



## King Street Bicycle + Pedestrian Counts

Published June 2023

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- March 2023

Location: King/Carolina

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## Area Description + Potential

King Street, located in the City of Charleston, is a critical north-south corridor for the peninsula. It is extremely diverse in its uses and socio-economic mix. The segment between Line and Huger is flanked by neighborhoods containing single-family homes, affordable and senior housing complexes, high-density apartment buildings and short-term rentals, and is punctuated by numerous restaurants and bars, office spaces, schools and houses of worship. CARTA's Route 20-King Street is heavily-utilized, including a stop at the King/Carolina intersection. The Housing Authority of the City of Charleston manages two affordable properties (670 and 676 King Street) that are situated at the King/Carolina intersection, totaling 90 units, 40 of which are for individuals 55 and older. This area runs parallel to — and offers connectivity options for — the Lowcountry Rapid Transit spine and the Lowcountry Lowline. King is identified as a key segment in the People Pedal Plan, which calls for bike lanes north of Columbus, with a bike box at the King/Carolina intersection and direct path connection to the Lowline itself.

Charleston Moves has led on a Spring 2023 count series for the corridor. This includes bicycle and pedestrian (“bike/ped”) counts, utilizing the National Bicycle and Pedestrian Documentation Project resource, as well as community surveying and photo documentation of vulnerable road user trips. We set up at the King/Carolina intersection for a couple reasons:

- In March 2021, SCDOT conducted a Road Safety Review of King Street from Line Street to Huger Street, alongside various stakeholders, including Charleston Moves. In August 2021, the Charleston County Transportation Committee (CTC) approved funding from the 2022 budget to conduct a safety and traffic operations study to determine the feasibility of recommendations put forth from the Road Safety Review. An assessment of on-street parking, removal of the US 17 off-ramp, relocation of a traffic signal from Sumter to Carolina, and a road diet to accommodate bike lanes were amongst the considerations.
- SCDOT's Road Safety Audit for King Street extends from Line Street to Murray Boulevard. Crash frequency and severity along the Huger to Line segment of King Street is higher than average, and multi-modal safety improvements are needed for the entirety of the corridor.

## Existing Conditions

Noteworthy takeaways regarding existing conditions at the King/Carolina intersection and how vulnerable road users navigate the space:

1. The diversity of multi-modal trips through this intersection is staggering. We documented people walking (including with assistive devices), running, skateboarding, scooting, biking and utilizing pedicab. We saw people of all ages, from infants to seniors. We saw people of various races and backgrounds. Every type of trip is being taken through this intersection, notably including: people walking to nearby restaurants and Martha's Quick Stop, biking with yoga mats and bags of to-go food, riding in pedicabs, strolling with dogs and kids, crossing in electric wheelchairs and with canes, accessing the CARTA stop on the corner, and more.
2. This is a very social segment of roadway. People are traveling in groups — getting to/from short-term rentals and spending money at nearby restaurants and coffee shops. There is a high population of vulnerable seniors who live in the area, including at the Housing Authority's 670 and 676 King Street properties; many of these residents use wheelchairs, walkers and canes. There is a significant amount of mid-block crossings just north and south of the intersection by people traveling to/from Martha's Quick Stop, the CARTA stop, and Housing Authority properties. Relocating the traffic signal from Sumter to Carolina would address the multitude of unprotected crossings.
3. Motorists traveling onto King from Carolina consistently roll through and block the crosswalk; this could be due to sight line issues. The crosswalk over Carolina is extremely long, and there are no crosswalks striped over King. The right turn is too wide, which encourages people to treat the stop sign as a yield condition.
4. The second southbound lane on King drops at Sumter Street. The block from Sumter to Carolina has one southbound lane and (unmarked) on-street parking. A second southbound lane reappears south of Carolina, in addition to a loading zone and (unmarked) on-street parking. This erratic lane configuration makes for erratic maneuvers, all within a segment of high bicycle and pedestrian activity. Crash data points to these being dangerous conditions.
5. There are no bike lanes on King, despite lots of trips being taken by bicycle. Not only are there lots of existing trips, but many more are guaranteed through the development and installation of the Lowcountry Lowline and Lowcountry Rapid Transit. Existing bicycle infrastructure on St. Philip and Line, and forthcoming on Huger, creates a gap in the network along King from Line to Huger. The Road Safety Review recommendation to comprehensively plan this area is wise. A road diet would create dedicated, continuous and predictable space for people on bikes. By rebalancing the roadway, there is space to more harmoniously accommodate the demand for shared space.
6. For people traveling south on the peninsula using Rutledge Avenue, especially on bike, Carolina is a practical, low-speed neighborhood street to avoid the

Crosstown. It offers a way to cut over to King to continue southbound trips. The People Pedal Plan designates Carolina as a bike boulevard.

