involved the region's local governments, the NCDOT, local jurisdictions and citizens of the metropolitan area. The TIP included the following:

- » A priority list of proposed federally supported projects and strategies to be carried out within the TIP period;
- » Proactive public involvement process;
- » A financial plan that demonstrates how the TIP can be implemented; and
- » Descriptions of each project in the TIP.

The MPO continued work associated with the development of the 2020-29 MTIP, including prioritization work (SPOT-5) activities. Also, the MPO continued to process TIP amendments as needed, including coordinating with the MPO member agencies and conducting public involvement/outreach, and commence work on the development of the TIP ranking and prioritization. This included the refinement of the MPO Priority Needs and the identification of the transportation projects, programs, and services towards which the MPO will direct STBG-DA funds.



TRIANGLE STRATEGIC TOLLING STUDY

DCHC, CAMPO and NCDOT are developing a strategy and implementation plan that outlines a holistic tolling and managed lanes strategy for the region. The strategy includes technological evaluation; operational structures; and the development of appropriate performance measures to evaluate future tolling decisions. The strategy also provides an assessment of how the recommendations impact the regional multi-modal transportation network. Ultimately, this study will identify the feasibility and necessity of using either tolling or other managed lane concepts or technologies to achieve regional objectives associated with the Metropolitan Transportation Plan. The project duration is 19 months beginning in November 2016 and concluding with consultant recommendations by June 2018.

ADA TRANSITION PLAN & SELF ASSESSMENT



In 2017 the DCHC MPO prepared an ADA Transition Plan in accordance with the Americans with Disabilities Act of 1990 (ADA) and section 504 of the Rehabilitation Act of 1972. The plan is intended to ensure that individuals with disabilities have equal access to MPO services and activities, including physical infrastructure – such as transit – as well as events such as public meetings and other resources such as online materials. The plan does this by (i) Identifying physical obstacles that limit the accessibility of facilities to individuals with disabilities, (ii) describing the methods to be used to make facilities accessible, (iii) providing a schedule for making access modification, and (iv) identifying public officials responsible for implementation of the transition plan.

TRIANGLE REGIONAL MODEL (TRM)

The Triangle Regional Model (TRM) is a travel demand model used to plan transportation investments in the Triangle region. The model was developed and is maintained by the Travel Behavior Modeling Group at the Institute for Transportation Research and Education (ITRE), as well as 4 stakeholder groups: NC DOT, CAMPO, the DCHC MPO, and GoTriangle. The MPO works with the Modeling Group and other stakeholders to update and enhance the TRM at ITRE. 2017 work tasks included completing generation, destination choice and mode choice models, and calibrating and validating 2010 Estimation Year data. The MPO is one of the funding partners of the modeling service bureau and continues to provide 0.5 FTE to ITRE Model Service Bureau.

ITS STRATEGIC DEPLOYMENT PLAN (SDP)

In 2010, the DCHC MPO partnered with CAMPO, NCDOT, FHWA and FTA to develop a comprehensive regional Strategic Deployment Plan (SDP) for Intelligent Transportation Systems (ITS) in the Triangle. Now, the plan is in the update pipeline. A consultant has been chosen, and if approved, the update will begin in April

2018 and continue through June of 2019. In the meantime, work was initiated within the DCHC MPO to implement elements of the Triangle Regional ITS SDP. This included linking the ITS SDP to the Triangle Regional Model (TRM).

PUBLIC INVOLVEMENT PROCESS

Continued to provide the public with complete information, timely notice, and full access to key decisions and opportunities for early and continuing involvement in the 3C process. Also, continued to assess the effectiveness of the DCHCMPO Public Involvement Process and to develop and enhance the process of regional involvement supporting the objectives of the DCHCMPO public Involvement Policy (PIP) and application federal regulations (such as FAST-ACT). Staff continued to explore, apply new and innovative approaches to improve MPO public participation levels and opportunities, especially for plans and programs using social media; Facebook and Twitter. Continued to oversee the update and the maintenance of the MPO website, including update and enhancement of portals, update of CivicaSoft website system application and update of content management systems. Continue to provide management support for the MPO visualization such as reviewing current AGOL, land-use 3-D, Urban-canvas, MS2 portals and web servers and suggested updates and enhancements.

