



PELICAN DRIVE / SALISBURY STREET

BICYCLE PLAN

FOR THE TOWN OF WRIGHTSVILLE BEACH

ADOPTED 9.10.2009

Submitted by



The Louis Berger Group, Inc.
Greene Transportation Solutions

Table of Contents

I.	Introduction.....	1
II.	Study Process.....	2
III.	Existing Conditions.....	2
IV.	Final Design Recommendations.....	7
V.	Cost Estimates.....	15
VI.	Funding Options.....	17

Appendices

Appendix A: WMPO Annual Average Daily Traffic (AADT) Count Data

Appendix B: WMPO Crash Report Data

Appendix C: 2007 Parks and Recreation Department Survey Results

Appendix D: 2008 Bicycle Survey

Appendix E: 2009 Bicycle and Pedestrian Count Data

Appendix F: Technical Appendix for North Lumina Avenue Design

DISCLAIMER: Adoption of this Plan does not bind the Town to construction of any elements included herein.

I. Introduction

The Town of Wrightsville Beach, NC is located approximately ten miles east of downtown Wilmington, via U.S. Highway 74 and the Heide-Trask drawbridge over the Intracoastal Waterway. A bustling tourist destination during summer months, Wrightsville Beach is also home to many full-time residents. With a pleasant year-round climate and compact land use, it is a natural cycling destination and activity center for cyclists of all skill levels from beach cruisers to commuters to long-distance recreational riders. In order to accommodate bicyclists, the Town and the Wilmington Urban Area Metropolitan Planning Organization (WMPO) commissioned this study to explore options for extending bicycle connectivity along Salisbury Street from the Heide-Trask drawbridge to the existing bike lanes on the northern-most section of North Lumina Avenue. Figure 1-1 defines the study corridor for the purposes of this project.

Figure 1-1. Study Corridor

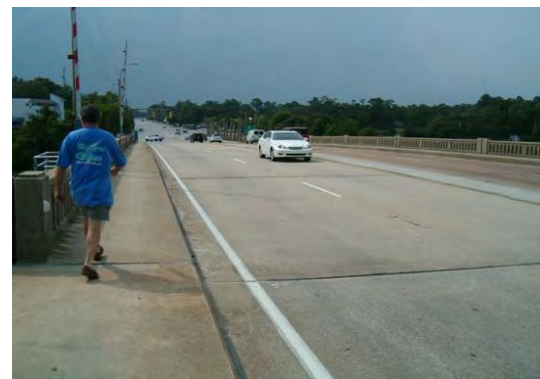
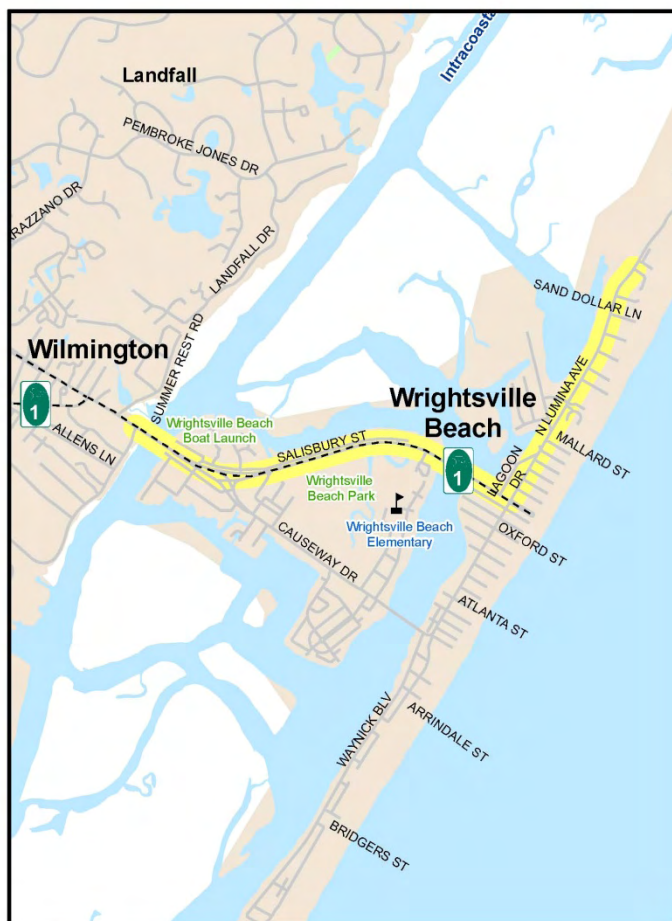


Figure 1-2: Bicycle Conditions in Study Corridor

Top: Existing bicycle lanes on N Lumina Ave .

Bottom: Heide-Trask drawbridge.

The study considered east-west bicycle connectivity along Salisbury Street, as well as Pelican Drive, and north-south connectivity along Lagoon Drive and North Lumina Avenue. The final 30% design options presented in the recommendations section were vetted through an intensive, 12-month process that included public involvement, Town and WMPO contributions, and NCDOT review. The final (30%) design options and the context of the corridor provide a wealth of opportunity for bicycle connectivity between major commercial areas, residential development, Wrightsville Beach Park and NC Wildlife Commission Boat Launch and many other destinations upon implementation. In fact, Salisbury Street from Summer Rest Rd (in Wilmington) to North Lumina Avenue makes up the eastern-most terminus of WMPO Bicycle Route 1, the "River to Sea Bikeway." Additionally, Wilmington's 10-mile Cross City Trail will terminate

just west of the Heide-Trask drawbridge, leading commuters, tourists and recreational cyclists to/from Wrightsville Beach.

While current land use and existing infrastructure offer ample opportunity to provide bicycling connections to/from Wrightsville Beach and between local destinations, the provision of accessible bicycle facilities also entails a number of challenges including three major bridges, high-traffic roads and intersections, an environmentally-sensitive landscape and potential right-of-way constraints. All of these factors ultimately played a part in the selection of the recommended treatments and are key components of any context-sensitive design that addresses local needs, budget limitations and environmental conservation issues. While challenges to implementation do exist, this study provides a sustainable design approach that addresses the community's need to provide safe, accessible and convenient bicycle facilities for town residents and visitors of all cycling skill levels.

II. Study Process

The Wrightsville Beach Bicycle Corridor Study was begun in October 2008 and completed in the summer of 2009. The Town contracted with a professional consulting firm, The Louis Berger Group, Inc., to conduct a field inventory of existing conditions, prepare 30% design documents, and conduct public engagement exercises throughout the planning and design process. Two public "Open House" workshops and a town-wide survey were conducted as part of the planning process to gather feedback from residents on design alternatives to provide bicycle/pedestrian access within the study corridor: Salisbury Street from the Heide-Trask drawbridge to the existing North Lumina Avenue bike lanes. In addition, the Consultant conducted a field analysis of existing bicycle, pedestrian and roadway conditions in the study area, which consisted of a GPS/GIS inventory and multiple field visits. The existing conditions analysis combined with public feedback led to the identification of design elements for the corridor. Existing conditions analyses and recommended bicycle improvements were refined through the technical meetings with the NC Department of Transportation, as well as Town and WMPO staff, and reviewed in full by the Town Parks and Recreation Advisory Committee, as well as the WMPO's Transportation Advisory Committee (TAC). A final draft of the design recommendations and correlated cost estimates was presented for public comment at the June 29, 2009 Open House and the final document will be presented to the Town of Wrightsville Beach Board of Aldermen on August 25, 2009 for informational purposes and on September 10, 2009 for final adoption.

III. Existing Conditions

As part of the recommendation process, an existing conditions analysis was conducted to assess the current bicycle and pedestrian network, as well as community needs in Wrightsville Beach. To address the needs of local cyclists, the existing conditions analysis considers not only physical conditions, such as roads, parks, and schools, but also less concrete items, such as public perceptions and travel behaviors. This section contains the following items:

- Existing Facilities Analysis
- Parking Impacts
- Bicycle/Pedestrian Crash Analysis
- Community Concerns and Needs

Existing Facilities Analysis

The study began with a review of existing conditions, plans and policies for the corridor and the Town as a whole. The WMPO and Town goals for greater bicycle connectivity have been well-documented and supported through the *2005 Bike Route Plan for Wrightsville Beach*, as well as various local surveys and studies. The 2005 plan documented the precarious conditions for cyclists in the study corridor, especially when crossing the Heide-Trask drawbridge and navigating the Y-intersection of Salisbury Street and

Causeway Drive, as well as when facing heavy seasonal automobile traffic along Salisbury and North Lumina. The plan calls for the addition of bicycle facilities along Pelican Drive, Salisbury Street and North Lumina Avenue, including a cantilevered or stand-alone bridge structure adjacent to the Banks Channel Bridge.

As a follow-up to the 2005 planning effort, recent temporary features were installed in 2008 to improve connectivity and safety for cyclists traveling east from the Heide-Trask drawbridge to the public access beach at the end of Salisbury Street. The new signage and pavement markings route eastbound cyclists along an Old Causeway Drive bike lane, under the drawbridge and up the boat launch exit via a second bike lane, then on to Pelican Drive as a parallel alternative to Salisbury Street. The goal of the Wrightsville Beach Bicycle Corridor Study is to build upon these existing and planned efforts to develop a creative and feasible design that offers a long-term solution and leads to final construction documents and implementation.



Figure 3-1. Interim bicycle improvements on Old Causeway Drive (left) and Pelican Drive (right).

Other supporting documents reviewed during the existing conditions analysis included:

- October 2008 Lanier Parking Data
- 2008 Wilmington Bicycle Map
- 2008 WMPO AADT Maps (Appendix A)
- 2007 WMPO Traffic Count Report
- 2007 WMPO Crash Report (Appendix B)
- 2007 Wrightsville Beach Parks and Recreation Department Survey (Appendix C)
- 2007 AIA 150 Study, *The Trolley Trail: From the River to the Sea*
(www.wilmingtontrolleytrail.org)
- 2006 NCSU Roundabout Study, *US 74/76 Intersection, Wrightsville Beach, NC: A Case Study in Context Sensitive Solutions*

In addition to the review of existing documents and literature, the consultants conducted a full review of GIS data available from the Town, WMPO and New Hanover County. Necessary data that was not available was collected by the consultant during a GPS inventory of existing facilities within the study area. Data reviewed during this process included:

- Travel lane widths (noting any and all marked bike lanes)
- Right-of-way
- Drainage grates
- Utility poles
- Manhole locations
- Driveways
- Landscaping (notable elements)
- Curb line/shoulder edge

- Existing sidewalks (e.g. location, width, curb ramps and material)
- Bridge widths
- Signage (bike/ped)
- Traffic signals & controller boxes (esp. location of pedestrian “walk” signals)
- One-way traffic designations
- Speed limits
- Parking space counts (for metered and non-metered parking along the corridor)

The existing facilities analysis, in addition to input from the Parks and Recreation Advisory Committee, was digested into a range of on-road and off-road treatment options and presented to Town officials and residents during a January 12, 2009 Open House. These options were refined based on Town feedback and input from the NC Department of Transportation (NCDOT) Division 3 office, as well as the WMPO, and led to the final recommendations included in this report.

Parking Impacts

Parking has been a prominent issue in the development and analysis of proposed facilities since the study began. Metered parking generates nearly one-sixth of the Town’s annual revenue and is therefore a guarded commodity for Wrightsville Beach. In order to limit the impacts to parking in the corridor, consultants reviewed the 2008 parking counts, use and revenue data provided by Lanier Parking Services, and also performed initial manual counts of all marked parking spaces within the study area, denoting these existing parking facilities in the AutoCAD base drawings used for the design alternative development.

Conceptual design alternatives were refined and finalized with parking impacts limited to a re-design of the public parking area on Salisbury Street near the intersection of North Lumina Avenue. This re-design results in a net gain of one parking space, achieved through restriping and organizing the public parking area to improve traffic flow, as well as bicycle and pedestrian safety. The net gain in parking is achieved by taking advantage of currently under-utilized pavement. Additional improvements to this area include one-way entry and exit to organize traffic flow, and to install curb extensions at various locations to serve as pedestrian refuge areas and encourage slower turning movements.

Bicycle/Pedestrian Crash Analysis

A bicycle and pedestrian crash analysis is useful because it can be an indicator of the bicycle- and pedestrian-friendliness of a community, and can also provide information on key locations or educational outreach areas where improvements could be made to enhance safety. A crash analysis can often indicate popular walking routes, and sometimes illustrate conflict areas between pedestrians and cyclists.

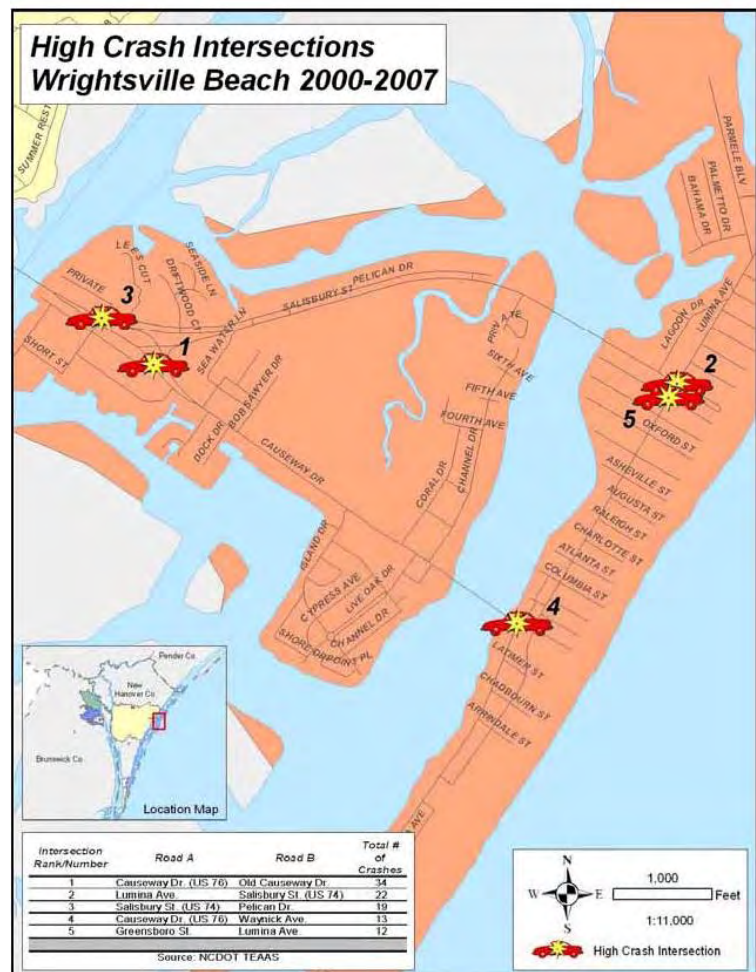


Figure 3-2. 2007 WMPO crash map for Wrightsville Beach.

Crash data for Wrightsville Beach was available from the NCDOT for the period of time between 2003 and 2008, and reveals that two pedestrian-related crashes and five bicycle-related crashes were reported in this time period (see Figure 3-3). Overall, this data reinforces the need to address bicycle safety at major intersections throughout the corridor, such as the Y-intersection of Salisbury St and Causeway Dr, as well as the intersection of Salisbury Street and N Lumina Avenue (see Figure 3-3).

The *2007 WMPO Crash Report* was also reviewed (see Figure 3-2). The study reports several intersections in the study corridor as “high crash” locations for motor vehicles for the period of time between 2000 and 2007. The intersection of Salisbury Street and North Lumina Avenue was the site of 22 crashes during that seven year span, while the intersection of Salisbury Street and Pelican Drive was the site of 19 crashes during the same time period.



Bicycle/Pedestrian Count Data

Bicycle and pedestrian counts, along with motor vehicle turning movement counts, were conducted by Town and WMPO staff as part of the study on Saturday, May 23, 2009 (Memorial Day weekend). Counts revealed significant numbers of cyclists and pedestrians throughout the corridor; the full results are included in Appendix E of this report. Pedestrian traffic was highest at the intersection of Salisbury Street and North Lumina Avenue, where nearly 350 pedestrians crossed the northern leg of the Salisbury/North Lumina intersection between 10am – 2pm, going to/from the public access beach to nearby shops, restaurants, homes and parking areas. Throughout the day, the same intersection saw a total of 229 cyclist movements, 997 pedestrian movements, and 7007 motor vehicle movements. Bicycle traffic was

also high at/near the western end of the corridor, where 211 cyclists were observed entering/exiting the island via the Heide-Trask drawbridge during the four hour period.

Bridge Conditions

In order to explore all available options for retrofitting bicycle accommodations onto existing bridge structures, consultants reviewed the NCDOT bridge reports for the Kenans Creek bridge (Bridge #640022) and the Banks Channel bridge (Bridge #640024). The latter is classified as “structurally deficient” with a rating of 30.1, while the former is classified as “not deficient” with a rating of 67.9 as of 2007. Each of these bridges was constructed in the mid 20th Century and both are designed such that it is not possible to mill down the sidewalk to add extra roadway width for cyclists, nor is it advisable to cantilever an additional structure from either. Based on the sufficiency rating of the Banks Channel bridge, it is likely to be replaced before the Kenans Creek bridge. Any new bridge construction or reconstruction should incorporate the recommendations of the Plan and be designed in such a way as to accommodate bicyclists and pedestrians in coordination with the roadway approaches in place at that future point.

Community Concerns and Needs

The Wrightsville Beach community represents long-time residents, newcomers and visitors, all living and recreating in a highly-active, compact, urban beach context. To account for all users and possible outcomes, the planning and design process aimed to incorporate a number of diverse viewpoints into a solution that links residences, rentals, hotels, schools, parks, commercial centers and other destinations by bicycle. In order to accomplish this goal, public input played a critical role in the Wrightsville Beach Bicycle Corridor Study, helping to guide the development of a design solution that accommodates bicyclists of all types, while taking into account local context and needs.

In order to collect community input for the project, the study team first met with the Wrightsville Beach Parks and Recreation Advisory Committee to understand their goals for the project and the desired outcomes of this steering committee. The goals and objectives of the individual committee members included:

- An effective, parking-neutral or positive design that benefits cyclists.
- A short-term plan that works and a functional longer-term design that can be implemented over time.
- A design that focuses on functionality for Wrightsville Beach residents, especially access from the south to north end of the beach.
- A design that is quickly implemented and builds on the momentum of the short-term treatments (installed in 2008).
- Reduced car traffic on the beach and better bike access for Town residents to local and regional destinations.
- A design that works to integrate regional bicycle access between Wrightsville Beach and Wilmington.
- A long-range plan that, ideally, incorporates a 10ft multi-use path from the Heide-Trask drawbridge to the north end of the beach.
- Pervious surface options and access to Wrightsville Park as a key part of the design.
- A long-term design that provides improved usage of beach and bicycle access for Town residents.
- On-the-ground results, including safe bridge accommodations.

In addition to these goals, committee members raised concern over potential right-of-way constraints throughout the corridor and wanted to see the Town engage in complementary safety-education and outreach programs, such as educating cyclists and motorists on bicycle laws.

The consultants then developed and distributed a bicyclist survey, with the help of Town staff and Parks and Recreation Advisory Committee members. The survey was available on the Town's website and in hardcopy format at Town Hall, as well as at the Parks and Recreation Department table at the annual Flotilla Festival in November 2008. The survey was designed to gauge local interest in the project and

collect opinions on various design elements for the corridor. Over 603 respondents participated in the survey, of which 38.3% were Wrightsville Beach residents or property owners. Of the 603 survey participants, 98.2% indicated that they would like to be able to bike more often. Respondents indicated a strong desire for cycling amenities that would contribute to local fitness and recreation options, as well as connectivity to/from the beach and local shopping venues. A significant number of respondents (88.7%) indicated that they would bike more if roadway conditions were improved and if local bridges were outfitted with bicycle facilities. When asked which improvements were preferable, most indicated that on-road bike lanes along Salisbury, North Lumina, and local bridges would be desirable. The results of the survey are included in full as Appendix D of this document, but in summary the survey revealed that residents and non-residents alike are in majority support of on-road bicycle improvements to the study corridor.

In addition to the survey and regular liaison with the Parks and Recreation Advisory Committee through Town staff and consultant presentations, two Open Houses were held during the design process to collect feedback from the public on various design concepts. The first Open House was held on January 12, 2009. During this meeting, consultants presented conceptual alternatives of various design treatments for the corridor. In particular, two sets of alternatives were presented, one for off-road bicycle accommodations and one for on-road bicycle accommodations. Option A included a design alternative for expanding the Loop into a 10-14' wide multi-use trail on the south side of Salisbury Street, connecting to the north side of the island via european-style "cycle paths" that meet the existing N Lumina bike lanes. Options 2/3 included on-road bicycle treatments that build upon existing facilities through road diets, travel lane re-stripes and the use of "sharrow" pavement markings, signage and intersection improvements to make the Salisbury and N Lumina corridors more bicycle-friendly for all user groups. Approximately 50 people attended the Open House, representing a broad range of perspectives. Cyclists of all skill levels were in attendance: many, especially those with young children, preferred an off-road option (e.g. trail) while the majority of those in attendance "voted" for an on-road option (e.g. bike lanes).

After subsequent technical meetings with the NCDOT Division 3 office, Town and WMPO staff, the design concepts were refined into a set of parallel facilities along the project corridor. The design builds upon the temporary Pelican Drive treatments, keeping sharrows on Pelican and providing adjacent bridge accommodations north of the existing Kenans Creek and Banks Channel bridges to accommodate beginner and child cyclists who prefer off-road accommodations. The study also includes design documents that combine bike lanes and sharrow treatments along Salisbury Street and N Lumina to meet the existing bike lanes at the northern terminus of the project boundary. Intersection improvements are recommended at the unsignalized intersection of Pelican Drive and Salisbury Street, in addition to the signalized intersection of Salisbury Street and North Lumina Avenue. Additional recommendations include a north-south bicycle/pedestrian crossing location across Salisbury Street at the municipal complex, to provide access to/from the north side of the island as well as Town Hall and Wrightsville Beach Park. Final (30%) design documents and cost estimates were then presented at a second open house on June 29, 2009.

IV. Final Design Recommendations

Two design options are available for the project corridor: an on-road option that relies primarily on bike lanes and sharrows to accommodate bicyclists along Salisbury Street (Option A), and an on-road/off-road combo option that uses Pelican Drive and adjacent bike-ped bridge structures over Kenans Creek and Banks Channel to accommodate bicyclists with a separated facility (Option B). Both design options build upon the existing treatments at the western end of the corridor, sending bicyclists to Old Causeway Drive and under the Heide-Trask drawbridge to Pelican Drive. The following descriptions outline section-by-section recommendations for each option.

Option A

This option refers to a set of recommendations for bicycle lanes and sharrows on Salisbury Street to accommodate more advanced level bicyclists (e.g. adult cyclists).

Section 1: Heide-Trask Drawbridge to Sea Water Lane.

Cyclists have two options for crossing over the Heide-Trask drawbridge: to use the travel lane, acting like the driver of any vehicle, or to walk their bicycles on the sidewalks on either side of the bridge. Per a recent set of “temporary” improvements, cyclists using the roadway are directed to take the first right after the bridge on to Old Causeway Drive, under the Heide-Trask bridge, right through the exit lane of the boat launch area to the Keel Street intersection. There are several recommendations for improving this intersection, by straightening the alignment and adding a traffic divider, as well as installing high-visibility crosswalks and better delineating traffic controls by restriping stop bars and installing stop signs for cyclists using the sidewalk (see Sheet 4 of the engineering schematic).



Figure 4-1. In-street pavement lighting at pedestrian crosswalk.

Source: www.walkinginfo.org

Upon its completion, Wilmington's Cross-City Trail will terminate just west of the Heide-Trask drawbridge on the north side of the street. Cyclists using the Cross-City Trail to/from Wrightsville Beach will most likely be using the north sidewalk to enter Wrightsville Beach. To accommodate those cyclists who may be walking a bike across the bridge sidewalk, a secondary recommendation has been made to extend the north-side sidewalk to a 10ft wide multi-use path, east of the bridge to the improved Keel Street intersection and on to Pelican Drive. Regardless of how the cyclist approached Keel Street, from there all cyclists will be directed along Pelican Drive, where sharrows (on-road shared pavement markings) are currently installed as part of recent bicycle improvements. The Option A recommendations include a two-phased mid-block bicycle/pedestrian crossing just west of Sea Water Lane, that allow cyclists to cross each lane of Salisbury Street at that location, resting in the median between each lane in order to wait for a safe crossing of the next one-way lane. Per NCDOT Division 3 Pedestrian Design Guidelines, this mid-block crossing would need to include an in-street lighting system. Once safely across Salisbury Street, cyclists can take a multi-use trail to Sea Water Lane to access the municipal complex, or proceed on Salisbury Street via 6ft bicycle lanes that begin just east of Seawater Lane (see Sheet 5 of the engineering schematic).

Section 2: Sea Water Lane to Kenans Creek Bridge.

Option A recommends a consistent 6ft bike lane along the entire length of Salisbury Street from Sea Water Lane to North Lumina Avenue, except on the bridges where sharrows are recommended due to space limitations. However, several additional elements are suggested along this section in order to enhance bicycle and pedestrian access to various locations. First, it is recommended that a driveway between Pelican Drive and Salisbury Street be realigned to meet up with the Museum driveway, in order to improve access for pedestrians, bicyclists and motorists (see Sheet 6 of the engineering schematic). Additionally, it is recommended that a high-visibility pedestrian crosswalk with in-street lighting be installed just west of the Kenans Creek bridge, in order to allow pedestrians to safely cross over from Pelican Drive to the John Nesbitt Loop.



Figure 4-2. Bicycle Lane.

Source: www.pedbikeimages.org

Section 3: Kenans Creek Bridge to Banks Channel Bridge.

Currently, the Kenans Creek Bridge has 35.9ft cross-section with 4ft shoulders and 5.2ft sidewalks on both sides of the street. It is fairly comfortable for cyclists, in comparison to the Banks Channel Bridge, and is much shorter in length at approximately 88ft. The Banks Channel Bridge is much longer at 616ft, and has a narrower cross-section of 28ft, with 13ft travel lanes and 1ft shoulder on either side, in addition to 3.4ft sidewalks on the north and south sides.

Though it is preferable to include bike lanes on both bridges to match the recommended cross-section for the Salisbury Street roadway approach, no option is available at this time to widen the roadway or cantilever an additional structure. Therefore, it is recommended that the existing striping be removed from both bridges to create a wide-outside lane, where sharrows pavement markings would then be installed approximately 3ft from the curb to indicate that cyclists are sharing the roadway in this section (see Sheet 7-8 of the engineering schematics). During any future bridge replacement projects, it is recommended that the Town and WMPO work with NCDOT to replace the bridge with enough width for 5ft sidewalks (minimum) and 6ft bike lanes on both sides of the street.



Figure 4-3. Sharrow application.

Source: www.pedbikemages.org

Section 4: Banks Channel Bridge to North Lumina Avenue.

From the eastern end of the Banks Channel Bridge, this Option A recommends that the parking areas on either side of Salisbury Street are altered such as to create enough room to install 6ft bike lanes on either side of the street. It is also recommended in this section that the parking areas on either side of Salisbury Street be re-designed for better traffic flow, clarity and safety, while recommendations for changes to the intersection of Salisbury Street and North Lumina Avenue include an east-bound bike lane to the public beach access at the end of the Salisbury Street corridor.

