



Appendices

Appendix 1 – Detailed Cost Estimates

Appendix 2 – New Bern Bicycle Planning Survey





Appendix 1 – Detailed Cost Estimates



Comprehensive Bicycle Plan

City of New Bern, NC



New Bern Comprehensive Bicycle Plan Unit Cost Estimates

Facility Type	Cost Per Mile
Multi-Use Path	\$500,000
Wide Paved Shoulder	\$400,000
Signed Route	\$1,000
Striped Bike Lanes	\$40,000
Wide Outside Lanes	\$15,000
Signed Route with Striped Parking	\$15,000
Neighborhood Connector	\$85,000
Striped Bike Lanes (Additional Pavement)	\$440,000

Add a Contingency (20%) to all costs

** Note - construction costs only - no ROW





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New Bern Comprehensive Bicycle Plan Bicycle Route Cost Estimate

Facility Name	Airport Loop
Total Mileage	3.80
Total Cost	\$1,268,351
Total + Contingency	\$1,522,021

Multi-Use Path

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Paved Shoulder

Total Meters	4598
Total Miles	2.86
Total Cost	\$1,142,727

Signed Route

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Striped Bike Lane

Total Meters	1171
Total Miles	0.73
Total Cost	\$29,113

Striped Bike Lane (Additional Pavement)

Total Meters	353
Total Miles	0.22
Total Cost	\$96,511

Wide Outside Lane

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Neighborhood Connector

Total Meters	0
Total Miles	0.00
Total Cost	\$0





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New Bern Comprehensive Bicycle Plan Bicycle Route Cost Estimate

Facility Name	Bridgeton Loop
Total Mileage	5.45
Total Cost	\$2,203,903
Total + Contingency	\$2,644,684

Multi-Use Path

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Paved Shoulder

Total Meters	7785
Total Miles	4.84
Total Cost	\$1,934,937

Signed Route

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Striped Bike Lane

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Striped Bike Lane (Additional Pavement)

Total Meters	984
Total Miles	0.61
Total Cost	\$268,966

Wide Outside Lane

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Neighborhood Connector

Total Meters	0
Total Miles	0.00
Total Cost	\$0





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New Bern Comprehensive Bicycle Plan Bicycle Route Cost Estimate

Facility Name	Neighborhood Loop
Total Mileage	7.29
Total Cost	\$451,034
Total + Contingency	\$541,241

Multi-Use Path

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Paved Shoulder

Total Meters	1109
Total Miles	0.69
Total Cost	\$275,603

Signed Route

Total Meters	5414
Total Miles	3.36
Total Cost	\$3,364

Striped Bike Lane

Total Meters	2542
Total Miles	1.58
Total Cost	\$63,184

Striped Bike Lane (Additional Pavement)

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Outside Lane

Total Meters	2562
Total Miles	1.59
Total Cost	\$23,883

Neighborhood Connector

Total Meters	105
Total Miles	0.07
Total Cost	\$85,000





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New Bern Comprehensive Bicycle Plan Bicycle Route Cost Estimate

Facility Name	Downtown Mall Loop
Total Mileage	14.91
Total Cost	\$2,883,975
Total + Contingency	\$3,460,770

Multi-Use Path

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Paved Shoulder

Total Meters	10915
Total Miles	6.78
Total Cost	\$2,712,939

Signed Route

Total Meters	1552
Total Miles	0.96
Total Cost	\$965

Striped Bike Lane

Total Meters	4034
Total Miles	2.51
Total Cost	\$100,255

Striped Bike Lane (Additional Pavement)

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Outside Lane

Total Meters	7491
Total Miles	4.65
Total Cost	\$69,816

Neighborhood Connector

Total Meters	0
Total Miles	0.00
Total Cost	\$0





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New Bern Comprehensive Bicycle Plan Bicycle Route Cost Estimate

Facility Name	Riverfront Loop
Total Mileage	5.89
Total Cost	\$292,339
Total + Contingency	\$350,806

Multi-Use Path

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Paved Shoulder

Total Meters	862
Total Miles	0.54
Total Cost	\$214,201

Signed Route

Total Meters	5076
Total Miles	3.15
Total Cost	\$3,154

Striped Bike Lane

Total Meters	2699
Total Miles	1.68
Total Cost	\$67,076

Striped Bike Lane (Additional Pavement)

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Outside Lane

Total Meters	848
Total Miles	0.53
Total Cost	\$7,908

Neighborhood Connector

Total Meters	0
Total Miles	0.00
Total Cost	\$0





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New Bern Comprehensive Bicycle Plan Bicycle Route Cost Estimate

Facility Name	Taberna James City Loop
Total Mileage	13.90
Total Cost	\$3,329,402
Total + Contingency	\$3,995,282

Multi-Use Path

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Paved Shoulder

Total Meters	12227
Total Miles	7.60
Total Cost	\$3,038,965

Signed Route

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Striped Bike Lane

Total Meters	8783
Total Miles	5.46
Total Cost	\$218,305

Striped Bike Lane (Additional Pavement)