ONGOING EFFORTS



- » Continuing to coordinate with regional and state agencies for effective and comprehensive planning efforts and responsible spending
- » Developing performance measures and target-setting
- » Ensuring transparency by providing complete information, timely notice, full access to key decisions, and opportunities for early and continuing public involvement
- » Conducting the Triangle Travel Survey analysis
- » Coordinating NEPA compliance and project planning
- » Providing planning support to NCDOT project development, including the I-40 Managed Lanes Toll Study (currently in development) and the US 15-501 Corridor Study (which has been initiated).

ACCOMPLISHMENTS BY JURISDICTION

The towns and counties in the MPO region are actively engaged in planning activities to increase safety, mobility, and connectivity within their jurisdictions. In addition to ongoing collaboration on MPO initiatives, key accomplishments for each jurisdiction are listed below. More detailed accomplishments are available in the FY 2018 UPWP.

CHATHAM COUNTY

With the increased awareness of rural cyclist safety, Chatham County conducted a Bicycle Signage Study to identify the most appropriate implementation strategy for adding bicycle signage along roadways, including particular bicycle routes such as the American Tobacco Trail. The study included an existing conditions analysis and an alternatives evaluation. During the study, a cross-sector group of stakeholders, including bicycle advocates and town and county staff, provided input and feedback.

ORANGE COUNTY

Orange County accomplishments include coordination with GoTriangle on the development of a Park and Ride Lot in Hillsborough and revisions to the Orange County Bus Rail Investment Plan (BRIP). County staff also assisted with a 5310 grant for Enhanced Mobility of Seniors and Individuals with Disabilities, and facilitated grants to program the purchase of service with the Department of Aging. In addition, the county collaborated with the MPO on the NC 54 Corridor Study and the Transportation Improvement Program (TIP).

TOWN OF HILLSBOROUGH

The Town of Hillsborough conducted a Pedestrian Retrofit Feasibility Study to expand the locations of sidewalk retrofit projects beyond major state routes. The aim of the study was to improve connectivity between northern neighborhoods and downtown, as well as between lower income residential neighborhoods and nearby retail, services, and jobs.

TOWN OF CHAPEL HILL

The Town of Chapel Hill continued to work with the MPO on a variety of projects with regional significance, including the bicycle and pedestrian elements of the 2040 LRTP, the US 15-501 study, the Fordham Feasibility Study, and the I-40 Managed Lane Feasibility Study. In addition, Town staff created economic and demographic projections to support planning decisions,

and analyzed data and created information and mapping to support the MPO, the Town Council, regional organizations, and residents.

TOWN OF CARRBORO

The Town of Carrboro conducted a variety of planning activities, including: a traffic counting initiative which focused on residential traffic calming projects and received robust community input; a downtown parking study, including an inventory of bicycle and vehicle parking; reviews of the draft Community Climate Action Plan, Carrboro Vision 2020, Safe Routes to School Implementation Plan, and the Comprehensive Bike Plan; and collaboration with MPO staff on elements of the MTP, CTP, and TIP. In addition, infrastructure projects were moved forward, such as the Homestead-CHHS Multiuse Path, the Morgan Creek Greenway, the Rogers Road Sidewalk Project, and the Bike Loop Detector.

DURHAM COUNTY

The 2017 Durham County Transit Plan updated the 2011 Bus and Rail Investment Plan and was adopted by the governing boards of Durham County, the DCHC MPO, and GoTriangle. The goals of the plan are to continue to develop an exceptional public transportation system in the region that provides greater transportation options for Durham residents and employers, positively impact traffic congestion and air quality, and support local development policies.

CITY OF DURHAM

In 2016, the City of Durham began updating the city's Bicycle and Pedestrian Plan. The update combines the two Bicycle and Pedestrian plans into one document, and will include an implementation strategy for future projects. The plan supports the implementation of the MPOs long-range plan for a multi-modal transportation network. The city will use the plan to identify future projects for use of federal funds. In addition, the City collaborated with GoTriangle on the planning process for the Durham-Orange Light Rail Transit Project. In particular, the city contributed to the Final Environmental Impact Statement and decisions about alignment and facility location. The City ultimately endorsed the project.



“The Town of Hillsborough conducted a Pedestrian Retrofit Feasibility Study to expand the locations of sidewalk retrofit projects beyond major state routes.”

