

E. Martin Luther King Blvd. and Bailey Ave. Safety and Roadway Improvements Project

The Chattanooga Department of Transportation aims to make efficient transportation viable for all commuters - cyclists, pedestrians, transit users and motorists while enhancing multi-use public spaces for all people.

Project Summary

The Chattanooga Department of Transportation (CDOT) is developing a safety and roadway improvement project to calm traffic and improve safety along E. Martin Luther King Blvd. and Bailey Ave. from Georgia Ave. to Dodds Ave. Based on engineering analysis and public input, detailed below, the Chattanooga Department of Transportation recommends that a road right-sizing be conducted on E. Martin Luther King Blvd. and Bailey Ave. with the addition of striped bike lanes.

The proposed roadway design complements the streetscape improvements on E. Martin Luther King Blvd. begun Summer 2016 and the repaving of Bailey Ave. scheduled for Spring 2017.



E. Martin Luther King Blvd. - current conditions



E. Martin Luther King Blvd. - proposed design

Current Conditions

E. Martin Luther King Blvd. and Bailey Ave. are significant east/west transportation corridors in Chattanooga. They are also neighborhood streets on which people live, work, and play. In 2003, when E. Martin Luther King Blvd., Bailey Ave. and McCallie Ave. were converted back to two-way traffic, it was recommended that they be striped to become three lanes - one lane in each direction and a center turn lane. This pattern was striped on McCallie Ave. at the University of Tennessee Chattanooga, and it has been transformative for the street and the areas surrounding it. Speeds have fallen, there is high pedestrian activity, and there is a strong sense of active public space. When they were converted, E. Martin Luther King Blvd. and Bailey Ave. were striped with four lanes. The proposed right-sizing aligns with the original recommendation and will help calm traffic and improve safety along the corridor.

Vehicle Speeds

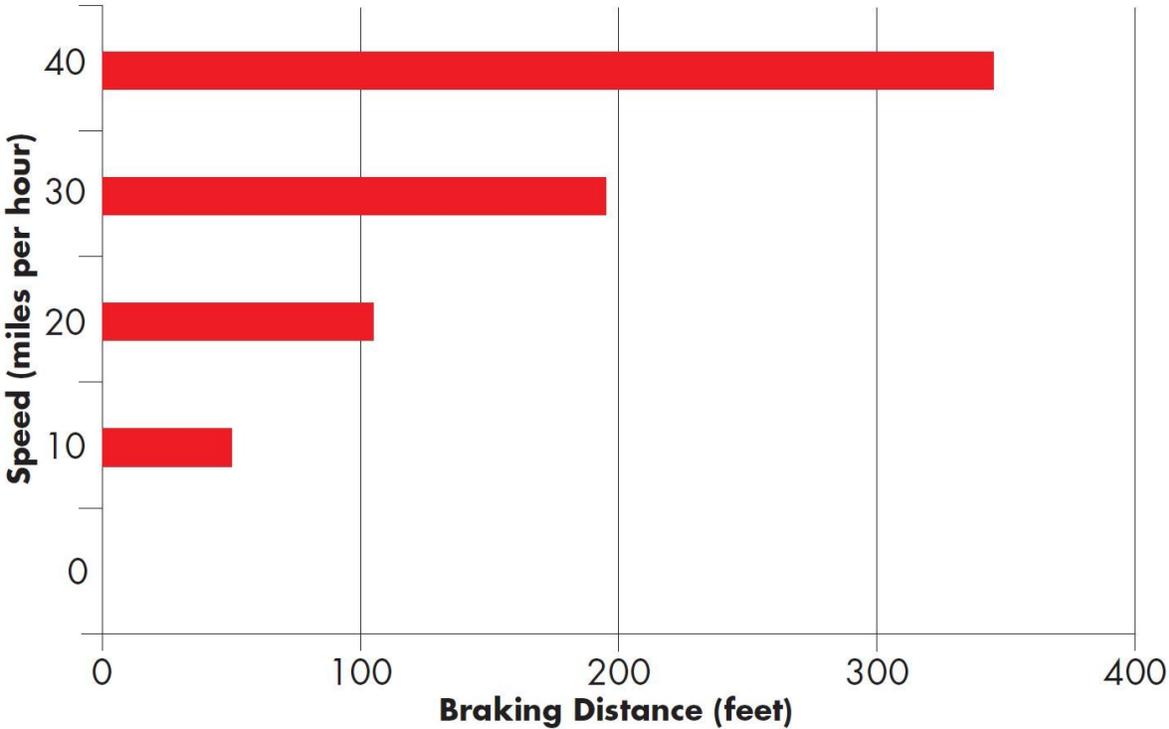
We have heard from citizens and business owners, and we have observed that vehicle speeds on E. Martin Luther King Blvd. and Bailey Ave. are dangerously high. Vehicle speeds and large pedestrian crossing distances negatively impact the ability and desire to walk along, cross, and spend time on this important commercial corridor and the heart of vibrant, growing neighborhoods.