Option B

This option refers to a set of recommendations for sharrows on Pelican Drive, in combination with stand-alone bicycle-pedestrian bridges and a multi-use path north of Salisbury Street to accommodate bicyclists of a variety of skill levels and abilities (e.g. leisure cyclists, children, seniors, etc).

Section 1: Heide-Trask Drawbridge to Sea Water Lane.

As in Option A, cyclists have two options for crossing over the Heide-Trask drawbridge: to use the travel lane, acting like the driver of any vehicle, or to walk their bicycles on the sidewalks on either side of the bridge. Per a recent set of "temporary" improvements, cyclists using the roadway are directed to take the first right after the bridge on to Old Causeway Drive, under the Heide-Trask bridge, right through the exit lane of the boat launch area to the Keel Street intersection. There are several recommendations for improving this intersection by straightening the alignment and adding a traffic divider, as well as installing high-visibility crosswalks and better delineating traffic controls by restriping stop bars and installing stop signs for cyclists using the sidewalk (see Sheet 4 of the engineering schematic).

Upon its completion, Wilmington's Cross-City Trail will terminate just west of the Heide-Trask drawbridge on the north side of the street. Cyclists using the Cross-City Trail to/from Wrightsville Beach will most likely be using the north sidewalk to enter Wrightsville Beach. To accommodate those cyclists who may be walking a bike across the bridge sidewalk, a secondary recommendation has been made to extend the north-side sidewalk to a 10ft wide multi-use path, east of the bridge to the improved Keel Street intersection and on to Pelican Drive. Regardless of how the cyclist approached Keel Street, from there all cyclists will be directed along Pelican Drive, where sharrows (on-road shared pavement markings) are currently installed as part of recent bicycle improvements.

Section 2: Sea Water Lane to Kenans Creek Bridge.

Additional sharrow markings will need to be installed in order to carry sharrows to the terminus of Pelican Drive. As in Option A, Option B also recommends a re-alignment of the driveway cut between Pelican Drive and Salisbury Street at the Museum driveway in order to improve access for pedestrians, bicyclists and motorists (see Sheet 14 of the engineering schematic). Additionally, the same high-visibility pedestrian crosswalk with in-street lighting is recommended for installation just west of the Kenans Creek bridge, in order to allow pedestrians to safely cross over from Pelican Drive to the John Nesbitt Loop.

Section 3: Kenans Creek Bridge to Banks Channel Bridge.

Unlike Option A, this Option B recommends that a stand-alone, prefabricated bike and pedestrian bridge be installed over Kenans Creek, adjacent to and north of the existing bridge for Salisbury Street travel. This bridge structure should be a minimum of 10ft with 2ft shoulders on either side for a total width of 14ft to accommodate shared bicycle and pedestrian use. From the eastern end of the bridge, a 10-14ft shared use path is recommended adjacent to and north of Salisbury Street along State right-of-way, to connect cyclists to the nearby Banks Channel bridge, where a similar 14ft wide, stand-alone, prefabricated bike and pedestrian bridge is recommended for installation over Banks Channel, adjacent to and north of the existing bridge for Salisbury Street travel (see Sheets 15-16 of the engineering schematics). As these recommendations are only 30% conceptual design plans, no surveying has been completed in order to recommend specific structural elements or materials for the bridge.

Section 4: Banks Channel Bridge to North Lumina Avenue.

From the eastern end of the proposed bike and pedestrian bridge over Banks Channel, cyclists would be directed via a proposed pedestrian/cyclist actuated signal to bike lanes on Salisbury Street, as similarly proposed in Option A. To complete these bike lanes, the parking areas on either side of Salisbury Street would be altered such as to create enough room to install 6ft bike lanes on either side of the street. It is also recommended in this section that the parking areas on either side of Salisbury Street be re-designed for better traffic flow, clarity and safety, while recommendations for changes to the intersection of Salisbury Street and North Lumina Avenue include an east-bound bike lane to the public beach access at the end of the Salisbury Street corridor.

Discussion Items

While Option A offers an adequate set of facilities for Wrightsville Beach cyclists, the off-street elements of Option B provide more comfort for beginner, child and senior cyclists by creating a separation from motor vehicles. However, Option A is significantly less expensive than Option B (see Section V of this report for cost estimates). The Town and WMPO could decide to phase various elements of each design and eventually create parallel alternatives, or choose to pursue funding for construction of either Option A or Option B, or implement Option A as a short-term set of improvements and construct Option B when/if additional funding is available at a later time.



Figure 4-4.
Example of a high-visibility crosswalk accompanied by a countdown pedestrian signal. A countdown pedestrian signal can be pedestrian-actuated if installed with the proper push button activation system.



While the study scope initially explored options to accommodate cyclists on North Lumina Avenue, those recommendations are not included in the preferred design alternatives selected by the community due to concerns over right-of-way, parking impacts, etc; a full survey and title search would be needed to further explore these options, which are included in a technical appendix to this report for posterity sake. Sharrow pavement markings could be considered along North Lumina Avenue, which would be installed left of the on-street parking and not require any alterations to the street cross-section.

During the study, additional items were raised that might be worth exploring further. These items are summarized below, but extensive comments are included in Appendix D: 2008 Bicycle Survey Results.

- Provision of bicycle parking at businesses near the intersection of Salisbury Street and North Lumina Avenue;
- Improved bicycle and pedestrian access to Wrightsville Beach elementary school;
- Interest in a roundabout at the intersection of Salisbury Street and Causeway Drive to replace the existing Y-intersection and improve safety, traffic flow and ease of maneuvering the intersection.
- Concern over the surface of the Heide-Trask drawbridge, which is currently slippery when wet; participants at a public workshop were interested in options to retrofit a non-slip surface material on the curb lanes of the bridge to improve bicyclist and motorist safety.
- Multiple concerns were expressed over the 45mph speed limit on Salisbury Street. It is recommended that the Town and WMPO work with NCDOT to lower the speed limit on Salisbury Street to 35mph in order to improve roadway safety for all users. As part of this action, the Town might explore postage of gateway signage at the western end of the corridor notifying drivers of a town-wide speed limit of 35mph unless otherwise signed.

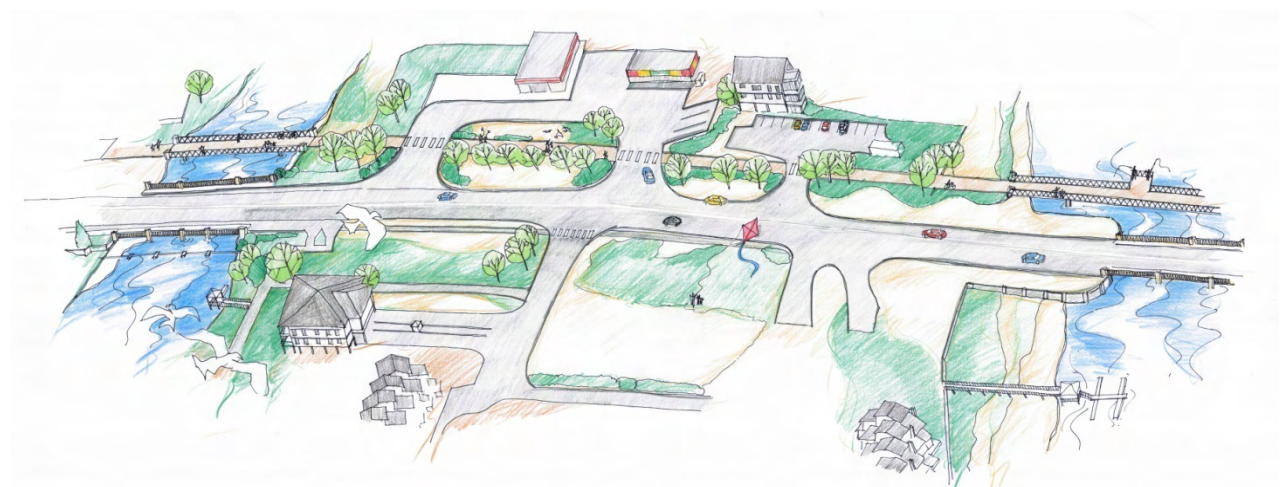


Figure 4-5 Profile view of Option B bike-ped bridges and off-road connector trail parallel to Salisbury Street.



Figure 4-6. Cross-section view of Option B bike-ped bridge parallel to existing Salisbury Street bridges.

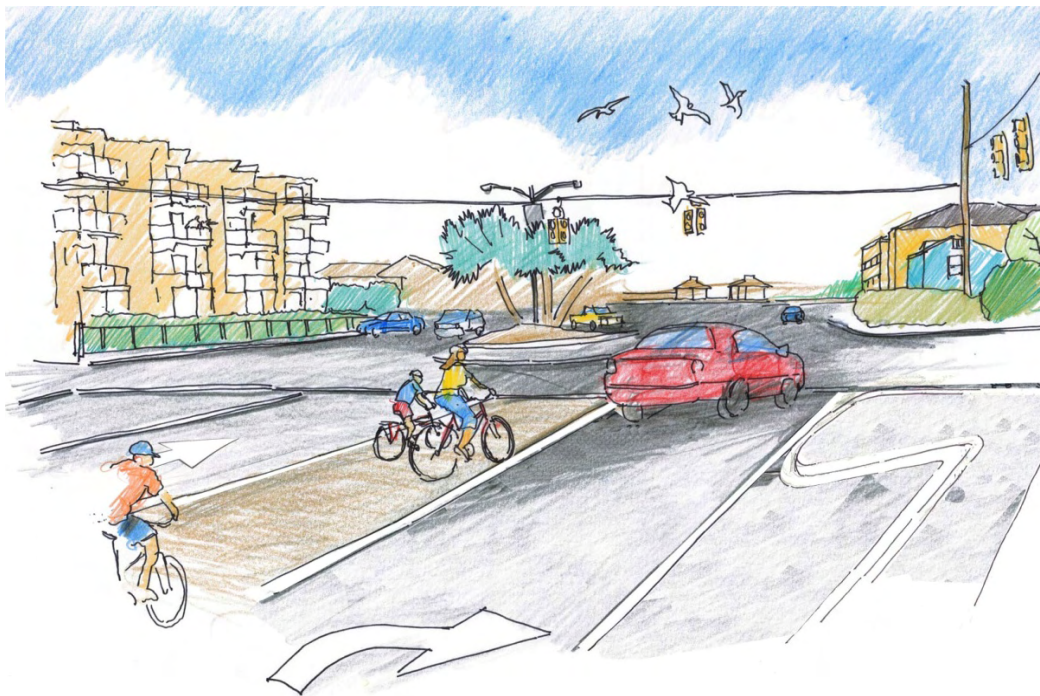
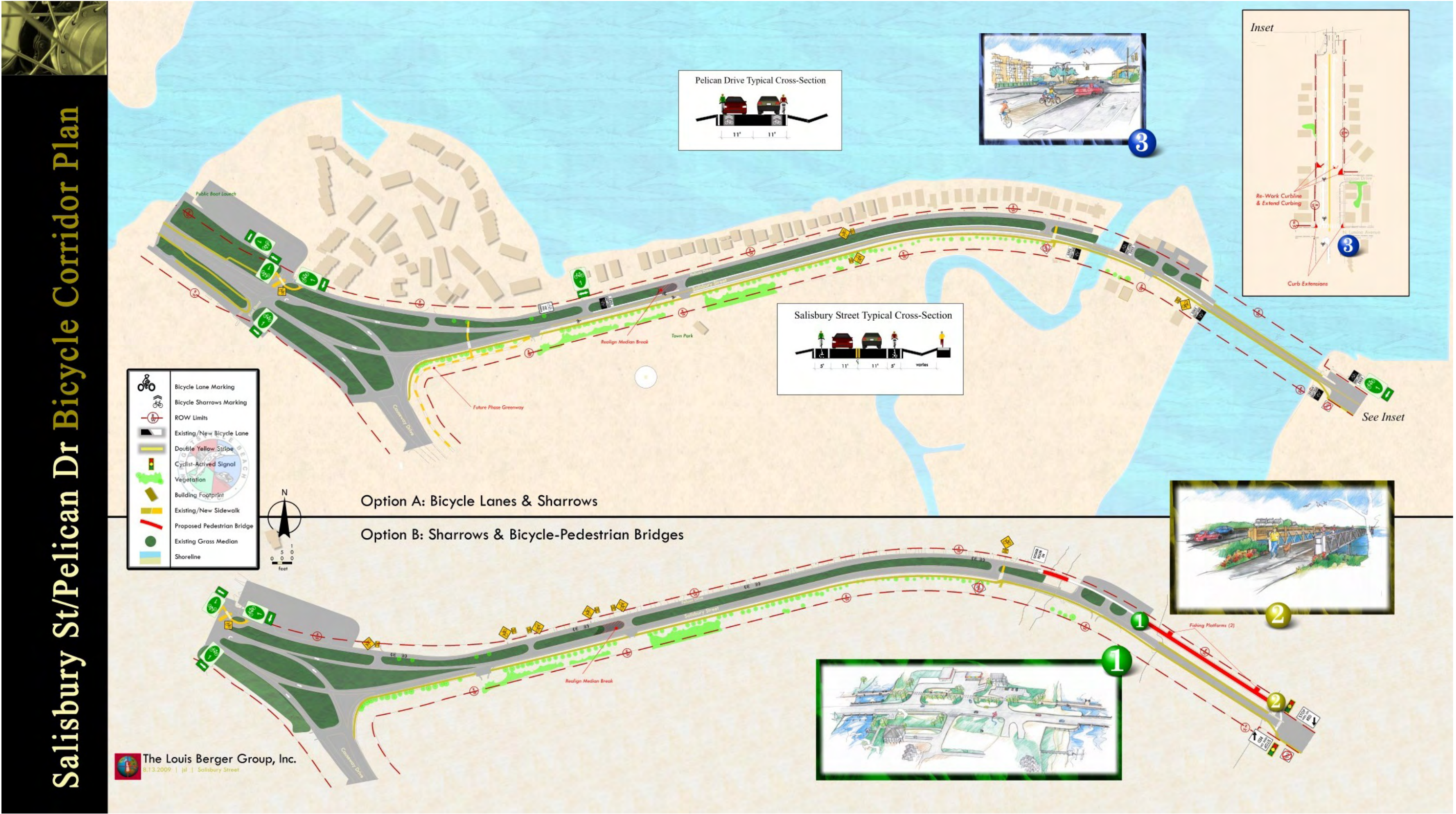
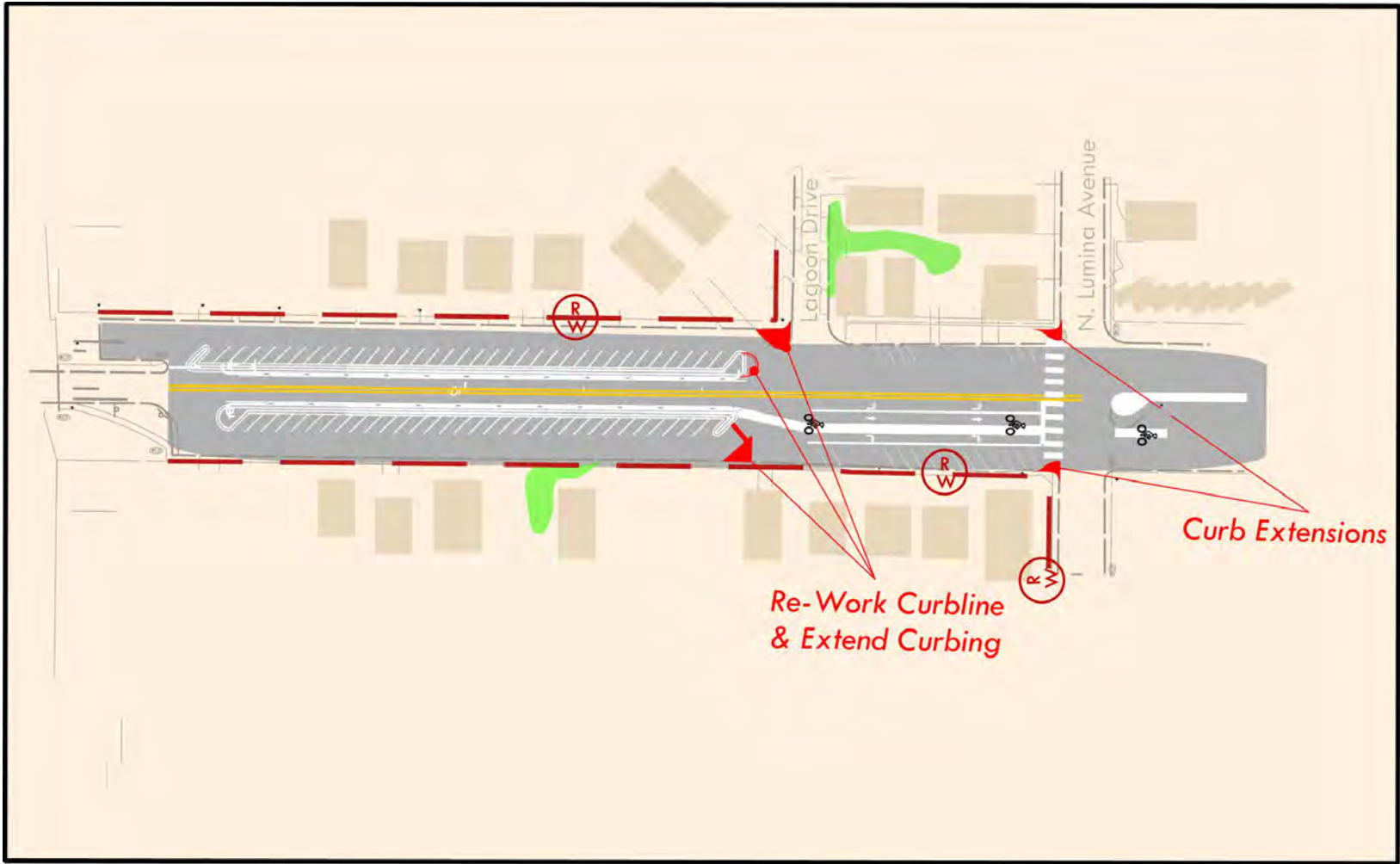


Figure 4-7. Street-level view of the proposed bike lane and curb extensions at the Salisbury/North Lumina intersection.

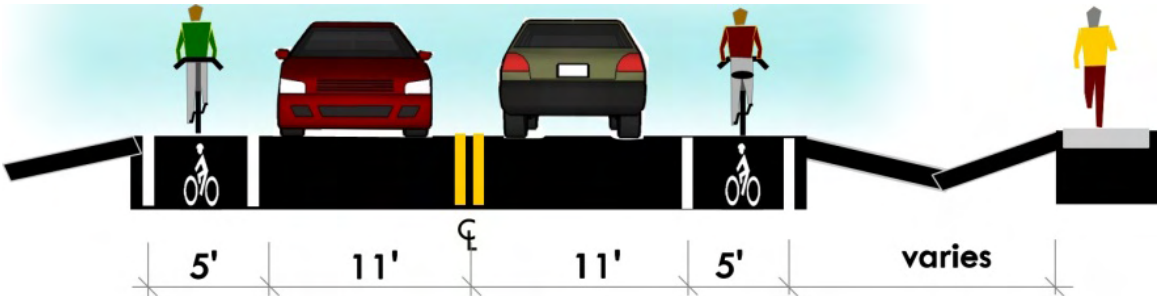
The following illustrations represent the recommendations of the 30% design documents. The final 30% design documents (i.e. engineering schematics produced in AutoCAD) are included as a separate, accompanying document in NCDOT standard format. The full size is 22"x34" at a 50'=1 inch scale; the half size is (11"x17") at a 100'=1 inch scale.



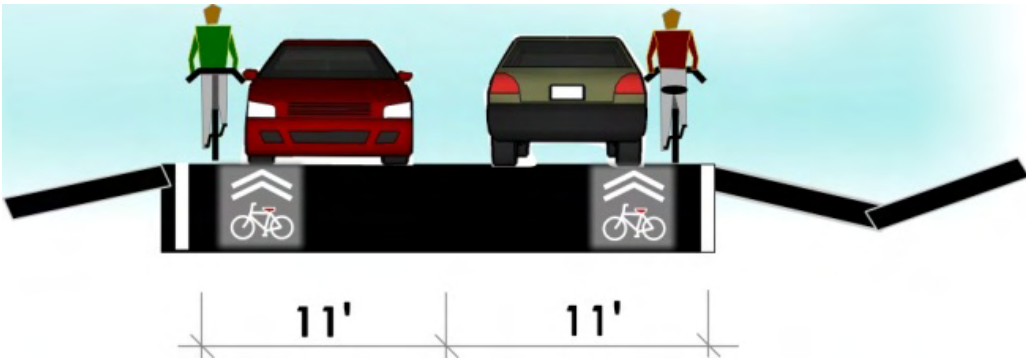
Inset Detail: Proposed Recommendations for the Intersection of Salisbury Street and North Lumina Avenue (Option A & B)



Typical Cross-Section (Option A): Salisbury Street Bicycle Lanes



Typical Cross-Section (Option A & B): Pelican Drive Sharrows



V. Cost Estimates

The following cost estimates are for the two separate sets of design options (Option A and Option B).

As described in detail in the previous section, Option A includes bicycle lanes on Salisbury Street, sharrow markings on bridges, and improvements to the intersection of Salisbury Street and North Lumina Avenue. The total estimated cost for these improvements is \$816,969. Detailed estimates for Option A are included in Table 1 on page 16.

Option B includes sharrow markings on Pelican Drive and the installation of two stand alone bike and pedestrian bridges over Kenan Creek and Banks Channel, in addition to improvements at the intersection of Salisbury Street and North Lumina Avenue. The total estimated cost for Option B is \$3,549,432. Detailed cost estimates for Option B are included in Table 2 on page 16.

Itemized cost estimates for each section of each design option are included in detail below, and are based on engineering estimates of the quantity of materials needed for construction and a per unit cost for each material. Additionally, mobilization, traffic control and stormwater permitting costs are added to the project subtotals, in order to account for related construction costs. Per unit costs are based on 2009 bid specs for Wilmington's Independence Boulevard widening Phase II project, in order to provide the most up to date cost information. Finalization of 100% construction drawings, plus construction administration and inspection would cost approximately \$100,000 in addition to the project construction and permitting costs outlined below.

Maintenance costs are not included in this estimate, but various design elements would need to be maintained at regular intervals upon final construction and use. Bike lanes would need to be swept regularly as part of the Town/NCDOT routine roadway maintenance procedure for Salisbury Street; "sharrows," bike lane striping and symbols, crosswalks and parking stall pavement markings would need to be re-painted as needed based on wear; and bicycle-pedestrian bridges would need to be maintained. It is too early to define exact maintenance needs or costs until final construction designs are completed that include final decisions on design elements to construct and material selection such as steel vs. concrete for bridges, paving materials and surface treatments, paint versus thermoplastic, etc.

**PRELIMINARY
SUMMARY OF QUANTITIES
WRIGHTSVILLE BEACH BICYCLE PLAN**

Table 1

OPTION: Design Alternative A
LOCATION: Salisbury Street Bike Lanes, Sharrows and Related Design Elements

Line No.	Item Description	Quantity	Unit	Unit Price	Amount
1	GRADING	1	LS	\$100,000.00	\$ 100,000.00
2	ASPHALT CONC SURFACE COURSE	2,454	TON	\$ 55.00	\$ 134,992.00
3	ASPHALT BINDER FOR PLANT MIX	172	TON	\$ 450.00	\$ 77,313.60
4	AGG BASE COURSE	575	TON	\$ 30.00	\$ 17,250.00
5	5" MONOLITHIC CONCRETE ISLANDS(SURFACE MOUNTED)	213	SY	\$ 75.00	\$ 15,941.67
6	2'-6" CONC CURB & GUTTER	2,100	LF	\$ 15.00	\$ 31,500.00
7	CONTRACTOR FURNISHED, TYPE D, E, F SIGN	178	SF	\$ 25.00	\$ 4,450.00
8	IN PAVEMENT CROSSWALK LIGHTING SYSTEM	2	EA	\$ 50,000.00	\$ 100,000.00
9	SIGN ERECTION, TYPE E (GROUND MOUNTED)	41	EA	\$ 80.00	\$ 3,280.00
10	SUPPT, 3-LB STL U-CHNNL	431	LF	\$ 5.00	\$ 2,152.50
11	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	19,686	LF	\$ 1.00	\$ 19,686.28
12	THERMO PVMT MKG LINES (24", 120 MILS)	352	LF	\$ 6.00	\$ 2,112.00
13	THERMO PVMT MKG SYMBOL (90 MILS)	29	EA	\$ 100.00	\$ 2,900.00
14	REML OF EXT ASPH PVMT	383	SYD	\$ 10.00	\$ 3,830.00
Total Construction					\$ 415,408.05
Mobilization					\$ 50,000.00
Traffic Control					\$ 100,000.00
Stormwater Measures					\$ 100,000.00
Engineering Design					\$ 22,000.00
Construction Inspection					\$ 23,000.00
Contingency					\$ 106,561.21
Total					\$ 816,969.25

**PRELIMINARY
SUMMARY OF QUANTITIES
WRIGHTSVILLE BEACH BICYCLE PLAN**

Table 2

OPTION: Design Option B
LOCATION: Pelican Drive Sharrows and Bicycle-Pedestrian Bridges

Line No.	Item Description	Quantity	Unit	Unit Price	Amount
1	GRADING	1	LS	\$100,000.00	\$ 100,000.00
2	ASPHALT CONC SURFACE COURSE	2,401	TON	\$ 50.00	\$ 120,055.00
3	AGG BASE COURSE	2,350	TON	\$ 30.00	\$ 70,500.00
4	ASPHALT BINDER FOR PLANT MIX	168	TON	\$ 450.00	\$ 75,634.65
5	PREFABRICATED PEDESTRIAN BRIDGE	12,896	SFT	\$ 150.00	\$ 1,934,400.00
6	2'-6" CONC CURB & GUTTER	2,140	LF	\$ 20.00	\$ 42,800.00
7	4" CONC SIDEWALK	26	SYD	\$ 40.00	\$ 1,022.22
8	5" MONOLITHIC CONCRETE ISLANDS(SURFACE MOUNTED)	213	SY	\$ 75.00	\$ 15,941.67
9	CONTRACTOR FURNISHED, TYPE D, E, F SIGN	136	SF	\$ 25.00	\$ 3,400.00
10	SIGN ERECTION, TYPE E (GROUND MOUNTED)	33	EA	\$ 80.00	\$ 2,640.00
11	SUPPT, 3-LB STL U-CHNNL	347	LF	\$ 5.00	\$ 1,732.50
12	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	5,295	LF	\$ 1.00	\$ 5,295.00
13	THERMO PVMT MKG LINES (24", 120 MILS)	602	LF	\$ 6.00	\$ 3,612.00
14	THERMO PVMT MKG SYMBOL (90 MILS)	6	EA	\$ 100.00	\$ 600.00
15	REML OF EXT ASPH PVMT	383	SYD	\$ 10.00	\$ 3,830.00
Total Construction					\$ 2,281,463.04
Mobilization					\$ 125,000.00
Traffic Control					\$ 100,000.00
Stormwater Measures					\$ 500,000.00
Engineering Design					\$ 45,000.00
Construction Inspection					\$ 35,000.00
Contingency (15%)					\$ 462,969.46
Total					\$ 3,549,432.49

VI. Funding Options

Bicycle facilities are constructed – and therefore funded – through a number of avenues. The Town of Wrightsville Beach should work with the Wilmington Urban Area Metropolitan Planning Organization (WMPO) to identify potential state and federal funding options, especially new sources of federal stimulus dollars offered through the 2009 American Recovery and Reinvestment Act (ARRA). Funding can be divided into four categories: local, state, federal, and private funding. The following paragraphs describe some of the more prominent sources in each category.

