

# COMPLETE STREETS LEADERSHIP ACADEMIES



Smart Growth America  
Improving lives by improving communities



National Complete  
Streets Coalition

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3	Who we are
4	There is power in doing something concrete, even if temporary
6	Project overview
10	Don't give up—the four stages of collaboration
12	Case studies
14	↳ <b>Alaska:</b> On the path to progress
22	↳ <b>California:</b> Internal procedures stand in the way of testing creative solutions
42	↳ <b>Connecticut:</b> Transforming processes for sustained change
55	↳ <b>Tennessee:</b> A quicker way to deliver on statewide street safety

## Who we are



**Smart Growth America** envisions a country where no matter where you live, or who you are, you can enjoy living in a place that is healthy, prosperous, and resilient. We empower communities through technical assistance, advocacy, and thought leadership to realize our vision of livable places, healthy people, and shared prosperity. Learn more at [www.smartgrowthamerica.org](http://www.smartgrowthamerica.org).



**The National Complete Streets Coalition**, a program of Smart Growth America, is a non-profit, non-partisan alliance of public interest organizations and transportation professionals committed to the development and implementation of Complete Streets policies and practices. A nationwide movement launched by the Coalition in 2004, Complete Streets is the integration of people and place in the planning, design, construction, operation, and maintenance of transportation networks. Learn more at [www.completestreets.org](http://www.completestreets.org).

### Project Team

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### Acknowledgments

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## There is power in doing something concrete, even if temporary

The National Complete Streets Coalition (NCSC) at Smart Growth America has long made it clear that we need safer, more productive roadways to allow people to enjoy more active transportation and the health benefits it brings. To help communities experiment with this approach, NCSC has been developing and iterating a “leadership academy” model over the last five years bringing together cohorts of local leaders to build capacity, foster collaboration, and test out tangible street design changes through quick-build demonstration projects.

The quick-build projects we’ve facilitated have been overwhelmingly successful at making streets safer for people walking, biking, and rolling—backed up by the data collected and the experiences of the communities we have worked with. We’ve learned that combining a desire for change with an opportunity to collaborate on an innovative, temporary project produces improved relationships, an increased willingness to embrace Complete Streets, and meaningful, permanent street design changes that improve safety and access to physical activity.

But this locally-focused approach has always had a major limitation: the most deadly and dangerous roads for people walking, biking, or rolling [are often owned by the state DOT](#). They are usually designed to be highways, even if that road doubles as Main Street. These roads can also be the hardest to make safer for people outside of vehicles because they were built or designed to move high-speed traffic through the area, even if they need to provide access to local jobs, stores, schools, and the other local destinations people need on a daily basis.

While trying something new is not always easy to execute on city-owned streets—especially in places that have little experience with Complete Streets—the degree of difficulty goes up significantly when dealing with state-owned roads. This is what we wanted to confront head-on with this new series we launched in late 2022.

**Quick-build:** demonstration projects are temporary installations to test new street design improvements that improve safety and accessibility

What we learned alongside this cohort of leaders from four states and ten cities (see our program lessons on page 9) reinforced much of what we’ve learned over our years of work with dozens of other communities elsewhere.

Demonstration projects at their core acknowledge that the status quo approach to designing, deploying, and measuring success on our streets is failing to keep people safe and make healthier options like walking more convenient. But based on our experience, even those practitioners who recognize the need for change and are eager to test out new approaches may lack any sort of established practice for demonstration projects, requiring them to start from scratch to create new processes and policies to enable quick-build demonstration projects. They also are required to develop this on their own with little guidance or direction from the transportation field.



We’ve heard through our years of work, including most recently with participants in this program, that state DOT staff often feel left on their own to determine whether a non-traditional safety treatment they may like to try out is permitted by USDOT and the Manual of Uniform Traffic Control Devices (MUTCD)—even if it has a proven track record of improving safety. There is a great opportunity for federal leaders to work with states, local leaders, and safety and public health partners to foster and support more learning through demonstration projects with proactive new guidance and spaces for state DOT staff to share their own experiences and propagate lessons to others.

There is power in doing something concrete, even if temporary. Physical changes to street design demonstrate that safety, health, and accessibility are important priorities, and that solving the crisis of traffic fatalities and severe injuries needs both creativity and immediate action. These academies provided an opportunity for champions to come together and harness their innovation and creativity, share their experiences and frustration, and make tangible safety and public health improvements. That’s exactly what we need more of to make safer roadway designs the default.

**Beth Osborne**  
Vice President of Transportation and Thriving Communities,  
Smart Growth America

## Project overview

Traffic fatalities continue to plague communities across the U.S. with an [estimated 42,795 people killed in 2022](#). This trauma is not experienced equally—people walking, people of color, and people in low-income communities are far more likely to be killed. But the most significant danger—especially for people walking, biking, rolling, or otherwise not in a vehicle—is located on a disproportionately smaller percentage of all roads: [two-thirds of all deaths in urbanized areas occur on state-owned arterial roads](#). Improving the safety of communities, increasing physical activity, and eliminating preventable deaths can be achieved by better collaboration between local communities and state agencies.