Total Meters	225
Total Miles	0.14
Total Cost	\$61,516

Wide Outside Lane

Total Meters	1139
Total Miles	0.71
Total Cost	\$10,615

Neighborhood Connector

Total Meters	0
Total Miles	0.00
Total Cost	\$0





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New Bern Comprehensive Bicycle Plan Bicycle Route Cost Estimate

Facility Name	Trent Woods Loop
Total Mileage	16.45
Total Cost	\$2,024,636
Total + Contingency	\$2,429,563

Multi-Use Path

Total Meters	1009
Total Miles	0.63
Total Cost	\$313,514

Wide Paved Shoulder

Total Meters	5642
Total Miles	3.51
Total Cost	\$1,402,379

Signed Route

Total Meters	6010
Total Miles	3.73
Total Cost	\$3,734

Striped Bike Lane

Total Meters	11348
Total Miles	7.05
Total Cost	\$282,048

Striped Bike Lane (Additional Pavement)

Total Meters	0
Total Miles	0.00
Total Cost	\$0

Wide Outside Lane

Total Meters	2463
Total Miles	1.53
Total Cost	\$22,961

Neighborhood Connector

Total Meters	0
Total Miles	0.00
Total Cost	\$0





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Routes	Signed Route	Striped Bike Lane	Wide Outside Lane	Paved Shoulder	Neighborhood Connector	Multi-Use Path	Length (miles)	Cost
Airport Loop		✓		✓			3.8	\$1,550,000
Bridgeton Loop		✓		✓			5.5	\$2,650,000
Downtown-Mall Loop	✓	✓	✓	✓			14.9	\$3,500,000
Neighborhood Loop	✓	✓	✓	✓	✓		6.8	\$550,000
Riverfront Loop	✓	✓	✓				5.2	\$350,000
Taberna-James City Loop		✓	✓	✓			13.9	\$4,000,000
Trent Woods Loop	✓	✓	✓	✓		✓	16.5	\$2,500,000
Total (length in miles)*	10.2	18.4	7.8	24.7	0.1	0.6	61.8	\$13,800,000

* Total accounts for overlapping in the network to produce an overall value



Kimley-Horn
and Associates, Inc.



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City of New Bern, NC



Appendix 2 – New Bern Bicycle Planning Survey





NEW BERN BICYCLE PLANNING SURVEY

The City of New Bern would like to improve the conditions and opportunities for bicycling in our community. Your input will support the work in progress to develop the New Bern Comprehensive Bicycle Plan. Please complete the survey by providing information as it applies to you. Providing your name and contact information is optional; however, it would be helpful to discuss bicycling and to inform you of bicycle plans in the future. (Please print clearly)

Name _____

Mail address _____

_____ Zip code _____

Telephone _____ (home) _____ (work)

Email _____

Age _____ Sex _____

1. Work Status: Employed _____ Work at home _____ Retired _____ Student _____

2. Do you ride a bicycle? _____ Do you own a bicycle? _____ How many? _____

3. How many bicycle riders live at your address? _____

4. How would you classify your bike riding skill level?
_____ Beginner (Under age 12) _____ Basic _____ Advanced

5. How often do you ride a bicycle?
_____ days per week / _____ days per month / _____ days per year

6. What is the length of your typical bicycle trip? _____ miles

7. Check ALL the times that you typically ride a bicycle.
_____ most everyday _____ daytime _____ night time
_____ weekdays _____ weekends _____ holiday
_____ vacation _____ summer _____ fall
_____ winter _____ spring

8. Where do you ride? Check all that apply.
_____ In the City of New Bern _____ Craven County _____ Vacation sites
_____ Other cities _____ Other states
_____ Competitive races _____ Touring events





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9. For what purposes do you ride? Check all that apply.

- Commute to work
- Commute to school
- Shopping trip
- Run errands
- Physical exercise
- Recreation
- Visit neighbor/family/friend

10. Please check all that would enhance your riding safety and enjoyment.

- bike rack at your destination
- striped bicycle lane on the road pavement
- clean road surface
- maps of bike routes
- bike rack on transit bus
- bike route signage
- drainage grates flush with pavement surface

11. Do you wear a helmet when riding? _____

12. Have you ever been in a traffic crash on a bicycle? _____ What type?

- Bicycle / Car or Truck
- Bicycle / Pedestrian
- Bicycle / Motorcycle
- Bicycle alone

13. Please rate the New Bern city streets for bicycle riding by circling one number.

	Not Dangerous			Dangerous	
Gravel, glass, debris	1	2	3	4	5
Drainage grates	1	2	3	4	5
Cars turning/stopping in front of bicycles	1	2	3	4	5
Cars ignoring or crowding bicycles along the roadside	1	2	3	4	5
Roads too narrow for both cars and bicycles	1	2	3	4	5
Traffic volume	1	2	3	4	5
Harassment from drivers	1	2	3	4	5
Other _____	1	2	3	4	5

14. What roads would you most like improved for bicycling?

15. Name the facilities or types of places you think bicycle routes should connect.

16. Do you support change in bicycle facilities and policies to make New Bern a more bicycle friendly community? _____





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17. How do you rate the following ideas for improving bicycling in New Bern?