Local Funding Mechanisms

Municipalities also often plan for the funding of bicycle facilities or improvements through development of Capital Improvement Programs (CIP). Typical capital funding mechanisms include the following: capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. Each of these categories is described below.

- **Capital Reserve Fund.** Municipalities have statutory authority to create capital reserve funds for any capital purpose, including bicycle facilities. The reserve fund must be created through ordinance or resolution that states the purpose of the fund, the duration of the fund, the approximate amount of the fund, and the source of revenue for the fund. Sources of revenue can include general fund allocations, fund balance allocations, grants and donations for the specified use.
- **Capital Project Ordinances.** Municipalities can pass Capital Project Ordinances that are project specific. The ordinance identifies and makes appropriations for the project.
- **Installment Purchase Financing.** As an alternative to debt financing of capital improvements, communities can execute installment/ lease purchase contracts for improvements. This type of financing is typically used for relatively small projects that the seller or a financial institution is willing to finance or when up-front funds are unavailable. In a lease purchase contract the community leases the property or improvement from the seller or financial institution. The lease is paid in installments that include principal, interest, and associated costs. Upon completion of the lease period, the community owns the property or improvement. While lease purchase contracts are similar to a bond, this arrangement allows the community to acquire the property or improvement without issuing debt. These instruments, however, are more costly than issuing debt.
- **Taxes.** Many communities have raised money through self-imposed increases in taxes and bonds. For example, Pinellas County residents in Florida voted to adopt a one-cent sales tax increase, which provided an additional \$5 million for the development of the overwhelmingly popular Pinellas Trail. Sales taxes have also been used in Allegheny County, Pennsylvania, and in Boulder, Colorado to fund open space projects. A gas tax is another method used by some municipalities to fund public improvements. A number of taxes provide direct or indirect funding for the operations of local governments. Some of them are:
 - *Sales Tax.* In North Carolina, the State has authorized a sales tax at the state and county levels. Local governments that choose to exercise the local option sales tax (all counties currently do), use the tax revenues to provide funding for a wide variety of projects and activities. Any increase in the sales tax, even if applying to a single county, must gain approval of the state legislature.
 - *Property Tax.* Property taxes generally support a significant portion of a municipality's activities. However, the revenues from property taxes can also be used to pay debt service on general obligation bonds issued to finance greenway system acquisitions. Because of limits imposed on tax rates, use of property taxes to fund greenways could limit the municipality's ability to raise funds for other activities. Property taxes can provide a steady stream of financing while broadly distributing the tax burden. In other parts of the country, this mechanism has been popular with voters as long as the increase is restricted to parks and open space. Note, other public agencies

compete vigorously for these funds, and taxpayers are generally concerned about high property tax rates.

- o *Excise Taxes.* Excise taxes are taxes on specific goods and services. These taxes require special legislation and the use of the funds generated through the tax are limited to specific uses. Examples include lodging, food, and beverage taxes that generate funds for promotion of tourism, and the gas tax that generates revenues for transportation related activities.
- o *Occupancy Tax.* The NC General Assembly may grant towns the authority to levy occupancy tax on hotel and motel rooms. The act granting the taxing authority limits the use of the proceeds, usually for tourism-promotion purposes. In New Hanover County, a 6% occupancy tax is exacted and distributed to communities throughout the county based on a formula that requires 3% of the taxes be used for marketing and economic development tools, while the other 3% is used for programs such as life guard operations, public restroom maintenance, etc. As part of this arrangement, Wrightsville Beach collects approximately \$500,000 per year, though this revenue source has been down approximately 17% total in recent months due to the economic downturn.
- **Fees.** Three fee options that have been used by local governments to assist in funding pedestrian and bicycle facilities are listed here:
 - o *Stormwater Utility Fees.* Greenway sections may be purchased with stormwater fees, if the property in question is used to mitigate floodwater or filter pollutants. Stormwater charges are typically based on an estimate of the amount of impervious surface on a user's property. Impervious surfaces (such as rooftops and paved areas) increase both the amount and rate of stormwater runoff compared to natural conditions. Such surfaces cause runoff that directly or indirectly discharges into public storm drainage facilities and creates a need for stormwater management services. Thus, users with more impervious surface are charged more for stormwater service than users with less impervious surface. The rates, fees, and charges collected for stormwater management services may not exceed the costs incurred to provide these services. The costs that may be recovered through the stormwater rates, fees, and charges includes any costs necessary to assure that all aspects of stormwater quality and quantity are managed in accordance with federal and state laws, regulations, and rules.
 - o *Streetscape Utility Fees.* Streetscape Utility Fees could help support streetscape maintenance of the area between the curb and the property line through a flat monthly fee per residential dwelling unit. Discounts would be available for senior and disabled citizens. Non-residential customers would be charged a per foot fee based on the length of frontage on streetscape improvements. This amount could be capped for non-residential customers with extremely large amounts of street frontage. The revenues raised from Streetscape Utility fees would be limited by ordinance to maintenance (or construction and maintenance) activities in support of the streetscape.
 - o *Impact Fees.* Developers can be required to provide greenway impact fees through local enabling legislation. Impact fees, which are also known as capital contributions, facilities fees, or system development charges, are typically collected from developers or property owners at the time of building permit issuance to pay for capital improvements that provide capacity to serve new growth. Wrightsville Beach is currently using impact fees and have raised the fee amount consistently over the past four years to collect additional revenue from this source. The town may currently be maximizing these fees as a revenue source. Communities that institute impact fees must develop a sound financial model that enables policy makers to justify fee levels for different user groups, and to ensure that revenues generated meet (but do not exceed) the needs of development. Factors used to determine an appropriate impact fee amount can include: lot size, number of occupants, and types of subdivision improvements. The intent of these fees is to avoid burdening existing customers with the costs of providing capacity to serve new growth ("growth pays its own way"). Greenway impact fees are designed to reflect the costs incurred to provide sufficient capacity in the system to meet the additional needs of a growing community. These charges are set in a fee schedule applied uniformly to all new development.

- **Exactions.** Exactions are similar to impact fees in that they both provide facilities to growing communities. The difference is that through exactions it can be established that it is the responsibility of the developer to build the greenway or bicycle facility that crosses through the property, or adjacent to the property being developed.
- **Bonds and Loans.** Bonds have been a very popular way for communities across the country to finance their bicycle and greenway projects. A number of bond options are listed below. It should be noted here that Wrightsville Beach currently has significant debt maintenance on a bond recently secured for the new town recreational facility. Contracting with a private consultant to assist with this program may be advisable. Since bonds rely on the support of the voting population, an education and awareness program should be implemented prior to any vote. Billings, Montana used the issuance of a bond in the amount of \$599,000 to provide the matching funds for several of their TEA-21 enhancement dollars. Austin, Texas has also used bond issues to fund a portion of their bicycle and trail system.
 - *Revenue Bonds.* Revenue bonds are bonds that are secured by a pledge of the revenues from a certain local government activity. The entity issuing bonds, pledges to generate sufficient revenue annually to cover the program's operating costs, plus meet the annual debt service requirements (principal and interest payment). Revenue bonds are not constrained by the debt ceilings of general obligation bonds, but they are generally more expensive than general obligation bonds.
 - *General Obligation Bonds.* Cities, counties, and service districts generally are able to issue general obligation (G.O.) bonds that are secured by the full faith and credit of the entity. In this case, the local government issuing the bonds pledges to raise its property taxes, or use any other sources of revenue, to generate sufficient revenues to make the debt service payments on the bonds. A general obligation pledge is stronger than a revenue pledge, and thus may carry a lower interest rate than a revenue bond. Frequently, when local governments issue G.O. bonds for public enterprise improvements, the public enterprise will make the debt service payments on the G.O. bonds with revenues generated through the public entity's rates and charges. However, if those rate revenues are insufficient to make the debt payment, the local government is obligated to raise taxes or use other sources of revenue to make the payments. G.O. bonds distribute the costs of land acquisition and greenway development and make funds available for immediate purchases and projects. Voter approval is required.
 - *Special Assessment Bonds.* Special assessment bonds are secured by a lien on the property that benefits by the improvements funded with the special assessment bond proceeds. Debt service payments on these bonds are funded through annual assessments to the property owners in the assessment area.
 - *State Revolving Fund (SRF) Loans.* Initially funded with federal and state money, and continued by funds generated by repayment of earlier loans, State Revolving Funds (SRFs) provide low interest loans for local governments to fund water pollution control and water supply projects including many watershed management activities. These loans typically require a revenue pledge, like a revenue bond, but carry a below market interest rate and limited term for debt repayment (20 years).
- **Facility Maintenance Districts.** Facility Maintenance Districts (FMDs) can be created to pay for the costs of on-going maintenance of public facilities and landscaping within the areas of the Town where improvements have been concentrated and where their benefits most directly benefit business and institutional property owners. An FMD is needed in order to assure a sustainable maintenance program. Fees may be based upon the length of lot frontage along streets where improvements have been installed, or upon other factors such as the size of the parcel. The program supported by the FMD should include regular maintenance of streetscape of off road trail improvements. The municipality can initiate public outreach efforts to merchants, the Chamber of Commerce, and property owners. In these meetings, Town staff will discuss the proposed apportionment and

allocation methodology and will explore implementation strategies. The municipality can manage maintenance responsibilities either through its own staff or through private contractors.

State/Federal Transportation Funding

Wrightsville Beach should also consider reaching out to state and federal funding sources for assistance in constructing bicycle facilities. State and federal funding are a combined category because many of the state entities administer federal funds. The North Carolina Department of Transportation (NCDOT) is the single largest source of funding available to the Town for bicycle facilities, with the following potential funding sources:

- **State Transportation Improvement Program (STIP)** – This program is the overall funding source for study, design, and construction of major transportation projects, including bicycle and pedestrian facilities, in the state. Frequently, projects funded by the STIP are also partly funded by other sources, including matching funds from local municipalities. Pedestrian facilities are eligible for funding from this program as independent projects separate from a roadway construction, widening, or some other sort of roadway work, but one of the most cost-effective and efficient ways to gain funding for pedestrian facility construction is to incorporate them as incidental to a larger project. Overall, most pedestrian accommodations within the state are made as incidental improvements.

In North Carolina, the Department of Transportation, Division of Bicycle and Pedestrian Transportation (DBPT, or “Division”) manages the Transportation Improvement Program (TIP) selection process for independent bicycle and pedestrian projects. Projects programmed into the TIP as “independent projects” are those which are not related to a scheduled highway project.

“Incidental projects” – those related to a scheduled highway project – are bicycle and pedestrian accommodations, such as sidewalks, included as incidental features of highway projects. In addition, pedestrian-safe railings are a standard feature of all highway construction. Most bicycle and pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects funded with a combination of National Highway System funds and State Highway Trust Funds.

The Division has an annual budget of \$6 million. Eighty percent of these funds are from STP-Enhancement funds¹, while the State Highway Trust Fund provides the remaining 20 percent of the funding. Each year, the DBPT regularly sets aside a total of \$200,000 of TIP funding for NCDOT to fund projects such as training workshops, bicycle and pedestrian safety and research projects, and other needs statewide. Those interested in learning about training workshops, research and other opportunities should contact the DBPT for information.

A total of \$5.3 million dollars of TIP funding is available for funding various bicycle and pedestrian independent projects, including the construction of multi-use trails, the striping of bicycle lanes, and the construction of paved shoulders, among other facilities. Prospective applicants are encouraged to contact the DBPT regarding funding assistance for bicycle and pedestrian projects. For a detailed description of the TIP project selection process, visit:

http://www.ncdot.org/transit/bicycle/funding/funding_TIP.html.

- **Transportation Enhancement Program** - The Enhancement Unit administers a portion of the enhancement funding set-aside through the Call for Projects process. In North Carolina the Enhancement Program is a federally funded cost reimbursement program with a focus upon improving the transportation experience in and through local North Carolina communities either culturally, aesthetically or environmentally. The program seeks to encourage diverse modes of travel, increase benefits to communities and to encourage citizen involvement. This is accomplished through the following twelve qualifying activities:

1. Bicycle and Pedestrian Facilities
2. Bicycle and Pedestrian Safety
3. Acquisition of Scenic Easements, Scenic or Historic Sites
4. Scenic or Historic Highway Programs (including tourist or welcome centers)
5. Landscaping and other Scenic Beautification
6. Historic Preservation
7. Rehabilitation of Historic Transportation Facilities
8. Preservation of Abandoned Rail Corridors
9. Control of Outdoor Advertising
10. Archaeological Planning and Research
11. Environmental Mitigation
12. Transportation Museums

Funds are allocated based on an equity formula approved by the Board of Transportation. The formula is applied at the county level and aggregated to the regional level. Available fund amount varies. In previous Calls, the funds available ranged from \$10 million to \$22 million. The Call process takes place on even numbered years or as specified by the Secretary of Transportation. The Next Call is anticipated to take place in 2009. For more information, visit:

www.ncdot.org/financial/fiscal/Enhancement.

- **Spot Improvement Program** - The NCDOT Bicycle and Pedestrian Transportation Division budgets \$500,000/year for "spot" safety improvements throughout the State. These improvements include items such as signing, grate replacement, bike rack installations, hazard remediation at skewed railroad crossings, and other small-scale improvements. The Spot Improvement Program is used only for bicycle and pedestrian projects; however, it should not be viewed as a priority source for funding identified projects. It is typically used for small-scale and special-situation projects that are not of a significantly large enough scale to merit being a TIP project. Taking these requirements into consideration, proposals for projects should be submitted directly to the Bicycle & Pedestrian Transportation Division.
- **Small Urban Funds** – Small Urban Funds are available for small improvement projects in urban areas. Each NCDOT Highway Division has \$2 million of small urban funds available annually. Although not commonly used for bicycle facilities, local requests for small bicycle projects can be directed to the NCDOT Highway Division office for funding through this source. A written request should be submitted to the Division Engineer providing technical information such as location, improvements being requested, timing, etc. for thorough review.
- **Hazard Elimination Program** – This program focuses on projects intended for locations that should have a documented history of previous crashes. Bicycle and pedestrian projects are eligible for this program, although the funds are not usually used for this purpose. This program is administered through the NCDOT Division of Highways. Similar to the Small Urban Funds, it is a significantly limited funding source.
- **Powell Bill Funds** – Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as provided by statute. This program is a state grant to municipalities for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities or for planning, construction, and maintenance of bikeways or sidewalks along public streets and highways. Funding for this program is collected from fuel taxes; amount of funds are based on population and mileage of town-maintained streets. Currently, Wrightsville Beach collects approximately \$80,000 per year in Powell Bill funding, which is predominately used for road maintenance. Recent legislative pressure to reduce the resources of this funding category could make Powell Bill funds a less accessible for

Wrightsville Beach. For more information, visit
www.ncdot.org/financial/fiscal/ExtAuditBranch/Powell_Bill/powellbill.html.

- **Governor's Highway Safety Program (GHSP)** – The mission of the GHSP is to promote highway safety awareness and reduce the number of traffic crashes in the state of North Carolina through the planning and execution of safety programs. GHSP funding is provided through an annual program, upon approval of specific project requests. Amounts of GHSP funds vary from year to year, according to the specific amounts requested. Communities may apply for a GHSP grant to be used as seed money to start a program to enhance highway safety. Once a grant is awarded, funding is provided on a reimbursement basis. Evidence of reductions in crashes, injuries, and fatalities is required. For information on applying for GHSP funding, visit: www.ncdot.org/programs/ghsp/.
- **Safe Routes to School Program** –The NCDOT Safe Routes to School Program is a federally funded program that was initiated by the passing of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, which establishes a national SRTS program to distribute funding and institutional support to implement SRTS programs in states and communities across the country. SRTS programs facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The Division of Bicycle and Pedestrian Transportation at NCDOT is charged with disseminating SRTS funding. The State of North Carolina has been allocated \$15 million in Safe Routes to School funding for fiscal years 2005 through 2009 for infrastructure or non-infrastructure projects. All proposed projects must relate to increasing walking or biking to and from an elementary or middle school. An example of a non-infrastructure project is an education or encouragement program to improve rates of walking and biking to school. An example of an infrastructure project is construction of sidewalks around a school. Infrastructure improvements under this program must be made within 2 miles of an elementary or middle school. The state requires the completion of a competitive application to apply for funding. For more information, visit www.ncdot.org/programs/safeRoutes or contact the DBPT / NCDOT at (919) 807-0774.

Other State Funding Sources

Several other North Carolina-sponsored opportunities for acquiring planning, design, and / or construction monies are available through state-level institutions that are not associated with the Department of Transportation. These opportunities are described briefly below.

- **The North Carolina Conservation Tax Credit (managed by NCDENR).** This program, managed by the North Carolina Department of Environment and Natural Resources, provides an incentive (in the form of an income tax credit) for landowners that donate interests in real property for conservation purposes. Property donations can be fee simple or in the form of conservation easements or bargain sale. The goal of this program is to manage stormwater, protect water supply watersheds, retain working farms and forests, and set-aside greenways for ecological communities, public trails, and wildlife corridors. For more information, visit: www.enr.state.nc.us/conservationtaxcredit/.
- **Land and Water Conservation Fund (LWCF).** The Land and Water Conservation Fund (LWCF) program is a reimbursable, 50/50 matching grants program to states for conservation and recreation purposes, and through the states to local governments to address "close to home" outdoor recreation needs. LWCF grants can be used by communities to build a trail within one park site, if the local government has fee-simple title to the park site. Grants for a maximum of \$250,000 in LWCF assistance are awarded yearly to county governments, incorporated municipalities, public authorities and federally recognized Indian tribes. The local match may be provided with in-kind services or cash. The program's funding comes primarily from offshore oil and gas drilling receipts, with an

authorized expenditure of \$900 million each year. However, Congress generally appropriates only a small fraction of this amount. The allotted money for the year 2007 is \$632,846. The Land and Water Conservation Fund (LWCF) has historically been a primary funding source of the US Department of the Interior for outdoor recreation development and land acquisition by local governments and state agencies. In North Carolina, the program is administered by the Department of Environment and Natural Resources. Since 1965, the LWCF program has built a permanent park legacy for present and future generations. In North Carolina alone, the LWCF program has provided more than \$63 million in matching grants to protect land and support more than 800 state and local park projects. More than 37,000 acres have been acquired with LWCF assistance to establish a park legacy in our state. For more information, visit: <http://ils.unc.edu/parkproject/lwcf/home1.html>.

- **NC Adopt-A-Trail Grant Program.** This program, operated by the Trails Section of the NC Division of State Parks, offers annual grants to local governments to build, renovate, maintain, sign and map and create brochures for pedestrian trails. Grants are generally capped at about \$5,000 per project and do not require a match. A total of \$108,000 in Adopt-A-Trail money is awarded annually to government agencies. Applications are due during the month of February. For more information, visit: <http://ils.unc.edu/parkproject/trails/grant.html>.
- **Recreational Trails Program.** The Recreational Trails Program (RTP) is a grant program funded by Congress with money from the federal gas taxes paid on fuel used by off-highway vehicles. This program's intent is to meet the trail and trail-related recreational needs identified by the Statewide Comprehensive Outdoor Recreation Plan. Grant applicants must be able contribute 20% of the project cost with cash or in-kind contributions. The program is managed by the State Trails Program, which is a section of the N.C. Division of Parks and Recreation. The grant application is available and instruction handbook is available through the State Trails Program website at <http://ils.unc.edu/parkproject/trails/home.html>. Applications are due during the month of February. For more information, call (919) 715-8699.
- **North Carolina Parks and Recreation Trust Fund (PARTF).** The fund was established in 1994 by the North Carolina General Assembly and is administered by the Parks and Recreation Authority. Though Wrightsville Beach has not been successful in acquiring PARTF funding in recent attempts due the inability to exhibit need, several million dollars are available through this program each year to local governments to fund the acquisition, development and renovation of recreational areas. PARTF funds are allocated through the North Carolina Trails Program to help fund beach accesses, state trail systems, and local trail construction efforts. Applicable projects require a 50/50 match from the local government. Grants for a maximum of \$500,000 are awarded yearly to county governments or incorporated municipalities. The fund is fueled by money from the state's portion of the real estate deed transfer tax for property sold in North Carolina. For this last, the City of Wilson would need to apply for the grant (although joint applications – for example, with the Wilson County Public School System – are permissible, one agency must serve as the lead sponsor), which is a one-to-one match on local funds. Only about 30% of the PARTF program goes to fund local trail programs, and the selection process is therefore highly competitive. Selection is based on numerous factors including geographic equity, population size, and scoring criteria that notably incorporate the following: presence of planning documents that support the project; public outreach that shows support; site suitability; size/impact of project; and commitment to operating and maintaining the project upon completion. As with most grant programs, the sponsor should be prepared to adhere closely to the rules governing the grant program, including the preparation of detailed expenditure reports and requests for reimbursement (www.ncparks.gov/About/grants/partf_main.php). For information on how to apply, visit: www.partf.net/learn.html.
- **Clean Water Management Trust Fund.** This fund was established in 1996 and has become one of the largest sources of money in North Carolina for land and water protection. At the end of each

fiscal year, 6.5 percent of the unreserved credit balance in North Carolina's General Fund, or a minimum of \$30 million, is placed in the CWMTF. The revenue of this fund is allocated as grants to local governments, state agencies and conservation non-profits to help finance projects that specifically address water pollution problems. CWMTF funds may be used to establish a network of riparian buffers and greenways for environmental, educational, and recreational benefits. The fund has provided funding for land acquisition of numerous greenway projects featuring trails, both paved and unpaved. For a history of awarded grants in North Carolina and more information about this fund and applications, visit www.cwmtf.net/.

- **Natural Heritage Trust Fund.** This trust fund, managed by the NC Natural Heritage Program, has contributed millions of dollars to support the conservation of North Carolina's most significant natural areas and cultural heritage sites. The NHTF is used to acquire and protect land that has significant habitat value. Some large wetland areas may also qualify, depending on their biological integrity and characteristics. Only certain state agencies are eligible to apply for this fund, including the Department of Environment and Natural Resources, the Wildlife Resources Commission, the Department of Cultural Resources and the Department of Agriculture and Consumer Services. As such, municipalities must work with State level partners to access this fund. Additional information is available from the NC Natural Heritage Program. For more information and grant application information, visit www.ncnhtf.org/.
- **Ecosystem Enhancement Program.** Developed in 2003 as a new mechanism to facilitate improved mitigation projects for NC highways, this program offers funding for restoration projects and for protection projects that serve to enhance water quality and wildlife habitat in NC. Information on the program is available by contacting the Natural Heritage Program in the NC Department of Environment and Natural Resources (NCDENR). For more information, visit www.nceep.net/pages/partners.html or call 919-715-0476.
- **Water Resources Development Grant Program.** The NC Division of Water Resources offers cost-sharing grants to local governments on projects related to water resources. Of the seven project application categories available, the category which relates to the establishment of greenways is "Land Acquisition and Facility Development for Water-Based Recreation Projects." Applicants may apply for funding for a greenway as long as the greenway is in close proximity to a water body. For more information, see: www.ncwater.org/Financial_Assistance or call 919-733-4064.

Federal Funding Sources

Federal transportation dollars are used for a number of the funding programs listed above, however other non-transportation programs are available through the federal government to fund bicycle and pedestrian facilities, many of which are geared toward parks and recreation, natural resource conservation and environmental stewardship. These funding options are as follows:

- **Transportation Investment Generating Economic Recovery (TIGER) Grants.** The TIGER grant program is part of the 2009 ARRA, which allocated \$1.5 billion available through September 30, 2011 for supplementary discretionary grants for a national surface transportation system. The program is administered by the USDOT and encourages comprehensive upgrades to local and/or regional transportation systems, and covers highway and bridge projects, as well as public transportation projects, passenger and freight rail projects and port infrastructure investments. The Recovery Act specifies that TIGER Discretionary Grants may be no less than \$20 million and no greater than \$300 million, though smaller cities with projects less than \$20 million are still encouraged to apply. For more information, visit <http://www.dot.gov/recovery/ost/faqs.htm>.
- **Wetlands Reserve Program.** This federal funding source is a voluntary program offering technical and financial assistance to landowners who want to restore and protect wetland areas for water

quality and wildlife habitat. The US Department of Agriculture's Natural Resource Conservation Service (USDA-NRCS) administers the program and provides direct payments to private landowners who agree to place sensitive wetlands under permanent easements. This program can be used to fund the protection of open space and greenways within riparian corridors. For more information, visit <http://www.nrcs.usda.gov/PROGRAMS/wrp/>.