Location	Posted speed limit	Average 85th% speed (mph)
E. Martin Luther King Blvd. - 500 block	25	35.4

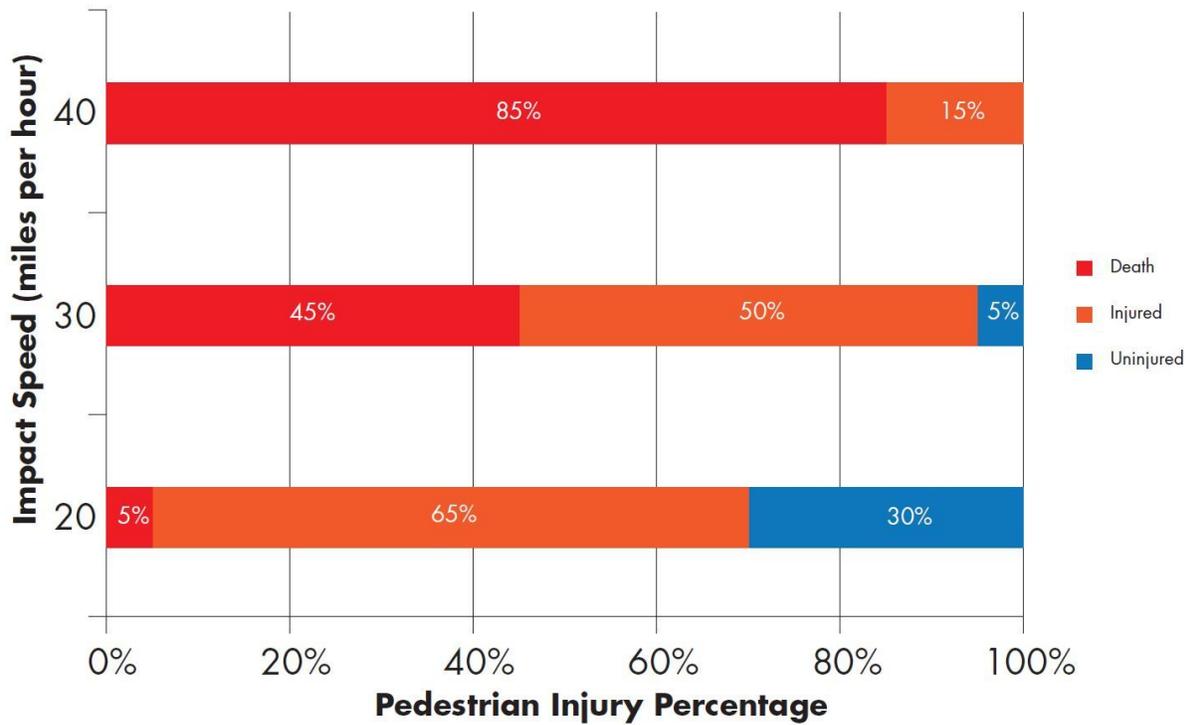
E. Martin Luther King Blvd. - 700 block	25	41.0
Bailey Ave. - Holtzclaw Ave.	35	47.0
Bailey Ave. - 1800 block	35	43.5
Bailey Ave. - Willow St.	35	44.9

Note: Every location had vehicles that were recorded travelling in excess of 60 mph.

