

Safety Demonstration Projects

Case studies from Durham, NC, Huntsville, AL, and Pittsburgh, PA



Acknowledgements

The National Complete Streets Coalition, a program of Smart Growth America, would like to thank the project teams from Durham, Huntsville, and Pittsburgh for their hard work and engagement on these demonstration projects and throughout the Safe Streets, Smart Cities Academy, as well as for providing the photos in these case studies and on the cover of this report. In particular, we would like to thank Anne Phillips, Paige Colburn, Kristin Saunders, and Katy Sawyer for their leadership.

This project was made possible by a Safe System Innovation Grant from Road to Zero, a coalition of over 900 member organizations managed by the National Safety Council in partnership with the National Highway Traffic Safety Administration, the Federal Highway Administration, and the Federal Motor Carrier Safety Administration.

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Introduction

The past three years have been the deadliest for people walking in almost three decades. This happens in part because transportation decision-makers continue to design our communities to prioritize moving cars—not people—as quickly as possible, creating dangerous, high-speed environments for all people who use our streets. To test out creative approaches to safer street design, the National Complete Streets Coalition launched the Safe Streets, Smart Cities Academy. We worked with three cities around the country to build skills in safer street design, creative placemaking, and community engagement, then helped the cities put these skills into practice. Through demonstration projects, the Cities of Durham, NC, Huntsville, AL, and Pittsburgh, PA each transformed one of their streets, intersections, or neighborhoods into slower, safer places for people. Communities around the country can learn from the stories of these demonstration projects to test out low-cost ways to create safer streets.

In 2017, 34,247 people died in traffic crashes in the United States, including 5,977 people walking. 2016, 2017, and based on preliminary data 2018 were the three deadliest years on record for people walking since 1990. Over the past ten years, traffic fatalities overall decreased by six percent, but pedestrian fatalities went up by more than 35 percent during this time period.¹

These deaths are not accidents. For decades, transportation decision-makers have prioritized moving cars, not people, as quickly as possible on our roadways, creating an environment that's dangerous by design for all people who use the road.² Wide, straight, multi-lane roads encourage people to drive at high speeds, making crashes more likely—and more deadly.

These deaths are also preventable. We know how to create safer street environments, and for more than 10 years the National Complete Streets Coalition (NCSC) has been at the forefront of helping advocates and public officials change their policies and practices to improve safety and convenience for all people who use the street, including people walking or biking.

Governments, advocacy organizations, and professional associations across the country are also embracing a movement known as Vision Zero by committing to eliminate all traffic fatalities and severe injuries, as well as improve mobility. The Road to Zero Coalition helps lead this movement by bringing together over 900 member organizations, all dedicated to the common goal of zero deaths on our roadways by the year 2050.³ Achieving this goal and saving lives will require a variety of different strategies, including deploying safer vehicles with crash prevention technologies and connecting people to better, faster trauma care following crashes.

Key terms to know

Creative placemaking: using arts, culture, and creativity—especially from underrepresented communities—to plan and design projects that better serve the community and celebrate local culture, heritage, and values.

Demonstration projects: making temporary improvements or changes to test how well they perform and demonstrate to the community the potential benefits.

Proven safety countermeasures⁴: evidence-based street treatments recommended by the Federal Highway Administration to slow down traffic and improve safety for all people who use the street, including people walking, biking, and driving.

Tactical urbanism: a creative, often community-led approach that uses low-cost, temporary materials to transform streets and public spaces.

Vision Zero: a movement that combines strategies from a variety of disciplines to systemically work toward eliminating all traffic fatalities and serious injuries.

NCSC believes to truly move to zero traffic deaths and protect the most vulnerable people who use the road, transportation decision-makers must prioritize safer street design.

One way transportation departments can change the paradigm of street design is by using demonstration projects to show the public what's possible through fast, flexible design interventions. By implementing temporary demonstration projects, communities can test out and measure the impact of changes before potentially making them permanent. Often, demonstration projects use strategies like tactical urbanism and creative placemaking to make high-impact changes at low cost and transform streets into more vibrant, memorable places that people want to visit. Because demonstration projects start off as temporary changes, they are great opportunities for experimenting with new strategies to make streets safer and for introducing communities to unfamiliar street treatments that have already been proven in other places to improve safety. They also build support among the community, elected leaders, and transportation professionals for prioritizing safe speeds in street design.

Speed kills

Demonstration projects can make streets safer by encouraging people to drive more slowly. This is especially important for people walking. If a person driving at 20 miles per hour strikes a person walking, that person has a five percent chance of being killed, but at slightly faster speeds, crashes quickly become much deadlier for people walking.⁵

At **20 MPH**  **5%** of people struck while walking die

At **30 MPH**  **45%** of people struck while walking die

At **40 MPH**  **85%** of people struck while walking die

NCSC worked with three cities on demonstration projects to develop skills in safer street design, creative placemaking, and community engagement. Through the Safe Streets, Smart Cities Academy, teams from the Cities of Durham, NC, Huntsville, AL, and Pittsburgh, PA learned from national experts—and from each other—about new approaches to engage their communities and calm traffic on their streets. The teams attended a series of distance learning modules and in-person workshops where they visited each other's project sites and then worked together to brainstorm and refine ideas for how to transform their streets, intersections, and neighborhoods into safer places for people through demonstration projects.

“This opportunity from Smart Growth America allowed various divisions within the city to come together to tackle a project by directly interacting with the residents to address safety concerns in the community. Experiencing how other cities address these concerns has allowed us to move forward in a progressive way regarding pedestrian and bicycle related infrastructure.”

—Rachel Bolton, City of Huntsville

The following case studies tell the stories of these three demonstration projects. They highlight lessons learned, including how these projects helped these cities build trust with the community and with other jurisdictions, test out new approaches for safer street design and make quick adjustments as needed, and change the conversation about the importance of slower, safer streets.