**Image: Hillsborough Riverwalk
Photo Credit: Summit Design and Engineering**

“The Federal Highway Administration (FHWA), Federal Transit Administration (FTA), North Carolina Department of Transportation (NCDOT), and local governments have budgeted over \$3 million in funds relating to transportation planning in the DCHC region in 2017-2018 fiscal year.”

OUTLOOK FY2018

4

HIGHLIGHTS FROM THE FY2018 UNIFIED PLANNING WORK PROGRAM

Major work efforts in FY 2018 will be the continuation of the development of the 2045 Metropolitan Transportation Plan (MTP), development of the 2018-2027 Metropolitan Transportation Improvement Program (MTIP), and the continuation of routine planning and special and/ or mandated projects and programs. Introduced below are special emphasis projects and initiatives for the FY 2017-18 Unified Planning Work Program (UPWP).

DRIVING PRINCIPLES

Federal transportation regulations require that the DCHC MPO considers specific planning factors when developing transportation plans and programs in the metropolitan area. These factors act as the driving principles for all DCHC work programs and call for all MPOs to conduct planning that:

1. Supports the **economic vitality** of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
2. Increases the **accessibility and mobility** options available to people and for freight;
3. Protects and enhances the **environment**, promotes **energy conservation**, improves quality of life, and promotes consistency between transportation improvements and state and local planned growth and economic development patterns;
4. Enhances the **integration and connectivity** of the transportation system, across and between modes, for people and freight;
5. Promotes **efficient system management** and operation; and
6. Emphasizes the preservation of the **existing transportation system**.

ACTIVITIES AND EMPHASIS AREAS

IMPLEMENTATION AND DEVELOPMENT OF PLANS AND REPORTS

- » Development of the 2045 Metropolitan Transportation Plan (MTP), as well as public outreach for the draft plan and plan adoption;
- » Development of the 2018-27 MTIP;
- » Development of Comprehensive Transportation Plan (CTP);
- » Update of the Congestion Management Process (CMP);
- » Development of an inaugural State of the Region Report;
- » Implementation of the Regional Freight Plan; and
- » Update and implementation of county and regional transit plans.

DATA COLLECTION AND UPDATES

- » 2016 Estimation Year data collection, inventory, analysis and tabulation for the TRM V7 to be aligned and streamlined with CMP data collection efforts;
- » Preparation of Base Year data collection/ and inventory and travel survey for the TRM V7 major model update;
- » Annual (continuous ACS-style) surveys (household, transit onboard, cordon, etc.); And
- » Update and enhancement of the MPO geodatabase enterprise.

ADMINISTRATIVE TASKS, FEDERAL COMPLIANCE REQUIREMENTS, AND OTHER PROJECTS

- » Continuation of the MPO website update, enhancement and application [portals] development;
- » Continue to implement FAST Act Metropolitan Planning requirements;
- » Continuation of routine planning, such as TIP, UPWP, data monitoring, GIS, Public Involvement, AQ, etc.;
- » Continuation of special and mandated projects and programs, including Title VI, LEP and EJ compliance, as well as Asset Management Plans for all modes (required for all transit agencies); and
- » Continuation of other 3-C planning process activities.

WORK PROGRAM TASKS

PUBLIC INVOLVEMENT AND TITLE VI

This effort emphasizes broadening participation in transportation planning to include key stakeholders, including the business community, members of the public, community groups, and other governmental agencies.

METROPOLITAN TRANSPORTATION PLAN (MTP)

The MTP is an inter-agency initiative that spans a 20-year planning horizon. The plan covers land use, transportation, and environmental issues, as well as fiscal and operational strategies.

TRANSPORTATION IMPROVEMENT PLAN (TIP)

The TIP (or MTIP) is a plan developed in cooperation with the State of North Carolina for a 7-year planning horizon. The plan includes public involvement processes, project prioritization, and a financial plan for implementation.

TRANSPORTATION MANAGEMENT AREA (TMA)

The DCHC MPO oversees the region's TMA - defined as an urbanized area with a population over 200,000. Part of the requirements for TMAs is the development and implementation of a Congestion Management Process (CMP).

AIR QUALITY CONFORMITY PROCESS

In addition to adherence to the National Ambient Air Quality Standards, the Triangle region air quality (AQ) partners will continue to implement AQ activities, such as including AQ components in the Triangle Regional Model and the MTP.