The greatest benefit of traffic calming is increased safety for all people using the street. Streets with slower vehicle speeds typically have fewer collisions and higher reductions in injuries and fatalities in crashes that do occur. The severity of injuries to cyclists and especially pedestrians reduces considerably as vehicular speeds go down. For pedestrian-vehicle crashes, vehicular speeds of 40 mph yield an 85% chance of fatality, while vehicular speeds of 20 mph reduce that chance to 5%. These safety benefits result from the greater driver awareness, wider fields of vision, shorter stopping distances, and less kinetic energy during a collision.



Source: Federal Highway Administration Pedestrian Safety Design Course



Source: Killing Speed and Saving Lives, UK Department of Transportation

Vehicle Crash Rate

Location	Number of crashes	Number of injuries/fatalities	Crash rate
E. Martin Luther King Blvd.	61	5 injuries	2.86 times the statewide average
Bailey Ave.	76	16 injuries, 1 fatality	2.56 times the statewide average

From 2009-2015, the following crashes were reported on E. Martin Luther King Blvd. and Bailey Ave.:

- 1 pedestrian fatality
- 10 pedestrian injuries
- 2 pedestrian crashes (with no injuries or fatalities)
- 4 bike injuries
- 1 bike crash (with no injuries or fatalities)

Additionally, two bicyclists were struck by a vehicle on September 11, 2016.

Benefits of Right-Sizing

On conventional roadway projects, streets are designed to accommodate traffic flow at the busiest hour of the day. These streets are often underutilized throughout the day, and off-peak

needs and potential safety improvements must be balanced with the anticipated delay in travel time during the peak hour. Wide streets with multiple travel lanes and turn lanes at intersections are less efficient in terms of motor vehicle capacity than a denser network of streets with fewer travel lanes. An interconnected street network with narrower streets (fewer travel lanes) and smaller intersections operates more efficiently because it processes more turning traffic, shortens pedestrian crossings, and provides more route choices for all modes. Both the U.S. Department of Transportation and the Tennessee Department of Transportation recommend considering road right-sizings to improve safety for all users. Further information about road right-sizings, their benefits, and results of completed right-sizings can be found in the Federal Highway Administration's [Road Diet Information Guide](#).

Road right-sizings have been shown to reduce vehicle speeds, vehicle crash rates, and crash severity. They also benefit pedestrians by reducing traffic speeds, separating pedestrians from vehicles, reducing crossing distances, and offering the potential for pedestrian refuges. The proposed right-sizing on E. Martin Luther King Blvd. and Bailey Ave. also creates enough space to install bike lanes.

As a result of the right-sizing on N. Market St., we have observed increased safety with minimal disruption in travel time:

- Speed: -10%
- Crash: -24%
- Peak Flow: +73 sec.

Public Engagement

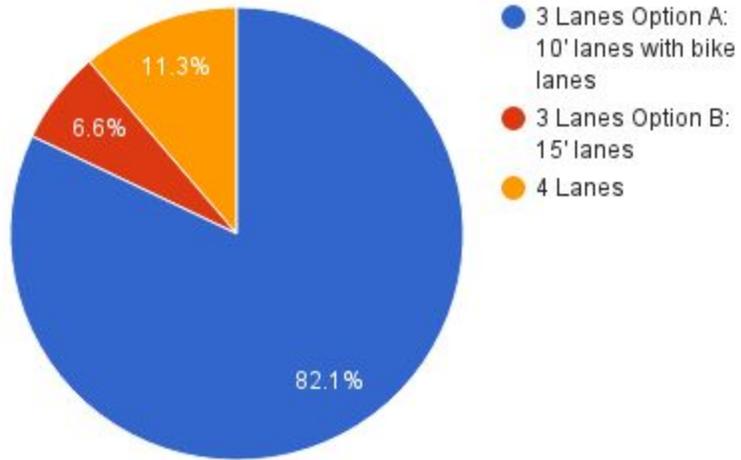
CDOT gathered feedback about the proposed changes by presenting at meetings with stakeholders, business groups, and neighborhood associations, attending events held near the corridor, including the Bessie Smith Strut and Nightfall, and conducting an online survey.

Attendees at a Big 9 Merchant's Collective meeting, Martin Luther King Neighborhood Association meeting, and Highland Park Neighborhood Association meeting voiced unanimous support of the right-sizing with addition of bike lanes. The Martin Luther King and Highland Park Neighborhood Associations expressed unanimous support for green paint in the bike lanes throughout the corridor.