1. National Highway Traffic Safety Administration. Fatality Analysis Reporting System. Available from <https://www-fars.nhtsa.dot.gov/Main/index.aspx>.
2. Smart Growth America, National Complete Streets Coalition. Dangerous by Design 2019. Available from <https://smartgrowthamerica.org/dangerous-by-design/>.
3. National Safety Council. Road to Zero Coalition. Available from <https://www.nsc.org/road-safety/get-involved/road-to-zero>.
4. Federal Highway Administration. Proven Safety Countermeasures. Available from <https://safety.fhwa.dot.gov/provencountermeasures/>.
5. National Traffic Safety Board. Reducing Speeding-Related Crashes Involving Passenger Vehicles. Available from <https://www.nts.gov/safety/safety-studies/Documents/SS1701.pdf>.



West Club Boulevard

Durham, NC demonstration project
Budget: \$59,075



Durham's demonstration project on West Club Boulevard introduced a new, much-needed mid-block crossing between a major bus stop and a shopping mall. The project also closed a lane of traffic to create a space for buses to pull over and to encourage drivers to slow down and yield to people crossing.

The City of Durham recognized their demonstration project as an opportunity to try out more intensive, inclusive methods of community engagement to reach segments of their community they have not connected with in the past. They identified a dangerous site along West Club Boulevard, where a frequently used bus stop across from a shopping mall offered no safe, convenient way for bus riders to cross. The team conducted intercept surveys at the bus stop to learn more about the safety challenges people experienced and to guide the design of their demonstration project. Based on these insights, the team reduced the number of lanes on West Club Boulevard and installed a new mid-block crossing, resulting in safer, slower driving speeds and better yielding to people crossing. The project also spurred important conversations and partnerships with bus riders and with a local bike advocacy group.

The bus stop on West Club Boulevard at Dollar Avenue is one of the top 20 most frequently used in the city, with approximately 150 boardings every weekday, predominantly by African American people, people who do not own a car, and people who make less than \$25,000 per year. Immediately across West Club Boulevard, the Northgate shopping mall is a frequent destination for bus riders. In addition to the shops inside, the mall hosts a maker space, a farmers market, and various festivals. Following a recent transfer of ownership, Northgate will soon boast a health clinic among other community amenities.

Unfortunately, there was no safe, accessible, convenient place for people to cross between this well-used bus stop and the mall. People using wheelchairs or other mobility devices especially needed to go out of their way to cross the street. Drivers frequently sped along this four-lane road, and in just eight years, two people biking and six people walking were struck and injured near the site. A team from the City of Durham decided to work closely with the community, especially with people who ride the bus, to implement a safety demonstration project on West Club Boulevard.

Engaging the community

West Club Boulevard bridges two very distinct neighborhoods. Trinity Park to the east is a predominantly white, wealthier place whose residents proactively share their input with the city via social media and online surveys. To the west, Walltown is more racially and ethnically diverse and has a broader mix of income levels. These latter groups experience higher rates of traffic crashes in Durham, as well as across the nation as a whole, so their insights are especially important to guide safety projects. Unfortunately, the city has had difficulty engaging this community through online methods and traditional public meetings in the past. They recognized their demonstration project as an opportunity to set a new precedent for inclusive community engagement and to form new connections and partnerships with people who ride the bus.

“It’s very clear what happens with traffic fatalities and traffic injuries is they are inequitably distributed.”
—Mayor Steve Schewel, City of Durham



Between 2007 and 2015, eight crashes occurred on the segment of West Club Boulevard where the Durham team staged their demonstration project, including six crashes involving people waking (marked in green) and two involving people biking (marked in pink).

The team from Durham realized they needed to go beyond their typical online engagement and public meeting model to make sure Walltown residents and people who ride the bus had a voice in guiding their demonstration project. In addition to collecting input through online surveys, they conducted in-person intercept surveys, where they spoke with people waiting at the bus stop who use the street on a day-to-day basis about the problems they were experiencing and the changes they would like to see. They also spread the word about their project through local media sources and staged pop-up meetings at nearby community events including a neighborhood association meeting, the Northgate Children’s Festival, and the Earth Day Festival.

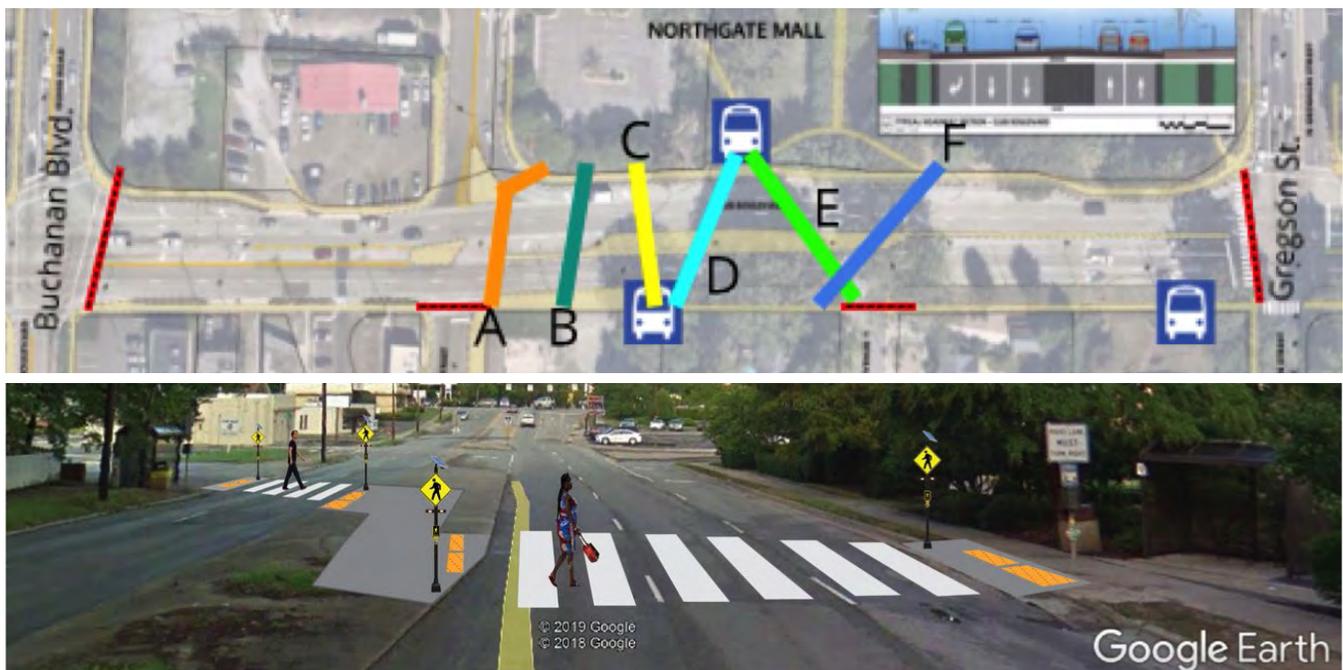


The Durham team spent some time at the bus stop on West Club Boulevard observing how people cross the street and talking to bus riders about their experiences before and after making changes to the site.