Smart Growth America (SGA), with support from CDC’s Active People, Healthy Nation<sup>SM</sup> initiative, launched the Complete Streets Leadership Academies in 2022 to equip and train local agencies and state departments of transportation to collaborate, innovate, and commit to making changes together to address safety on these dangerous state-owned roads. Cohorts were selected to plan and implement "quick-build" demonstration projects, a way to pilot and test new ideas and street designs in order to activate streets and better support walking, biking, and rolling.

Smart Growth America designed these Academies with three key factors in mind.

**1** With the [majority of all traffic fatalities occurring on state-owned arterial roads](#), current approaches to street design are not working—new strategies are needed to significantly move the needle on safety and health, by making walking, biking, and rolling easier, safer, and more convenient on these roads.

NEW STRATEGIES

**2** Years of SGA experience have repeatedly demonstrated the powerful impact of quick-build demonstration projects to test specific designs and interventions. But in these four states and most other states SGA has worked in, no process exists within the state DOT for deploying quick-build demonstration projects. These processes are desperately needed to make this proven strategy more feasible.

QUICK BUILD DEMONSTRATION PROJECTS

**3** SGA wanted to foster improved collaboration between state DOTs, local jurisdictions, and other key partners, including public health professionals, around a common goal of creating safer communities.

IMPROVED COLLABORATION



### About the program

The Complete Streets Leadership Academies (CSLA) combined a series of virtual sessions and in-person workshops to develop and pilot processes to effectively deploy community-led quick-build projects on state-owned roads. Program participants included city or county staff, engineers, planners, public health practitioners, and community advocates. The sessions and workshops covered the basics of quick-build projects including site selection, design, community engagement, and data collection. SGA challenged participants to deploy a quick-build project during the program and consider how to apply the lessons learned from the demonstration to inform future safety interventions and the processes that would support further innovation. Participating communities received

grants between \$10,000 and \$15,000 to support the implementation of their projects.

It is worth noting that SGA required state DOTs to be the lead applicant for participation in this program. Without the partnership, dedication, and leadership of the state DOT, any local policy or intervention will likely run up against significant challenges on a state-owned road due to the inability to make design changes without seeking approval first from the state DOT. This is often a lengthy process that can result in a community being forced to change its vision due to state guidelines or plans. This early demonstration of commitment was critical to this program's success and led state DOTs to consider how to better incorporate quick-builds across their entire states going forward.

Overall, the program aimed to create a space and a project where state DOTs, local jurisdictions, and community and public health partners could come together to:



Learn together and from one another about the role Complete Streets plays in improving, health, safety, and conditions for people walking and rolling, and how quick-build demonstrations can be powerful tools to nimbly explore and address these issues.



Build relationships between local staff and their state counterparts, fostering partnerships that will continue and sustain the work after program completion.



Combine the valuable technical and regulatory knowledge that state DOTs possess with the desire that local leaders have to make their most dangerous streets more safe.

### Lessons from this program's quick-build projects

After working across these four states, SGA collected numerous important insights for working on quick-builds collaboratively with state DOTs, local jurisdictions, and community and health partners. In fact, the dangers for people walking and biking may never be fully addressed without applying these program lessons on some level. The projects profiled on the following pages—and the lessons gleaned from them—can provide a road map for other states and local jurisdictions to implement demonstration projects and improve both safety and health.



**Improved communication and increased opportunities for collaboration between state DOTs and local jurisdictions helped facilitate the development of these pedestrian safety interventions.**

Many participants noted that the program helped them connect with people who can be important allies at the state or local level. The peer-to-peer learning structure made each project stronger with feedback from neighboring communities. The participants notably felt the release of tension and shared excitement over the program as the group transitioned from weekly Zoom calls to the in-person workshop. A shared project created space for state DOTs and local jurisdictions to come together to navigate barriers, pool resources, and strive for shared success.



**These projects would have proved difficult to impossible without state DOTs creating the space, time, and resources to identify and implement new approaches.**

The quick-build projects were a major undertaking for each state DOT and local jurisdiction. These projects were an additional task for often already overburdened teams in terms of staff time, resources, and funding. However, each participant's commitment to show up supported exploring a relatively under-utilized approach to improving safety, health, and accessibility. There can be too little time and space for staff to test new ideas, explore emerging best practices, and build cross-sectoral partnerships.



**The most successful projects resulted from strong leadership and clear intent from state DOT decision makers to redefine what a successful street looks like.**

Program participants received various levels of engagement and buy-in from state DOTs. When state DOT leadership was engaged in the program, DOT staff could operate with confidence and in good faith when obstacles inevitably cropped up, working with teams to find workable solutions. Without this commitment from the top, many of these projects could have stalled out at multiple points along the way. Participants demonstrated leadership by sharing candidly, participating actively, and continuing to show up in the face of challenges. Continued support from state DOT leadership will be a factor in whether these states can continue to experience the successes resulting from quick-build projects.



