

Chapter 3: Policy Review and Recommendations

This chapter outlines existing and proposed policies to support bicycling in Charlotte. Policies supporting bicycle transportation are fundamental to realizing the vision set forth in this Plan. The policies detailed in this chapter serve as the foundation for improving the bicycling environment. All of the necessary aspects of a comprehensive bicycle plan are reflected in these policies: institutionalization of bicycle planning efforts, appropriate design and maintenance considerations for roadways, inclusion of bicycle accommodations in other planning efforts, education and awareness initiatives and encouragement of bicycling as a viable mode of transportation. Key policies for improving the bicycling environment in Charlotte are as follows:

1. Incorporate bicycle facilities in all transportation planning, design and construction activities.
2. Seek all potential funding opportunities to implement the recommendations in the Bicycle Master Plan.
3. Include bicycle improvements in ongoing transit and greenway planning activities.
4. Design and build new and reconstructed roadways to be bicycle-friendly.
5. Implement bicycle improvements as a part of all resurfacing and maintenance activities.
6. Provide targeted and effective educational and awareness opportunities for bicyclists and motorists.
7. Continue to provide bicycle parking and other supporting facilities to encourage bicycling as a viable mode of transportation.

Policy 1: Incorporate bicycle facilities in all transportation planning activities.

Policy Strategy 1.1: The City and NCDOT will require bicycle lanes designed consistent with the Urban Street Design Guidelines, on all new or reconstructed roadways within the city. Where bicycle lanes are not feasible, justifications will be included as part of the road preliminary design process and alternative routes will be identified.

The City of Charlotte will be widening many roads in the future, and new and reconstructed roads will be part of the development process. The Urban Street Design Guidelines will play an important role in ensuring that these new roads include bicycle facilities. In doing so, they will ensure that Charlotte becomes a more bicycle-friendly City in the future.

Benchmarks: Continued implementation of the Urban Street Design Guidelines.

Policy Strategy 1.2: The City of Charlotte prefers bicycle lanes over wide outside lanes on both City and State-maintained roads.

The City of Charlotte prefers bicycle lanes over wide outside lanes. Bicycle lanes are required on most new and improved roads in the City per the Urban Street Design Guidelines. In situations where wide outside lanes are the only possible facility due to road width and other considerations, they should be provided. However, bicycle lanes are the preferred facility and should be provided on both City and State-maintained roads where feasible.

Benchmarks: Continued implementation of bicycle lanes on State and City roads.

Policy Strategy 1.3: The City will strive to complete the Near to Medium-term bicycle route network by 2015.

The City should complete the near to medium-term bicycle route network, identified on the Near to Medium Term Opportunities map, by the year 2015. In doing so, it will enable the City to exceed the goal set in the TAP to create 150 miles of bicycle facilities by 2015. This network will provide a connected network of bicycle facilities that will enable bicyclists to travel throughout the City. Actions that will be required to create this network are shown on the Near to Medium-Term Opportunities map and include lane diets, road diets, locations where striping can be added and areas where roadways will need to be widened and sidepaths will need to be constructed. The Near to Medium-term bicycle route network should be the basis for the signed route network discussed below.

Benchmarks: Completion of the Near to Medium-term bicycle route network by 2015.

Policy Strategy 1.4: The City should install a signed bicycle route system that links major destinations in Charlotte.

The City should install a signed bicycle route system as shown on the Bicycle Route Network and Near to Medium-Term Opportunities maps in this Plan. This will accomplish Policy 2.6.2 in the TAP, which states “The City will place bike route signs on selected local streets as bike routes, as needed, to provide a connected network of bikeways.” These signed bicycle routes should be on roads with favorable bicycling conditions that also provide important functional connections throughout the City. Signed routes can link major destinations such as key parks, transit stations and schools while providing information on continuous bicycle routes in the City. Signed routes also draw attention to bicycling as an efficient form of transportation. Connections between the signed routes shown on the maps in this Plan and specific destinations such as schools will require detailed study at the neighborhood level. Specific routes may need to be altered as a result of this more detailed study. Appropriate sign design and placement will be critical to the success of the signage program. The preliminary signed network is provided in Chapter 5 and recommendations on initial routes to sign in Charlotte are provided in Chapter 8 of this Plan.

Benchmarks: Completion of signed routes identified on the Near to Medium-Term Opportunities map.

Policy Strategy 1.5: The City will seek to implement the recommendations included in the Near to Mid-Term Opportunities map and the long-term Bicycle Route Network map.

By approving this Plan, the City is adopting the recommendations included in the Near to Medium-Term Opportunities map and the long-term Bicycle Route Network map as its official policy for improving bicycle transportation in the City. The projects that are recommended will require additional evaluation during the implementation process to determine if there are other factors that may either help or hinder their development. Additional corridor-level traffic analysis will be needed in some cases to determine the optimum design for specific locations. Some locations shown on the map may be determined, after more detailed analysis, to require different or more costly improvements and therefore may become longer-term projects. However, for every project, the first assumption should be that the bicycle facilities shown in the Comprehensive Bicycle Plan will be implemented.

Benchmarks: Progress implementing the recommendations in this Plan.

Policy Strategy 1.6: The City will strive to continue to fund the full-time Bicycle Program Manager position to spearhead the City's bicycle planning efforts.

The City should continue to fund the full-time Bicycle Program Manager position. The Bicycle Program Manager is the point person for bicycle planning efforts in Charlotte. The Manager

advises the City and the County on bicycle-related issues and reviews proposed plans, designs, and policies that impact bicycling. Working within the City's formal processes and supported by bicycle-friendly policies, guidelines and standards, the Bicycle Program Manager is critical to implementing the recommendations in this Plan and improving bicycle conditions in Charlotte.

Benchmarks: Continue to fund the full-time Bicycle Program Manager position.

Policy Strategy 1.7: The City should consider a variety of methods to expand and implement the recommendations in this Plan.

This Plan envisions a considerable acceleration of bicycle planning efforts in the City. The City will provide appropriate resources to implement the recommendations in this Plan, including the expanded education and awareness initiatives identified in Chapter 6 of this Plan, and to meet the goals identified in the TAP.