Between online engagement and in-person intercept surveys, the Durham team connected with two very different groups within the community. The 126 respondents to the online survey were predominantly white and most frequently drove through the site. Most of them never walked or rode the bus at all. In contrast, the 46 people who participated in the first round of intercept surveys were walking by or waiting at the bus stop, and they were overwhelmingly people of color. The most common issue in-person interviewees raised was the lack of a safe, convenient place to cross, but people also expressed concerns that a crosswalk alone might not be enough to encourage drivers to yield on a street with so much speeding. They wanted to see more intensive safety treatments. Online, people also called for improvements such as crossings, road diets, and bike lanes. This dual insight played a huge role in shaping Durham's demonstration project to better serve the needs of people who walk and ride the bus on a day-to-day basis while still balancing the needs and concerns of people who drive.

“Online engagement is such low-hanging fruit and doesn't take much effort at all whereas intercept surveys are more effort and time but are so important to capture the range of voices we want to hear from in our community.”

—Anne Phillips, City of Durham



The most common crossing patterns observed at the site were D and C, where no crosswalk was present. Based on these observations, and based on feedback from the community, the Durham team developed a concept to install a new mid-block crosswalk with a protected pedestrian refuge.

Just before the Durham team installed their project on the ground, a driver struck and injured a person biking on West Club Boulevard just outside the limits of the soon-to-be demonstration. This crash, coupled with the team's proactive communication about the upcoming installation, caught the attention of local bike advocates, who reached out to the team to push for more permanent solutions and to volunteer their assistance. This started an important dialogue between the team and the advocates about the need for data-driven solutions. The bike advocates volunteered their time to help continue community engagement after the project launched to evaluate how people felt about the improvements. Working together, the project team and bike advocates conducted another 46 intercept surveys, and the team also continued collecting input from another 231 people through another online survey.

Creating a slower, safer street

Based on the input the team received online and through in-person engagement, they decided to install a mid-block crossing with a protected pedestrian refuge on the concrete median. They also implemented a road diet by closing the outside lanes of traffic, providing additional space for buses to pull over and encouraging drivers to slow down when approaching the crosswalk. To further strengthen the project, the team partnered with a local artist to design artwork for the median and the sidewalks. They brought several of the artist's concepts to festivals and pop-up meetings to get people excited about the project and start important conversations about safer street design. In total, 348 people voted on the crosswalk art design.



The Durham team spreads the word about their project and asks for input on future art for the new crosswalk.

Proven safety countermeasures

The Federal Highway Administration (FHWA) promotes specific road treatments, proven through research to reduce crashes, injuries, and fatalities on our streets. Durham’s demonstration project used the following proven safety countermeasures recommended by the FHWA:



Road diet

19-47 percent fewer crashes¹

Durham’s demonstration project slowed down traffic by reducing the number of travel lanes and replacing the reclaimed space with a bus pull-off.



Pedestrian crossing island

56 percent fewer pedestrian crashes¹

Durham’s demonstration project also introduced a new mid-block crosswalk with a raised pedestrian refuge to make it easier and safer to cross the street.

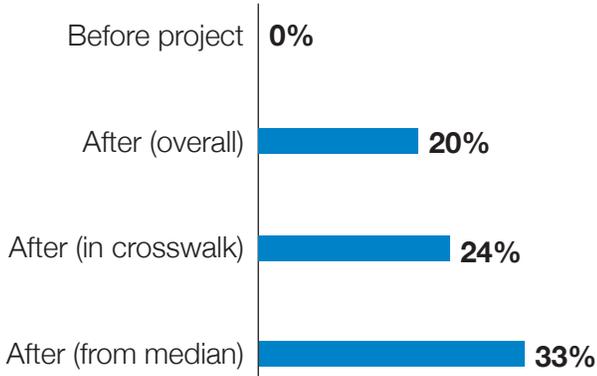
1. Federal Highway Administration. Proven Safety Countermeasures. Available from <https://safety.fhwa.dot.gov/provencountermeasures/>.



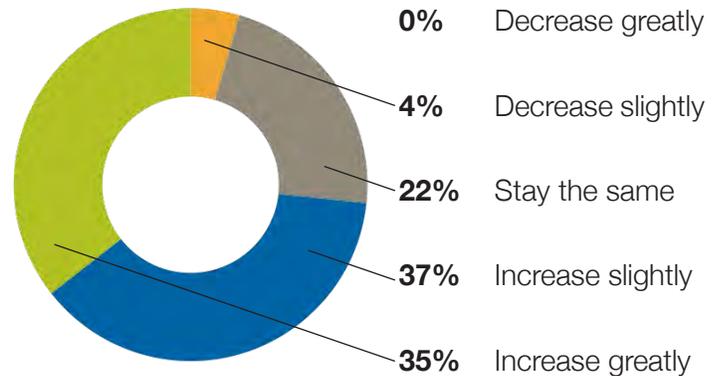
The Durham team constructed a protected pedestrian refuge within the existing median. They also closed a lane of traffic and created a separate space for buses to pull over at the bus stop.

The results of Durham’s project speak for themselves. The team collected data before and after the project to measure changes in how people move through the space. Prior to their demonstration, zero percent of drivers yielded to people crossing the street between the bus stop and the shopping mall, but after they installed improvements this rose to 20 percent. Additionally, median driving speeds dropped from 30-33 miles per hour to 28-29 miles per hour. That may not sound like a lot, but a difference of five miles per hour can make a huge difference for safety, greatly reducing the likelihood of a crash and the severity of injuries should a crash occur. Furthermore, 73 percent of people who participated in intercept surveys following the installation reported feeling an increased sense of safety thanks to the changes.