Count Data

The goal of conducting bike/ped counts is to track volume and origin-destination data for vulnerable road user trips in the area, so we could better understand demand and optimum location of safe multi-modal infrastructure improvements. Below are the results of our bike/ped counts.

*Note regarding chart sections: The overall count by mode and origin-destination numbers do not always tally to be the same, due to individual trip characteristics. Some observed trips that do not align with movement through (and beyond) an intersection are tallied in the overall count by mode section, but not necessarily in the origin-destination section. An example of this is if a pedestrian crossed over King from Recovery Room to the sidewalk across the street and continued their trip on foot, away from the intersection; since they did not begin their bike/ped trip on one part of the intersection and continue through, they are only represented in the overall count by mode. This discrepancy does not indicate faulty data.*

<b>MARCH 21, 2023 King/Carolina 8-10 am</b>	
<b>Overall Count By Mode</b>	
Bicyclists	65
Pedestrians	115
<b>TOTAL</b>	180
<b>Origin-Destination</b>	
S King to N King/Housing Authority Properties	71
S King to Carolina	32
Carolina to S King	6
Carolina to N King	6
Carolina to Housing Authority Properties	2

<b>MARCH 21, 2023</b> <b>King/Carolina</b> <b>8-10 am</b>	
N King to S King/Housing Authority Properties	61
N King to Carolina	15
<b>Extra Notes</b>	
17 people crossed mid-block just north of the intersection by the CARTA stop; 24 people crossed mid-block just south of the intersection by Recovery Room.	
Lots of seniors from Housing Authority properties trying to cross to get to Martha's Quick Stop.	
Observed 2 kids, 1 skateboarder, 3 people taking transit.	

<b>MARCH 25, 2023</b> <b>King/Carolina</b> <b>12-2 pm</b>	<b>Conditions: 80s, sunny, breezy</b>
<b>Overall Count By Mode</b>	
Bicyclists	94
Pedestrians	371
Other (skateboard, scooter)	7
<b>TOTAL</b>	472
<b>Origin-Destination</b>	
S King to N King/Housing Authority Properties	144
S King to Carolina	70
S King mid-block cross	39
Carolina to S King	10
Carolina to N King	2
Carolina to Housing Authority Properties	1
N King to S King/Housing Authority Properties	122
N King to Carolina	116
N King mid-block cross	7

<b>MARCH 25, 2023</b> <b>King/Carolina</b> <b>12-2 pm</b>	<b>Conditions: 80s, sunny, breezy</b>
<b>Extra Notes</b>	
3 people crossed mid-block just north of the intersection by the CARTA stop; 29 people crossed mid-block just south of the intersection by Recovery Room. All pedestrians.	
Lots of seniors from Housing Authority properties trying to cross to get to Martha's Quick Stop.	
Observed 2 kids, 5 people taking transit, 5 people with assistive devices, 7 pedicabs.	

<b>MARCH 29, 2023</b> <b>King/Carolina</b> <b>5-7 pm</b>	<b>Conditions: 50s, sunny, cool</b>
<b>Overall Count By Mode</b>	
Bicyclists	54
Pedestrians	261
Other (skateboard, scooter)	5
<b>TOTAL</b>	320
<b>Origin-Destination</b>	
S King to N King/Housing Authority Properties	138
S King to Carolina	9
Carolina to S King	15
Carolina to N King	1
Carolina to Housing Authority Properties	8
N King to S King/Housing Authority Properties	125
N King to Carolina	0

## Summary

We spent 6 hours on site observing vulnerable road user demand and tracking travel patterns through the King/Carolina intersection. It is abundantly clear that there is a high volume of existing bike/ped/transit trips throughout the area, and promise for many more as development continues, and safe, connected, thoughtful multi-modal infrastructure is installed.

On average, we documented: 162 people per hour. Vulnerable road users are utilizing the corridor through a variety of people-powered modes, regardless of weather conditions and time of day. Award-winning restaurants and short-term rentals are drawing visitors and locals, alike; increasingly dense multi-use developments are being built along the Lowcountry Lowline that back up to King Street; and affordable/senior housing and schools are sprinkled throughout the area. Inconsistent lane configurations, proximity to US 17 via the off-ramp, and a total lack of bicycle facilities combine to place vulnerable populations in dangerous situations on a continual basis.

As one of few north-south corridors that run the entirety of the peninsula, King provides access to countless destinations and is favored over East Bay and Meeting Streets due to less vehicular lanes, and thus, slower vehicular speeds. Nevertheless, it remains dangerous and uncomfortable. In light of the numerous crashes over the last few years alone that have caused fatalities and serious injuries, it is critical that safety improvements are made to transform the corridor through and connecting to the Carolina intersection. A traffic signal needs to be installed, in addition to three high-visibility, ladder-style crosswalks. Bike lanes need to run along King that, at the very least, connect to infrastructure along Line and Huger. The streetscape needs to change to reflect its uses, and to protect its users.

Gallery



