	Very Important			Not Important	
	1	2	3	4	5
Bike lanes with striping on the pavement	1	2	3	4	5
Wide outside travel lane to provide space for bicycle	1	2	3	4	5
Removal / repair of hazards such as potholes	1	2	3	4	5
Repair or replace high drainage grates	1	2	3	4	5
Streets that are signed as bike routes	1	2	3	4	5
Bike paths that are separate from the street	1	2	3	4	5
Bikeways that go from residential areas to nearby commercial areas	1	2	3	4	5
Bikeways that connect to each other for long distances	1	2	3	4	5
More bicycle parking at destinations	1	2	3	4	5
Bicycle racks available on buses	1	2	3	4	5
Lockers and showers at workplace	1	2	3	4	5
Removal of curbside parking on city streets to provide more space for bikes	1	2	3	4	5
Local bicycle facility map	1	2	3	4	5
Educational materials describing safe bicycle riding	1	2	3	4	5
Educating car drivers on bicyclists' use of roadways	1	2	3	4	5
Bicycle education in elementary and middle schools	1	2	3	4	5

18. What do you perceive to be the major barriers to bicycle transportation in New Bern?

19. In general how would you rate the bicycle conditions in New Bern?

___ good ___ fair ___ poor

Please return the survey by fax to (252)636-2146 or mail to Annette Stone, City of New Bern, P.O. Box 1129, New Bern, NC 28563.

For more information on transportation planning activities in New Bern visit the Planning and Inspections website or call Annette Stone (252)639-7583. <http://www.ci.new-bern.nc.us/PI/index.php>





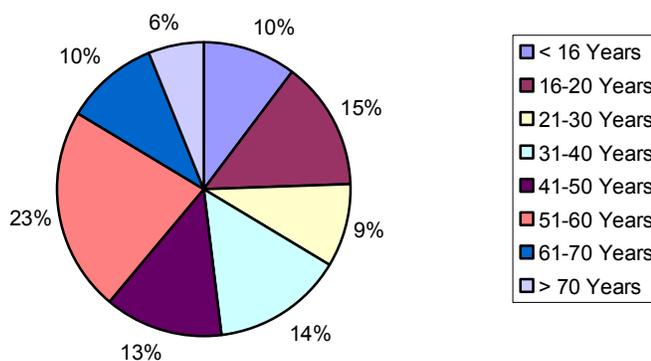
New Bern Bicycle Planning Survey Summary

100 Surveys Completed

Age/Gender

98 Responses

AGE	MALE	FEMALE	TOTAL
< 16 Years	6	4	10
16-20 Years	2	12	14
21-30 Years	6	3	9
31-40 Years	9	5	14
41-50 Years	7	6	13
51-60 Years	13	9	22
61-70 Years	8	2	10
> 70 Years	6	0	6
Total	57	41	98





Comprehensive Bicycle Plan

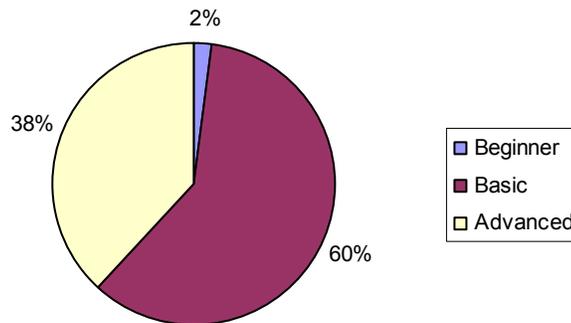
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Bike Riding Skill

100 Responses

Beginner	Basic	Advanced
2	60	38
2%	60%	38%



All elements that enhance riding safety and enjoyment

82 Responses

- Bike Racks – 51 votes (62%)
- Bike Route Signage – 59 votes (72%)
- Maps of Bike Routes – 50 votes (61%)
- Striped Bike Lanes – 63 votes (77%)
- Clean Road Surface – 69 votes (84%)
- Drainage Grates Flush with Surface – 54 votes (66%)

Major barriers to bicycle transportation:

58 Responses

- Time
- Weather
- Lack of dedicated bike trails and paths
- Lack of education and awareness on part of both driver and cyclist
- Driver attitudes
- Lack of paved, clean shoulders, safe roadways, and other surfaces
- Lack of bike lanes





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- Failure to incorporate biking needs into public and private development standards
- Right of way
- Surfaces
- Planning at local and state levels have not designed bike paths that are safe
- A lot of effort and work/exercise involved
- Need to connect Taberna to Colors for easier access to downtown; when draw-bridge is closed what will be the safest way into town?
- Railroad Tracks
- Other vehicles/traffic and inconsiderate drivers
- Pot holes
- Tall bridges
- Road obstructions
- Dangerous on country roads
- Narrow roads
- Broken Pavement and debris

Rate the bicycle conditions in New Bern

62 Responses

Good	2	2%
Fair	34	41%
Poor	47	57%