Benchmarks: Implementation of facility targets identified in Chapter 5 as well as education and awareness programs identified in Chapter 6.

Policy Strategy 1.8: Continue to appoint the Bicycle Program Manager to the MPO Technical Coordinating Committee.

The Bicycle Program Manager should continue to be a member of the Mecklenburg-Union Metropolitan Planning Organization's Technical Coordinating Committee (TCC). This continued appointment will ensure that bicycle issues have a voice on projects and planning initiatives at the regional level.

Benchmarks: Continued appointment of the Bicycle Program Manager to the MPO Technical Coordinating Committee.

Policy Strategy 1.9: Continue to support the Bicycle Advisory Committee's role in improving bicycling in Charlotte.

The City should continue to support the Bicycle Advisory Committee (BAC). The positions should continue to be appointed by local elected officials. The main responsibilities of the BAC should continue to be to support the Bicycle Program in its efforts and to help coordinate activities involving local advocacy groups. The committee should meet regularly to discuss current projects and upcoming opportunities.

Benchmarks: Continued support of the Bicycle Advisory Committee.

Policy Strategy 1.10: The City will require that bicycle issues be considered in all plan reviews and that the Bicycle Program Manager has a voice in all roadway construction review processes.

The Bicycle Program Manager should continue to have a voice in the City's plan review process and all roadway construction review processes. The Bicycle Program Manager should review plans to ensure future roadway projects include the appropriate bicycle accommodations and that the adopted design standards for roadway improvements with bicycle accommodations are being followed. All roadway plans should be reviewed and approved by the Bicycle Program Manager. This review will not delay the overall site plan review process.

Benchmarks: Approval of Bicycle Program Manager required in plan review Process.

Policy Strategy 1.11: The Bicycle Program Manager and/or the BAC should provide an annual briefing to the City Council regarding priority projects, ongoing concerns, etc.

Since the adoption of the 1999 Bicycle Master Plan, there has been one general briefing to the City Council. This briefing occurred in 2005 and was presented by the Chair of the BAC. A

chief purpose of the briefing was to urge the Council to fund the street resurfacing budget sufficiently to return to a 12-year repaving cycle. This recommendation was made at a time when street resurfacing was nearing a 25 to 30-year cycle. The City Council responded with an adjustment to permit 14-year resurfacing. Annual updates to the City Council should continue, to provide important information on progress in implementing the recommendations in this Plan and needs moving forward.

Benchmarks: Regular briefings to the City Council.

Policy Strategy 1.12: The City will explore ways that the Urban Street Design Guidelines and key code changes can provide for bicycle connections between residential developments and activity centers and between new roads and the existing road network. The Urban Street Design Guidelines are intended to create streets that provide capacity and mobility for motorists, while also being safer and more comfortable for pedestrians, bicyclists and neighborhood residents. The guidelines further the TAP's emphasis on transportation choice by providing design guidance for city streets that support a better bicycle network. USDG design recommendations include pedestrian and bicycle friendly intersection design, bike lanes on higher-volume and higher speed roadways, traffic-calming on neighborhood streets and a denser street network that will reduce traveling distances and provide route choices for pedestrians and bicyclists. The guidelines ensure that bicycle facilities will be provided on most roads as part of the road widening process. In the future, it will be important to ensure that bicycle facilities and connections are provided within developments and on roads connecting new developments to activity centers. It will also be important to design and plan for the connection between new roads and the existing road network.

Benchmarks: Evaluate connectivity issues arising with the implementation of the USDG's.

Policy Strategy 1.13: The City will consider amending the subdivision and zoning ordinances to incorporate provisions for on-road bicycle facilities and other bicycle-friendly amenities.

The Charlotte City Council has recently amended the Code of Ordinances to require long and short-term bicycle parking at new multi-family residential, institutional, office, business and industrial developments. The Council set a threshold where existing development undergoing renovation would be required to provide bicycle parking. In order to promote connectivity, there have been limits set on cul-de-sacs and sidewalk and street connections are required more often. Bicycle facilities may also be required in some re-zonings. However, a general review and revision of ordinances to identify additional opportunities for bicycle-friendly requirements and build upon past achievements is needed.

As a first step, the City should implement recommended policy changes to the Code of Ordinances, Charlotte Land Development Standards Manual, City of Charlotte Subdivision Ordinance, and the City of Charlotte Zoning Ordinance that are identified in the draft City of Charlotte Pedestrian Master Plan. Many of these proposed pedestrian-related changes will also benefit bicyclists. These recommendations include general issues such as clarifying bicycle and pedestrian-related requirements and adding bicycle-related definitions, as well as more specific recommendations such as requirements for crossing treatments, block lengths and connectivity.

Benchmarks: Implementation of bicycle-friendly regulatory changes.

Policy Strategy 1.14: The City will continue to incorporate prioritized bicycle improvements into the annual Transportation Improvement Program (TIP).

This Bicycle Master Plan includes a prioritized set of projects, as shown in the Near to Mid-Term Opportunities map. The BAC and the Bicycle Program Manager should select projects each year to be moved forward in the funding cycle, either through the City's Capital Improvement Program (CIP) or the State's Transportation Improvement Program (TIP) with the goal of creating the short-term bicycle network by 2015. Although the Bicycle Program Manager should lead this process, input from the BAC will be critical. The BAC should assist in the selection of projects based on realistic funding levels. All applicable guidelines for selecting projects and including them in the TIP (City or State) should be followed.

Benchmarks: Inclusion of bicycle projects in the annual Capital Improvement Program and Transportation Improvement Program.

Policy Strategy 1.15: The City should update the Bicycle Master Plan every five years in conjunction with TAP updates.

The Bicycle Master Plan has not been updated since its original adoption in 1999. The previous Plan called for updates every three years, but this is not uniform with typical timelines for other transportation-related plans. As noted in the TAP, the Bicycle Master Plan should be updated every five years at a minimum.

Benchmarks: Updates to the Bicycle Master Plan every five years.

Policy Strategy 1.16: Consider lowering the speed limit on streets that provide important bicycle connections.