SPECIAL PROJECTS

TRIANGLE REGIONAL MODEL (TRM): MAJOR MODEL ENHANCEMENT

This project seeks to improve the region's travel modeling capabilities through enhancements to small area precision, improvements in non-motorized models, increased sensitivity to travel demand management policies, network quality checks, improved transit ridership forecasting, incorporating tools for policy analysis and responding to policy questions, improving HOV/HOT tools, parking sensitivity enhancements, and technical enhancements relative to trip generation, destination choice, and mode choice.

ANNUAL CONTINUOUS TRAVEL BEHAVIOR SURVEY (HOUSEHOLD SURVEY)

This project involves a survey of households in the region that will be used to calibrate the region's travel model. In FY 17-18 work will continue on tabulation and analysis of the data collected. To supplement the household survey, and to meet the MPO's goal of better understanding and increasing the use of transit and non-motorized travel, a transit survey of bus riders and surveys of cyclists and pedestrian activity and facilities will also be conducted.

COMMUNITY VIZ UPDATE

This project aims to develop a scenario planning tool that can examine the pros and cons of various transportation and land use scenarios. Working with CAMPO, the DCHC MPO seeks to implement a partnering strategy and create a spatial data planning model framework. The model will be used by DCHC staff to identify regional goals and community values, and explore alternatives for growth, development, and transportation investment. Results informed the development of the 2045 MTP.

DATA COLLECTION AND DATA MANAGEMENT

The MPO is required to perform continuous data monitoring and maintenance for a number of transportation and traffic conditions including traffic volume and turning movement counts, travel time and speed surveys, and pedestrian and bike counts. Specific outputs to support a more comprehensive and systematic data collection and management process include: the design of work flow processes and data access strategies to support routine access to relevant information; continued design and updating of a centralized database for information that will be used by transportation and land use models; development of presentation tools for data; and adjustment of the travel demand model.