What percentage of drivers were observed yielding to people crossing?



How does the crosswalk and the temporary lane reduction affect your feeling of safety?



Moving forward, the team will continue to introduce more permanent improvements to make the new crosswalk even safer. They are excited to install the artwork people voted on later this summer, and they also plan to add pedestrian-activated flashers at the crosswalk to further encourage drivers to properly yield.

Durham Transportation Department @movesafedurham · May 31
Crews are currently implementing a temporary lane reduction on W. Club Blvd. The lane reduction will slow speeds on this segment of W. Club, making the area safer for all roadway users.

5 replies, 3 retweets, 31 likes

Erik Myxter-Iino @emyxter · May 31
Awesome! Where is this exactly?

Durham Transportation Department @movesafedurham · May 31
W. Club Boulevard between Gregson Street and Buchanan Boulevard.

1 reply, 1 retweet, 1 like

Erik Myxter-Iino @emyxter
Following

Replying to @movesafedurham

Awesome! Much needed connection to make northgate walkable

12:15 PM - 31 May 2019

Charlie Reece @CM_CharlieReece · May 31
Many thanks to our fantastic @movesafedurham staff for implementing this demonstration project on W. Club. I'm optimistic that the results will show that implementing these changes throughout this corridor will make for a safer Durham for all of us.

Durham Transportation Department @movesafedurha...
Crews are currently implementing a temporary lane reduction on W. Club Blvd. The lane reduction will slow speeds on this segment of W. Club, making the area safer for all roadway users.

3 replies, 3 retweets, 13 likes

Jessalee Landfried @JessaleeL
Following

Replying to @CM_CharlieReece @movesafedurham

Thanks for your support for projects like this!

6:12 AM - 1 Jun 2019

Tweet your reply

Durham’s project received a lot of positive attention on social media, including from a city councilmember (right).

Lessons learned

Based on Durham's experience transforming West Club Boulevard, communities around the country can learn from the following lessons to launch their own safety demonstration projects:

1. Different outreach methods reach (and miss) different parts of the community.

By conducting in-person intercept surveys, the Durham team connected with people they do not usually reach through online engagement. This ensured their project reflected the needs and desires of the most vulnerable people who use the street on a day-to-day basis, not just people who pass through. Even though this in-person engagement required more time and effort, it was indispensable to making sure the voices guiding this project reflected the community who stood to benefit most from safety improvements, especially people from low-income communities, communities of color, and people who do not own a car.

2. Collaborate with unexpected allies and partners.

The Durham team worked closely with contacts at local media sources to spread the word about their project. This outreach got people excited about the demonstration project and helped ramp up their community engagement both online and at events. In addition, they collaborated with a local artist, who previously submitted a portfolio to the city, to add a memorable creative placemaking element to their project, which they will install later this summer. Finally, their proactive social media communication following a nearby bike crash got the attention of local bike advocates who volunteered to help with interviews to evaluate the project and who have expressed interest in advocating for permanent improvements. These are all great examples of how the Durham team made the most of existing partnerships and potential allies to strengthen support of their demonstration project.

3. Do not miss the chance to keep the momentum going.

Thanks to all the attention and support for Durham's demonstration project in the media and on social media, the team has momentum to carry out more intensive, permanent changes. Moving forward, they are exploring opportunities to install more intensive signals at the new crosswalk to further improve safety for people walking. Communities looking to implement similar projects should also be prepared to seize this momentum from an exciting, successful demonstration, either to work toward permanent improvements at the same site or to launch additional projects at other dangerous places.



The Durham team celebrated the success of their demonstration project during the final Safe Streets, Smart Cities Academy workshop in Pittsburgh.



4 Mile Post

Huntsville, AL demonstration project

Budget: \$16,500



Huntsville's demonstration project added more intensive improvements to an existing crosswalk on a high-speed road where very few drivers yield to people crossing and filled in a missing bike connection to a nearby greenway.

The City of Huntsville partnered with the South Huntsville Business Association, AARP, and the Rotary Club to implement a demonstration project on 4 Mile Post. The project makes it easier and safer for people to walk or bike along and across the street, and it also restores missing connections between nearby destinations, including homes, parks, trails, and employment centers. Along the way, the team faced resistance from elected leaders outside the project area who opposed any project—even a temporary one—that would take space away from cars, but thanks to their persistence and close engagement with the community, they won the support they needed to install temporary safer streets improvements on 4 Mile Post and to work toward making these changes permanent.