Vehicle speed is one of the main factors influencing a bicyclist's perception of a roadway. The City should consider lowering the speed limit on roads that provide important connections in the bicycle network. The speed limit on many roads in the City is 40-45 miles per hour and many cars are traveling above the posted speed limit. This creates an uncomfortable environment for many bicyclists. On roads that provide important bicycle connections, the City should consider reducing the speed limit to at most 35 miles per hour. It is important to note that shared lane markings are not recommended on roadways with speed limits posted above 35mph, therefore reducing speeds may enable the use of these markings under certain circumstances. The character of the road, surrounding land-uses, existing traffic volumes, existing driveways and other issues would have to be considered when deciding whether to reduce the speed limit. The City should consider providing funding to enable the Police Department to do more enforcement to protect pedestrians and bicyclists while ensuring livable neighborhoods. The Police Department should work with the Bike, Pedestrian and Traffic Calming programs within CDOT and in other City departments to undertake targeted police work for traffic control for bicyclists.

Benchmarks: Evaluation of selected roads to be considered for speed limit reduction.

Policy Strategy 1.17: The City should continue to incorporate bicycle planning activities into its day-to-day activities.

The Bike Program should be actively involved in the ongoing efforts of the City of Charlotte's Joint-Use Task Force. The City should incorporate bicycle facility information in the GIS tool that is currently being developed. As noted above, Bike Program personnel should be involved in site plan review meetings to identify opportunities to provide bicycle facilities outlined in this Plan as part of the development process. Every site plan review should require a bicycle connectivity analysis. The City should also consider requiring bicycle facilities as part of the subdivision process. The Bike Program should continue to be involved in the conditional rezoning review process.

Benchmarks: Continuing incorporation of bicycle planning into the City's day-to-day activities.

Policy 2: Seek all potential funding opportunities to implement the recommendations in the Bicycle Master Plan.

Policy Strategy 2.1: The City will strive to provide an annual allotment for bicycle improvements in the City budget to implement bicycle projects called for in this Plan and to leverage other funds.

The recommended funding levels to fully implement this plan are detailed in Chapter 8. The City should continue to consider a consistent funding allotment for bicycle projects in the annual Capital Investment Plan. Local funds should be used to implement the physical recommendations in this Plan, as well as those involving the bicycle education and awareness initiatives outlined in Chapter 6 of this Plan.

Benchmarks: Level of annual funding from the City.

Policy Strategy 2.2: The City will implement bikeway improvements as part of all new roadway projects.

This Plan identifies a large number of bicycle projects to be implemented on existing roads by re-striping, narrowing a travel lane, removing a travel lane or widening the roadway. This Plan also identifies bicycle facilities that should be integrated with the construction of new or widened roadways. As noted above, a significant amount of new roadway construction is planned in Charlotte over the coming years. Roads that are to be widened represent an important opportunity to incorporate bicycle accommodations and implement the recommendations in this Plan. When new roadways are constructed, the bicycle accommodations specified in this Plan should be included. If a new roadway is not shown on the Bicycle Route Network map, the Bicycle Program Manager and BAC should determine the appropriate facility to be constructed.

Benchmarks: Percentage of new roadway projects that include bicycle accommodations.

Policy Strategy 2.3: The City will seek State and Federal funds for bicycle projects.

In addition to local funding sources for bicycle improvements, State and Federal funds are also available. The Bicycle Program Manager should support efforts to seek additional funds as appropriate. Major Federal and State funding sources are described later in this Plan. State and Federal funds should be pursued for the critical bicycle and greenway connector projects as noted below. Projects that address multiple modes or issues (e.g. highway and bicycle safety; bicycle and transit modes) have a better chance of being funded than lower profile projects.

Benchmarks: Funding levels obtained from State and Federal sources.

Policy Strategy 2.4: The City will seek additional funding and partnerships for planning, design and construction of critical greenway and bike connection projects.

Funding is essential for implementing the recommendations of this Plan. New on-road bikeways and greenway trails will need to be funded through various sources. It will be important for Charlotte to establish specific funding sources to support bicycle projects directly and also to use as matching funds for federal, state, and other grants. The City should actively seek additional funding and partnerships to support the goals outlined in this plan and in related plans such as the Mecklenburg County Greenway Master Plan. The City should partner with local governments and adjacent jurisdictions to develop funding sources and should also look for additional funding opportunities from the public and private sectors.

Benchmarks: Funding levels obtained from State and Federal sources to implement critical bike/greenway connector projects.

Policy Strategy 2.5: The City will seek public and private partnerships to implement bicycle improvements.

Another potential funding source is the use of public/private partnerships. Encouraging participation from local businesses and corporations will not only enable more funding to be received, but it will promote a community “buy-in” of bicycle transportation initiatives. Major local businesses should be encouraged to contribute to funding improvements that are especially helpful to their employees and the local community. An example of this is Charlotte’s existing Bicycle Parking Partnership Program. Public/private partnerships should continue to be explored particularly for improvements for end-of-trip facilities (such as parking areas, lockers, showers, etc.) and connections to the greenway system. These types of accommodations would be very visible from the private sector’s viewpoint. Private-sector participation should also be pursued in conjunction with additional education and awareness programs. Partnerships should also be explored with all of the utilities (power, gas, sewer, water, phone, cable, railroads, etc.) with the objective of providing a secondary use for utility corridors.

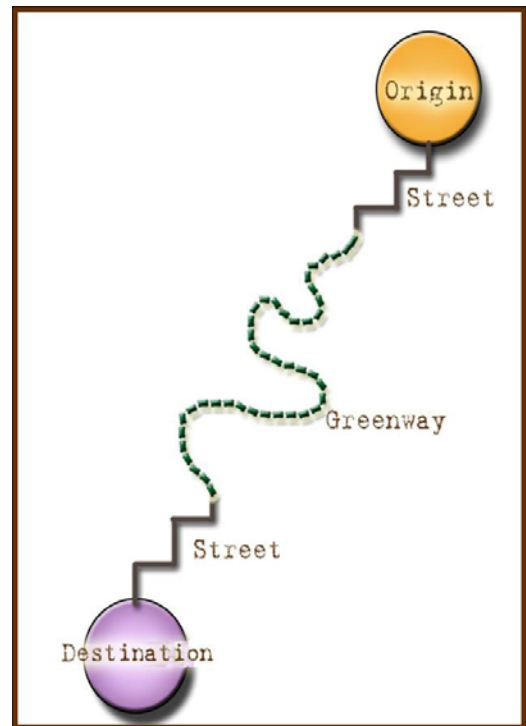
Benchmarks: Number of private companies contributing to bicycle efforts in the City.