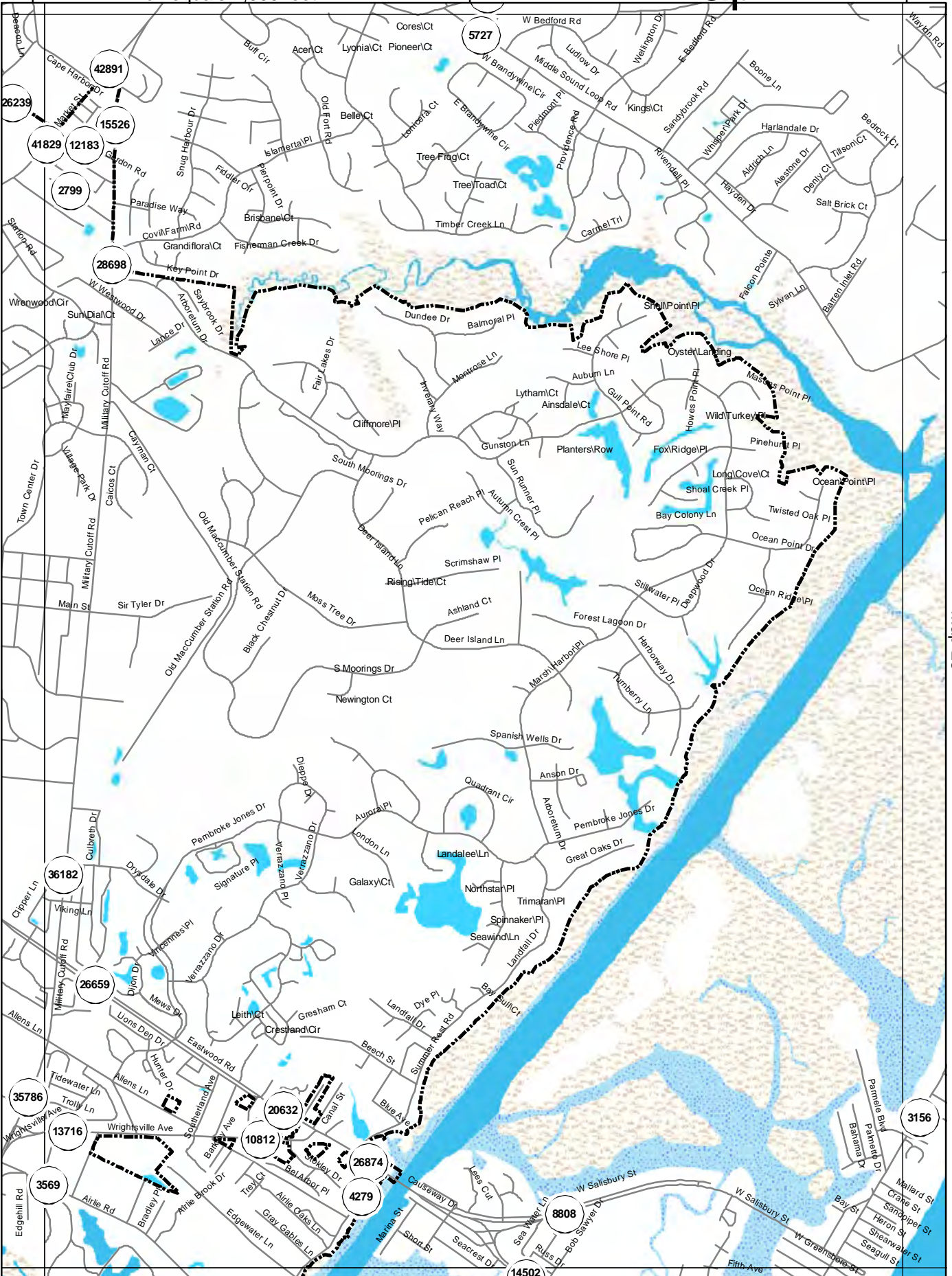
- **Rivers, Trails and Conservation Assistance Program (RTCA).** The Rivers, Trails, and Conservation Assistance Program, also known as the Rivers and Trails Program or RTCA, is the community assistance arm of the National Park Service. RTCA staff provides technical assistance to community groups and local, State, and federal government agencies so they can conserve rivers, preserve open space, and develop trails and greenways. The RTCA program implements the natural resource conservation and outdoor recreation mission of the National Park Service in communities across America. Although the program does not provide funding for projects, it does provide valuable on-the-ground technical assistance, from strategic consultation and partnership development to serving as liaison with other government agencies. Communities must apply for assistance. For more information, visit: www.nps.gov/ncrc/programs/rtca or call Chris Abbett, Program Leader, at 404-562-3175 ext. 522.
- **Public Lands Highways Discretionary Fund.** The Federal Highway Administration administers discretionary funding for projects that will reduce congestion and improve air quality. The FHWA issues a call for projects to disseminate this funding. The FHWA estimates that the PLHD funding for the 2007 call will be \$85 million. In the past, Congress has earmarked a portion of the total available funding for projects. For information on how to apply, visit: <http://www.fhwa.dot.gov/discretionary/>.

References and Resources

ⁱ After various administrative adjustments for programs within the Surface Transportation Program, or "STP", there is a 10% set-aside for Transportation Enhancements. The 10% set-aside is allocated within NCDOT to internal programs such as the Bicycle/Pedestrian Division, the Rail Division, the Roadside Environmental Unit, and others. The Enhancement Unit administers a portion of the set-aside through the Call for Projects process.

Appendix A: WMPO Annual Average Daily Traffic Counts

The most recent annual average daily traffic (AADT) data for Wrightsville Beach was collected by the Wilmington Urban Area MPO in February 2008, and summarized in the annual WMPO Traffic Count Report publication. This data was reviewed and considered during the design process in order to achieve the most appropriate bicycle facility recommendations with limited impacts to existing traffic flow and intersection safety.



Map 28

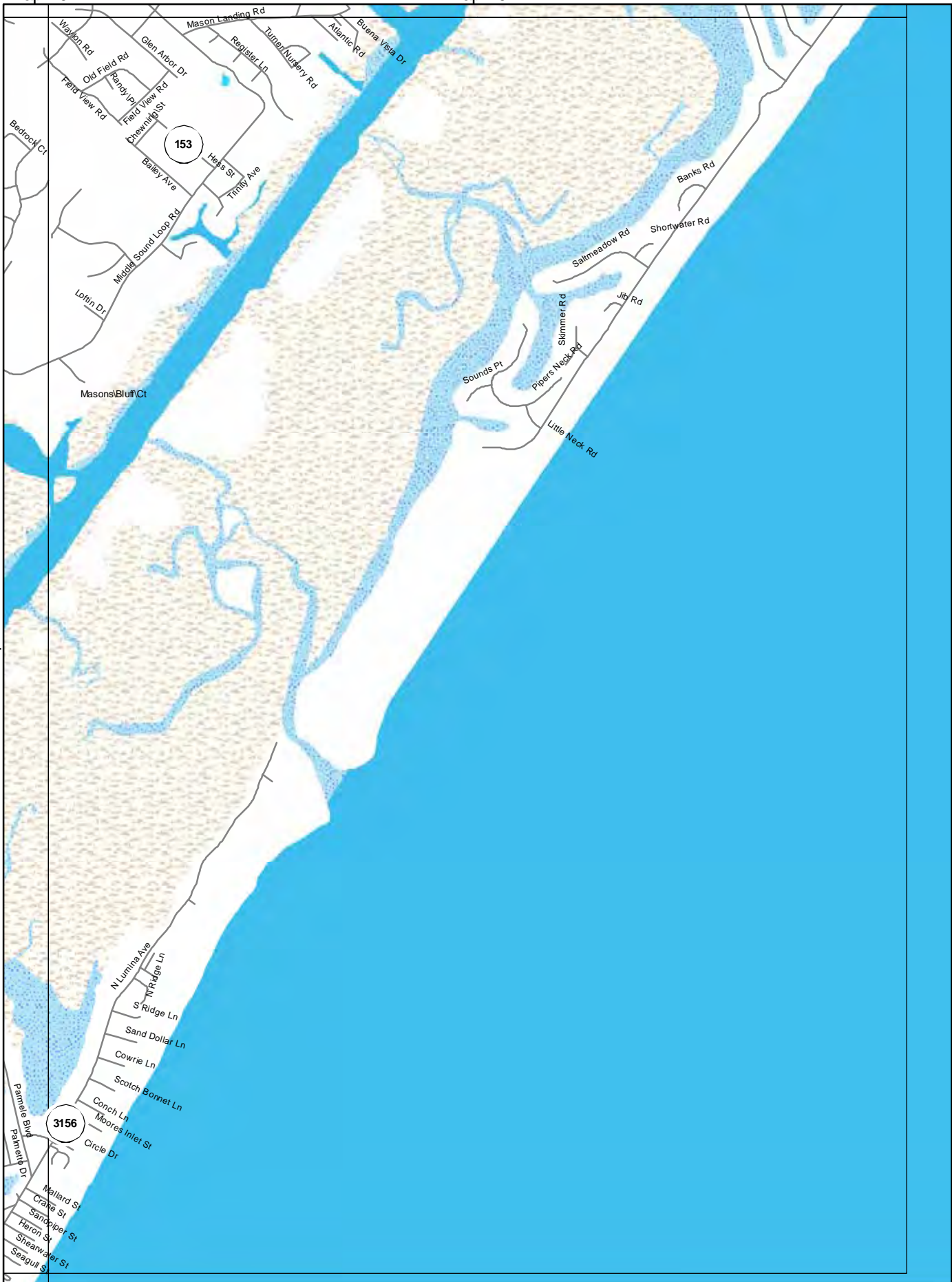
Feb 25, 2008
1 inch equals 2,000 feet



Map 19

Map 20

Map 27



Map 35

Appendix B: 2007 WMPO Crash Data

The *2007 WMPO Crash Report* was reviewed for the purposes of the study and are included on page 5 of the report, but shown here in larger format. The crash analysis reveals that no crashes occurred in 2007 that involved cyclists or pedestrians in Wrightsville Beach. However, the study did report several intersections in the study corridor as “high crash” locations for motor vehicles for the period of time between 2000 and 2007. The intersection of Salisbury Street and Lumina Avenue was the site of 22 crashes during that seven year span, while the intersection of Salisbury Street and Pelican Drive was the site of 19 crashes during the same time period.

Figure 19 illustrates the geographic location of each identified high-crash intersection within Wrightsville Beach. Again, these intersections are located on three of the primary roadways in Wrightsville Beach - Causeway Drive, Lumina Avenue, and Salisbury Street

Figure 19: Location of the Highest Crash Intersections within the Town of Wrightsville Beach, 2000- 2007



Appendix C: 2007 Parks and Recreation Department Survey Results

The Wrightsville Beach Parks and Recreation Department conducted a town-wide survey in 2007 to assess local recreational needs. The survey revealed that The Loop was the most widely-used recreational facility by survey respondents (307 out of 315), and that bicycle paths/lanes were identified in the survey responses as the most important issue concerning the Wrightsville Beach Parks and Recreation Department's programs and facilities. When asked which recreational facilities should be improved or provided at Wrightsville Beach, 118 respondents requested a widening of The Loop and 107 respondents requested bike lanes/paths.

The results of the survey reveal that improving upon local bicycle and pedestrian infrastructure is a top issue for Wrightsville Beach residents. The full results of the survey can be found on the following pages.

2007 WRIGHTSVILLE BEACH PARKS AND RECREATION DEPARTMENT SURVEY

The Wrightsville Beach Parks & Recreation Advisory Committee is conducting a survey to assess the recreational needs of our community. Information gathered in this survey will be used to help in the development of a Parks & Recreation Master Plan. Please complete this survey and return it in the enclosed postage paid envelope. Thank you for your participation.

Survey Questions:

Using the chart below, please answer the following questions, checking all activities that apply under each category.

What types of recreational activities below have you and/or your family members participated in at Wrightsville Beach or outside of Wrightsville Beach within the past year? What recreational activities would you and/or your family members like to have provided at Wrightsville Beach?

(♦ Indicates organized programs currently provided by the Wrightsville Beach Parks & Recreation Department.)

ACTIVITY	AT WB	OUTSIDE WB	Programs that you would like to have provided at WB	ACTIVITY	AT WB	OUTSIDE WB	Programs that you would like to have provided at WB
♦After School Program	8	11	2	Picnicking	109	74	12
♦Art Camp	11	12	8	Sailing Lessons	19	13	57
♦Bark in the Park Canine Disc Championship	34	2	5	Scuba Diving Lessons	10	18	26
Baseball	7	13	8	Seasonal/Holiday Programs	118	59	37
♦Basketball	36	25	2	♦Shag Lessons	10	10	7
Bicycling	174	80	37	Skateboarding	51	39	28
Bird Watching	59	26	15	Skating	17	21	6
Bocce Ball	28	17	17	Soccer	31	38	22
Card Games	22	43	22	♦Softball	13	7	2
♦Concerts (Outdoor)	172	95	19	♦Surfing	99	49	11
Cooking Classes	10	36	48	Swimming	147	92	26
Ecology Tours	6	20	33	♦Tennis	95	67	8
Farmers Market	30	130	121	Volleyball	19	21	12
Fishing	125	67	27	Walking	218	117	14
Fitness Course	37	66	48	Wind/Kite Surfing	20	10	19
♦Fitness/Exercise Classes	54	89	15	OTHER ACTIVITIES:			
♦Flag Football	4	8	3	Boat Safety, Playground			3
Jogging/Running	147	79	17	Bridge, Tango, Yoga, Socials, More boat accesses			2
Kayaking	93	36	38				
Photography Classes	9	16	36				

1. Please check the following:

Facilities at Wrightsville Beach that you and/or members of your family have used in the past year:

307 The Loop

106 Lee's Nature Park

57 Greensboro Street Mini Park

65 S. Channel Drive Mini Park

66 Island Drive Mini Park

37 Causeway Drive Mini Park

143 Wynn Plaza Boat Dock

Facilities in Wrightsville Beach Park that you and/or members of your family have used in the past year:

140 Playgrounds
72 Recreation Center
9 Sand Volleyball Pits

69 Picnic Shelters
39 Basketball Court

83 Sports Fields
114 Tennis Courts

2. Please check: Recreational facilities that you think should be improved upon or provided at Wrightsville Beach.

55 Upgraded playground equipment
73 Skateboard park
30 More picnic shelters
100 Park amphitheatre
65 Multipurpose Community Center

17 Enlarged basketball court
109 Resurfaced/lighted tennis courts
118 Widen Loop
23 Replace steps at South Channel Mini Park
Other (**Bicycle lanes/paths – 107; More lights, trash cans, bathrooms, and water stations on loop; Swimming Pool; Off Leash Dog Park**)

3. In your opinion, what are the (3) most important issues or needs concerning the Wrightsville Beach Parks and Recreation Department's programs and facilities?

1) Bicycle paths/lanes - 37
2) Lighted tennis courts - 35
3) Resurfaced tennis courts - 31

4) Maintenance of Park - 20
5) Widen Loop - 15
6) Program Awareness - 15

4. If you and/or your family members are NOT using the programs and facilities provided by the Wrightsville Beach Parks and Recreation Department, why not?

5 Fees are too high for programs
46 Programs are not offered at a time I can use them
(What times can you use them?)

49 Do not have time to use programs & facilities
0 Facilities are not handicapped accessible
65 Not aware of programs offered by parks and recreation

(Weeknights after 6pm – 17, Weekends – 1, Days – 1, Sundays – 1)

Other – Resident for only short time during year, Newsletter to update community of events, and other miscellaneous comments.

5. Would you support new or increased "participation fees" to fund recreation programs in Wrightsville Beach?

155 Yes 74 No 68 No opinion

6. Do you believe there is a need for a new "Multipurpose Community Center" building for Wrightsville Beach?

104 Yes 176 No

7. If yes, in Question #6, then would you support an increase in local taxes to build the center or other park and recreation facilities? 71 Yes 79 No 30 No opinion

8. Please provide any additional comments about the Wrightsville Beach Parks and Recreation Department and its facilities that you feel were not addressed in this survey.

Summary of additional comments: No new taxes, Bike lanes/path, More concerts/musicals, Skate park, Increase fees for non-residents, lights on loop, and numerous miscellaneous comments.

Information of Individual Completing the Survey:

Gender: Male 118 Female 197 **Marital Status:** Single 88 Married 229 **Reside:** Year-round 250 Seasonally 52

How many people from each of the following age categories live in your household including yourself?

26 Under 5 82 6 – 12 50 13 – 17 38 18 – 21 74 22 – 30

50 31 – 40 162 41 – 50 143 51 – 60 90 61 – 70 41 71 +

**** Please return this survey in the enclosed postage paid envelope by February 2, 2007. ****

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY!

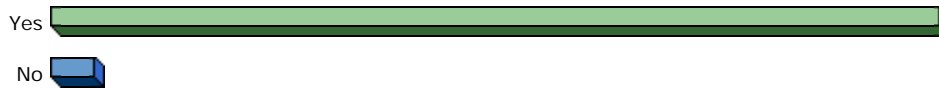
Appendix D: 2008 Bicycle Survey Results

Consultants for the Wrightsville Beach Bicycle Corridor Study developed and distributed a survey in 2008 with the help of Town staff and Parks and Recreation Advisory Committee members, in order to gauge local interest for bicycle accommodations in the corridor and understand the specific needs and concerns of local cyclists. The survey was available on the Town's website and in hardcopy format at Town Hall, as well as at the Parks and Recreation Department table at the annual Flotilla Festival in November 2008. A total of 626 respondents participated in the survey, of which 38.9% were Wrightsville Beach residents or property owners. Of the 626 survey participants, 98.1% indicated that they would like to be able to bike more often. The full results of the survey are included in this appendix.

Wrightsville Beach Bicycle Survey v2

Report Index

Have you ridden a bicycle in the last six months?



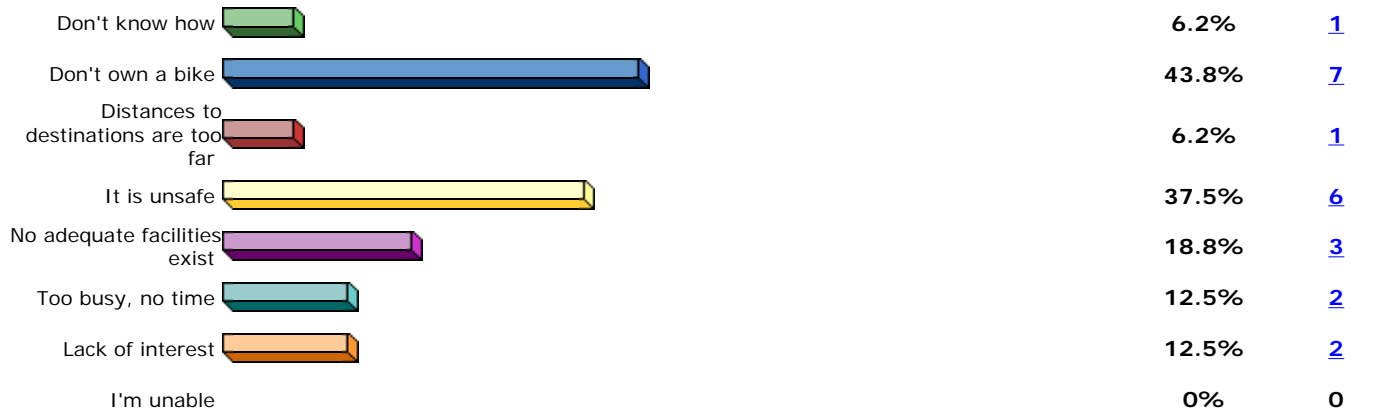
Total # of respondents 626.

Statistics based on 626 respondents

0 filtered;

0 skipped.

Why not? (check all that apply)



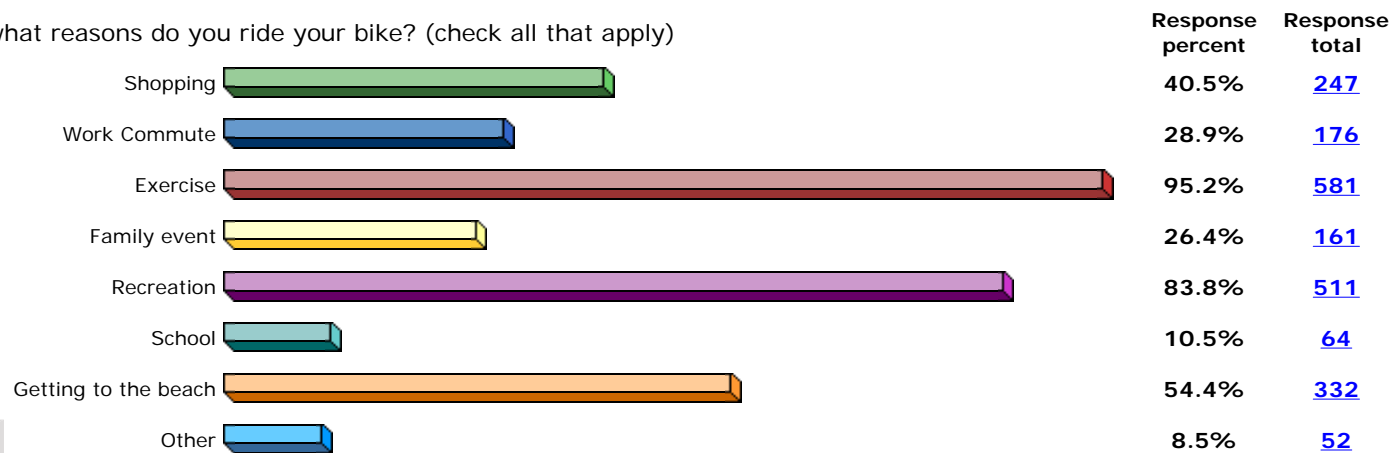
Total # of respondents 626.

Statistics based on 16 respondents

0 filtered;

610 skipped.

For what reasons do you ride your bike? (check all that apply)



Total # of respondents 626.

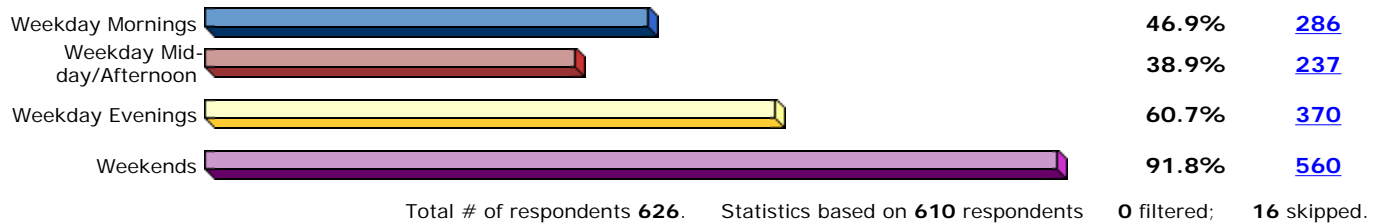
Statistics based on 610 respondents

0 filtered;

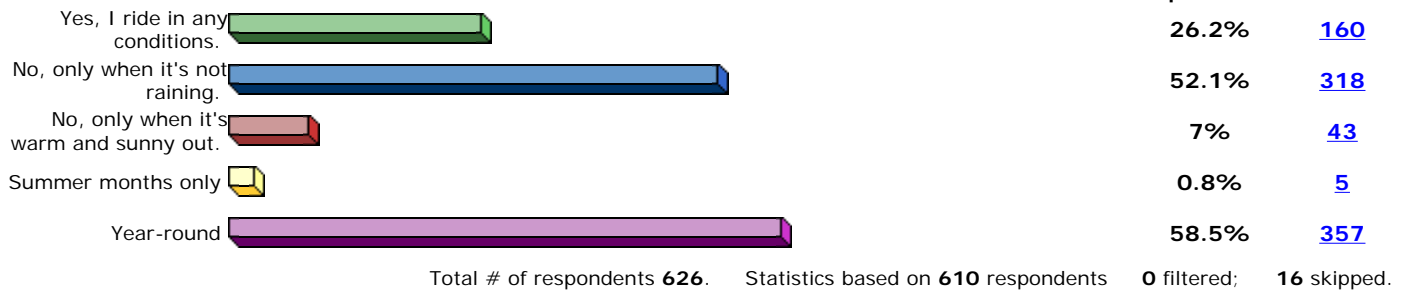
16 skipped.

When do you usually bike? (check all that apply)

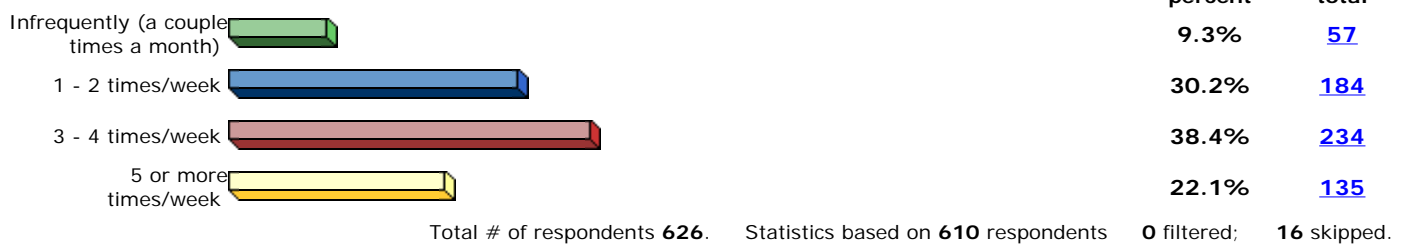




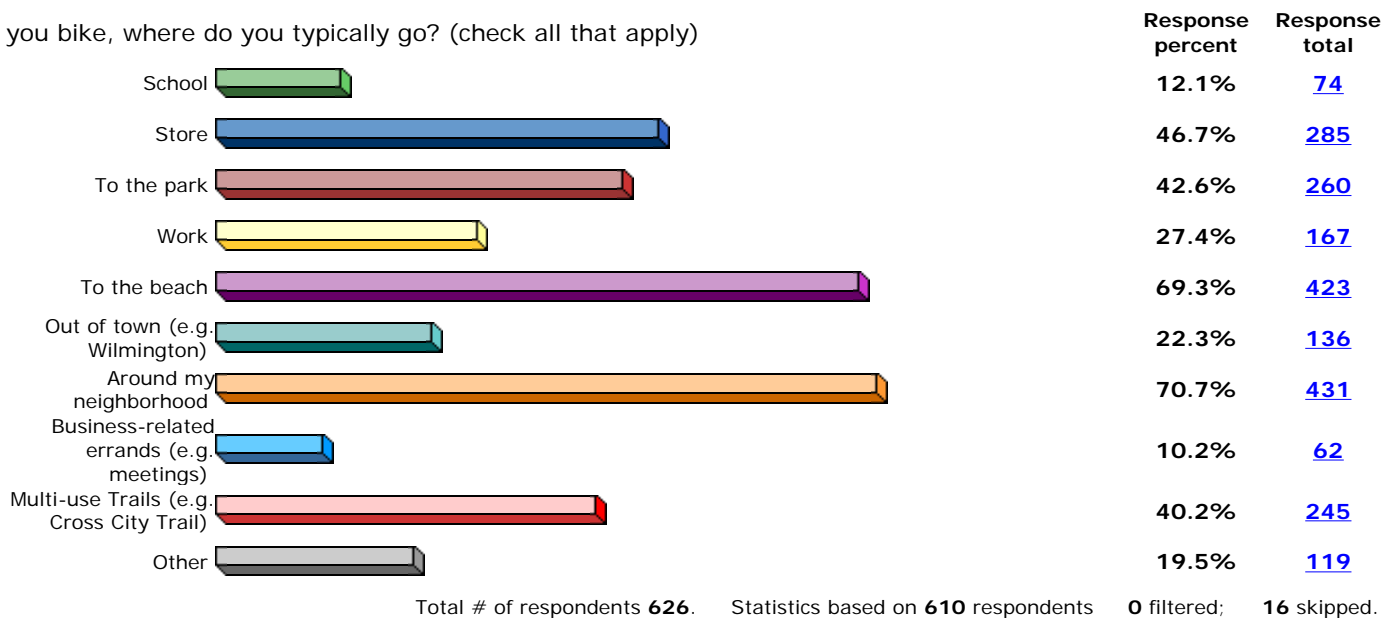
Do you ride regardless of weather or the season?



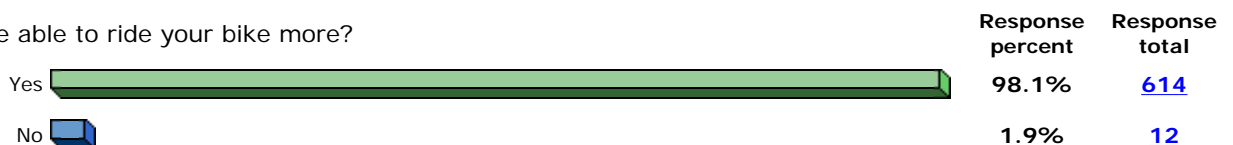
How often during the week do you ride (round trip)?



When you bike, where do you typically go? (check all that apply)



Would you like to be able to ride your bike more?