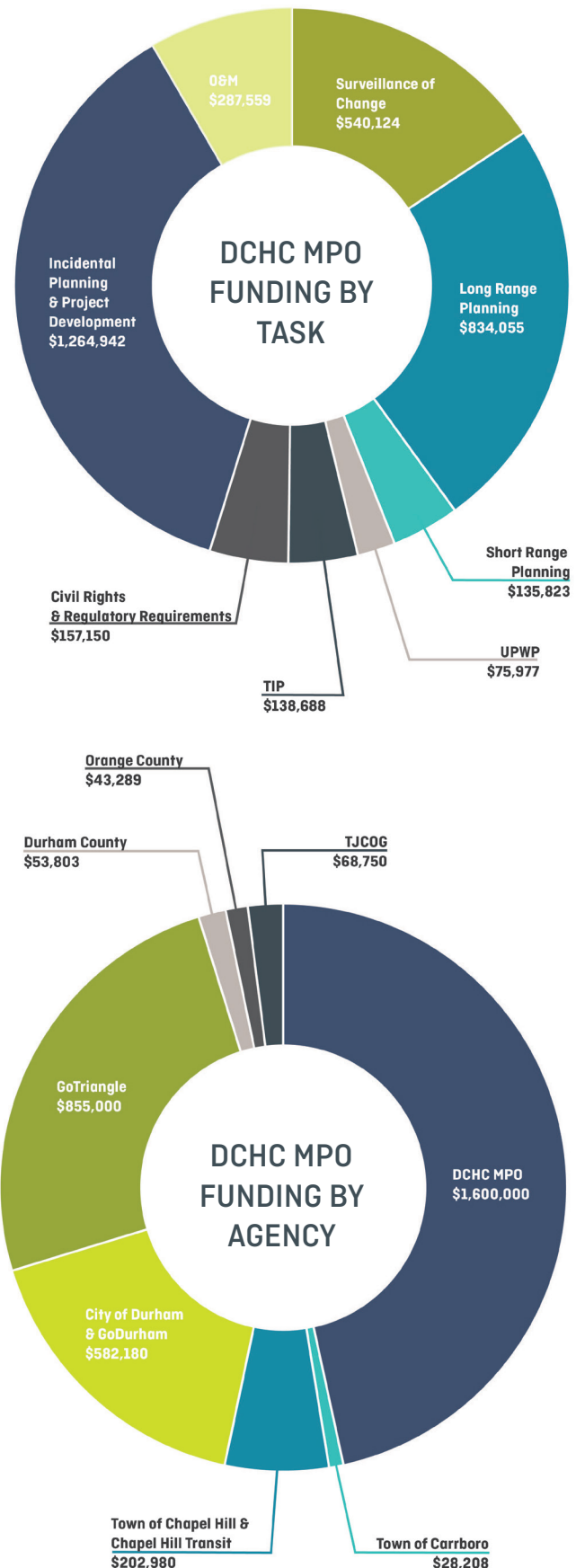
FINANCIAL REPORT

The Federal Highway Administration (FHWA), Federal Transit Administration (FTA), North Carolina Department of Transportation (NCDOT), and local governments have budgeted over \$3 million in funds relating to transportation planning in the DCHC region in FY 2018. DCHC uses a large portion of its federal funds to support core MPO requirements, as well as distributing those funds to local governments and transit agencies. The local governments use these funds to support some of their special projects and to participate in regional transportation planning.

In FY 2018, transit agencies in the region - Chapel Hill Transit (CHT), GoDurham (DATA), and GoTriangle (TTA) - will have access to over \$1.5 million in federal, state, and local funding to pursue a variety of transit improvement projects.

FY 2018 FEDERAL FUNDING ALLOCATION

ORGANIZATION TYPE	FEDERAL FUNDS ALLOCATED
MPO	\$ 1,280,000
Local Governments	\$ 349,566
TJCOG	\$ 55,000
Transit Agencies	\$ 1,062,800
Total	\$ 2,747,365



DCHC MPO FUNDING BY TASK (ALL AGENCIES)

TASK	FUNDING SOURCE			
	LOCAL	NCDOT	FEDERAL	TOTAL
Surveillance of Change	\$ 87,479	\$ 20,543	\$ 432,102	\$ 540,124
Long Range Transportation Plan	\$ 154,335	\$ 12,477	\$ 667,243	\$ 834,055
Short Range Transportation Plan	\$ 14,497	\$ 12,668	\$ 108,658	\$ 135,823
Planning Work Program (UPWP)	\$ 13,699	\$ 1,479	\$ 60,709	\$ 75,877
Transportation Improvement Plan (TIP)	\$ 23,562	\$ 4,171	\$ 110,935	\$ 138,668
Civil Rights and Other Regulatory Compliance	\$ 29,492	\$ 1,939	\$ 125,719	\$ 157,150
Incidental Planning and Project Development	\$ 165,150	\$ 87,840	\$ 1,011,952	\$ 1,264,942
Management and Operations	\$ 48,628	\$ 8,885	\$ 230,047	\$ 287,559
Total	\$ 536,844	\$ 150,000	\$ 2,747,365	\$ 3,434,209