Policy 3: Include bicycle improvements in ongoing transit and greenway planning.

Policy Strategy 3.1: The City will consider bicycle accommodations in the planning, design and development of all rapid transit corridors, station areas and transit hubs.

On-going rapid transit planning should take bicycle accommodations into account in the station areas, along roadways leading to the stations, along the transit corridors, and on the vehicles. Options within the corridor include accommodation of bicycles on transit vehicles, a parallel bike path, an on-street bikeway, or a bikeway on an adjacent parallel roadway.

Figure 3: Bicycle and greenway connections



Source: LandDesign, Inc.

Bicycle parking and/or lockers should be provided at every station. Transit vehicles have been designed to accommodate bicycles. It is important for the City to continue to offer training on the use of transit/bike facilities to bicyclists, as well as to bus drivers and other motorists. Bicycle accommodations in connection with transit planning should not be confined to improvements along the new transit corridors. Charlotte Transit operates a vast network of buses throughout the City and into the County and this entire fleet of buses has been equipped with bicycle racks. Charlotte Transit has also developed a system of new transit hubs, and these locations, as well as park-and-ride-lots and other key stops, should continue to be equipped with bicycle racks and/or lockers.

Benchmarks: Provision of bicycle accommodations at stations, on roadways leading to stations, and in transit corridors, number of transit hubs / park-and-ride lots / major stops with bicycle parking facilities.

Policy Strategy 3.2: The City will coordinate with the Mecklenburg County Parks and Recreation Department to provide connections between on-street bikeways and greenway trails.

The integration of the Greenway Master Plan and the Bicycle Transportation Plan is crucial for an improved bicycling environment. In addition, residents have indicated that being able to bike (rather than to drive) to parks and greenways is an important objective. The Greenway Plan has the following objective: *"coordinate preparation of the Greenway Plan with that of the Charlotte-Mecklenburg Bicycle Transportation Plan to ensure that connections between greenways and bikeways are illustrated on official county maps."* This Plan highlights potential major connections between the on-road bikeway network and the greenway system. Exact locations and designs of the connections are beyond the scope of this study; however, the locations of potential connections shown on the network should be targeted for future improvements. Developers in these areas should be made aware of the potential connections, and adequate land should be reserved for this purpose. The locations shown on the map represent major connections, but smaller neighborhood connections should also be made bicycle-friendly through adequate design and signage. Continuing efforts should be made by the Bicycle Program Manager to work with Mecklenburg County Parks and Recreation to determine the locations of on-road greenway connections and connections between the greenway system and the on-road bikeway network. The Bicycle Program Manager should also maintain contact with representatives from neighboring counties to keep abreast of greenway developments in the surrounding area.

Benchmarks: Level of coordination with greenway planners.

Policy Strategy 3.3: The City will coordinate the implementation of the Greenway Master Plan and the Bicycle Master Plan.

The shared-use path (also termed "greenways" and "trails") network in Charlotte and Mecklenburg County is an important resource for the community. These paths serve a transportation purpose when they connect to destinations and they also provide recreational opportunities for bicyclists. Shared-use paths can be an appealing option for bicyclists because they offer the opportunity to ride on separate dedicated paths, away from traffic. For this reason, they can serve as an alternative to a busy road, which can be especially appealing for young and less experienced bicyclists. They can encourage people to try bicycling for the first time. Opportunities to enhance the relationship between greenways and on-road bicycle facilities should be pursued. The recommendations in this Plan and in the Greenway Master Plan should be pursued in tandem, as the facilities are mutually beneficial. Greenways have the potential to provide alternatives to difficult roads, and on-road bicycle facilities have the potential to connect gaps in the greenway network. The recommendations

in this Plan should play an important role in meeting the goals outlined in the Greenway Master Plan to provide twenty-five miles of greenway facilities in the next five years. Likewise, greenways play an important role in ensuring connectivity in the short and long-term bicycle networks outlined in this Plan.

Benchmarks: Level of coordination between the Bicycle Master Plan and Greenway Master Plan.

Policy Strategy 3.4: CDOT and Mecklenburg County Parks and Recreation Department should continue to meet regularly to provide progress updates for each individual network, capital planning projects and overland bike to greenway connectors and should consider developing a yearly summit to address departmental concerns and progress regarding non-motorized connectivity.

CDOT and the Mecklenburg County Parks and Recreation Department should continue to meet regularly to discuss progress in implementing the recommendations in the Bicycle Master Plan and the Greenway Master Plan. CDOT, County and other stakeholder should continue to identify areas where the greenway network can provide alternate routes for bicyclists and where on-road bicycle facilities can fill gaps in the greenway network. CDOT and Mecklenburg County should engage in a continuing dialogue on the planning and design of areas where greenways cross on-road bicycle facilities. To further facilitate ongoing communication, the City and County should consider a yearly summit to discuss opportunities in the upcoming year and to address potential areas of concern.

Benchmarks: Level of coordination between bicycle and greenway planning efforts.

Policy Strategy 3.5: The City will work with the County to provide 24-hour a day, seven day a week access to greenways that are used for transportation purposes in the bicycle route network.

The greenway network has the potential to provide important bicycle transportation connections in Charlotte, for example by providing an alternate route to a road that is difficult and uncomfortable. However, if a greenway is serving a transportation purpose, it is important that bicyclists are allowed to use it at all times. The City and County should ensure that 24-7 access is allowed on critical greenway segments that are serving a bicycle transportation purpose in the bicycle route network.

Benchmarks: Allowance for 24-hour a day, seven day a week access to greenways that are used for transportation purposes.

Policy Strategy 3.6: The City will develop design standards and guidelines for intersection and greenway/bike crossings.