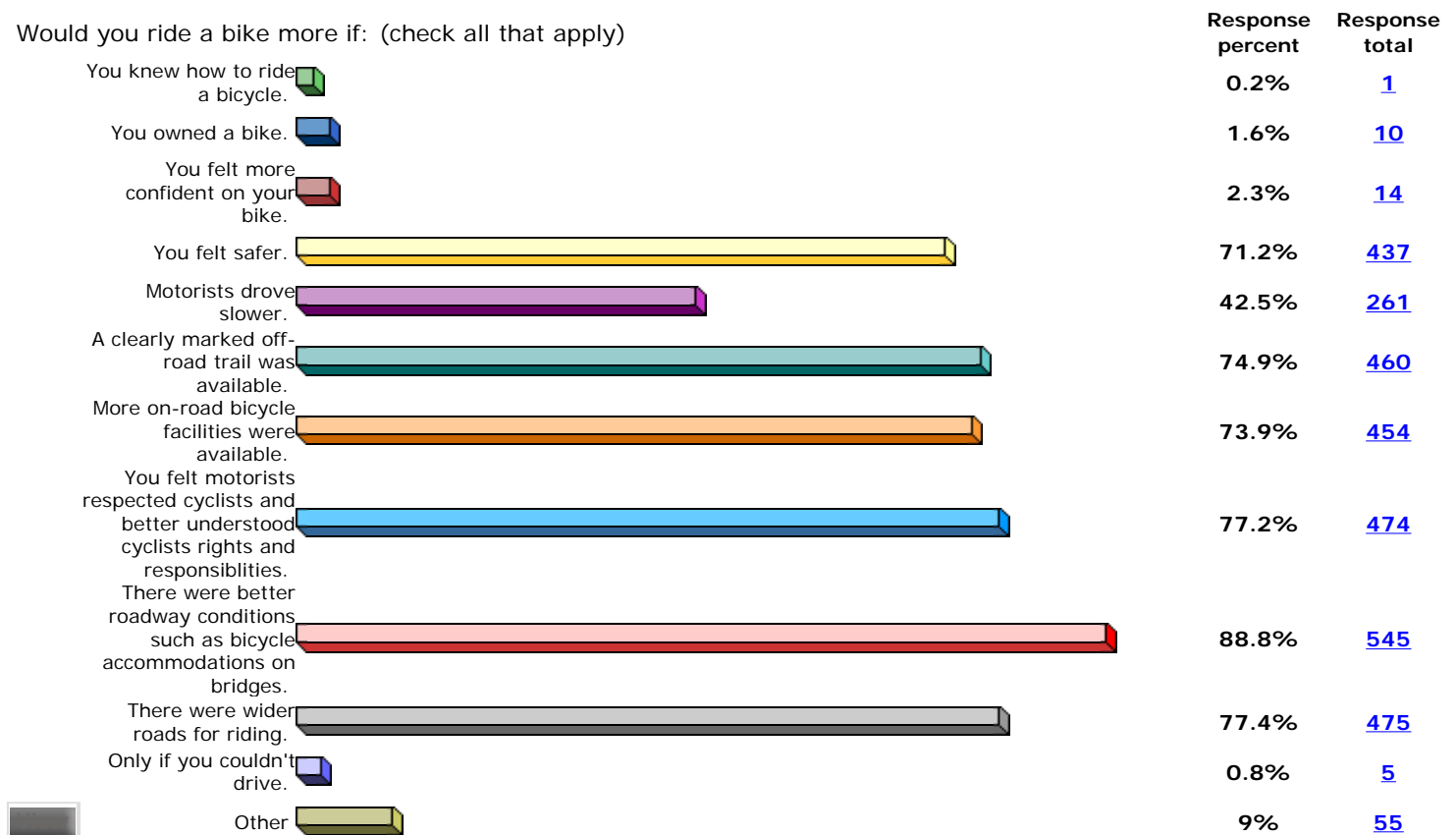
Total # of respondents **626**.Statistics based on **626** respondents

0 filtered;

0 skipped.



Would you ride a bike more if: (check all that apply)

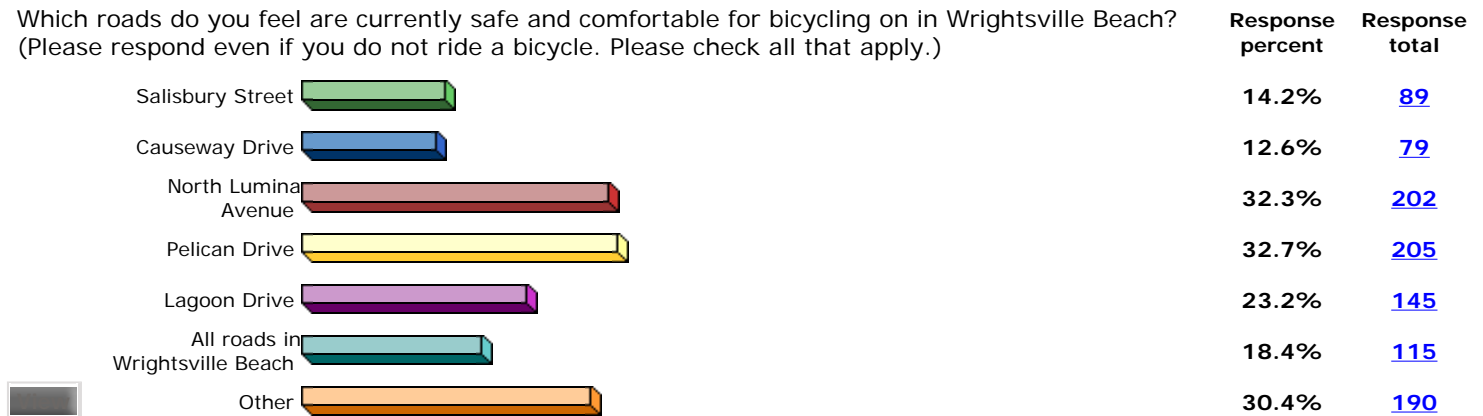
Total # of respondents **626**.Statistics based on **614** respondents

0 filtered;

12 skipped.



Which roads do you feel are currently safe and comfortable for bicycling on in Wrightsville Beach? (Please respond even if you do not ride a bicycle. Please check all that apply.)

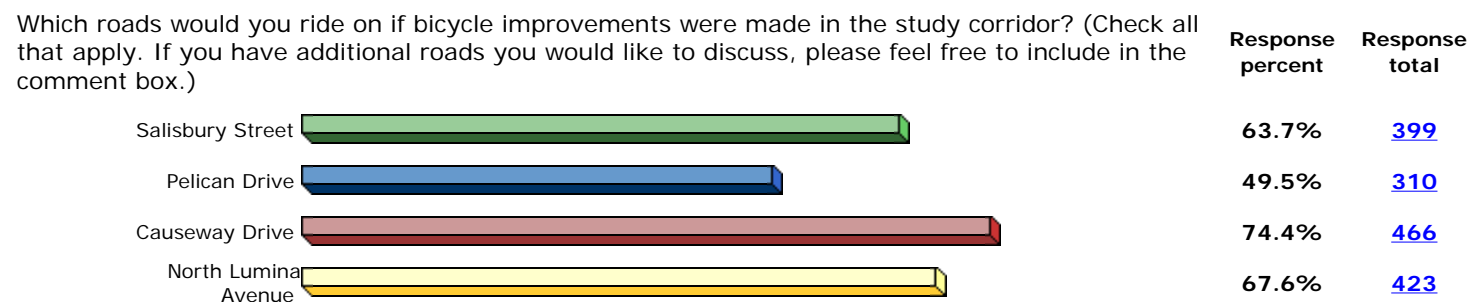
Total # of respondents **626**.Statistics based on **626** respondents

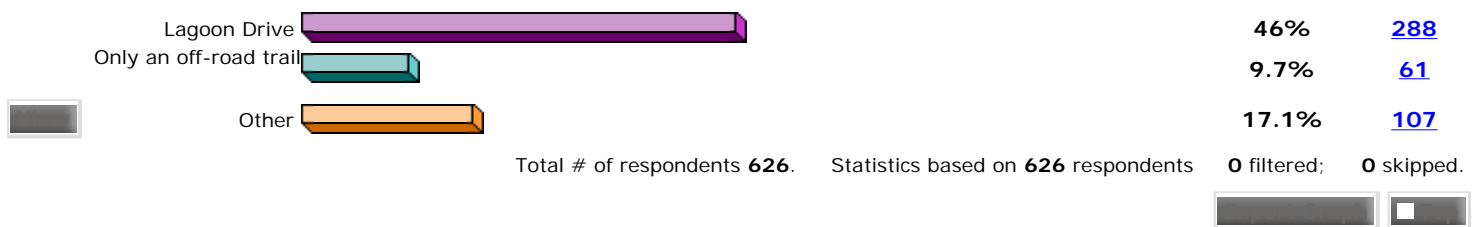
0 filtered;

0 skipped.

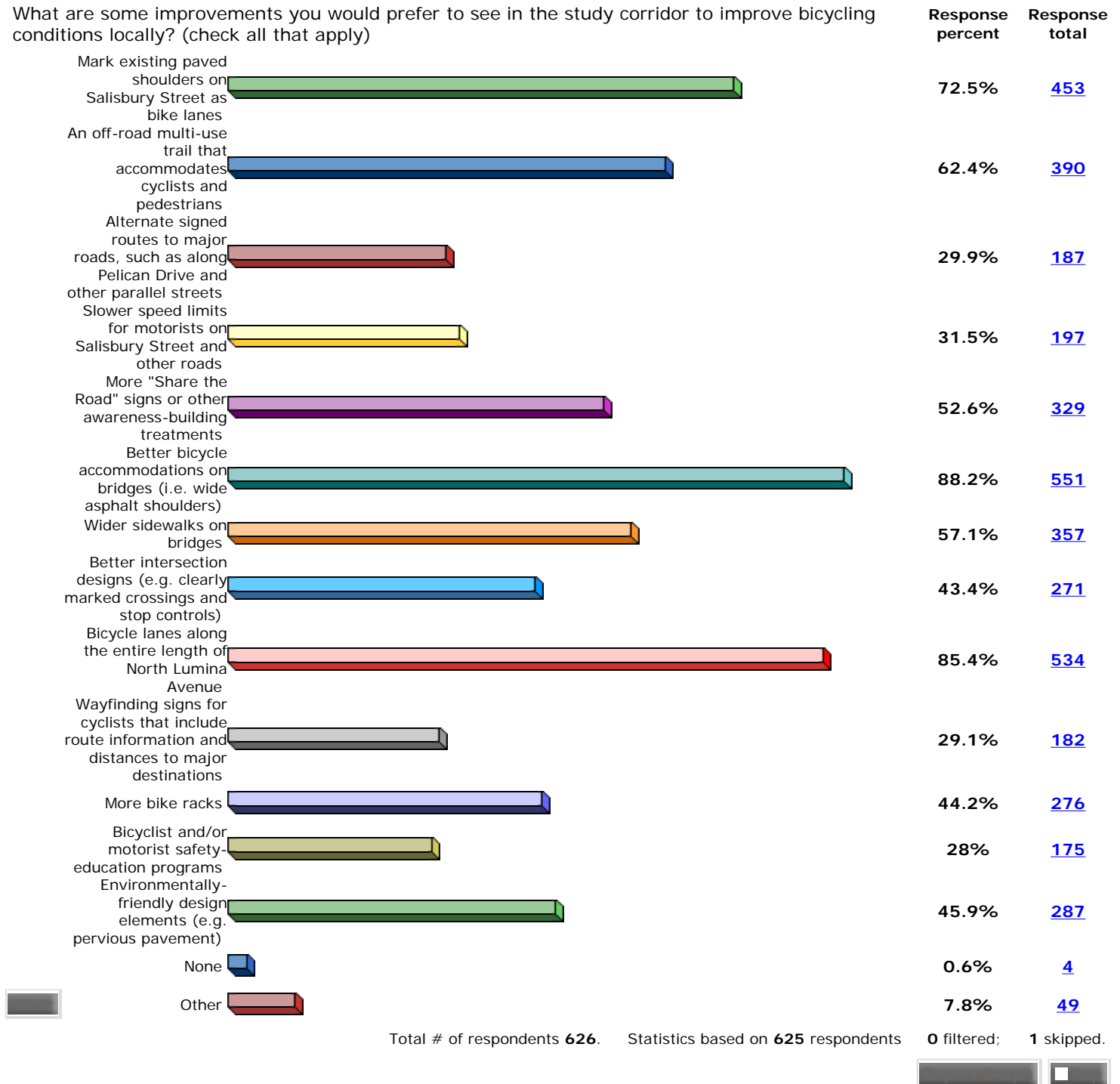


Which roads would you ride on if bicycle improvements were made in the study corridor? (Check all that apply. If you have additional roads you would like to discuss, please feel free to include in the comment box.)

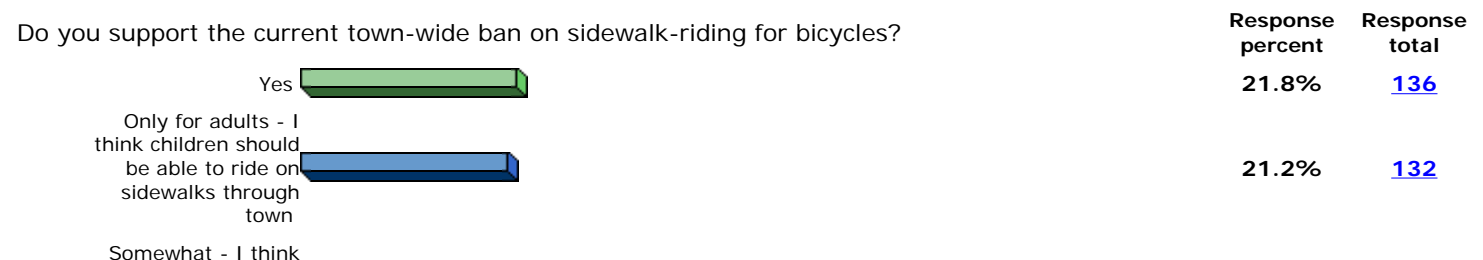




What are some improvements you would prefer to see in the study corridor to improve bicycling conditions locally? (check all that apply)



Do you support the current town-wide ban on sidewalk-riding for bicycles?



adults and children
should be able to ride
on sidewalks along
bridges and
overpasses

No



37.3%

[233](#)

19.7%

[123](#)

Total # of respondents **626**.

Statistics based on **624** respondents

0 filtered;

2 skipped.



Please provide any additional comments you may have:

Response
total

[255](#)

Total # of respondents **626**.

Statistics based on **255** respondents

0 filtered;

371 skipped.



Please provide us with some personal information:



Are you a Wrightsville Beach resident or property owner?

Yes



No



Response
percent

Response
total

38.9%

[241](#)

61.1%

[378](#)

Total # of respondents **626**.

Statistics based on **619** respondents

0 filtered;

7 skipped.



Name (optional):

Response
total

[234](#)

Total # of respondents **626**.

Statistics based on **234** respondents

0 filtered;

392 skipped.



Address (optional):

Response
total

[222](#)

Total # of respondents **626**.

Statistics based on **222** respondents

0 filtered;

404 skipped.



Would you like to receive newsletters and project notices?

Yes



No



Response
percent

Response
total

42%

[263](#)

58%

[363](#)

Total # of respondents **626**.

Statistics based on **626** respondents

0 filtered;

0 skipped.



Email (This is required to receive newsletters and project notices. If you do not have an email address or would prefer not to give one, please type "NA".):

Response
total

[263](#)

Total # of respondents **626**.

Statistics based on **263** respondents

0 filtered;

363 skipped.

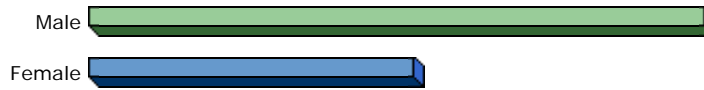


Email (optional):

Response
total

[24](#)Total # of respondents **626**. Statistics based on **24** respondents 0 filtered; 602 skipped.

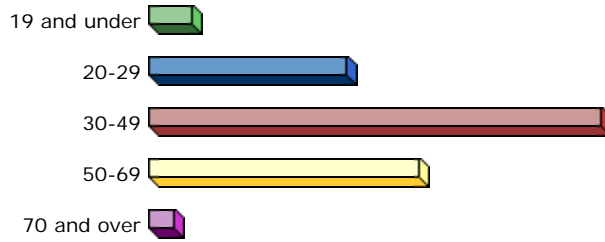
(optional) Are you:



Response percent	Response total
66%	401
34%	207

Total # of respondents **626**. Statistics based on **608** respondents 0 filtered; 18 skipped.

Age:



Response percent	Response total
2.6%	16
20%	125
47.8%	299
28.4%	178
1.3%	8

Total # of respondents **626**. Statistics based on **626** respondents 0 filtered; 0 skipped.

Please provide any additional comments you may have:

Responses

(255 total)

- [6](#) Bike riders do not watch out for pedestrians. There are lots of bikes still on the sidewalks.
- [8](#) Wrightsville Beach should be friendlier to bicyclists. There should be lanes on the street or sidewalks for bike riding. Motorists should be more considerate to those riding bikes.
- [13](#) This is a great place for families to ride bikes but the traffic and proximity of cars to bikers particularly where parking places force bikers out into traffic makes it scary to ride a bike at the beach. The speed of cars around the Loop is also scary. I would love to ride my bike but it's not worth an accident.
- [14](#) This is a great place for families to ride bikes but the traffic and proximity of cars to bikers particularly where parking places force bikers out into traffic makes it scary to ride a bike at the beach. The speed of cars around the Loop is also scary. I would love to ride my bike but it's not worth an accident.
- [15](#) I love riding my bike on Wrightsville Beach, but there are many times I feel unsafe. Roads are narrow with no marked bike paths, and the bridges are dangerous. Also, some drivers do not seem to want to share the road with bikers.
- [17](#) Bike paths are great, but who will maintain them. currently the town does a pitiful job of maintaining sidewalks for pedestrians. Look at sidewalks where the bushes grow into it and partially or completely block them. We first need to maintain what we have before we expand.
- [21](#) perhaps more people would ride if the public were more friendly to cyclists. i frequently am passed way too close to my bike at high speed when there is plenty of room in the parallel lane for the cars to move over. there is no mechanism to stop this. it is very dangerous and will scare people into not riding.
- [25](#) Causeway Drive is truly hazardous - an additional footpath parallel to the current sidewalk would greatly improve safety for cyclists and pedestrians. Also, the bridge railings badly need to be moved toward traffic to enable cyclists, pedestrians and baby-strollers to be able to meet one another without having to squeeze by. We all complain about traffic; we have a completely flat terrain that is perfect for cycling; currently a cyclist has to be really brave (and at certain times/locations, foolhardy) to try to compete for a spot on the road.
- [26](#) The loop is a unique entity for WB - joggers, strollers, dogwalkers. The ban on bikes is important to enable this. I've jogged it 5 times per week for the past 11 years, and I can say the bicyclists who wander on do cause problems. I whole heartedly endorse a safe route for bikes though! For me, it would be nice just to have a safe route to the beach. Riding a bike on Causeway in the summer is very dangerous. I live on Coral, so I could cut over to Salisbury if that's where you put the bike path. Thanks for putting effort into this worthwhile effort. Let's have WB lead our community in being a bike friendly area, like we already lead in being a pedestrian friendly area.
- [27](#) The North corridor is a good start but a lot of us ride to the South end also. Waynick can be dangerous but the only alternative uses one way streets and sidewalks. Desperately need a bike rack around the Trolley Stop area and Robert's.
- [28](#) Banks Channel bridge is terrifying as is Causeway Drive.
- [29](#) It's impossible to cross Causeway during the summer at all on bikes but even in off-season it can be tricky. The bridges are impossible with kids if any cars are around. I never feel safe as a biker on the main streets around Wrightsville.
- [30](#) bicycle paths cannot be built fast enough!
- [37](#) less parking spaces for cars to accommodate a bike lane along roads from one end of wrightsville to the other
- [39](#) need bike lanes along existing major streets and less auto parking spaces
- [42](#) Wrightsville Beach is a very friendly pedestrian and town
- [48](#) I ride 180 days a year. The bridges are the most dangerous places on Wrightsville Beach.
- [53](#) I feel somewhat safe riding on the streets around town, but I start fearing for my 7 year old daughter.
- [54](#) many times, based on traffic conditions, I have chosen to break the law and ride on the sidewalk rather than become a statistic.
- [55](#) bike lanes are essential
- [59](#) So many people enjoy the beach, pedestrians, dogs, bikes, drivers that we need to learn to share the same space. It is most dangerous for swimmers in our boat lanes, and bikers & pedestrians on the road. We need to make one another aware of the rules of the road/channel and help one another understand that each of us has a right to be there, not just one group.
- [62](#) Johnny Ms Pier intersection is impossible for bikes. Children HAVE to be allowed on sidewalks
- [64](#) It is dangerous at the south end of beach after Blockade Runner before Oceanic when you have to get out on Waynick instead of continuing along sidewalk to ride to south end along the side streets. I also think the bridges are especially dangerous and I like to avoid them especially the little one when there are lots of fisherman saying inappropriate remarks as you ride by.
- [65](#) It is aggravating to me that the town has been talking about a bike path for > 8 years now and just cant seem to get it together. Fit people exercising are all around us. We need to better accommodate them.
- [67](#) please request funding from New Hanover County - do not place burden on our small community
- [69](#) I think that bicyclists should be allowed on the sidewalks as long as pedestrians are not on them because bicyclists can not travel to many of the places that pedestrian sidewalks go until marked bike paths are put into place.
- [70](#) Waynick Road should be changed to two lanes with a center turning lane and bike lanes. The Causeway should also be changed to two lanes with bike lanes. The speed limit on the entire beach should be 25 mph maximum.
- [75](#) I don't think putting a path on the beach for riding a bike would be a good idea. I know that was is the plans somewhere.
- [79](#) Sidewalks provide the only safe option when roads are crowded or narrow and traffic is not respectful of bike riders.
- [82](#) The main issue with our island is we don't communicate to our residents and visitors the rules of the road. I was almost hit in a crosswalk this past spring. If it wasn't for my quick reflexes his green miata would've rolled right over me. What was even worse was being yelled at by the guy because he thought it was my responsibility to watch out for him. Motorists and pedestrians/cyclists do not know the rules of the road. I see people on bike on sidewalks, because they are too afraid to be out in the road. It would be great to see wider, safer, well marked bike paths, if that is at all possible to achieve. I realize we have many constraints with space and current road conditions, but that is why we have smart city planners and local officials--they are supposed to help solve our problems. Thanks for listening and thank you for giving me an opportunity to voice my opinion.

- [83](#) A great alternate energy efficient way top travel
- [84](#) Regarding question 12, only small children ,uder the age of 9, should be able to ride on the sidewalk. No teenagers or adults.Also, no skateboards on sidewalks. Current rules should be enforced by police or park police. Currently, no one says anything about not riding on sidewalks.
- [85](#) reducing traffic by making cycling safer and a design priority would be a smart, proactive move for the beach.
- [86](#) As I stated earlier my husband and I love to ride but there need to be more bike lanes in New Hanover County. Riding to the beach is hard too. Using the new lane by autumn hall is great until you get to the intersection then you have to cross over so you can at least ride the sidewalk by Landfall to keep from being run off the rode especially during the summer months. The winter months are not as bad. Even with Share the Road signs people still ride up on you if there is no bike lane and even blow their horns. We ride alot at UNCW b/c it is safer and they have bike lanes. As big as NH County has grown and with so many people moving to this area bike lanes should have been something that was looked into a long time ago. I hope that the path from Halyburton to the beach will soon be completed. I am sure many people will use it. I know we will....
- [87](#) The bridges are my biggest concern. Also, I'm not sure if this is in the WB town limits. But leaving WB and trying to cross 2 lanes of traffic to turn left on Wrightsville Ave or to turn left into Harris Teeter or Kefi's is difficult and scary.
- [88](#) In response to question #12, while I do support the sidewalk law because it is not safe for cyclists to squeeze on the narrow sidewalks with pedestrians, I think it is critical to create bike specific lanes for the safety of all individuals.
- [90](#) Why can't we do it like San Francisco? They just paint a blue shoulder down every road with a bicycle stencil every few yards. Cheap and Easy-- let the drives know that this is a bike lane, and lower the speed limit on roads like River Rd.
- [93](#) Wrightsville Beach is a great training location. I have no problems leading training rides to the beach. I do feel safe while riding anywhere on the beach.
- [101](#) Riding a bike to the beach should not be a life threatening experiance. WB Elemetary school kids should have a safe way to ride their bikes to school, including over the drawbridge.
- [103](#) I think that the ban on sidewalk riding is wrong. However some sidewalks do not have sufficient space for both bicycles and pedestrians. In this scenario people can just get off for a second and walk their bikes or slow down enough to pass safely. We should encourage more individual responsibility and accountability rather than governmental regulation. This works for the roadways as well. There is enough room for both cars and bikes if we share. Some stories of motorists harrassing cyclists happen every year, and the other way around. People need to simply be encouraged to respect one another and follow the laws. Cyclists don't exactly do this either.
- [108](#) Wrightsville Beach is a perfect place for cycling, with an active community and limited parking. The narrow bridge shoulders, and limited/non existent bike lanes discourage bike use. Please let me know what I can do to help support increased access and accommodations for biking on WB.
- [109](#) I feel like I am in danger with the narrowness of roads on Wrightsville beach. Even on low traffic roads due to the lack of space for safe cycling.
- [110](#) It woule be great, if there could be done more for bicycle riders in Wrightsville Beach.
- [115](#) Real problems are off beach up Eastwood
- [116](#) I feel like you guys need to take the next step in helping out our enviroment and national health by creating a way that every joe the plumber can ride their bike around town and feel safe about that ride.
- [117](#) There is great economic benefit to having bike facilities - lanes and multi-use paths. Vacationers and tourists love it, property owners benefit from higher property values because the area is more desirable to live in and rent. Local businesses will benefit as well. People who have limited access to automobiles can get to the beach. There is limited auto parking in Wrightsville. It creates a friendlier community, rather than a hostile auto-centric community. Wrightsville could be a model for the rest of the city.
- [123](#) We need to look towards the future of becoming a healthier society. We need to bike more often - and provide a safe environment. some cities like Boulder are years ahead of us. they have a very healthy town because they have many healthy options for their citizens.
- [124](#) stiffer penalties for motorists causing injuries to cyclists
- [126](#) WB is the only place I've been where crosswalk laws are ambiguous. They are marked, but no one stops. No one knows if they should. One lane stops and wave while the other lane speeds past. WB is such a great place to be outside. Pedestrians and bicyclists should have priority. Also, WB is such a great, healthy place. The loop is wonderful. People are really living a healthy lifestyle. The town is doing a great job. Thanks for continuing to make WB such a wonderful place.
- [127](#) i love blue clay
- [130](#) clearly marked bike paths in wrightsville beach and the greater wilmington area will help bikers and motorists. motorists often seem frustrated with sharing the road with bicyclists... in turn they tend to honk and/or race by bicyclists. this is a scary and dangerous act on the part of the motorist. better education for motorist would help in theory, but i think to alleviate the problem more safely better bike paths should be implemented.
- [131](#) In an area where we could bike year round it is sad to see that we don't have an extensive bike path system ie. Minneapolis, MN, Omaha, NE. They have incredible path systems and you can't be outside for three months of the year.
- [133](#) I don't feel that WBV really wants anyone to come there...bike or car
- [134](#) I would like to receive bike improvement updates via email if possible. I really don't like receiving paper updates.
- [135](#) I have rented on Wrightsville Beach since 2001. I live, work and play here. One of the things that I value most is that I don't have to get in my car to get around. Please make bike lanes (especially on the bridges) so that more people feel safe commuting on two wheels!
- [136](#) Safety is my main concern. Having bike paths which completely remove bikers from car traffic would be the ideal situation.
- [138](#) There really is no other option to crossing the drawbridge than on the sidewalk as the shoulder is entirely too narrow to accommodate a bike. Also, the cross city trail on Eastwood stops to short to make it a safe option for going to Wrightsville so makes any commute on or off the island less safe.
- [139](#) WB and Wilmington desperately need bike paths as well as pedestrian paths and crosswalks! We are a coastal community that has great weather for the majority of the year. People want to be active in this town. We have one of the largest triathlete populations / draws on the east coast and it's a shame that our communities don't provide safe ways for us to run and bike and take advantage of our wonderful climate. We are similar to California in that we have so many people who want to be active outdoors, yet we are so different in how we treat them. As a runner and biker, I feel many times like I'm putting my life at risk in this town. Sometimes I get the sense that motorists resent have runners or bikers share the road, and that's ridiculous. I lived in New York city for 3 years, and they have SO MUCH MORE RESPECT for motorists that people in Wilmington and WB do. Two major bike accidents in 1 week is unacceptable (Reggie Barnes who contributes a lot to this community now cannot compete in the B2B ironman because of a bike accident, and Gary Saltzman also severely injured when a car hit him on his bike). With the economic, environmental, and health crises that face our communities, it makes SO

MUCH sense to encourage folks to get outdoors and to provide them with safe means to do so.