DCHC MPO FUNDING BY AGENCY

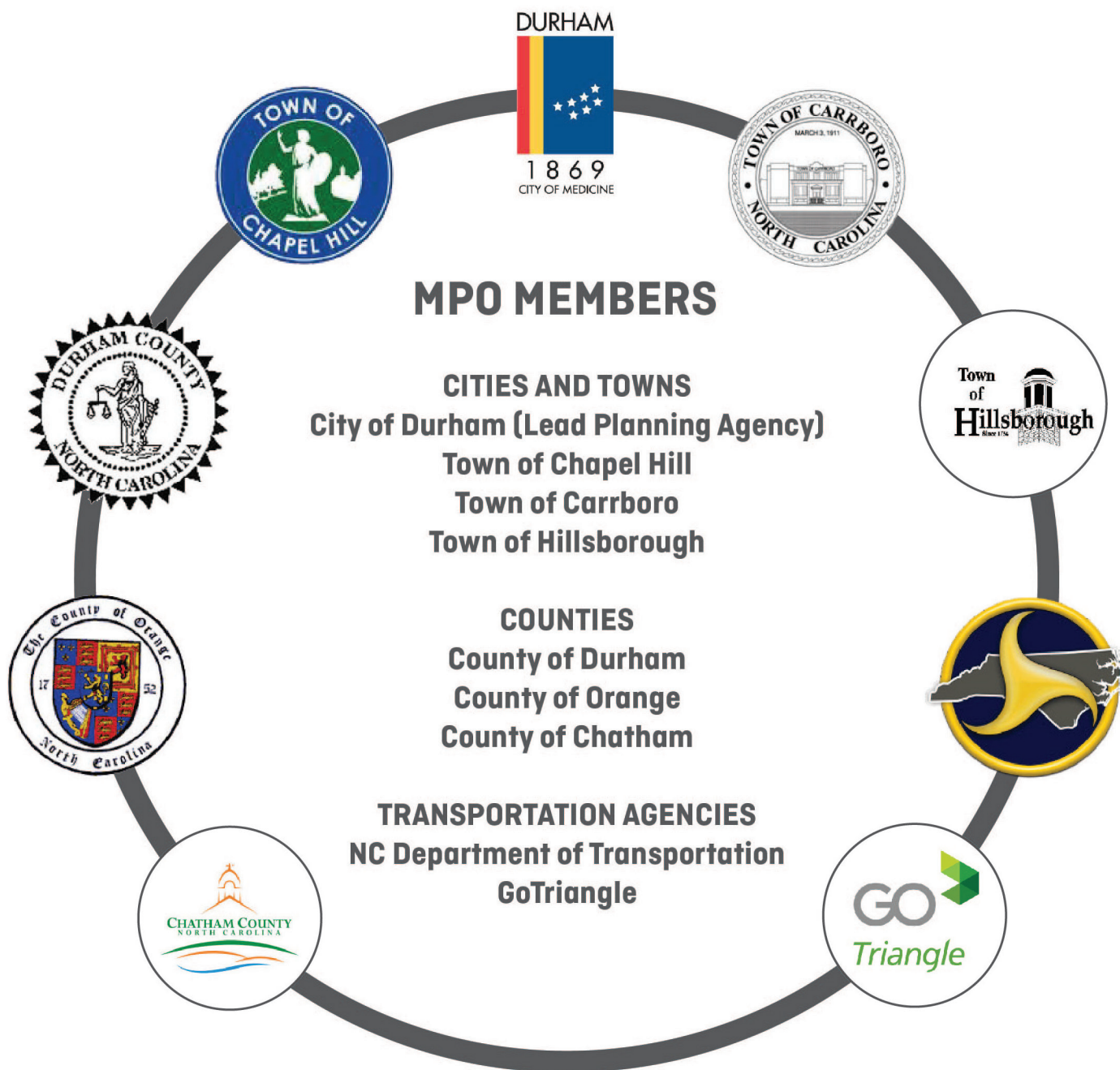
TASK	LOCAL	NCDOT	FEDERAL	TOTAL	PRIORITY ACTIVITIES
DCHC MPO	\$ 320,000	\$ 0	\$ 1,280,000	\$ 1,600,000	Update, calibration and validation of Triangle Regional Model (TRM) to support development of subsequent versions.
Town of Carrboro	\$ 15,641	\$ 0	\$ 22,567	\$ 28,208	Provide data as requested by MPO and maintain current GIS data for all transportation planning activities in Carrboro.
Town of Chapel Hill & Chapel Hill Transit	\$ 23,446	\$ 17,150	\$ 162,384	\$ 202,980	Collect updated geospatial information, create maps containing MPO transportation information, and coordinate Community Viz 2.0 for use in development of 2045 MTP.
City of Durham & GoDurham	\$ 69,087	\$ 47,350	\$ 465,743	\$ 582,180	Collect monthly and annual statistical data, including ridership, safety, and service reports.
GoTriangle	\$ 85,000	\$ 85,500	\$ 684,000	\$ 855,000	Special Studies
Durham County	\$ 10,761	\$ 0	\$ 43,042	\$ 53,803	Station Area Strategic Infrastructure Study (SASI) and suburban rail station sites; cost estimates and financing options for improvements; and provide data and input for Durham Bus and Rail Investment Plan
Orange County	\$ 8,659	\$ 0	\$ 34,630	\$ 43,289	Help identify candidate projects for 2018-2027 TIP and facilitate stakeholder feedback on projects.
TJCOG	\$ 13,750	\$ 0	\$ 55,000	\$ 68,750	2045 MTP; Triangle Regional Model (TRM) support; Community Viz 2.0; land use-transit investment implementation planning; and, transportation-air quality issue tracking
Total	\$ 536,844	\$ 150,000	\$ 2,747,365	\$ 3,434,209	

Endnotes

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ACKNOWLEDGEMENTS

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Back Cover Image: Bicycles in Downtown Durham by Night
Photo Credit: Renaissance Planning