The City should develop design standards and guidelines for intersection and greenway/bike crossings. It should develop a procedure to select appropriate intersection crossing treatments when a signed bike route or other bicycle facility crosses an arterial street. It should also develop design standards for the transitioning of bike facility types and for when bike facilities cross greenways. Different segments of the same roadway or greenway corridor may require using different types of bicycle facilities because of differences in traffic volumes, speeds, roadway widths, right-of-way availability and other characteristics. It will be important for the City and NCDOT to provide safe transitions between different facilities (such as transitioning from a bicycle lane to a shared roadway or from a bicycle lane to a shared-use path). These transitions can be made safer and more understandable for bicyclists and motorists with appropriate treatments such as signs, pavement markings, curb cuts, etc. Transitions should be addressed as a part of the bicycle facility design process.

Benchmarks: Creation of design standards and guidelines for intersection and greenway/bike crossings.

Policy 4: Design and build new and reconstructed roadways to be bicycle-friendly.

Policy Strategy 4.1: The City will require bicycle lanes designed consistent with the Urban Street Design Guidelines, on all new or reconstructed roadways within the city, where feasible. Where bicycle lanes are not feasible, justifications will be included as part of the road preliminary design process and alternative bike routes will be identified.

The bicycle route network was designed to include proposed accommodations not only on existing roads, but also on proposed future roadways as well. The Bicycle Program Manager will be responsible for ensuring that the recommended facilities are implemented on new roadways. New roadways that are not included on the Bicycle Master Plan should include bicycle accommodations as recommended by the Bicycle Program Manager and BAC.

Benchmarks: Percentage of new roadways with bicycle accommodations as specified in the Bicycle Master Plan

Policy Strategy 4.2: The City will seek to implement a minimum 5-foot bicycle lane on all new or reconstructed bridges and overpasses depending on posted speeds and on-street parking.

The City and state should provide bicycle lanes on all new or reconstructed bridges and overpasses to ensure bicycle access and connectivity. Some bridges in Charlotte already meet the policy, such as the Providence Road Bridge over I-485, which was constructed with a bicycle lane adjacent to a 12-ft travel lane. However, other projects such as the NC-115 Bridge near Alexanderana Road were designed with only 12' lanes and no bicycle accommodation.

Benchmarks: Provision of bike lanes on new and reconstructed bridges.

Policy Strategy 4.3: The City will conduct field tests of various emerging design treatments to improve bicycling conditions in the City.

It should be the City's policy to encourage field testing of emerging planning and design techniques to improve bicycling conditions in the City. For example, these design techniques could include bike boxes, colored bicycle lanes, and lane diets. Bike boxes are installed to allow bicyclists to move in front of cars waiting at an intersection to increase their visibility and reduce conflicts with turning vehicles. They are typically used at intersections where bicyclists need to turn left and/or many vehicles turn right. During a red signal phase, bicyclists are able to better position themselves for a left turn by moving left across the bike box. The City should also consider utilizing colored bicycle lanes to highlight areas where frequent merging between motorists and bicyclists is necessary. The City should also continue to implement lane diets, a technique where narrowing automobile travel lanes creates enough space within the existing road width to provide bicycle facilities while still accommodating motor vehicles.

Benchmarks: Field tests of emerging bicycle planning and design techniques.

Policy Strategy 4.4: The City will further study how to retrofit drainage grates in a way that would accommodate paving over the gutter pan.

Many roads in Charlotte have heavy traffic volumes and high speeds on relatively narrow pavement widths. In many cases, eliminating a travel lane is impossible because of the traffic volumes. If a road provides a critical link in the bicycle network and future widening will be difficult or impossible, the City should explore the possibility of extending the pavement to

the face of the curb by paving over the two-foot gutter pan during resurfacing projects to widen the outside travel lane. This approach to achieving additional street width should be considered on a case by case basis, as it may work on some streets but not others. Many of these roads should also be analyzed for possible interior travel lane narrowing (lane diet) in addition to paving over the gutter pan to provide the widest possible outside lane and the highest bicycle level of service. There are two primary challenges to accomplishing this, which are outlined below.

- Paving over the gutter pan would require the City to raise the drainage grate so that it is flush with the pavement. This would require the City to excavate the existing inlet frames and replace them with customized taller frames to raise the inlet to be flush with the adjacent roadway surface. If feasible, relocate the catch basins to behind curb alignment.
- Paving the gutter pan would also require a determination of how the concrete/asphalt gutter pan seam will hold up over time. With a wider outside lane, it is anticipated that the vehicles will travel further from the seam, reducing the weight load applied to the joint, which should reduce cracking. Some cracking is anticipated due to the natural expansion and contraction of the different materials. As long as the cracks don't lift and are less than ¼-inch in width, bicyclists will still be able to utilize the additional space.

Benchmarks: Evaluation of the potential impact of paving over the gutter pan.

Policy Strategy 4.5: The City will consider eliminating or reducing the gutter pan to 12-inches on roadways with constrained right-of-way.

Eliminating or reducing the gutter pan is an alternative strategy to paving over the gutter pans that should be considered when roadways are reconstructed. Many of the arterial roadways that provide the most direct travel routes for bicyclists and motorists have severe right-of-way constraints. In many cases, the ability to combine a modest lane diet in combination with a 12-inch or eliminated gutter pan and improved drainage grates could widen the existing 11-12 foot outside travel to 13-15 feet in width.

This additional width will substantially improve the quality of the bicyclists' experience and reduce tensions that exist between passing motorists and bicyclists in the existing 11-12 foot travel lanes. The traditional purpose of gutter pans is to carry the full spread of stormwater collected during a typical storm event along the curb, outside of the vehicle travel way. Substituting a narrower gutter or eliminating the gutter while simultaneously widening the outside lane will still allow faster moving motor vehicles to travel outside of the typical stormwater spread. It is acknowledged that bicyclists may potentially be riding within the flowing stormwater but this is mitigated by the fact that fewer bicyclists typically travel during storm events. Also, due to the dynamics of their narrow tires, bicyclists typically do not hydroplane.