- [140](#) I live just over the bridge and was born on WB. I have lived here my whole life and am really excited to see that the town is now forward thinking.
- [142](#) Thank for trying to make Wrightsville Beach a safer place to ride bikes. My family & I enjoying riding bikes together but it is extremely dangerous on the beach.
- [143](#) Cycling is fairly convenient on WB except for Lumina Ave., from Wings north, past the Holiday Inn, until the pavement widens and there is a marked lane. There are times when it feels pretty tight riding beside a parked car while a car is passing you on your left.
- [144](#) Wrightsville beach is NOT bike-friendly! It is dangerous and the speed limits are way too high. I think the entire island should have 25 MPH. There need to be designated bike paths and MORE racks, at every beach access! This would solve the summer traffic and parking problems, but unfortunately, take \$\$ from the Town.
- [146](#) The hardest part about riding to the beach is the draw bridge, traffic seems to speed up there considerably and it feels a little treacherous riding there at times.
- [149](#) Wider, smoother, cleaner bike lanes allow automobile traffic to flow unimpeded, but no cyclist is going to risk injury hugging the shoulder when glass, debris, potholes, poorly designed drains, etc., make the bike lane more hazardous than riding in the traffic lane.
- [152](#) they town needs to help make biking safer for everyone... wrightsville needs to become more pedestrian and cyclist friendly... already too many cars on the island... 45mph on salisbury is too fast.... whole island should be 25mph
- [153](#) I live across the street from the sea gate area, near Bert's surf shop. I think bike improvements are needed on Oleander, especially the section from Greenville Loop to Wrightsville which is supposed to be bike friendly. The bridge over Bradley Creek is scary.
- [154](#) I'm very pleased that WB is taking bike access and safety seriously. It makes perfect sense for so many reasons to encourage safe bike use for folks who choose to bike to the beach. We live off of Eastwood Road about 2.5 miles away from WB. Crossing the bridge & riding on the causeway are our biggest concerns. Peligan Drive is a great relief and more bike-dedicated lanes on the major roads would be most welcomed and increase bike use, support fitness & ease traffic congestion. Thanks again for addressing this issue.
- [160](#) I feel that even police do very little to encourage safe conditions for cyclists
- [161](#) My husband and I are very frustrated because we would love to ride bikes to the beach all the time from Eastwood Village and there is no safe way to cross Military Cut-off Road!
- [162](#) I think WB could be known for being one of the bike friendly neighborhoods in the country. Just one more distinction for a fabulous community! I owned property there for years and loved the privilege.
- [163](#) I feel comfortable riding in Mayfaire because of the wide bike lanes and speed limits.
- [168](#) South Lumina and Schloss Street needs to be re-surfaced.
- [170](#) I agree that children should be able to ride their bikes on the sidewalk, though I see the potential problem for enforcing what age you must ride on the road.
- [172](#) I think the exsiting bike lanes on the road going from the bridge to the north end of the island are wonderful and pelican drive is also great for those who dislike the busy roads, but an additional bikelane on the road from the drawbridge to the southern smaller bridge would be excellent, also an off road bike path for going over the drawbridge, going over the bridge on the sidewalk it is tough to deal with pedestrians on such a narrow strip, or at least an on road bike path
- [173](#) I think the act of banning bicycles on sidewalks while not providing bike lanes in highly negligent and should make WB partly liable for any injuries incurred by bicycle-motorist accidents. Also, placement of drainage grates at the edge of roads is problematic and dangerous for cyclist.
- [174](#) Glad this is being worked on. WB is a good place to bike to stores, beaches, etc but concern is car saftey /awareness for the kids and people training for events.
- [175](#) For the most part, motorists are very considerate on the island. It is hard to ride where there is no shoulder or bike lane with out riding on the sidewalks. I fear that cars will not be able to see me if I am in their lane.
- [179](#) More bike trails and lanes everywhere :)
- [180](#) Just needs to be more bike friendly in general. The newer bike trail along Eastwood Drive is really nice-until you get to Military Cutoff Rd.
- [181](#) Riding a bike down North Lumina is very dangerous. Somthing must be done, twice I have been hit by cars coming out the side streets hunting down a parking space.
- [184](#) Getting more and more dangerous...except off season at Wrightsville
- [185](#) would love to see the county mplement safer ways for cyclists to more around the county.
- [190](#) I use my bike for day to day transportation to the beach and around my neighborhood. I feel strongly that more improvements need to be made to make road more bike friendly. Wrihgsville Beach currently is much safer to ride a bike on then the rest of wilmington, a dedicated bike lane just to the north end of the beach wouldn't be as beneficial as making it easier over all over the entire island to ride a bike. Increased signage and larger shoulders for bikers to ride on.
- [191](#) Should contact the wilmington trolley trail website. We are currently trying to design paths leading from downtown to the beach. We have some sponsors helping us to make Wilmington a safe bicycling city and encourage more business's and community members to help out.
- [192](#) The bridges on Wrightsville beach are treacherous to pedestrians and bicyclists. Several accidents have happened between cars and bikes on these bridges. Its only a matter of time before someone dies.
- [195](#) The only time Lumina Ave is bad is during the summer, when both sides of the street have pay parallel parking full. Other than that its not really bad with the exception of the causeways.
- [196](#) I am a resident of Wrightsville Beach (Henderson St). I ride my bike primarily to commute around the island. I think that almost all of N Lumina Dr is unfit for cyclists. Salisbury St is fairly safe except for the bridge. Causeway Dr is by the far the most dangerous road to ride on.
- [198](#) I think it would be a great asset to Wrightsville Beach to have wider areas for bicyclists. As a runner and as someone who enjoys riding my bike, I agree that bicyclists should not be allowed on the loop sidewalks, but it is just not safe in some areas (especially along the bridges on Causeway and Salisbury) for someone to ride their bike.
- [199](#) I was born in Wilmington 26 years ago and Wrightsville Beach as always been home for me even though I don't live there. I was able to rent there for four years and I think it is a wonderful area. However, the entire city of Wilmington is not a very bike friendly place. Wrightsville Beach only gets a slightly better score in my mind because its smaller and cars drive slower. Causeway drive is a dangerous rode for bikers and it's the "main" road leading to the center of the beach. If we're going to enforce a no bikes on sidewalks rule, we need to provide infrastructure for safe bike riding. In a time when we should all drive our cars less and excercise more, biking is a wonderful way to accomplish those goals. I live near the university and my wife and I enjoy biking to the beach and back regularly, but we have

- concerns on the safety issues. Though not part of Wrightsville, the bike lanes coming down eastwood road come to a screeching halt at a VERY busy and dangerous intersection for bikers. Military cutoff and Eastwood currently have no pedestrian/biker infrastructure and pose a serious barrier to families that would be interested in biking down to the beach. For whom it may concern, pass that along to any Wilmington officials who you may work with. Thank you for your time. Concerned Local
- 202 from intersection of Salisbury@N.Lumina to Sand Dollar Lane is nearly impassable for bikes during summer weekends, especially stretch where sidewalk ends and there is no shoulder for pedestrians and bikes.
- 204 The parents coming out of Coral Dr. and heading off the island ride in the right hand lane speeding to beat a few cars going over the bridge while looking over their left shoulders to get over the bridge. Cyclists and joggers are in danger of being hit here. This is the one spot I've come closest to being hit while riding the island.
- 206 I have had a lot of recent problems with riders riding against traffic (head on for bike in the right of way). Re-occurring problem with vehicle operators hugging the outside line when queued at stops/lights preventing egress around standing traffic. taxi operators performing reckless maneuvers(u-turns and left hand turns in front of moving bike with right of way). Flat tires from un-even transitions at curbs and rail crossings (off beach).
- 207 With some roads not being safe, the sidewalk law should not apply
- 208 Glad to see an effort made to accommodate bicycles. There is a lot of potential to reduce traffic problems through enabling safe biking.
- 209 the roads are not safe enough so why would you ban biking on sidewalks totally?
- 211 Something must be done to provide a safer environment for cyclists at WB. A designated bike lane would be very helpful .
- 212 put those friggin dog poop stations in already. beach path 39 is nasty.
- 213 none
- 217 until there are bike lanes on all of wb, the ban on no riding on sidewalks should be repealed. we let roller bladers, etc on the sidewalks.. but not bikes. this is wrong--especially making children ride on causeway drive.
- 220 People should be able to ride on the sidewalk during peak traffic hours, and only if they are going slow.
- 222 As I said before, and this is prevalent throughout the greater Wilmington area, the motorists attitude towards bikers is what makes biking unsafe in this community. People have thrown things (glass bottles!) at me when I'm riding because I am not on the sidewalk (where they think I belong). This is scary, but thankfully they have not had perfect aim! I grew up in a large city (Chicago) and biked my entire young life in the downtown area. I've never been scared on my bike until I moved here.
- 225 I would love to see a way for my family to safely bike from the parking lot at Wrightsville Beach park to the beach. We would use it often.
- 234 I have always felt Causeway Drive, especially the east bound lanes, is the most dangerous street at WB for cyclists. I would like to see improvement efforts concentrated on Causeway.
- 236 I ride Wrightsville Beach because it is convenient and cyclist friendly (at least the town tries to be). I hug the edge of the roads and most motorists are considerate, but others, including someone in a black Hummer, will get right on you and blow their horn.
- 237 I have two young children and would love to feel they were safe riding bicycles with me to, from and at the beach. I live 2 miles from WB and have to drive with the kids. More bike friendly roads and paths are needed all across NHC. It would really help reduce traffic, and keep us more fit. It's nice to know WB is looking into making improvements. It's a wise effort.
- 238 I have a hard time with people not from around here coming to the beach and acting like they own it and not watching out for bikes. I have almost been hit numerous times by people who's license plates are not from this state!
- 240 Problems occur with street parking on Lumina as many drivers do not watch for cyclists and throw open doors..... Forcing cyclists to ride in the middle of the road to avoid hitting car doors. How are you going to address this situation with a bike lane next to parked cars?
- 242 too many restrictions imposed on the cyclist will only add to the problems cyclist encounter. we need to continue to obey the same laws as motorists do!
- 243 As it is now, Wrightsville Beach is a car town. Many don't feel comfortable riding their bikes on the streets, so they just don't go. Road bikers love this place, but the casual beach cruiser needs a little help.
- 246 Share the road! There is desperate need for an public education campaign on how to coexist with cyclists. Motorists need to be reminded of the benefits and legality of multi-modal roads. Motorists wrongly feel that they are entitled bike-free roadways.
- 249 I think W.B. should model their program after Hilton Head. We visit their for one week every year. While there we park our car and use only bikes because it is so safe and well designed. It is truly an alternate means of transportation in Hilton Head.
- 251 i feel that wrightsville beach is bike friendly..however, roads like wrightsville avenue and oleander/military cut-off should be more bike friendly
- 254 the problem isn't the beach ,it's getting to the beach!
- 258 WB really needs a dedicated bike path that will be safe and allow more access to the beach. Possible, parking near the baby hospital for unloading would help.
- 259 with the addition of the multi use paths on military cutoff and eastwood road if the beach would continue the path onto the beach this would cut down on car traffic and parking
- 261 I think this is a good opportunity to set an example. i personally do not believe WB is in critical need of a bike system because i feel it is a safe place to ride. If the town, however, has an aggressive approach to this project the rest of the county will follow. I do feel NHC is in critical need of a safe bike transportation system.
- 262 It is very dangerous biking at WB. 2 of my friends have been hit or injured by cars whilst biking.
- 267 The bridges seem like the trouble spots
- 271 Where are all the bike racks? I feel as if I'm breaking the law locking my bike to fences and parking meters and it looks very trashy.
- 275 At the moment, I only feel comfortable on sidewalks. If there is a better place to ride bikes I agree that bikes should be on the bike path/road instead of the sidewalk.
- 276 I would like to clarify why I do not support the ban on bicycles on sidewalks. I think that there is plenty of room around the loop for bicycles and would support a ban there, but the section on lumina in between the Yacht Club and HSC where the sidewalk crosses in front of two homes is a problem area. If bikes are not allowed there and they are suppose to go around then they head straight in to oncoming traffic when going south bound. It would be nice to see the path widened to allow both pedestrians and cyclists have a safe path to go from NE to SE.
- 279 it would be nice to see more people riding and it would also be nice to ride more for myself
- 282 see question 10.
- 290 As a runner and a cyclist I love the accommodations already made for residents and visitors here on WB. I think that these are good starts but many improvements could be made. I would like to see proper bike lanes added to all major Wilmington roads for bicycle

transportation and exercise. I would bicycle to all the places that I frequent, but I am too afraid to ride in the street. I do use the sidewalks, but when my destination requires me to cross a major intersection, it is very treacherous and scary to do. I have visited areas that have a designated off-road two-way bike lane that lines the roads for cyclists and pedestrians, similar to the one on Military Cutoff. Also, many motorists feel that bicycles have no place on the road, therefore I feel that awareness and education are important too. Thanks for posting a survey so that voices may be heard.

- [295](#) It really concerns me how dangerous it is to ride into Wilmington. There have been at least two accidents in the last week. When will they do something about that?
- [297](#) we need bike lanes throughout the beach
- [299](#) I think providing a bike-friendly town is a tremendously important issue! With absurd gas prices and a deteriorating environment, riding bikes is a great alternative to driving, especially in this mild-weather, flat (aka bike friendly) town. I would love to ride my bike more, but feel unsafe due to the lack of marked bike lanes and the inconsiderate motorists that do not look out for cyclists. Thank you for doing this study! PLEASE TRY TO CONVINCE THE TOWN OF WILMINGTON TO CONSIDER A SIMILAR ACTION!!!!!!
- [300](#) All of Wilmington needs safer bike riding areas and more of them, not just Wrightsville beach.
- [302](#) Children ride bikes to school and is dangerous on road when can't ride on bridges due to fishermen. Children should be able to ride on sidewalks. Definitely need more designated bike signs and bike paths.
- [305](#) It's supremely dangerous to ride a bike on any street in Wrightsville Beach, especially during the summer. Make it mandatory for elected officials to ride the main roads in WB on a summer weekend day at noon before making and voting on any plans. It's ridiculous for the police to pull over a bicyclist for riding on the sidewalk and trying to preserve their life. Are bicycle improvements actually going to be a reality or is the town going to deny it b/c it may take away from their parking meter revenues (and Lanier's profits)?
- [307](#) I think with the current gas prices you will see more people riding bicycles. Also, with the obesity rate in this country, we should encourage people to ride bicycles and motorists and pedestrians should respect those who ride. There should be bike lanes and street lights throughout the whole city.
- [308](#) We are having our first child in December and this topic really concerns me. Wrightsville beach is such an amazing place to raise a family, but we live (and tourists rent homes) amongst some very busy, heavily travelled roadways. This would be a worthwhile enhancement to our town's attraction, quality of life, and ultimately safety for all citizens and visitors. People in our society today are in too big of a hurry and they are always multitasking. While that is hard to change on a macro level, we should control this locally by 1) Installing safe crosswalks- with Red Lights (North Channel, CYC, Causeway/S Lumina- existing but still difficult with right on red); 2) Figuring out how to let cyclists (incl. Kids!) get across the Banks Channel bridges; and 3) Enforcing safe driving laws pertaining to cell phones/texting, etc. Sorry to ramble on, but we have renters on our street that we regularly observe driving 40mph plus while texting on their cell phones. This is a dead end street with 15/25 mph speed limit that my children will want to enjoy in the not too distant future. These enhancements would also make our beach easier for families from Wilmington and surrounding areas to enjoy and probably (in the end) cut down on the 'us against them' mentality from non-residents about the issues of the beach towns.
- [310](#) The benefits of bicycling are copious. Bicycling is an excellent mean of transportation and should be encouraged by all municipalities world wide. Especially those with serious parking issues ie. Wrightsville Beach.
- [311](#) Wrightsville Beach needs a great deal of work but even more critical to me is getting improved biking facilities connecting other parts of Wilmington to Wrightsville Beach. Marked bike lanes are a start but education for drivers is also important. I don't feel safe around East coast drivers who haven't had much experience around bikes. Bridges are also areas of significant concern for bikers.
- [312](#) Number 12 is a big deal to me. I'm a supporter of the ban on bike on sidewalks. If bikers felt more comfortable on the streets they wouldn't need to use the sidewalks and as a runner and loop user, I'm glad I don't have to contend with bikes on the sidewalks, especially on the bridges. I don't think anyone should have a problem though with small children and small bikes using the sidewalks, that's an exception I think everyone can deal with.
- [317](#) Drivers of cars should face stiffer penalties when they hit pedestrians
- [318](#) On weekends when parking is not allowed on the one side of N. Lumina it is a very safe place to bike. North of Johnny Mercer's Pier has some tight areas that become sketchy in summer traffic.
- [323](#) I feel that Lumina, between Wings and Johnny Mercer's pier is one of the scariest places to ride a bike in town. People pay little to no attention to what they are doing.
- [325](#) it's criminal that a beach-town with all round weather does not foster and promote bicycles period!
- [326](#) Bike routes should be along roads with little to no traffic where possible. The paved paths along Eastwood Road and Millitary Cut off are some of the best improvements in the area. Thanks for helping to make cycling safer.
- [327](#) Do it!
- [329](#) Recently was in Southern California and was amazed at how bike friendly it was. People riding everywhere. Makes for great positive energy and you want to get out and jump in. Very motivating. It is not the same vibe around here. Wilmington/WB has so much potential to add to the community regarding biking. Makes for a more attractive community. Look at all the bike shops opening up, they smell the opportunity and potential.
- [335](#) In unsafe areas I and my children cycle on the pavements. Pedestrians are give right of way so on approaching a walker we dismount pass them then remount. We have had no problem with this approach from walkers. I am disappointed that (especial in parmele) the rubbish collectors and other wrightville beach marked transport DO NOT abide by the speed limits and set an example to other car drivers.
- [341](#) There is a huge difference between competitive/exercise cyclists (road racing, triathlons) and recreational cyclists (beach cruiser, family rides, shoppers etc.) but both use WB and both need to be accommodated. Competitive cyclists want uninterrupted good roads (e.g N Lumina) and are prepared to "mix" with vehicular traffic - e.g. wide shoulders, bike lanes on roads. Recreational cyclists want and deserve safety, safety, safety; and should have no or minimal exposure to vehicular traffic - e.g. off road lanes/trails suitable for lower speeds.
- [342](#) I have lived and biked here in Wilmington and WB for 6 years. It is dangerous and at times deadly to ride around here. More so than any other city that I have lived in. Bicycle awareness is a joke around here and no one respects our rights as bikers. There have been some improvements to try and provide bike lanes but none have worked so far. I always see the sign on 421 coming into Wilmington saying that Wilmington is a "Fit Community". I always laugh and shake my head at that. No way. That was voted in by people who are not out here suffering with these roads, these drivers, and the lack of support from the local government for our rights and safety.
- [343](#) Multi-use lanes are hazardous for serious cyclists and for the non-cyclists if serious cyclists are forced to use them. Wider roads with designated bike lanes (which are periodically cleaned) are far superior to multi-use paths for cycling.
- [345](#) Motorists simply do not know the laws of bikers in the road. I think signs should be posted with the penalty of hitting a biker.
- [347](#) The state of cycling within the Wilmington city-limits is sub-par at best. Having re-located from Philadelphia 12 years ago, I can say with

confidence, Wilmington is much more dangerous for the on-road cyclist. With the large draw to the area due to the weather, athletic community, local triathlons, etc. one would think the city would accomodate cyclists much better.

[350](#) Got to better on building more safe tracks for cycling

[352](#) It is all about education, patience and doing the right thing.

[357](#) We desperately need a sidewalk or bike path down Wrightsville Ave. that starts from College Rd. and ends at Wrightsville Beach. There is little to no shoulder on the majority of Wrightsville Avenue and it is a popular road for bicyclists.

[358](#) I commend Wrightsville Beach for conducting this survey. All of New Hanover County needs to get on board to provide better facilities for bicyclists. Thanks!

[360](#) As an avid cyclist, I support any efforts Wrightsville beach makes to improve conditions for cyclists in the town. I urge you to listen to suggestions from other cyclists who know the problems and dangers we face on the road.

[362](#) Wrightsville Beach is an area that encourages outdoor activities, such as riding a bike. It also cuts down on traffic. However, it is not safe with our current conditions. Our bridges are especially dangerous. Our sidewalks are full of pedestrians so we it is unrealistic to think bicycles can share the sidewalks. The bridges are especially dangerous for bikers and there is no room on the bridge sidewalks for a biker to cross. We need bike paths throughout the entire town.

[364](#) The roads at Wrightsville Beach are fairly biker friendly. The roads to get the beach are a whole other story...

[371](#) Waynick Blvd needs to be more bicycle friendly. Send newsletters and project notices by email, only, to save money. Have stakeholders/community advisory board established (if not already).

[372](#) the town has done nothing for bicyclist, Im shocked no one has been killed. Its the beach, people ride bikes

[374](#) Thank you Wrightsville Beach for helping us bikers. We need you, too many of us are being killed or hurt.

[381](#) I think the main focus of the improvements should be making roads with wider bike lanes so that motorists have plenty of room to pass and cyclists feel safer with a larger buffer zone. I think bike paths only create more problems. When you approach a street on a bike path, I think that more people are inclined to just go through without stopping because they feel like they still have the right of way, and they don't. Plus, when there is a bike path, motorists get the impression that you should be using the bike path and not the road. Case in point, the new path along Eastwood is great for recreational cycling and running/walking, but for a competitive cyclist. It is just not safe to be going 25 mph on what is essentially a glorified sidewalk. Bicycles are traffic and they should remain as such. Bikes and cars are not mutually exclusive, we just need to make the roads safer so that they can coexist in the same space.

[384](#) Member of the YMCA and WB is one of the few places people slow down for cyclist

[386](#) With the number of bicycle related fatalities in and around Wilmington, we dispartately need safer bike accommodations.

[388](#) I don't live at the beach, but as As Tri-club we use your streets all the time. Also, with the death of a second Bicycler in the past 3 months, I wish you fix some of these issues. Thanks

[389](#) Thank you for conducting this survery. Current riding conditions are a shame when you feel unsafe, which I usually do.

[392](#) please make bike lanes on all roads. Please put up signs to cars reminding them to share the road. Especially with so many tourist driving in town.

[394](#) Clearly marked bike lanes with adequate space for cars to pass bikes would be a huge safety improvement for both cyclists and motorists alike.

[397](#) With the need to get America safe and fit,this is a really must do plan.

[400](#) i am a member of the YMCA triathlon club

[402](#) - Work with City of Wilmington to improve cycling conditions to and from Wrightsville such as as bike lane on Eastwood, Military Cutoff, etc

[403](#) I believe there should be a bike path or lane that goes to the mid and south end of the island as well. There are nothing on the north end to ride to. A path or well defined / separate bike lane that allows access to the business district would have a much greater impact on improving and increasing bike riding.

[405](#) It would be good to coordinate with the county as the bike paths are poor countywide. the paths leading to the beach stop short as they only reach Eastwood/Military and the Ogden Route does just ends.

[408](#) As a road bike rider, Wrightsville Beach is one of the better places to ride in the area. The problems are the inconsiderate and careless drivers

[410](#) I support the no bikes on sidewalk due to congestion. The more dedicated bike lanes the more car traffic that will be kept off the beach, it will be easier to commute to beach on bike and people will ride more for recreation / exercise.

[413](#) Thank you for pursuing this. We really need to be a bicycle friendly beach town!!!

[414](#) purchase former baby's hospital property and build a parking garage with shuttle to beach, eliminate parking on roads that can't be widened for bike lanes and sidewalks

[418](#) To many cyclist are being injured or killed due to drivers. It's about time this town make it's road and trails cyclist friendly.

[420](#) This survey is a great idea and I hope valuable information is collected from it and used to improve motorist awareness of cyclists. We are lucky in that both Wilmington and Wrightsville Beach have a very fit population of citizens that enjoy being outdoors and taking advantage of our great weather. We need to do what we can to protect our citizens while safely and proactively enhancing our healthy lifestyles!

[421](#) I ride my bike on Wrightsville Beach over 230 miles a week, every day it's not raining if possible. On the whole, it's a great place to ride but I have come near to being hit dozens of times in the last year alone, just from drivers that are unaware.

[424](#) Bike paths would be the ultimate answer but space is the real problem so more awareness and were it is possible paths. On and off road paths.

[425](#) I am very happy finally something is being done about bicycle riding on Wrightsville Beach. Having a bike friendly community will make Wrightsville a much more desirable place to visit or live. Please do your best to slow the traffic down on Causeway Drive.

[426](#) make the public aware of driver responsibilities and cyclist responsibilities..fines for each side

[427](#) I love to bike

[428](#) We ride with our 4 and 6 year olds on trail-alongs frequently to the beach, to restaurants, to my son's school (WBS). I would love safer riding along Lumina in particular. We have learned the short cuts - along Pelican, through some back streets - but there isn't a short cut up to the North end and in the summer the tourists aren't looking for bikers! Thanks for doing this survey.

[429](#) When riding north on SOuth Lumina at Sprunt we are dangerously routed wrong way aout to Waynick which is dangerous in summer time

[431](#) I lived in Northern Virginia with wonderful bike trails...we need at least some of these for the beach area

[435](#) Quit talking about a bike lane and just do it!