Survey Results

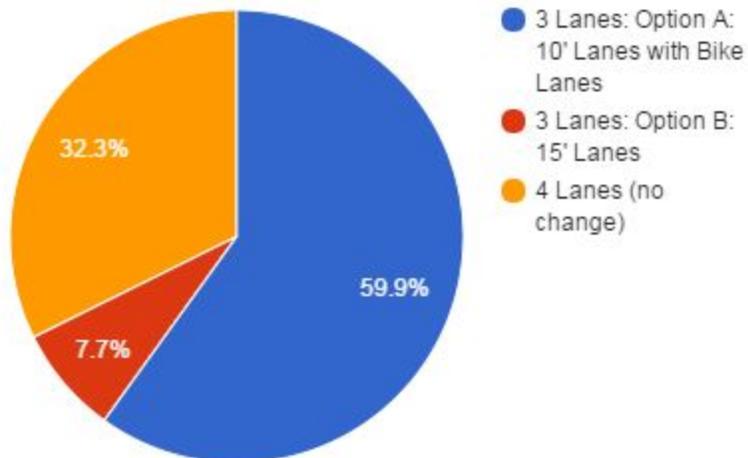
With 346 responses, the results of the surveying at the meetings and other events was:

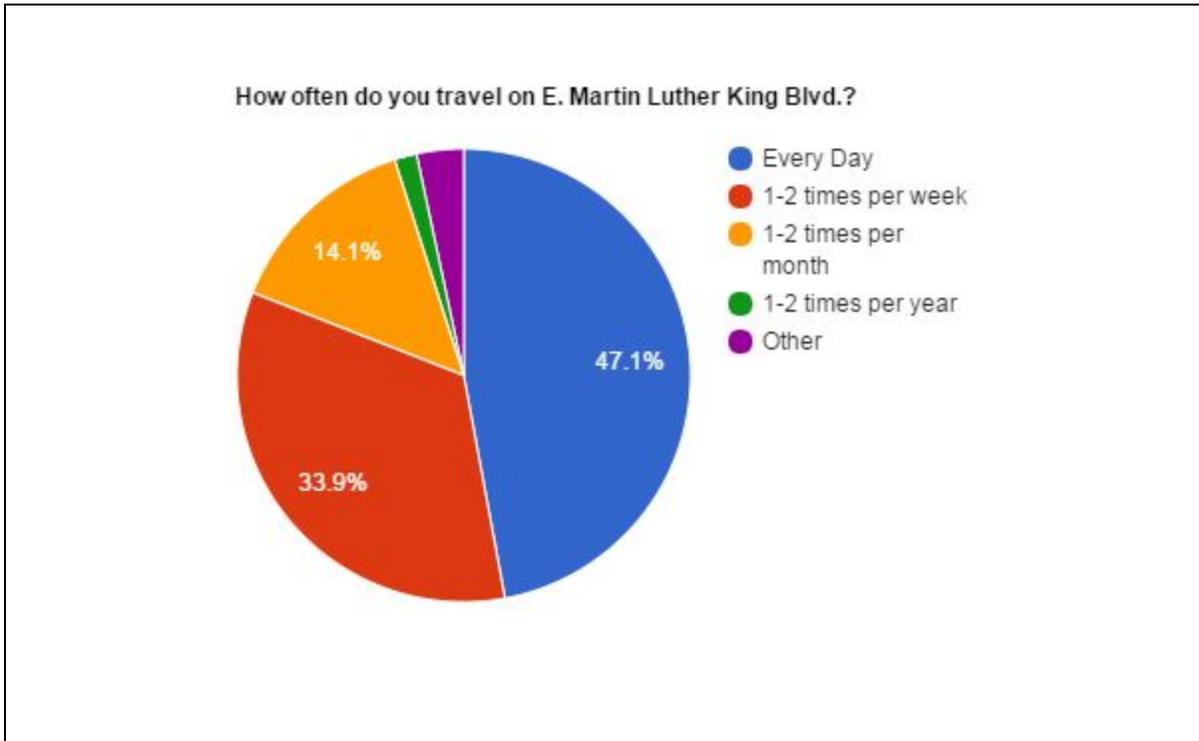
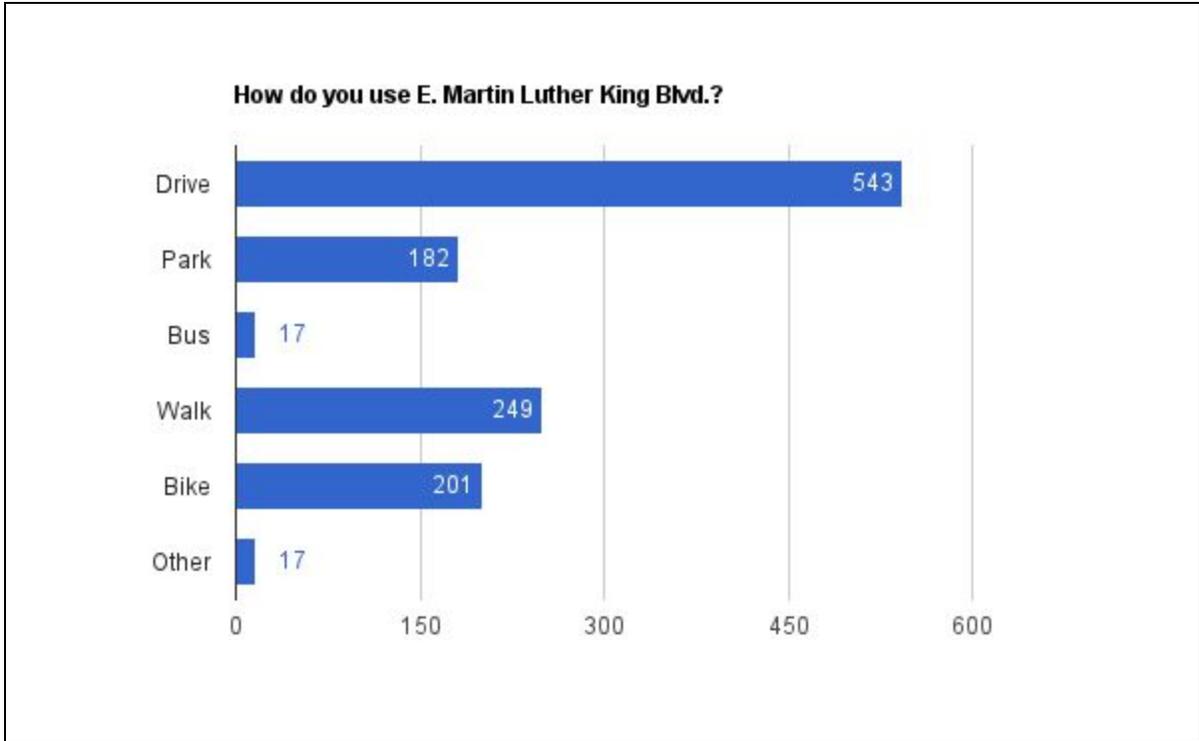
Which design would you like to see on E. Martin Luther King Blvd. ?