When the gutter pan is reduced to 12-inches or eliminated, the City should consider utilizing a recessed inlet or curb opening inlet to completely remove the inlet from the travel lane. The City should review NCDOT standard details 852.05 and 852.04 included as Figure 4 for locations where there is a buffered area between the sidewalk and curb. NCDOT intended this design for use along median islands; however, its use is equally applicable to roadway edges. The City should review NCDOT standard detail 840.04 for locations where the sidewalk is adjacent to the roadway.

Policy Strategy 4.7: The City and NCDOT should continue to work in close partnership on the appropriate design of bicycle facilities with the assumption that bike lanes or other facilities identified in this Plan will always be provided on new and reconstructed roads.

NCDOT should continue to play a major role in improving bicycling conditions in Charlotte. Because there are many state-maintained roads in the City, it is critical that the state and the City work collaboratively in improving bicycling conditions. NCDOT should consult the Charlotte Bicycle Master Plan when resurfacing roads and when planning additional significant road improvement projects. It should proactively replace hazardous drainage grates on state-maintained roads. The state currently only replaces grates as part of planned projects. The City of Charlotte recommends that NCDOT designate a bicycle facilities contact in its Division Office to spearhead collaborative bicycle-related efforts between the state and the City. The Charlotte Bike Program should be involved in scoping meetings between the City and NCDOT during the planning phase of all NCDOT projects.

Benchmarks: Degree of collaboration between the City and the state.

Policy 5: Implement bicycle improvements as a part of all resurfacing and maintenance activities.

Policy Strategy 5.1: The City will seek to provide the bicycle facilities identified in this Plan as part of the road resurfacing process.

Bicycle projects should be incorporated with other roadway projects to the extent feasible. Roadway projects such as resurfacing and the construction of sidewalks may enable bicycle facilities to be implemented in conjunction with the project, thus reducing the costs of a stand alone bicycle project. For this to occur, all personnel involved in road resurfacing should become familiar with the Bicycle Master Plan and the USDGs. As thoroughfares and collectors are resurfaced, there is the opportunity to re-stripe lanes to provide bikeways. If a roadway that is being resurfaced or reconstructed has a specified improvement proposed in the Bicycle Master Plan, the specified bicycle improvement should be made in conjunction with the roadway improvement. Some proposed bikeway projects require minor widening that may be feasible during routine resurfacing operations. Even if there is no specified improvement, consideration should be given to providing wide outside lanes (14-foot width) whenever feasible. If full widening to 14 feet is not feasible, outside lanes should be widened as much as possible to improve conditions for cyclists. For example, on a 44-foot cross-section with speed limits less than 40 MPH, the inside lane width would be 10 feet and the outside lane width 12 feet. On a 48-foot cross-section, the configuration would be a 10-foot inside lane and a 14-foot outside lane where speed limits are less than 40 MPH, and an 11-foot inside lane and a 13-foot outside lane where speeds are 40 MPH or more. When narrowing of inside lanes is necessary to provide wide outside lanes, the amount of daily and peak-hour traffic and the percentage of heavy truck traffic must be taken into consideration in determining the feasibility of a wide outside lane.

Benchmarks: Recommendations in this Plan that are implemented as part of the road resurfacing process.

Policy Strategy 5.2: The City will seek to improve coordination between resurfacing and bicycle planning efforts.

As noted, ongoing transportation projects represent one of the most important opportunities for implementing the recommendations of this Plan. All roadway resurfacing, repaving and improvement projects should be evaluated to determine whether it is possible to provide the bicycle facility recommendations included in this Plan as part of a planned road project. This is true for the full range of projects, from large scale construction to basic maintenance,

repaving and resurfacing undertaken by the City and by the NCDOT Division Office. Incorporating bicycle facility projects into planned projects (NCDOT, City, developer, etc.) is typically a more effective means of creating facilities than retrofitting roads or developing bicycle facilities as stand-alone projects. The City's bicycle planning and repaving efforts are currently coordinated; however, this process can be improved as outlined below. Additional information on the coordination between bicycle planning and resurfacing efforts is included in Chapter 8 of this Plan.

- Implementation of the bicycle recommendations in this Plan should be included on the agenda of all coordination meetings between the City's bicycle planning and repaving efforts.
- Roads on the resurfacing list that are also identified as proposed bicycle routes on the Bicycle Route Network Map should be given a priority in the resurfacing process.
- The Bicycle Master Plan should guide decisions on the type of bicycle facility to be provided as part of the resurfacing process.
- Opportunities to provide bicycle facilities should be considered carefully when deciding which roads to take off of the annual resurfacing list.

Coordinating the City's bicycle planning and the NCDOT Division Office's repaving efforts is also critical. This coordination is currently occurring; however it also can be improved. The coordination-related elements listed above are also relevant to the NCDOT repaving process. The implementation of this Plan should be included in all meetings between the City and the NCDOT Division Office. Additional information on improving this process is included in Chapter 8 of this Plan.

Benchmarks: Degree of coordination between bicycle planning and resurfacing efforts.

Policy Strategy 5.3: The City should publicize the "Dial 311" system as an effective means for addressing bicycle-specific spot improvement needs.

The City should publicize its "Dial 311" system as an effective way to address bicycle-related spot improvements. The "Dial 311" system is a central number that citizens can call to report problems and seek improvements. Numerous spot-improvement requests such as bicycle lane sweeping or drainage grate replacement are received and acted upon each year through the 311 system. The City should publicize this as an important resource for identifying needed bicycle-related spot improvements and ensuring that they are addressed. The City should ensure that the menu selection as part of the online 311 system includes bicycling as a category.

Benchmarks: Number of efforts to expand awareness of the 311 system.

Policy Strategy 5.4: The City will seek to reduce the minimum vertical separation tolerance requirement to decrease the acceptable vertical distance between the gutter and the road surface.