[437](#) Banning Use of Bicycles and Skateboards/Skates --- is completely insane --- people need a reality check we are AMERICANS inovators of

the world --- part of our current problems are due to FOOLISH arguments like these - Long Time WB FAN --- I am sick to death the way this beautiful place is being sheltered, sequestered and regulated by GREEDY power hungry MISERABLE &\$\$#'s --- the way parking/regulation is run at wrightsville beach (surfing bans and other BANS by idiot power hungry residents) is an interesting micro-cosm (sp??) of why the WAR in IRAQ is such a failure and not stimulating our economy as WARS should ---- some things should be municipal - not line the pockets of well connected individuals --- Lets stop this foolishness and get america and WB back on track

- 438 Thank you very much for your efforts in this regard. Biking is my primary means of transportation. It is encouraging to see the town make an effort to improve conditions for cyclists and motorists.
- 439 Wrightsville Beach is one of the safest places to cycle in the county so thank you! The improvements mentioned in #11 will make things better.
- 440 We need better combined traffic organization for serious cyclists who need to be able to ride safely along side motorized vehicles.
- 441 We desperately need bike lanes and wider paths on the bridge for runners and cyclists.
- 442 Making a safe connection from/to the beach with the new paths on Eastwood and Military Cut-off would be a good thing.
- 443 As an avid cyclist, it would be an attractive improvement for Wrightsville Beach as a community to improve the bicycle safety standards.
- 445 I would like to see improvements to all four bridges to better accomodate bikes and pedestrians. I would also like to see improvements on both sides of eastwood rd from the heidi trask drawbridge to military cutoff.
- 446 More Bike lanes, please. Sidewalks could be widened to allow room for pedestrians & bikers. I would very much like to ride my bike on Causeway & over both bridges, but I do not feel safe...
- 453 I am not a Wrightsville Beach resident, but I have family that have places at the Wrightsville and it would be nice to ride safely, particularly with children.
- 454 Important to me to make Causeway Drive bike friendly... and Waynick
- 455 If people off of the island want improvements to WB then they should pay for it, not Wrightsville residents.
- 456 I feel strongly about the last question. I have never understood why bikes are prohibited from the loop. It's the perfect ride for both children and adults. We should consider widening the loop rather than limiting any kind of exercise.
- 457 There seems to be no discussion for improving biking for those of us who live on the south end of the beach. South Lumina would be ideal if right of ways were opened in the few blocks that are no thoroughfares (ie, at Yacht Club and Blockade Runner. Please consider some type of options for us besides darting out onto Waynick for a block at a time.
- 459 As an avid cyclist I really appreciate the town of WB taking the time to look into the safety of the road system. At this time, the number of cyclists on the roads is increasing tremendously. The future of transportation is changing and there is no denying the fact that our area is currently not ready to handle the increase in numbers of cyclist on the road. Thank you again for trying to make our area safer.
- 460 We need a bicycle path to encourage alternative transportation. Let's quit talking about it and get it done.
- 461 Bike lanes and or wider roadways would be awesome.
- 464 I strongly believe in providing bike lanes on all the major roads - if there is a lane it allows for bicyclists to feel more comfortable/safe riding- and therefore increases the number of bicyclists out there. Also the car drivers are much more aware of the bicyclists because of the designated lane. There is room for the bikers- therefore they don't 'annoy' the drivers - and the drivers are much more tolerant of the bikers.
- 466 My wife, daughter and I live about 1.5 miles from the Trask Draw Bridge and we love to ride our bikes to the beach. The trip is often treacherous however, and we feel particularly unsafe on Harbor Island and Wrightsville beach. I think that doing whatever it takes to make Wrightsville Beach and Wilmington more bicycle friendly is the most important local project our communities should undertake in the near future. It is a travesty that an area so rich with outdoor culture has such pathetic bicycle amenities. There would be nothing I would like to see more than dedicated bike paths throughout Wrightsville Beach that is integrated with dedicated bike paths in Wilmington.
- 470 My husband and I bought beach cruisers about a year ago to ride around town, but we don't actually take them out very much because it's such a bear to fight the traffic. We live on Wrightsville Ave and often ride to Dockside or to the beach, but all of the streets we would have to take are just too busy with out any specific space for bikers. We would love to see bike trails all over town or even just some roads widened. If riding bikes was made a bit easier, I know we would ride our bikes everywhere!
- 471 Non Residents that are visiting should be given information about local biking regulations when they arrive, either in the local newspaper, or at home rental offices. Then they will be better educated and know that bicyclists have rights on the roads, and will be more aware of our high cycling traffic.
- 473 The guard rails on the salisbury bridge look as if they could be moved over closer the edge of the side walk that would give an extra 10 inches or so of walk way. This would help a bunch and would not be that big of fix.
- 475 The only part of Wrightville Beach that is threatened to cyclists is Causway Drive. We are not allowed to use the sidewalks and thus have to ride with the low of traffic in the extra parking blocks by driveways. It is hard to have to dodge parked cars and the coming traffic behind you. Lumina Avenue does not have enough traffic to really be affected. It is easy to ride a bike without getting run over by a driver.
- 477 I live in Wilmington but enjoy riding my bike to beach. Making improvements to biking routes along Eastwood Road and to the beach would greatly increase my safety and encourage more frequent rides especially during high traffic times which I currently avoid.
- 478 bike paths that are not part of existing roadways are the only safe paths. If combined with pedestrian traffic, widen paths and put signage giving right of way to pedestrians.
- 479 My parents live down here at the beach as well and last spring, my dad called me and gave me news that no one wants to hear. My mom was hit by a car that didn't see her as they were biking. We need to create off road bike paths and we need to recognize that a time has come that we need to look at ways of getting rid of more and more cars on the island and welcoming bikes. It is time to go green and start working to reduce all the cars that are gridlocked on the beach. We also must provide safe, off road bike paths that parents can feel comfortable letting their children ride on
- 480 We keep our bikes at Seapath Marina and use them on WB often.
- 481 I would like to see bike trails run through the city park areas as well as marked bicycle paths in city streets.
- 483 I am glad to see that Wrightsville Beach is addressing bicycle issues. In order to remain one of the top beaches in NC we will have to provide better bicycle facilities for our residents and tourists.
- 484 Wrightsville Beach is made for biking. Improving the facilities here for this purpose and encouraging the use of bikes would make this a more enjoyable place for tourists and residents alike, particularly along streets such as S. Lumina.
- 486 It would add so much to have a bicycle friendly community that accommodates walkers, cyclists and motorists. This is almost year round perfect weather for outdoor exercise.

- [496](#) Crossing the bridge to get to Wrightsville Beach on Highway 74 is downright terrifying. Because of the lack of bike lanes, I have to ride in the middle of a lane, otherwise motorists get too close and try to push me to the edge near the sidewalks. In addition, Waynick Blvd. can be rather scary with all of the cars parked on the side (people opening and closing doors and pulling out of spaces without looking) and speeders driving through the area. It would also be nice if you could ride to a spot where you could actually stop and look at the ocean without getting off of your bike.
- [504](#) With so many injuries in this town, we need separate protected paths that are wide enough for peds and bikers alike, as are seen EVERYWHERE ELSE (Cary, NC, Beltway path DC, and hundreds else out there), with safe passage over busy intersections and bridges. With the wealth of this town, it's about time, don't know why we're 10 years behind everyone else, but I definitely support new paths WHOLEHEARTIDLY!
- [507](#) I find the (in general) areas close to WB less bike friendly than other places on the 3 county area. I call them "the mean streets".
- [512](#) Thanks for taking the time. I think more people would ride if it was safe !
- [516](#) considerable amount of time spent riding with triathlon training group in WB
- [520](#) Thank you for sending out this survey. I ride from my house to Wrightsville beach at least 50 times per year mostly in the am and have the pleasure of viewing the sun coming up over the water... it is truly the best way to start the day. I hope through your work on this project you make it safer for all cyclist to enjoy the beauty Wrightsville Beach has to offer.
- [521](#) I have found WB to be a relatively comfortable place to ride in New Hanover county. In comparison - Wilmington proper is dangerous most of the time in most places. The slower pace of life on WB and slightly wider roads makes riding there attractive. Quite literally I feel like I am taking my life in my hands when I ride in Wilmington and NH County.
- [523](#) Please link Wrightsville Beach with the Eastwood Road bike lane safely.
- [526](#) Ban cell phones while driving. Put red light runners in jail. Etc. Need to coordinate with county for needed improvements for cycling on Eastwood Rd.
- [528](#) more bike lanes on major roads for less stopping
- [531](#) We lived on Wrightsville beach for six months and tried to ride a lot. I avoided major streets and also drove really careful because I was aware of bicyclists and pedestrians but saw many drivers who were oblivious. Would love to see clearer markings. Had several scary incidents with drivers who didn't want to share the road.
- [536](#) Wrightsville beach is a fun place to cycle. For the most part, motorists seem to accept cyclists, which makes riding more comfortable. Any improvements would make cycling safer and easier. I live in Wilmington and frequently ride to Wrightsville Beach.
- [537](#) My girlfriend and I do ride to Wrightsville Beach frequently. The strongest disincentives from a safety perspective are the drawbridge and the run across Bradley Creek.
- [538](#) It's far too dangerous to ride a bike here. Intuitive and consistent designated trails are needed throughout Wilmington. There's no decision to be made when lives are being lost.
- [544](#) slow the people at the the drawbridge. 35 mph. should be max coming on the drawbridge and on salisbury(74)
- [550](#) Sharing the road is the ultimate goal for safe cycling and any thing that can be done to accomplish this will help.
- [551](#) Thanks for doing this survey. Please do whatever you can to promote bicycling in our area! It is healthful, it is fun, it is good for the environment, it reduces our dependence on foreign oil. Good luck.
- [557](#) The major safety issue is the draw bridge, the deck surface is slick especially when wet.
- [563](#) From my house to the south end of WB and back is 20 miles, a nice after-work ride. However, I avoid it because of the traffic. Getting to WB I worry about the volume and speed of the cars on Greenville Loop and Oleander/Cut Off. In WB, I worry about all the parked cars and the narrow space between me, the parked cars and the moving cars. I also worry when my teenage son rides his bike to the beach for the same reasons. I'd love to see more people biking to the beach. Thanks for asking.
- [569](#) Would be nice if improvements could be made regarding bike access on the roads leading to Wrightsville beach. The bridges are a problem. The car lanes are narrow, there are no bike lanes, and the sidewalk is too narrow to accommodate both cyclists and pedestrians. Also, anything that would make drivers more aware and respectful of cyclists would be good - be it education and awareness activities or enforcement of speed limits.
- [576](#) I lived at Wrightsville Beach for many years and it is by far the best place to ride a bike or jog for fun and exercise than in any of the three surrounding counties. Kudos to the town of Wrightsville Beach for asking.
- [579](#) The bridges can get really bad along with the intersection of Wrightsville and the main drag into Wrightsville beach.
- [580](#) Bring it on Wville Beach.... It's time to accomodate everyone ped's and cyclists. I make at least one trip a week to wville bch on my bike would really like to see bike lanes on all major roads.
- [582](#) I find it difficult to ride in areas where there is no bike lane because of parking. If there are cars in every parking spot, the cars do not have much room to go around bikes. It feels unsafe at times because of not having enough room for the bikes, cars, parking and sidewalks.
- [583](#) I would like to see an effort to link the Wrightsville beach bike path with the newly constructed path on Eastwood Rd. Currently the stretch across Heidi Trask bridge and across Military Cutoff makes it too dangerous to contemplate biking. I work at the University and if the paths were connected I would commute via bike on a regular basis.
- [584](#) IF Enforce the 25 mph speed limit on N. Lumina then I think this is a safe bike-way. I would place an automated radar-sign indicating "your speed" on N. Lumina for the entire summer season...perhaps next to the water tower near Holiday Inn. Suggest that high visibility blinking lights be used by bikers at dusk/dawn and at night. These lights are cheap and lite-weight and portable. Encourage people to bike by making bike racks available. I suggest at least one or two at Beach entrance #2 (shell island) and any of the other popular entrances that do not have racks.
- [591](#) Require bike lanes when repaving
- [592](#) The bridges are very unsafe for bicyclists. A separate area for bikes would be most safe especially around intersections but clearly marked bike lanes would help.
- [595](#) Bike lane considerations need to accomodate family oriented activity as well as 'commuter' & road biking
- [596](#) Live in downtown wilmingon
- [598](#) We travel all over country, and out of country and it is pathetic that Wrightsville Beach and Wilmington can't provide better bike riding facilities for its residents.I We need them so much.
- [599](#) I feel secure riding on most streets. My main concern is for young and old riders who lack the predictability and/or experience to be riding with traffic.
- [601](#) "Share he Road" ; safety education, slower speed limits, all are pretty much a waste. the answer is Bike lanes, bike lanes, bike lanes, Please.

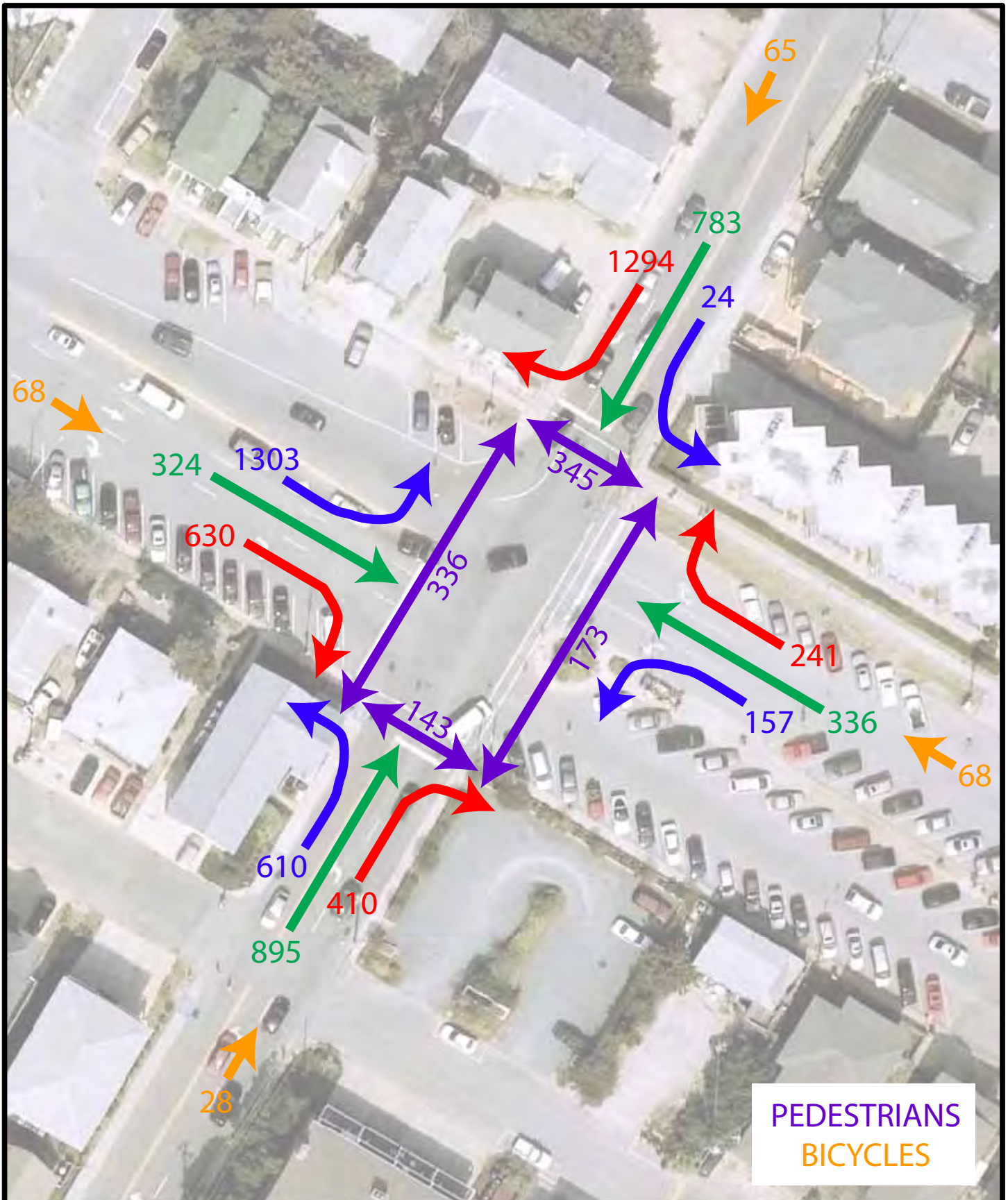
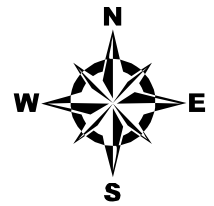
- [604](#) Cell phone use and driving is a problem...afraid to cross the yellow line to yeild to cyclists...and stupidity are the three biggest
- [614](#) In regards to question 12, bicyclists should have the right to ride on the sidewalks when they do not feel safe riding on the roads. Children should ride on the sidewalk.
- [616](#) Force car stop at cross walk when bicycle-pedestrian trying to cross the road (like in California, Key West)
- [617](#) We need stoplights beside the Harbor Inn, and force cars to stop when pedestrians are ready to cross the road
- [618](#) More pedestrian/bike cross walks - e.g. @ Causeway and Island Drive and strict enforcement by police with major fines.
- [619](#) I do not support the ban on sidewalk riding for bicycles. It's the only safe place to ride with your children! Common coutesy for bikes and walkers. Law or no law, there are times and roads that I simply will not let my children ride on street! Obviously vigorous exercising bikes have no place on sidewalks, but easy going families, individuals can sahare. Also, better lighting for loop!

(255 total)

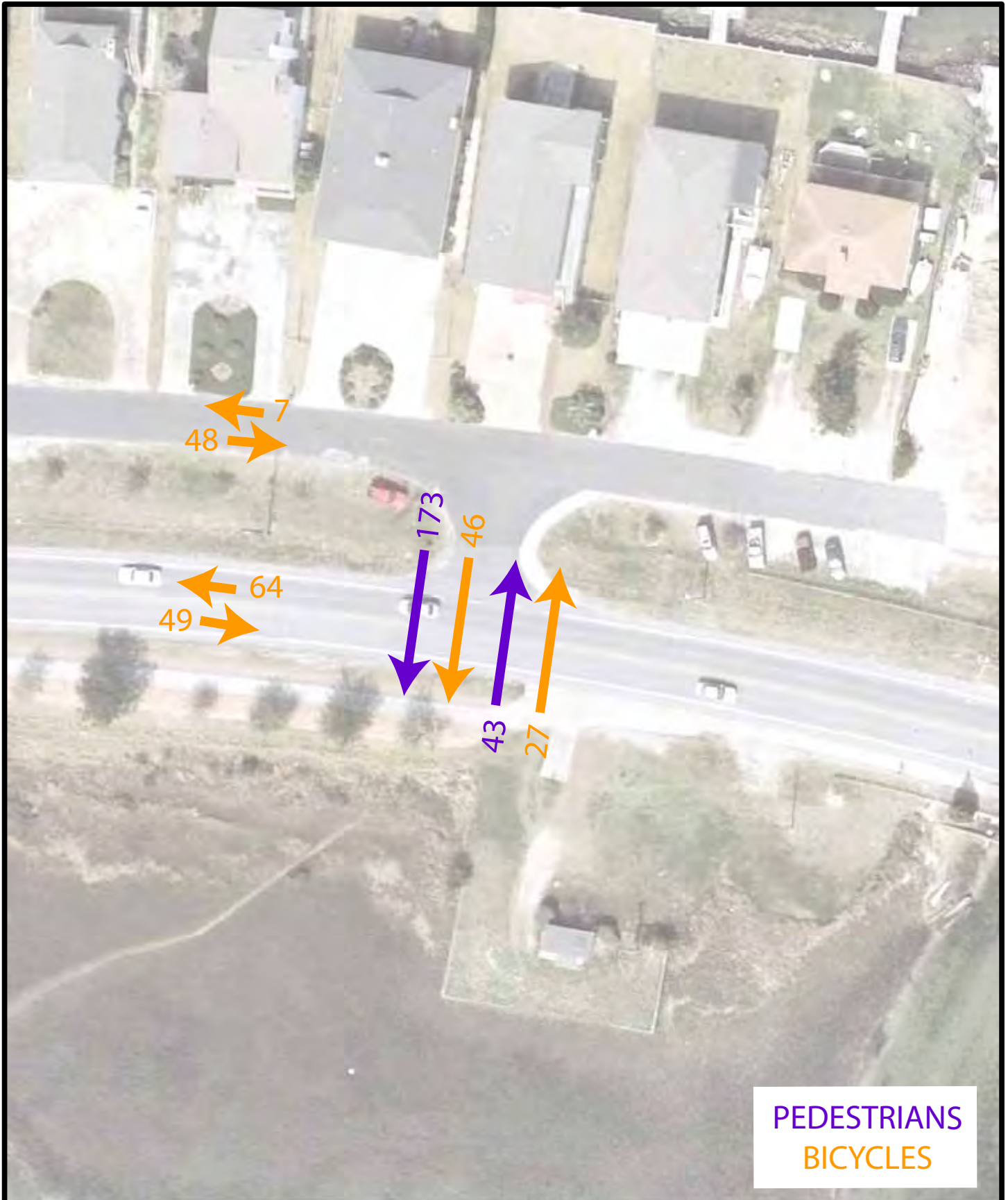
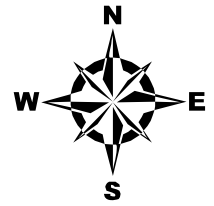
Appendix E: Bicycle and Pedestrian Count Data (May 2009)

In order to support the study process, the Town of Wrightsville Beach and Wilmington Metropolitan Planning Organization (WMPO) dedicated staff to conduct bicycle, pedestrian and vehicular traffic counts and turning movement counts at key locations in the study corridor. The counts were performed by Town and WMPO staff on Saturday, May 23, 2009 during the busy Memorial Day holiday weekend. The full results of the data collection are included in the following pages.

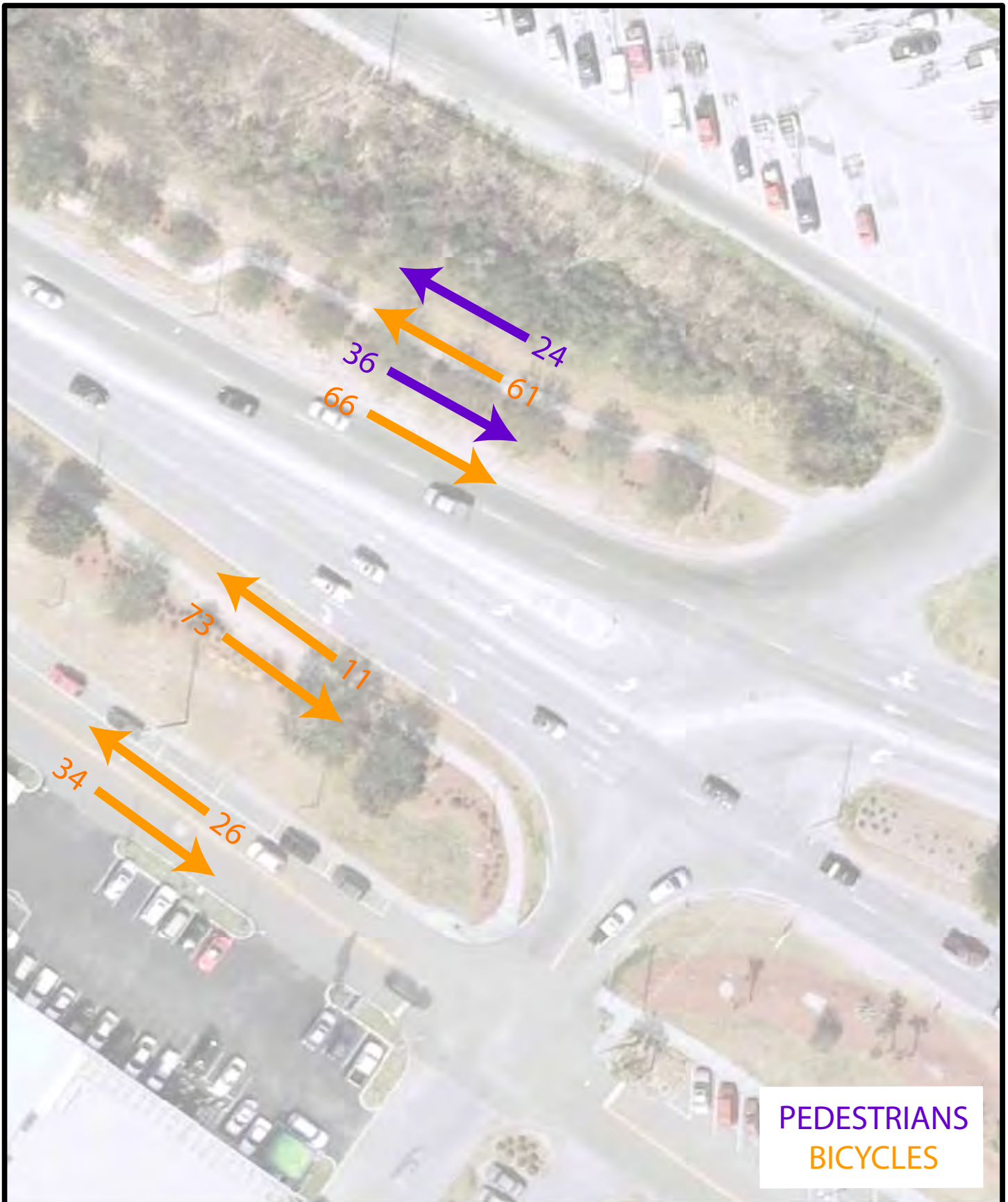
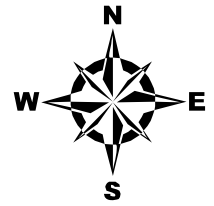
Turning Movement Count
North Lumina Avenue at Salisbury Street
May 23, 2009 from 10:00am to 2:00pm