The online survey was available from May 15, 2016 to September 15, 2016. During that time, 573 people responded. The results of the survey are:

Which design would you like to see on E. Martin Luther King Blvd.?





In a survey accompanying an article about the proposed project, the Times Free Press asked readers, “Are bicycle lanes along M.L. King Boulevard a good idea?” The results as of October 05, 2016 are:

- Yes 152 50.2%
- No 151 49.8%

Letters of Support

CDOT has received letters of support for the right-sizing and bike lanes from:

- Highland Park Neighborhood Association
 - The Highland Park Neighborhood Association also submitted the signatures and addresses of 156 residents who support the project.
- Kim White, CEO/President, River City Company
- Bryan Boyd, Owner, Odd Story Brewing Company
- Melanie Krautstrunk, Owner, Hutton & Smith Brewing Company
- Matt Busby, Director, Camp House
- Chris Curtis and Jake Toner, Riverside Development
- Stratton Tingle, Executive Director, SoundCorps
- Christopher Carr, Chairman, Bike Walk Chattanooga

Concerns from Survey

One of the major concerns we heard in the survey, at meetings, and at events was the possibility for traffic congestion after right-sizing.

- “Road is already crowded at rush hour and two lanes will make it worse.”
- “MLK has been an amazing blessing for me, especially with a young family to expedite my commute since the Ridgecut becomes so backed up in the afternoons. I think the four lanes helps create an alternate, and less highly trafficked commute to and from work in the morning.”