It is standard practice in the City to repave roads without first grinding out the old pavement. This is, in part, because it is less expensive to simply pave over roads when resurfacing them. While this may allow more roads to be resurfaced with a limited budget, it potentially creates hazardous and uncomfortable situations for bicyclists. For example, if the new pavement is substantially higher than the gutter pan, this creates a "lip" that may cause bicyclists to lose control. There may also be a significant dip where new pavement has been added around an existing drainage grate, causing the grate to sit lower than the pavement and creating a dangerous hole for bicyclists. The existing practice of not milling the pavement has also had unintended consequences as some homeowners are "retrofitting" the gutter to smooth the

transition between the roadway and their driveway. This creates dams which severely compromise the safety of motorists as the water will be forced to spread into the travel lane further than intended. When resurfacing roads, the standard should be to grind or mill out the old asphalt when feasible. The asphalt should be milled uniformly from the edge of the pavement. The current maximum allowed tolerance is 1½ inches, which is not conducive to a good bicycling environment. A maximum allowed tolerance of ¼-inch vertical separation at the gutter seam is recommended. In order to implement this policy, the City should consider an annual street maintenance supplement to absorb the additional resurfacing costs associated with implementing bicycle lanes on resurfaced roadways.

Benchmarks: Reduction of maximum allowed tolerance standard to a ¼ inch vertical separation.

Policy 6: Provide targeted and effective educational and awareness opportunities for bicyclists and motorists.

Policy Strategy 6.1: The City will initiate and hold annual bike events to provide education opportunities and raise awareness of bicycling.

Educational and awareness efforts work together to improve bicycling skills and raise awareness. For example, a bike-to-work day encourages more people to use a bicycle for transportation and it also teaches urban riding skills and the importance of wearing a helmet. Teaching bicycling skills to both children and adults (through mechanisms such as bike rodeos, in-school education, and Effective Cycling courses) helps to build confidence and encourages them to ride. Annual bike events such as bike-to-work, bike-to-shop, and bike-to-school days are an effective way to build support for bicycling and encourage increased ridership. Encouragement activities should occur year-round, but special events should be emphasized in May, which is National Bike Month. A detailed listing of recommended education and awareness programs is included in Chapter 6 of this Plan.

Benchmarks: Implementation of the education and awareness programs identified in the Bicycle Master Plan.

Policy Strategy 6.2: The City will educate bicyclists on the use of bike racks on buses to promote safe usage.

As part of the linkage between bicycles and transit, bicyclists should be encouraged to use bike racks on buses. Bike racks on buses provide an important linkage for long-distance trips or portions of trips where bicycle accommodations on roadways are not provided. This is also a good alternative for bicyclists to avoid inclement weather. Bike racks on buses can be a significant bicycling encouragement technique. Education regarding the use of bike racks must be provided to users so that the racks can be properly utilized. Bus drivers must also be trained in the use of the bike racks. Training should continue to be provided by City staff.

Benchmarks: Usage levels of bicycle racks on buses

Policy Strategy 6.3: The City will work with government agencies as well as private employers to provide incentives for biking to work.

Local governments and employers should provide incentives for bicycle use. Some employers reimburse employees for parking and/or travel costs. The Bicycle Program Manager should assist the City and County governments in setting good examples for other major employers in the area. Bike parking should be visible and accessible. If possible, bicycle travel should be incorporated into all reimbursable travel expenses. It will be easier to approach private companies to adopt bicycle-friendly practices if the City and County are leading the way with

good examples. Additional incentives for biking to work include availability of lockers and showers, bike/bus passes, convenient bike parking locations and flextime for bicyclists.

Benchmarks: Incentives for biking to work provided by the City, County and private-sector.

Policy Strategy 6.4: The City will encourage Mecklenburg County Schools to implement a bicycle education curriculum in local school.

Mecklenburg County Schools should implement a bicycle education curriculum in local schools. NCDOT and Parks and Recreation staff should support and encourage this effort. Local volunteers can also be trained to instruct the teachers or actually conduct the course. It is strongly recommended that local advocates take a major role in helping to train instructors or actually teach the course. If a large number of instructors are qualified, reaching more children will become easier. Parent-Teacher Associations at local schools might also be a valuable resource in providing support for bicycle education in schools. The goals of these programs are to instruct children in basic pedestrian, bicycle, and motor vehicle occupant safety, and to encourage children to walk, ride bicycles, and use mass transit as regular means of transportation.

Benchmarks: Percentage of children receiving bicycle safety instruction in local schools.

Policy Strategy 6.5: Encourage law enforcement agencies and community organizations to improve bicycle safety through increased bicycle helmet usage.

“Wear a helmet” should be a message incorporated into any bicycle-related program. All bicycle safety education efforts, from elementary school programs to adult education courses, should consistently teach this message. Any special bicycle promotion events should also emphasize the importance of wearing a helmet. The importance of helmets was a central theme of a public forum held at Eastland Mall in Charlotte. Efforts such as these should continue, and donations from area corporations and injury prevention organizations should continue to be sought to help make free or low-cost helmets available to bicycling children, as well as adults.

Benchmarks: Increased community awareness of the importance of wearing a helmet.

Policy Strategy 6.6: The City will consider supporting the inclusion of bicycle safety information in the State of North Carolina’s Department of Motor Vehicles (DMV) procedures as part of the City’s annual legislative request and lobbying efforts.

As part of its annual legislative request, the City should advocate for the inclusion of bicycle safety, education and awareness programs into the State of North Carolina’s DMV procedures. DMV procedures, including driving tests and drivers license renewal offer an excellent opportunity to provide bicycle safety information to motorists. Recognizing that state-level action is required, the City should encourage legislative proposals to require bicycle education in DMV and other state processes through its annual legislative requests and as part of its regular lobbying efforts.

Benchmarks: Bicycle education requests included as part of the City’s annual legislative requests and lobbying efforts.

Policy Strategy 6.7: The City will support and encourage programs that promote motorist awareness of bicycle rights.

Based on bicyclists’ personal experiences recounted during public forums and in letters to the editor in local newspapers, there appears to be a misconception about the rights of bicyclists to share the road with motorists. Distribution of brochures is a step in the right direction of educating both motorists and bicyclists about bicycle rights. There are many materials available from NCDOT and other groups that emphasize rights and responsibilities and

reinforce the “share the road” message. There are also printed materials that focus on the driver. These materials need to be targeted to the general population and should be available in public libraries and in utility company mailings. Information presented should be consistent and concise, concentrating on the messages of remaining alert, being predictable, being patient, and obeying traffic laws. Efforts should not be limited strictly to brochures. Public service radio and television announcements are a good means of reaching a diverse audience. These announcements should be coordinated with the installation of additional “Share the Road” signs. NCDOT has “Share the Road” posters available that could be posted in public areas such as libraries, museums, community centers, arenas, etc. Video announcements are also effective, but obviously more costly. Both federal and state resources should be reviewed for video public service announcements suitable for the Charlotte environment. While a general message of the rights of bicyclists is important, a focused message on how motorists should interact with bicyclists is also needed.