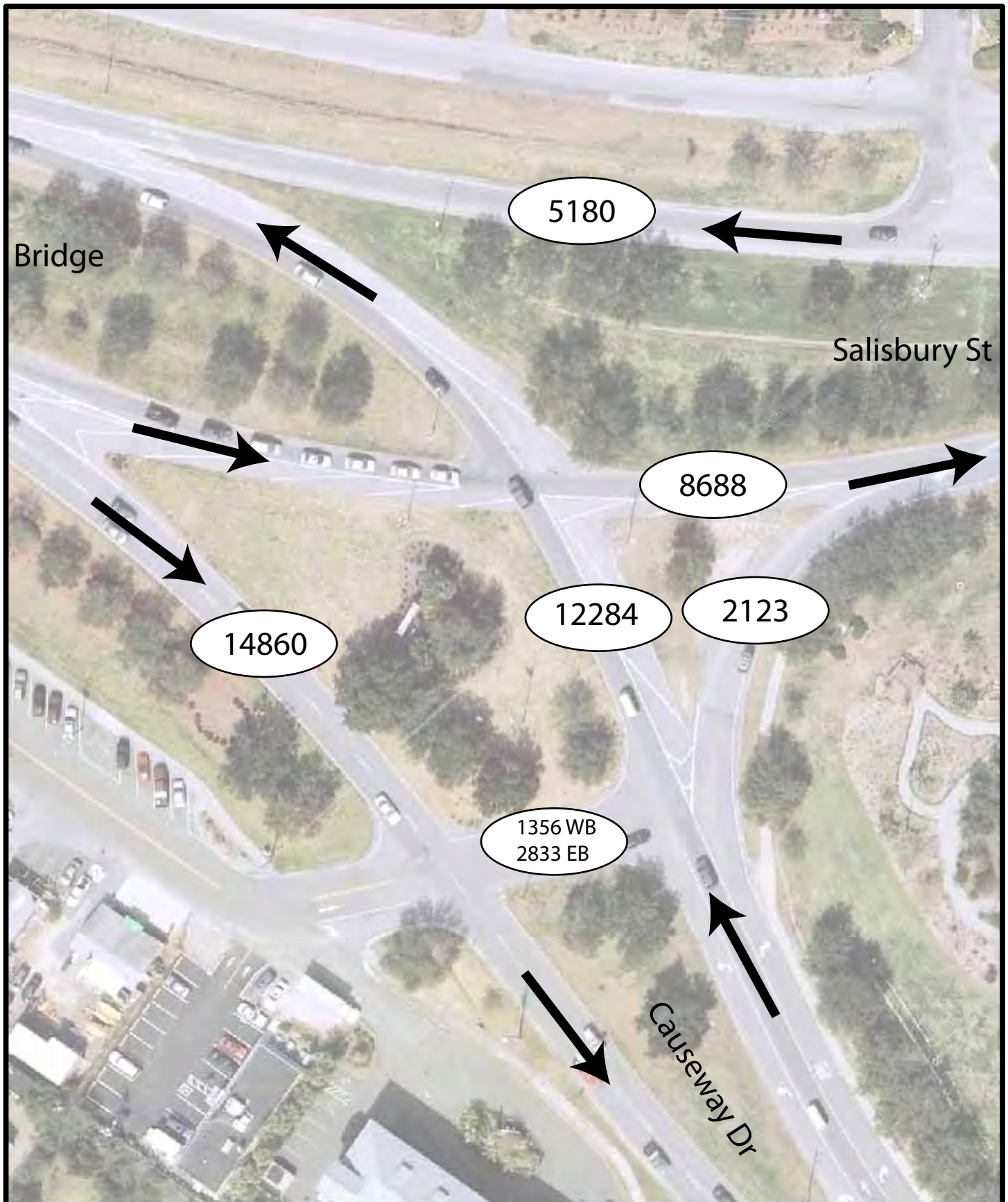
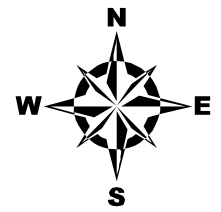
Screenline Counts
Pelican Drive Driveway at Salisbury Street
May 23, 2009 from 10:00am to 2:00pm



Screenline Counts
Old Causeway at Heide-Trask Approach
May 23, 2009 from 10:00am to 2:00pm



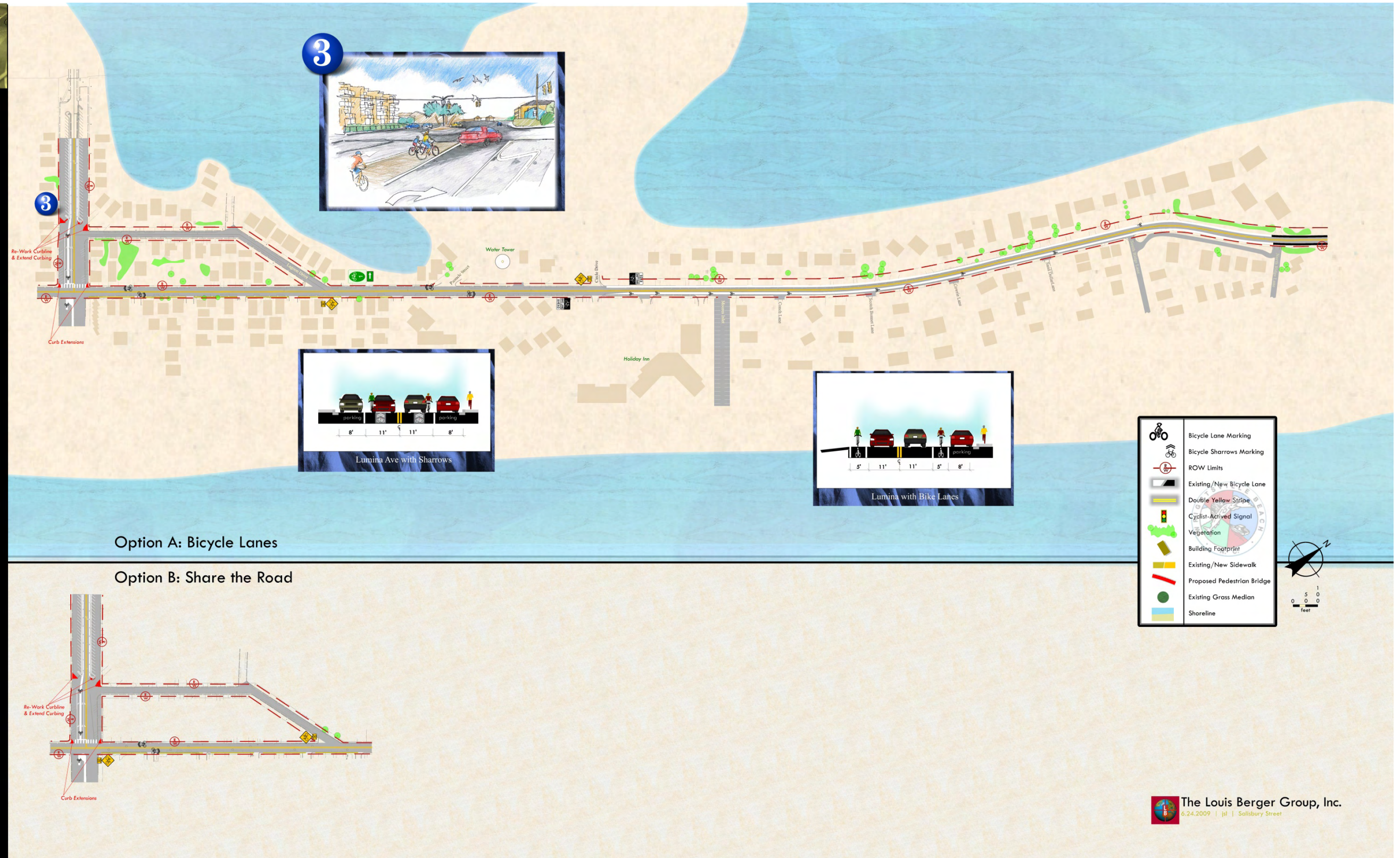
Average Daily Traffic
Memorial Day Weekend 2009
Fri May 22 12:00am to Mon May 25 11:59pm



Appendix F: Technical Addendum for North Lumina Avenue

The original study area for the Pelican Drive / Salisbury Street Bicycle Plan included North Lumina Avenue from Salisbury Street north to the existing bike lanes at North Ridge Road. Recommendations for a combination of bike lanes and sharrows pavement markings were made for North Lumina Avenue and are illustrated in the attached diagrams and schematics. Due to a lack of public support, the Parks and Recreation Advisory Committee requested that the North Lumina Avenue design elements be removed from the plan as a recommended design, so that the Salisbury Street and Pelican Avenue options might move forward. However, for posterity, these elements are included in this appendix in order for the work not to be lost.

Wrightsville Beach Bicycle Corridor Study



050100

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO.
JA2745

SHEET NO.
9

ALTERNATIVE 1

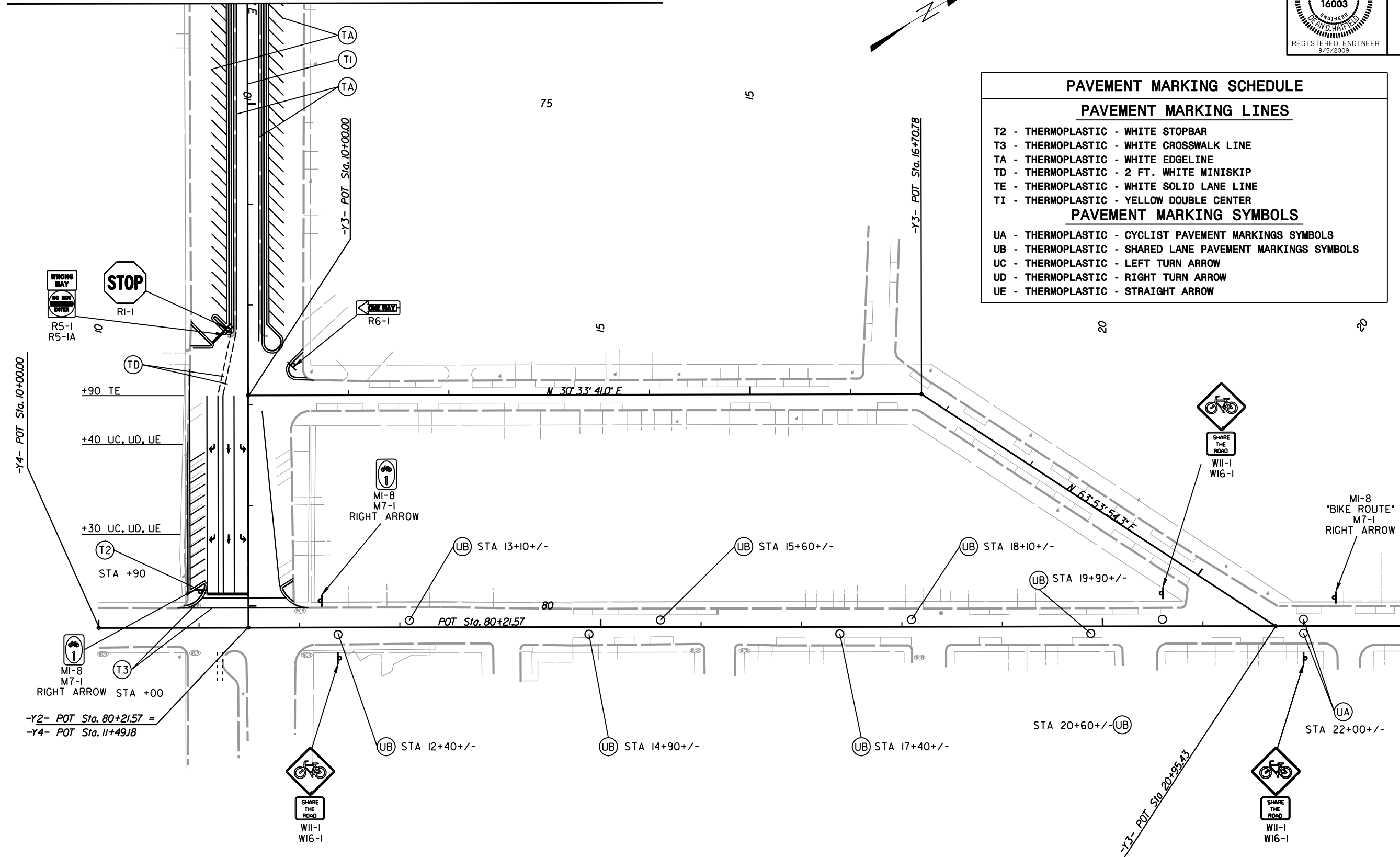
ROADWAY DESIGN
ENGINEER

SEAL
16003

REGISTERED ENGINEER
8/5/2009

MATCHLINE -Y2- STA 74+00 SHEET 8

PAVEMENT MARKING SCHEDULE	
PAVEMENT MARKING LINES	
T2	- THERMOPLASTIC - WHITE STOPBAR
T3	- THERMOPLASTIC - WHITE CROSSWALK LINE
TA	- THERMOPLASTIC - WHITE EDGELINE
TD	- THERMOPLASTIC - 2 FT. WHITE MINISKIP
TE	- THERMOPLASTIC - WHITE SOLID LANE LINE
TI	- THERMOPLASTIC - YELLOW DOUBLE CENTER
PAVEMENT MARKING SYMBOLS	
UA	- THERMOPLASTIC - CYCLIST PAVEMENT MARKINGS SYMBOLS
UB	- THERMOPLASTIC - SHARED LANE PAVEMENT MARKINGS SYMBOLS
UC	- THERMOPLASTIC - LEFT TURN ARROW
UD	- THERMOPLASTIC - RIGHT TURN ARROW
UE	- THERMOPLASTIC - STRAIGHT ARROW



MATCHLINE -Y4- STA 23+00 SHEET 10

8/5/2009
g:\je shared files\projects\wrightsville beach - bicycle plan\engineering\09_JA2745.D1-SHEET.dgn
8:43:36 AM

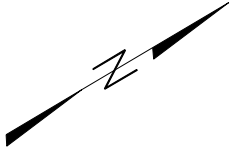
REVISIONS

8/5/2009
g:\je_shared_files\projects\wrightsville beach - bicycle plan\engineering\10_JA2745_D1_SHEET.dgn
8:43:39 AM

REVISIONS

MATCHLINE -Y4- STA 23+00 SHEET 9

PAVEMENT MARKING SCHEDULE	
PAVEMENT MARKING LINES	
T2	- THERMOPLASTIC - WHITE STOPBAR
T3	- THERMOPLASTIC - WHITE CROSSWALK LINE
TA	- THERMOPLASTIC - WHITE EDGETLINE
TD	- THERMOPLASTIC - 2 FT. WHITE MINISKIP
TE	- THERMOPLASTIC - WHITE SOLID LANE LINE
TI	- THERMOPLASTIC - YELLOW DOUBLE CENTER
PAVEMENT MARKING SYMBOLS	
UA	- THERMOPLASTIC - CYCLIST PAVEMENT MARKINGS SYMBOLS
UB	- THERMOPLASTIC - SHARED LANE PAVEMENT MARKINGS SYMBOLS
UC	- THERMOPLASTIC - LEFT TURN ARROW
UD	- THERMOPLASTIC - RIGHT TURN ARROW
UE	- THERMOPLASTIC - STRAIGHT ARROW



050100

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO.
JA2745

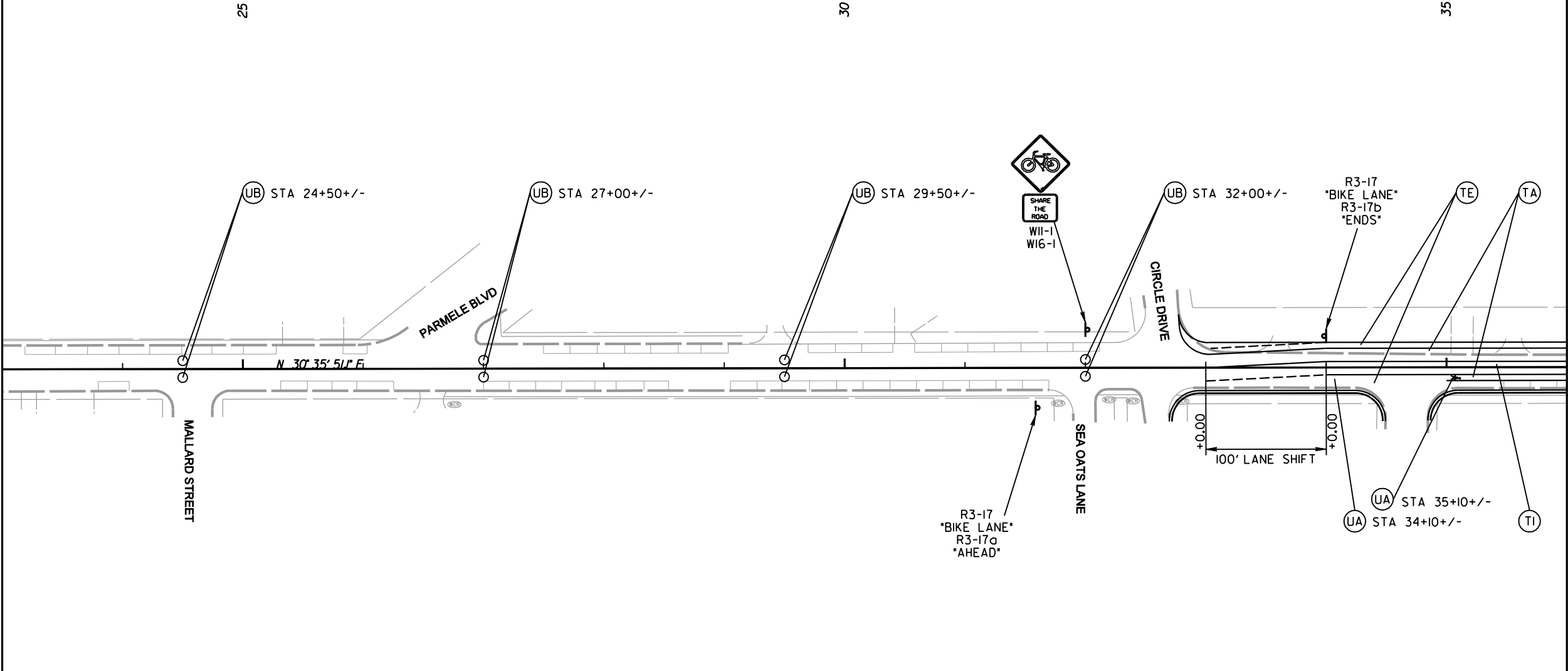
SHEET NO.
10

ALTERNATIVE 1

ROADWAY DESIGN
ENGINEER

SEAL
16003

REGISTERED ENGINEER
8/5/2009



MATCHLINE -Y4- STA 36+00 SHEET 11



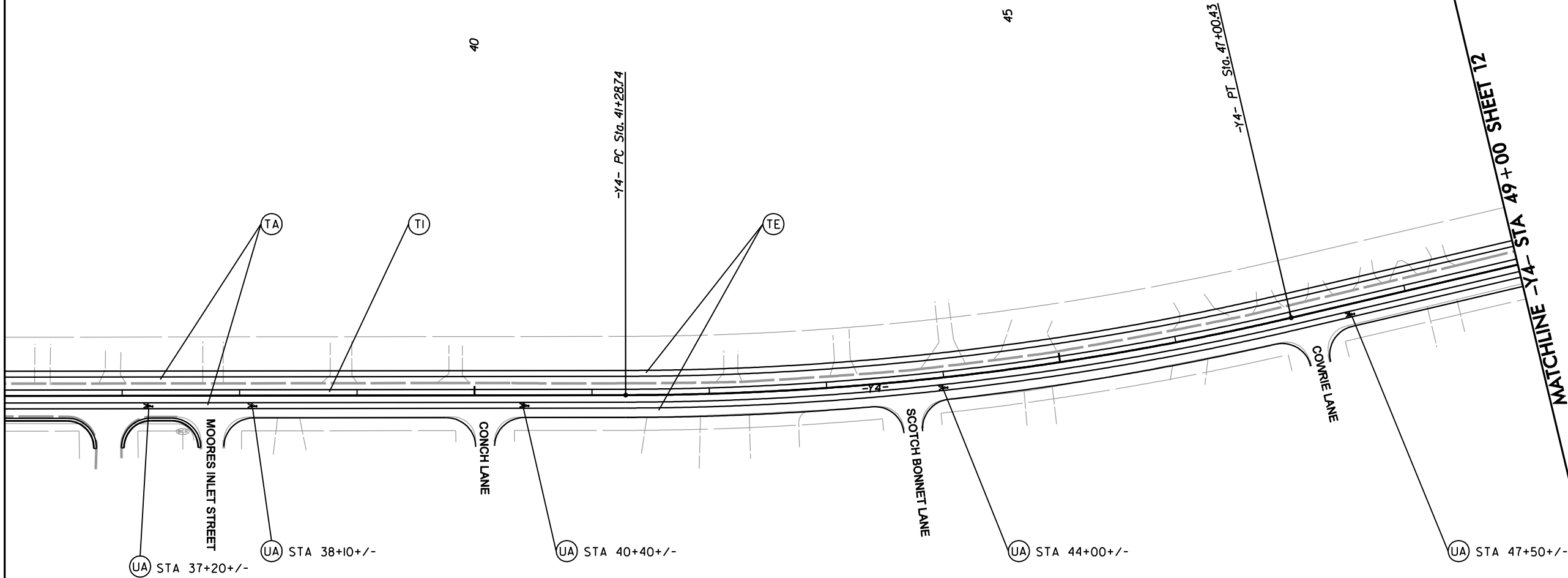
THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605

8/5/2009
g:\je_shared_files\projects\wrightsville beach - bicycle plan\engineering\11_JA2745.D1_SHEET.dgn
8:43:42 AM

REVISIONS

MATCHLINE -Y4- STA 36+00 SHEET 10

PAVEMENT MARKING SCHEDULE	
PAVEMENT MARKING LINES	
T2	- THERMOPLASTIC - WHITE STOPBAR
T3	- THERMOPLASTIC - WHITE CROSSWALK LINE
TA	- THERMOPLASTIC - WHITE EDGETLINE
TD	- THERMOPLASTIC - 2 FT. WHITE MINISKIP
TE	- THERMOPLASTIC - WHITE SOLID LANE LINE
TI	- THERMOPLASTIC - YELLOW DOUBLE CENTER
PAVEMENT MARKING SYMBOLS	
UA	- THERMOPLASTIC - CYCLIST PAVEMENT MARKINGS SYMBOLS
UB	- THERMOPLASTIC - SHARED LANE PAVEMENT MARKINGS SYMBOLS
UC	- THERMOPLASTIC - LEFT TURN ARROW
UD	- THERMOPLASTIC - RIGHT TURN ARROW
UE	- THERMOPLASTIC - STRAIGHT ARROW



-Y4- CURVE DATA
PI Sta 44+15.84
 $\Delta = 13^{\circ} 06' 07.6''$ (LT)
 $D = 2^{\circ} 17' 30.6''$
 $L = 571.69'$
 $T = 287.10'$
 $R = 2,500.00'$

050100

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO.
JA2745

SHEET NO.
11

ALTERNATIVE 1
1

ROADWAY DESIGN
ENGINEER

SEAL
16003

REGISTERED ENGINEER
8/5/2009

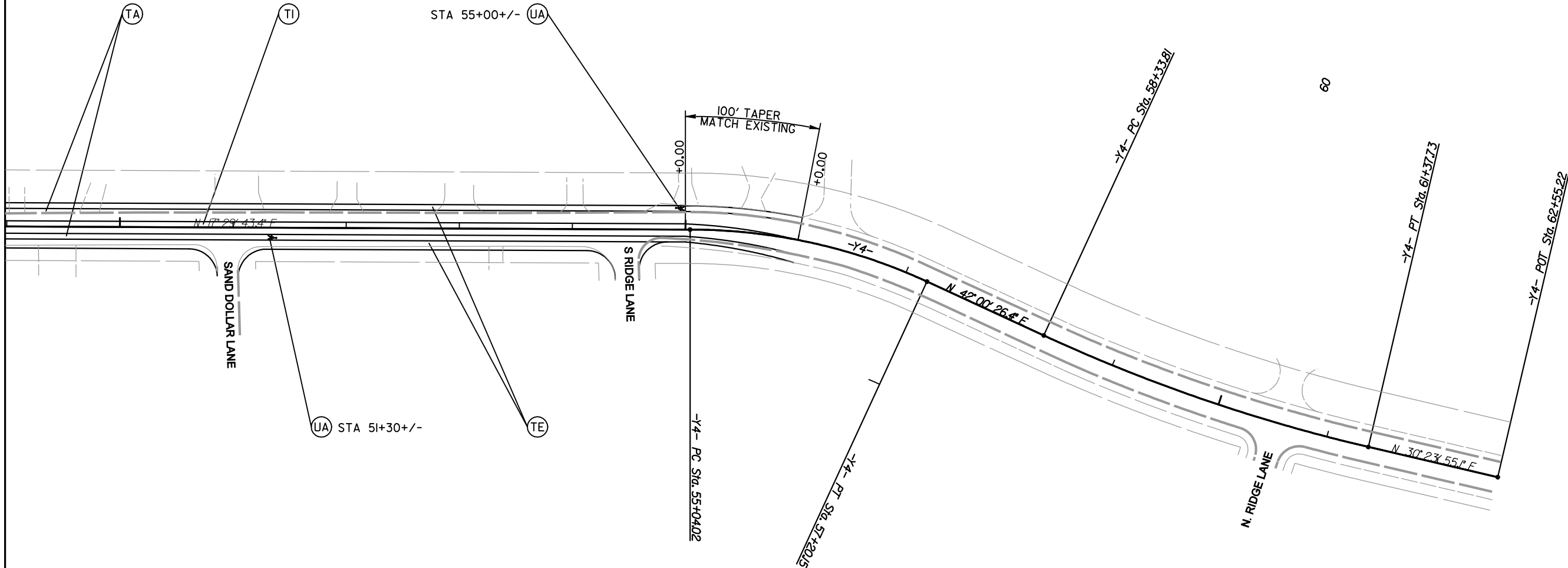
*EXISTING NUMBER OF PARALLEL PARKING SPACES MAINTAINED; PARKING NOT SHOWN FOR CLARITY.



8/5/2009
g:\je_shared_files\projects\wrightsville beach - bicycle plan\engineering\12_JA2745_D1_SHEET.dgn
8:43:45 AM

REVISIONS

MATCHLINE -Y4- STA 49+00 SHEET 11



-Y4- CURVE DATA	
PI Sta 56+13.80	PI Sta 59+86.29
$\Delta = 24^{\circ} 46' 00.4" (RT)$	$\Delta = 11^{\circ} 36' 31.3" (LT)$
$D = 11^{\circ} 27' 33.0"$	$D = 3^{\circ} 49' 11.0"$
$L = 216.13'$	$L = 303.91'$
$T = 109.78'$	$T = 152.48'$
$R = 500.00'$	$R = 1,500.00'$

*EXISTING PARALLEL PARKING SPACES MAINTAINED; PARKING NOT SHOWN FOR CLARITY.

PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

T2 - THERMOPLASTIC - WHITE STOPBAR
T3 - THERMOPLASTIC - WHITE CROSSWALK LINE
TA - THERMOPLASTIC - WHITE EDGELINE
TD - THERMOPLASTIC - 2 FT. WHITE MINISKIP
TE - THERMOPLASTIC - WHITE SOLID LANE LINE
TI - THERMOPLASTIC - YELLOW DOUBLE CENTER

PAVEMENT MARKING SYMBOLS

UA - THERMOPLASTIC - CYCLIST PAVEMENT MARKINGS SYMBOLS
UB - THERMOPLASTIC - SHARED LANE PAVEMENT MARKINGS SYMBOLS
UC - THERMOPLASTIC - LEFT TURN ARROW
UD - THERMOPLASTIC - RIGHT TURN ARROW
UE - THERMOPLASTIC - STRAIGHT ARROW

0 50 100

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO.
JA2745

SHEET NO.
12

ALTERNATIVE 1

ROADWAY DESIGN
ENGINEER

SEAL
16003

REGISTERED ENGINEER
8/5/2009



THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605

PELICAN DRIVE / SALISBURY STREET

BICYCLE PLAN

FOR THE TOWN OF WRIGHTSVILLE BEACH

ADOPTED 9/10/2009



The Louis Berger Group, Inc.
Greene Transportation Solutions