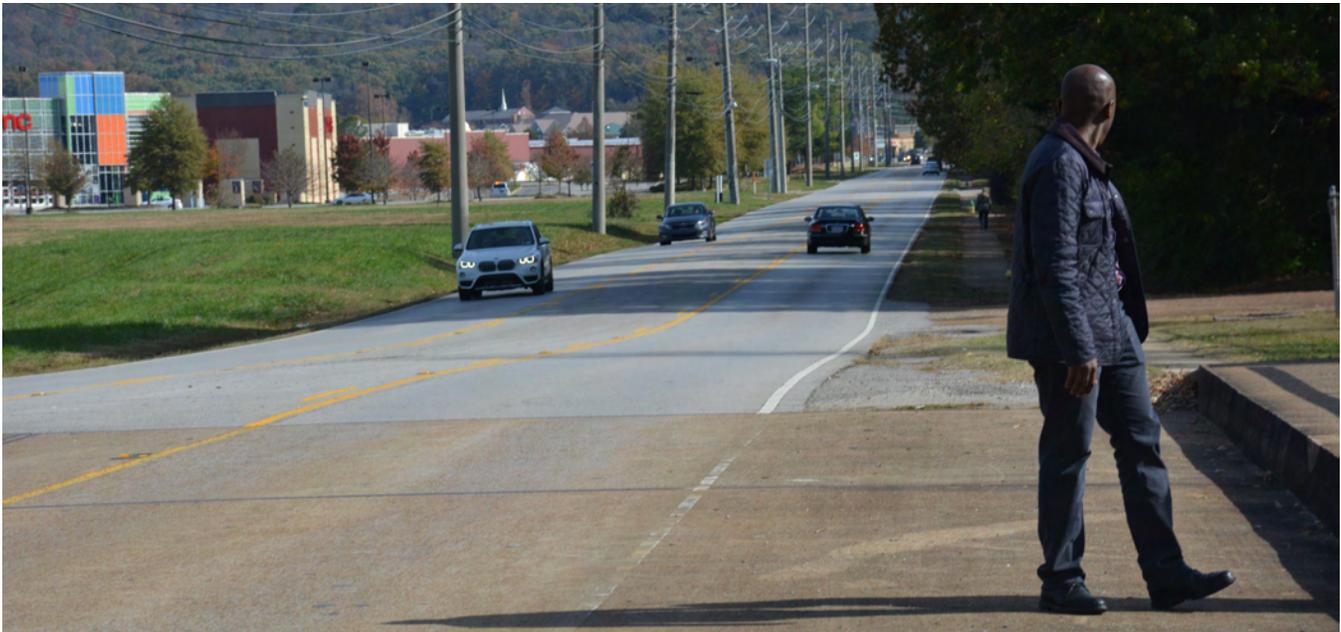
Originally named for its historic location four miles beyond Huntsville limits, 4 Mile Post is a wide, straight three-lane road. Once a route to bypass the city, 4 Mile Post now falls well within the fabric of Huntsville, whose footprint sprawled in the 1950s to encompass over 200 square miles. Today, it sits between a residential neighborhood and a nearby shopping center, and it divides the Aldridge Creek Greenway from Jones Farm Park just across the street. As a result, 4 Mile Post needs to provide a safe way for people to walk or bike along and across the street to reach these destinations, but its design continues to prioritize high-speed through traffic, creating a dangerous environment for all people.

The city previously installed a marked crosswalk to help reconnect people's homes and the greenway on the south side of 4 Mile Post to the park and job center on the north side. However, without more intensive treatments to calm traffic, speeding drivers seldom yielded to people crossing. In addition, cyclists using the greenway lacked any safe, legal way to continue along or across the street. A team from the City of Huntsville decided to implement a demonstration project on 4 Mile Post to show people how quick, low-cost changes could have a huge impact on creating safer connections for all people.

Engaging the community

In selecting a site for their demonstration project, the Huntsville team wanted to focus on improving safety for vulnerable users, especially older adults and people walking. 4 Mile Post caught their attention as the site of several recent crashes, including one involving a pedestrian in the crosswalk. Additionally, the neighborhood immediately adjacent to the crossing has a much higher median age of 55 years old compared to only 39 years citywide, and older adults living in this neighborhood complained that they felt stressed and unsafe when crossing to reach the park just across the street. Finally, nearby families also did not want their children anywhere near the street to reach the park or nearby greenway because of how dangerous it is for people walking.

“I didn’t know if I was ever going to email you about this, but today nobody would stop for me at all.”
 —Allison Smith, local resident



Despite its proximity to the Aldridge Creek Greenway and a major shopping center, 4 Mile Post provides few complete connections for people walking and biking to reach key destinations safely.

To learn more about people’s experiences and perceptions of 4 Mile Post, the Huntsville team partnered with the South Huntsville Business Association to hold a listening session with over 40 attendees from the local community. They also worked with the Rotary Club and AARP to go door-to-door to business owners and local residents, inviting them to come share their thoughts about the street. Finally, they invited councilmembers, law enforcement, and traffic engineers to come listen to what the community had to say.

The overarching themes that emerged from these conversations and listening sessions were speed and failure to yield. Thanks in part to 4 Mile Post’s raceway-like design, as well as the under-used center left turn lane that people use to pass other drivers, people frequently sped along the road at dangerously high speeds and seldom yielded to people waiting to cross.

The Huntsville team used this feedback to guide the design of their demonstration project. When the time came to launch the project on the ground, they continued to bring the community along, staging a ribbon cutting and safety-themed block party to unveil the improved crossing, in collaboration with the fire department, local businesses, and the same organizations who helped with community engagement. In addition, two elected officials attended the launch event, creating an important opportunity for face-to-face conversations with local residents, who overwhelmingly expressed gratitude for improvements at the site.

“People couldn’t stop thanking us enough for just making it safer and all the little implementation that we were doing.”
—Rachel Bolton, City of Huntsville



Assorted photos from the launch event for Huntsville’s demonstration project.

Creating a slower, safer street

Based on community input, the Huntsville team realized that they needed to redesign 4 Mile Post to coax drivers to drive more slowly and cue them to properly yield to people crossing, especially older adults, some of whom may take longer to make their way across. They also recognized a need to fill in a missing connection between the Aldridge Creek Greenway, which stopped at 4 Mile Post.

The team originally pitched a road diet to department leadership, shifting one lane of traffic into the under-used center left turn lane and freeing up newly protected space for people to walk and bike. By narrowing the number of lanes approaching the crosswalk, this would also prompt drivers to be more aware of their surroundings, cuing them to slow down and safely share the street.



The team from Huntsville adapted their design after facing resistance to their project. Instead of shifting traffic into the under-utilized left-turn lane, they used temporary paint to create a buffered space in the shoulder for bicyclists to ride from the Aldridge Creek Greenway to the crosswalk.

However, even though the team's analysis showed that removing this extra travel lane would not create delays for people driving or reduce capacity of the road, decision-makers pushed back on any project—even a temporary one—that might be perceived as taking space away from drivers. This resistance highlights the challenges creating a culture of safety in a transportation system that has historically prioritized the high-speed movement of cars over all other users.

Undaunted, the Huntsville team adjusted their project's design. They used paint and flags to outline a temporary, off-road multi-use path leading from the greenway to the crosswalk, and they introduced a type of signal only recently approved by the Alabama Department of Transportation for use throughout the state called the Rectangular Rapid Flash Beacon, or RRFB.

What's an RRFB?