Benchmarks: Number of outreach and awareness efforts undertaken.

Policy Strategy 6.8: The City will support and encourage programs that educate bicyclists of responsibilities and safe riding habits.

Not only do motorists need to be educated about the rights of bicyclists, but also adult bicyclists need to be reminded about their responsibility to ride safely. NCDOT and other organizations have brochures and other information focusing on this issue. Effective methods for disseminating this information include through bike shops, bike organizations, schools and universities as well as through bike rodeos. Public service announcements are also needed to target adult bicyclists that do not participate in organized events. Brochures, pamphlets, flyers and other educational and outreach material should be provided bilingually.

Benchmarks: Number of outreach and awareness efforts undertaken.

Policy Strategy 6.9: The City will consider supporting the addition of bicycle safety information in the local Safety and Health Council of North Carolina driver safety courses.

The Safety and Health Council of North Carolina is the state chapter of the National Safety Council. It is a non-profit, non-governmental safety education association serving North Carolina and the Southeast. Many Judicial Districts and Counties in North Carolina allow traffic violators to complete a National Safety Council Defensive Driving Course in exchange for a reduction in penalty. Numerous community colleges also participate in the Defensive Driving Program. The City should encourage the Safety and Health Council to incorporate bicycle safety information into the curriculum of its driver safety and defensive driving courses in Charlotte.

Benchmarks: Efforts to encourage the Safety and Health Council to incorporate bicycle safety information in its curriculum.

Policy Strategy 6.10: The City will conduct regular before and after bicycle counts and studies to evaluate the impact of the emerging bicycle network.

The City should conduct regular before and after bicycle counts and studies to evaluate the impact that the emerging bicycle network is having on the level of comfort bicyclists feel when riding in the City and the overall level of bicycle ridership. It should regularly conduct before and after studies of important design and planning techniques that are being pursued. For example, the City should conduct before and after studies of lane diets and road diets to determine their impact on bicyclists and motorists alike. New counting technologies exist that make bicycle counts easier and less expensive. The City should utilize these emerging technologies to determine how existing facilities are being used and to identify locations where additional facilities may be needed.

Benchmarks: Number of before and after studies completed.

Policy Strategy 6.11: The City will continue to conduct annual accident analyses to determine local accident characteristics.

CDOT has regularly tracked reported bicycle crashes occurring on public rights-of-way. Data is gathered to determine many of the crash statistics; however, the data gathering format uses a statewide form which is often inadequate for accurately describing crash characteristics. The City compiles these data and provides a regular annual report to the Bicycle Advisory Committee. The City should continue to gather and disseminate bicycle crash data to help identify the highest risk crash locations and behaviors. Identifying the factors common in many bicycle crashes helps to identify particularly dangerous locations and target the audience or behaviors that contribute to bicycle crashes. This data can help guide the City in physical or programmatic improvements that make Charlotte a safer place to ride a bicycle.

Benchmarks: Evaluations of crash statistics completed and level of incorporation of findings in ongoing bicycle planning efforts.

Policy 7: The City will continue to provide bicycle parking and other supporting facilities to encourage bicycling as a viable mode of transportation.

Policy Strategy 7.1: The City should continue to provide bicycle racks at major destinations and provide bicycle racks and lockers at major transit connections.

Many existing major destinations are exempt from the bicycle parking requirements of the zoning ordinance; however, public bicycle racks have been installed in some destinations such as the Uptown area, parks and at many major transit locations. There is bicycle parking at the Transit Center and at many Park and Ride lots, and racks and lockers are provided at most major light rail transit stops.

Bicycle parking should continue to be provided at important transit locations. Bicycle racks should be provided at all major destinations in the City. The City should continue to make bicycle racks available to private properties through a public/private partnership arrangement.

Benchmarks: The number of bike racks provided.

Policy Strategy 7.2: The City will seek to improve enforcement of the bicycle parking ordinance to ensure that parking is located close to building entrances.

The existing bicycle parking ordinance requires bicycle parking facilities to be provided close to building entrances; however, in some new developments around the City parking was observed to be far away from the building entrance. In the site plan review process, the City

Figure 6: Off-Street Parking and Loading Ordinance

City of Charlotte Zoning Ordinance, Part 2: Off-Street Parking and Loading

(b) Location. Short-term bicycle parking should be located along a major building approach line and clearly visible from the approach. The rack area should be no more than a 30-second walk (120 feet) from the entrance it serves and should preferably be within 50 feet. A rack area should be as close or closer than the nearest nonhandicap car parking space. A rack area should be clearly visible from the entrance it serves. A rack area should be provided near each actively used entrance. In general, multiple buildings should not be served with a combined, distant rack area. It is preferred to place smaller rack areas in locations that are more convenient.

should ensure the enforcement of the provision of the bicycle parking ordinance that requires bicycle parking to be placed close to building entrances. The language for the placement of bicycle facilities in new developments is included in Figure 6.

Benchmarks: Level of enforcement of the existing regulations regarding the placement of bicycle parking.

Policy Strategy 7.3: The City will provide bicycle parking in all City garages and encourage bicycle parking in private garages.

Currently, there are many parking garages in the City that do not have bicycle parking. The City should ensure that bicycle parking is allowed and facilities are provided in all of its structured parking facilities. It should encourage privately-owned garages to allow bicycle parking and provide bicycle parking facilities.

Benchmarks: Number of garages that allow and provide special accommodations for bicycle parking.

The policies outlined above serve as the foundation for improving the bicycling environment in Charlotte. These policies reflect the City's goals to institutionalize bicycle planning efforts, provide appropriate design and maintenance considerations for roadways, include bicycle accommodations in other planning efforts, provide education and awareness initiatives and encourage bicycling as a viable mode of transportation. The following chapter discusses existing conditions for bicycling in the City.