The AADT for E. Martin Luther King Blvd. is 11,170, and the AADT for Bailey Ave. is 10,130. Both of these AADTs are well within FHWA’s and TDOT’s recommended levels for right-sizing. Based on the additional, rigorous traffic analysis conducted by Alta Planning + Design, the proposed project corridor meets the requirements for right-sizing based on traffic volumes per FHWA guidance and the proposed right-sizing and addition of bike lanes will not negatively impact traffic operations along E. Martin Luther King Blvd. and Bailey Ave.

Average vehicular travel time is currently 6-8 minutes during rush hour from Dodds Ave. to Georgia Ave., depending on direction traveled and time of day. Based on traffic modeling of the proposed changes (4-lanes to 3), we expect the average travel time to be 8-11 minutes, depending on direction traveled and time of day. This travel time change is only expected to be this severe during the hour rush in the morning and afternoon.

Another major concern was the perceived lack of bicyclists that currently bicycle along E. Martin Luther King Blvd. and Bailey Ave.

- “I do not see nearly enough bicycle riders to justify the addition of bike lanes.”
- “I don’t think we have enough MLK bikers as of yet to support true bike lanes.”

From our survey responses, we can see that over 201 (35.4%) people responded that they currently use E. Martin Luther King Blvd. to bike. An additional 104 (30.1%) people responded that they feel it is important to be able to bike along the corridor, in in-person surveys. Many responses to the online survey reflected a reluctance to walk or bike along the corridor because of the unsafe traffic conditions but a desire and willingness to do so if bike lanes were installed. Based on a classification system developed by the City of Portland and verified in nationwide studies, we know that 60% of people are Interested but Concerned bikers, cyclists who perceive traffic and safety as significant barriers towards increased use of cycling and who say they would ride more if it were safer and more comfortable to do so. A safe, connected bike network is key to encouraging and motivating these potential bikers to bike for recreation and transportation.

Bike and pedestrian counts of E. Martin Luther King Blvd. were conducted September 13-17, 2016. These baseline counts will enable CDOT to measure changes in pedestrian and bike usage of E. Martin Luther King Blvd. due to the proposed changes.

E. Martin Luther King Blvd. and Bailey Ave. are part of the Primary Bicycle Network recommended in the 2010 Chattanooga Area Regional Bicycle and Pedestrian Plan. Bike lanes are recommended for E. Martin Luther King Blvd. and Bailey Ave. in the 2040 Regional Transportation Plan. Both plans were created with extensive public input. Details of the plan creation and facilities can be found at chcrpa.org.

Selected Comments from Online Survey

- “Slower traffic is better for businesses on MLK and better safety for everyone!”
- “I think slowing down traffic through MLK will aid in more safety and visibility for the shops, etc. in that area. It will make it safer and easier to travel.”
- “We walk our dog on the back streets and alleys in the neighborhood, despite a beautiful experience with historic homes and buildings on MLK, due to the speed and aggressive driving on the street.”
- “I’d pay more for a house in an area with slower moving streets. This will do that, and will increase property values in my mind.”
- “My husband and I live on Bailey and could easily bike to work, but right now traffic is too fast to make us comfortable with biking.”
- “This would be a great way to encourage others in the community, who may be scared of riding on the road, to bike to work and into downtown regularly.”
- “We live off of N. Market Street and have loved using the bike lanes that were recently added there. It was a draw for us when looking for a new home last summer.”
- “If biking were safe on that street, I would bike instead of bringing my car downtown.”
- “This area is continuing to grow. Traffic right now isn’t bad, but with the addition of Douglas Heights and other new businesses, I think it would be a traffic hassle with only one lane of travel each way.”

- “I don't see a lot of bicycles on MLK - although I can see how that might change. I definitely hope the center turn lane will be beneficial for the retailers.”
- “There should be some emphasis on getting traffic, not bicycles, in and out of town...particularly at peak traffic periods.”
- “Car traffic is important to downtown. People have to get to and from work.”
- “Keep existing traffic and parking capacity.”
- “There is enough traffic through MLK, that 4 lanes are necessary. Furthermore, bike lanes are hardly (if at all) used by cyclists.”