A Rectangular Rapid Flash Beacon (RRFB) is a type of signal used at mid-block crossings and at intersections without traffic lights to remind drivers to yield to people crossing. To use an RRFB, a pedestrian presses a button that activates a pair of LED lights, which blink rapidly back and forth, calling drivers' attention to the crosswalk. Research compiled by the Federal Highway Administration shows that RRFBs significantly improve driver yielding behavior at mid-block crossings, and they also cost less than traditional traffic signals.¹

1. Federal Highway Administration. Rectangular Rapid Flash Beacon (RRFB). Available from https://safety.fhwa.dot.gov/intersection/conventional/unsignalized/tech_sum/fhwasa09009/.



At the launch event for their project, the Huntsville team taught elected officials, partners, and members of the community about the importance of safer street design.

Thanks to feedback from the community on their temporary demonstration project, the Huntsville Team has already made changes and improvements following implementation. For example, they adjusted the height of the RRFB signs to improve visibility of oncoming traffic. They are also exploring other solutions to make permanent improvements at the intersection, such as installing decorative thermoplastic to make the crosswalk more visible and attractive, as well as providing a textured surface to aid people with vision impairments to navigate the crosswalk. Now that they have seen the project on the ground, Huntsville's traffic department also recently added a curb extension on the north side of the road, which will encourage drivers to slow down as well as shorten the distance people need to cross, greatly reducing stress particularly for older adults worried about racing against traffic.

Lessons learned

Based on Huntsville's experience transforming 4 Mile Post, communities around the country can learn from the following lessons to launch their own safety demonstration projects:

1. Communicate, communicate, communicate.

Spread the word about what you are doing and why proactively to elected leaders, department heads, members of the community, and local media outlets. This is particularly important to gain support for projects that balance safety with other trade-offs, or even with just the perception of other trade-offs. If you do not lead with a strong message of safety, people may jump to conclusions and create unnecessary opposition to your project. The Huntsville team, through strong partnerships and persistence, overcame such resistance when decision-makers got the wrong idea that their project would cause significant delays for drivers, but you do not always get a second chance to make a first impression.

2. Use the project as an opportunity to develop new relationships and partnerships.

Demonstration projects are great opportunities to work with community organizations you have not collaborated with previously, or to strengthen existence partnerships. In the case of Huntsville's project, they worked closely with the South Huntsville Business Association, AARP, and the Rotary Club to engage local residents and business owners, creating new lasting partnerships in the community and in these organizations in the process.

3. Do not give up.

Safety does not happen in a vacuum, and unfortunately the trade-offs that come with safer street design can sometimes seem insurmountable. Decision-makers and community members may resist projects that appear to take time or space away from drivers or that upset prospective voters, especially if they do not understand the importance of these projects for everyone's safety. Persistence in the face of resistance, proactive communication about the project's intentions, and especially direct community engagement to inspire new allies and champions for this work all contribute to the success of Huntsville's demonstration project, in spite of the obstacles they encountered along the way.



Visiting the other cities in the Safe Streets, Smart Cities Academy inspired the Huntsville team to persevere when they faced resistance to their project.



Lincoln and Frankstown Avenues

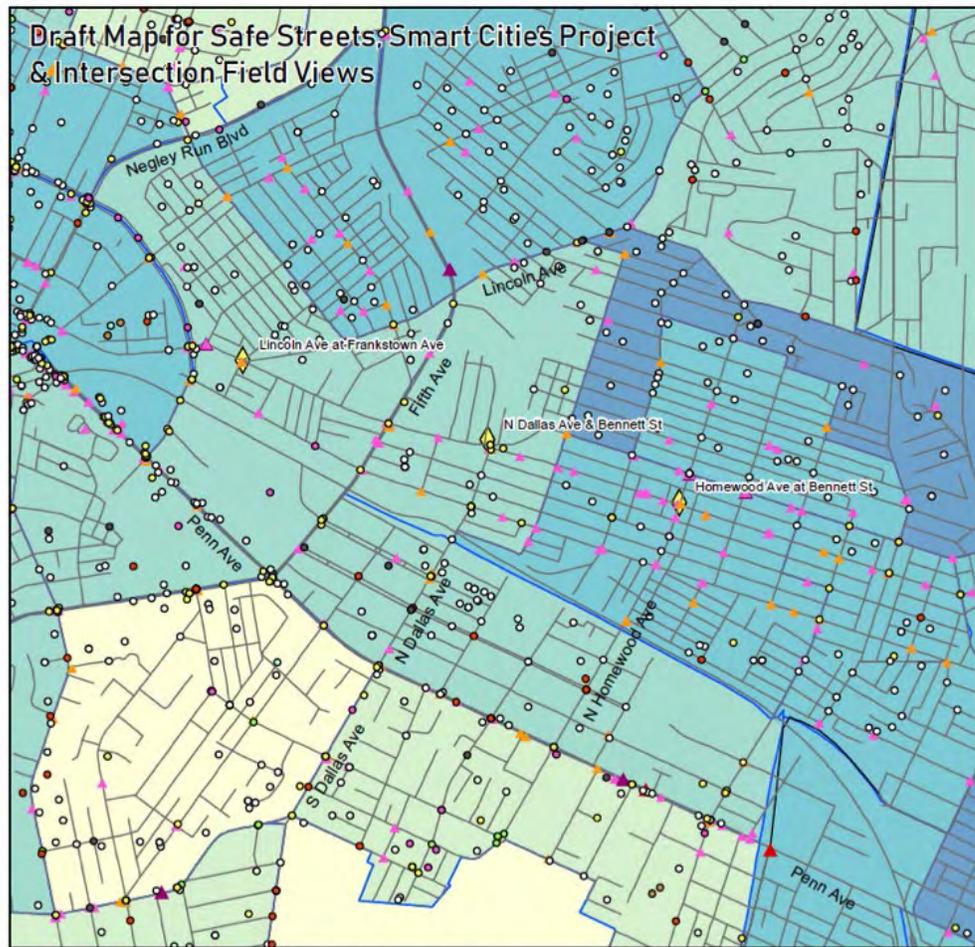
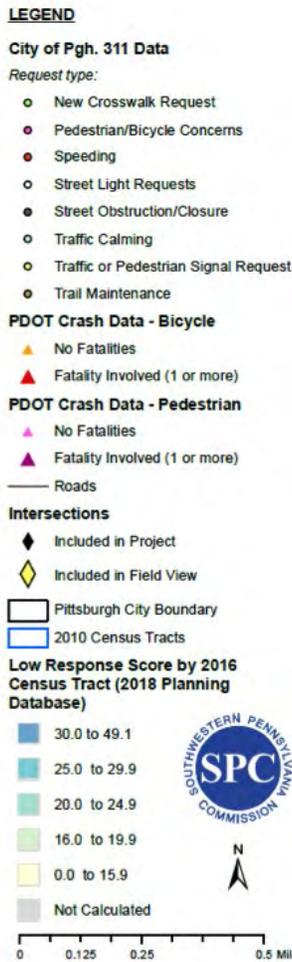
Pittsburgh, PA demonstration project
Budget: \$23,300



Pittsburgh's demonstration project made it safer and easier to cross the streets surrounding an elementary school by reconfiguring a dangerous intersection and introducing protected pedestrian refuges at crosswalks.

The City of Pittsburgh historically relied on 311 requests to help decide which streets need safety improvements, but when a team from the city looked more closely at the data, they realized they were not reaching the whole community through this process. In particular, they were not addressing key locations with high crash rates in low-income communities of color because this traditional channel of collecting complaints. In partnership with the Southwestern Pennsylvania Commission, the Allegheny County Health Department, and PennDOT, they launched a demonstration project at one such site to implement safety projects and to establish new partnerships with the community. Working closely with a local school, they added crosswalks with protected refuges to help children reach school more safely, and they also redesigned the intersection of Lincoln and Frankstown Avenues to make it less stressful for all people—including drivers—in the process.

As part of the Safe Streets, Smart Cities Academy, staff from the City of Pittsburgh and partner agencies learned about inclusive strategies to engage the community, especially parts of the community who are most vulnerable to traffic crashes, including low-income communities of color. The team realized that a demonstration project would create the perfect opportunity to not only transform some of their streets into safer places for people, but also to pilot a new approach for engaging the community. They worked with the Southwestern Pennsylvania Commission, which serves as the metropolitan planning organization (MPO) for the Pittsburgh region. Using the MPO's communities of concern analysis, which looks at income, English proficiency, educational attainment, race, and other factors, they identified sites in their most vulnerable communities with high crashes. Then, they explored which of these sites had few instances where people reached out to the city to complain to select possible places to stage their demonstration.



Note: The Census Bureau's "Low Response Score" product by tract was used as proxy for "Communities of Concern" designation. Final mapping for the "SS,SC" demonstration project will include a custom score at the smaller block group level of geography.

To choose the site of their demonstration project, the Pittsburgh team looked at the overlap between crashes, communities of concern, and gaps in 311 requests.

The team ultimately selected the intersection of Lincoln and Frankstown Avenues as the main focus for their project. This confusing, star-shaped intersection provides direct access to an elementary school. In just the past 10 years, 19 crashes occurred at this intersection, including several crashes involving people walking. When visiting the site, team members witnessed additional near misses between drivers and people crossing the street. People driving also regularly exceeded the school zone speed limit on both Lincoln and Frankstown Avenues, in some cases driving nearly twice as fast as the posted speed limit.



Most of the crashes at this intersection involved cars making quick left-hand turns from Frankstown Avenue onto either Lincoln Avenue or Lowell Street. This put children who cross this intersection to reach nearby Lincoln Elementary School at risk of being struck and injured or killed.

Despite the obvious dangers at this site, the city received very few complaints about it through Pittsburgh's 311 hotline. They decided to use their demonstration project to start a much-needed dialogue about safer streets with residents of the neighborhoods surrounding the site, which tends to be lower-income, more racially diverse, and more transit-dependent compared to other parts of the city. This shift in focus will help the city work toward a commitment to eliminate all traffic deaths on their roadways through a Vision Zero initiative. This Vision Zero approach will also work to prioritize the most vulnerable people who use the road who have been consistently left behind in previous community engagement.

“Vision Zero is helping us to reframe that question about where we really need to focus our energy.”
 —Katy Sawyer, City of Pittsburgh



The Pittsburgh team led a deliberative democracy forum with break-out discussions, an expert panel, and a design exercise to engage the community and guide their demonstration project.

Engaging the community

To make sure the community had a meaningful voice in guiding their demonstration project, and to start a robust dialogue about safer street design more broadly, the Pittsburgh team decided to use an engagement method called “deliberative democracy.” Rather than a standard town-hall meeting where the city educates attendees then attendees share feedback, deliberative democracy is a forum that works toward building consensus among participants. In this sort of forum, people break out into small group discussions, ask questions of an expert panel, and give detailed, specific input that helps guide decision-making. Pittsburgh has previously used this method to involve the public in decision-making surrounding their budget, but until now they had not used it as an engagement tool for standalone transportation projects. They worked with the mayor's office to run the forum and spread the word through community neighborhood groups and flyers sent home through schools.

In addition, Pittsburgh partnered with the Allegheny County Health Department and PennDOT to engage directly with schoolchildren. The county regularly conducts classroom visits to teach seminars on safety, so the Pittsburgh team decided to use this as an opportunity to learn from kids about how they get to school, where they cross currently, and where they would like to cross if the street were designed differently. They brought maps to classrooms, meeting with approximately 250 children to ask them what they want the surrounding streets to look like. Based on the feedback the team received from schoolchildren and from their deliberative democracy meeting, they realized they needed to expand the bounds of their project to include the surrounding streets as well as the intersection.



Students from nearby Lincoln Elementary School drew on maps to tell the Pittsburgh team how they get to school currently and where they would like to see new and improved crosswalks.

To celebrate the launch of their demonstration project and show the community how their input led to safer street design, the team held a block party right after school dismissal. They brought food, music, chalk, and more information about the project to share with children, parents, teachers, and partner organizations. They also invited the local advocacy organization Vibrant Pittsburgh to parade across the new and improved crosswalks to raise awareness about safer street design.



At the launch event for their demonstration project, the Pittsburgh team educated drivers, parents, children, and partners about the new safety improvements.

Creating slower, safer crossings

The design of Pittsburgh's demonstration project closely followed the feedback they received from the community. For example, by meeting with schoolchildren and asking them to draw on maps, they learned that kids have trouble crossing the street not just at the Lincoln and Frankstown intersections, but at many intersections and mid-block places surrounding the school. As a result, the team introduced several new and improved crosswalks nearby, many of which included protected refuge islands halfway across to provide a safe space for people to pause while crossing and to remind drivers to slow down and yield. They also included informational signs at several of the crosswalks to educate people about the new design and why it is important for safety.

In addition, they made more intense improvements at the Lincoln and Frankstown intersection thanks to insights gleaned from their deliberative democracy. During these conversations, the Pittsburgh team learned that one problem at the intersection leading to conflict between people driving and walking was how stressful and difficult it was for drivers to make left-hand turns. Drivers were so concerned about avoiding oncoming traffic, they were not paying close enough attention to people crossing the street. Using this input, the Pittsburgh team devised a solution that made the intersection safer and easier to navigate for everyone. They added a left-turn lane to the intersection and a corresponding left-turn phase to the traffic signal. This way, drivers would not need to worry about conflicts with oncoming traffic when making turns and could pay closer attention to people walking. This also allowed the team to add a pedestrian-only phase to the traffic signal, providing people with extra time to cross while cars are still stopped.



Using paint and temporary dividers, the Pittsburgh team created pedestrian refuge islands so people crossing the street would only need to worry about one direction of traffic at a time. This also narrowed the roadway approaching crosswalks, cuing drivers to slow down, pay attention, and yield to people crossing.



Educational signs reinforced Pittsburgh’s demonstration project and its importance for safety.

Proven safety countermeasures

The Federal Highway Administration (FHWA) promotes specific road treatments, proven through research to reduce crashes, injuries, and fatalities on our streets. Pittsburgh’s demonstration project used the following proven safety countermeasures recommended by the FHWA:



Pedestrian crossing island

56 percent fewer pedestrian crashes¹

Pittsburgh’s demonstration project introduced several new mid-block crosswalks with protected pedestrian refuges to make it easier and safer to cross the street.

1. Federal Highway Administration. Proven Safety Countermeasures. Available from <https://safety.fhwa.dot.gov/provencountermeasures/>.



Dedicated left-turn lane at intersection

28-48 percent fewer crashes¹

Pittsburgh’s demonstration project also reconfigured an intersection so drivers would not need to worry about conflict with oncoming traffic when making left turns, allowing them to devote more of their attention to watching for and yielding to people crossing.

To start, the team made these improvements at very low cost using temporary materials like planters, spray chalk, cones, and plastic signs. Moving forward, they hope to make permanent safety improvements based on the response to their demonstration. In addition, they hope to apply the lessons learned from their successful community engagement to other transportation projects citywide, continuing to work with schoolchildren and to stage deliberative democracy meetings to give the community a stronger voice in decision-making.

Lessons learned

Based on Pittsburgh's experience transforming Lincoln and Frankstown Avenues, communities around the country can learn from the following lessons to launch their own safety demonstration projects:

1. Community engagement should be proactive, not responsive.

The Pittsburgh team's approach to identifying their project site—namely, looking for overlap between communities of concern, crashes, and a lack of 311 calls—is an approach other communities can emulate to identify gaps in their own engagement and safety efforts. Responding to complaints from the community can widen the gap between places that already experience transportation investment and places that experience systematic underinvestment. Thanks to this decision, Pittsburgh's project helped them foster new partnerships and trust with a part of the community that they had not previously engaged, ultimately leading to a much stronger demonstration project.

2. Make the most of your existing partnerships.

The Pittsburgh team made great use of their existing partnerships and programs to strengthen community engagement for their demonstration project. They collaborated with the Allegheny County Health Department, who were already conducting classroom visits, to collect input from 250 children. They worked with the mayor's office, whose staff had experience facilitating deliberative democracy forums for their budgeting process. Finally, they applied the Southwestern Pennsylvania Commission's analysis on communities of concerns to help them identify a project site with huge potential to benefit the most vulnerable segments of the city's population.

3. Look for win-win opportunities to make streets safer for everyone.

When it comes to safer street design, projects must often contend with trade-offs between high speeds for drivers and safer, slower speeds for people walking and biking. But Pittsburgh's demonstration project shows that it is possible to redesign streets and intersections in a way that makes them safer and easier to navigate for everyone, including drivers and people walking. By reconfiguring the intersection at Lincoln and Frankstown Avenues to allow drivers their own phase for left turns and people walking their own phase to cross, they made the intersection safer, less stressful, and more comfortable for all people. These sorts of win-win design solutions are powerful opportunities to foster unified support for future projects, and they help dispel the notion that there always have to be trade-offs when creating safer streets.



The Pittsburgh team celebrated the successful launch of their demonstration project.

What is the Safe Streets, Smart Cities Academy?

The Safe Streets, Smart Cities Academy brought together teams of ten people each from Huntsville, AL, Durham, NC, and Pittsburgh, PA. These teams included a mix of planners and engineers, public health professionals, law enforcement officers, representatives from regional planning organizations, and more.

Together, the teams from these cities participated in three workshops and six distance-learning modules over the course of nine months to build the skills necessary to create safer, slower streets. Through interactive exercises and instruction, they learned about proven safety countermeasures, tactical urbanism, community engagement, performance measurement, and much more. They also learned about how emerging technologies provide new challenges, as well as new opportunities to prevent crashes and save lives.



What makes this program unique?

Each city received an \$8,000 subaward, which they matched through funds or in-kind contributions, to put their new and improved skills into practice. With support from Smart Growth America, they conducted extensive community engagement within their cities, leading up to the temporary, safety demonstration projects at some of their most dangerous streets or intersections, profiled through these case studies.

Want to work with us on a similar program?

Reach out to our team at <info@completestreets.org> to learn more about how we can work together to build new skills and partnerships and transform the streets in your community into safer places for people.