# Don't give up—the four stages of collaboration

While every state and city team was unique and evolved to reflect their specific context and participants, we saw some clear phases each state would go through as they progressed through the program. Those who were successful continued to move through these stages. Understanding these phases that naturally occur and what is needed to move through them may help other states or jurisdictions looking to improve coordination around traffic safety.

## 01 Taking (realistic) stock of the situation

Participants were generally enthusiastic about participating in the Complete Streets Leadership Academy. However, some of that optimism waned as it quickly became clear that expectations were not the same on all sides. Participants ranged along a spectrum, from thinking the process would be simple to navigate, all the way to feeling doomed from the very first meeting. Some even felt that the problem areas proposed to be addressed (safety, accessibility, etc.) were already being addressed through other initiatives and found it challenging to establish a clear goal and see the value of this project. But those that were able to be clear-eyed about the challenges and the current state of things were best poised to find ways to overcome them.

Key steps to moving through this phase included:

-  Finding ways to create a shared understanding of the state of traffic safety
-  Identifying the importance of infrastructure changes to address health, safety, accessibility, and connectivity
-  Identifying key processes such as permitting that would have to be navigated to achieve success
-  Engaging those necessary to the project, some of whom said they felt forced into participating

## 02 Acknowledging past challenges in collaboration

Many of the state and local representatives had interacted previously in their roles with varying levels of success. Frustration came out from both sides as they recounted previous attempts to implement changes.

Key steps to moving through this phase included:

-  Acknowledging frustration and ways in which collaboration has been challenging in the past
-  Providing in-person opportunities to build and improve one-on-one relationships
-  Having an external facilitator to navigate productive yet charged conversations

## 03 If at first you don't succeed...

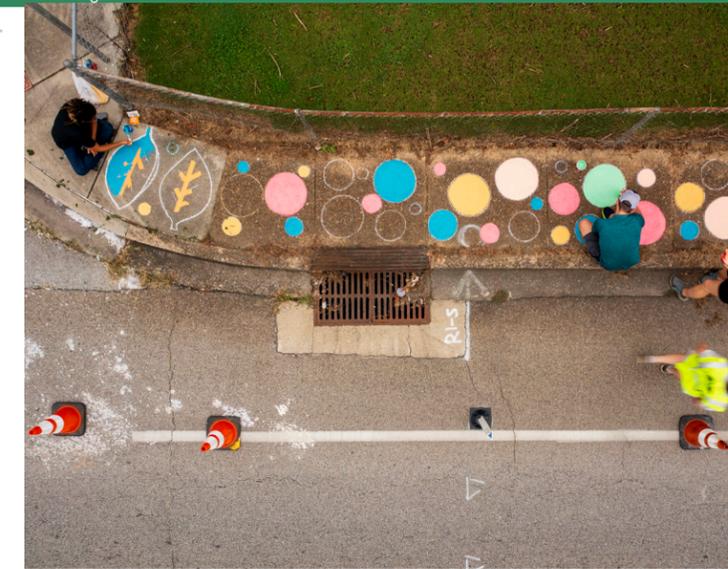
Few of the projects that were ultimately implemented were the initial proposed ideas—nearly every single project evolved during the collaborative process. State DOTs and local jurisdictions in our program were in constant negotiation over things such as permits, materials, and scope. Moving forward required, in some cases, expanding the project design to do more than originally intended, or even starting over from scratch.

Key steps to moving through these phases included:

-  Being persistent when faced with challenges
-  Being specific early and often on timeline and tasks, project elements, and roles of various partners
-  Honestly and candidly assessing staff, financial, and resource capacity to identify what is attainable
-  Identifying areas for flexibility in existing processes, guidance, and regulations

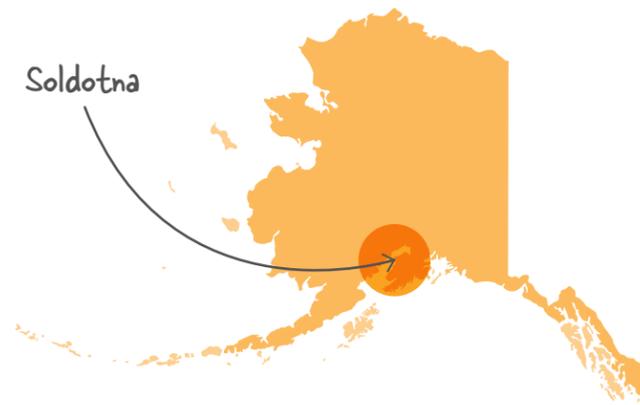
## 04 We all win together

The majority of proposed projects were installed. Successful implementation was a result of joint ownership, a willingness to work together to continue forward in the face of challenges, and a shared commitment to the fact that the status quo needs to be changed. The participants who understood that the negotiations, ever-changing obstacles, and capacity challenges were part of the journey and not a complete derailment were ultimately the ones that were the most successful. Even the teams that were ultimately unable to field a quick-build project benefited from challenging existing ideas about how to confront traffic safety. While a completed project was the ideal, everyone involved can benefit from constantly learning new strategies and tactics, building partnerships, and remaining open to creating a system where all community members can move around safely.

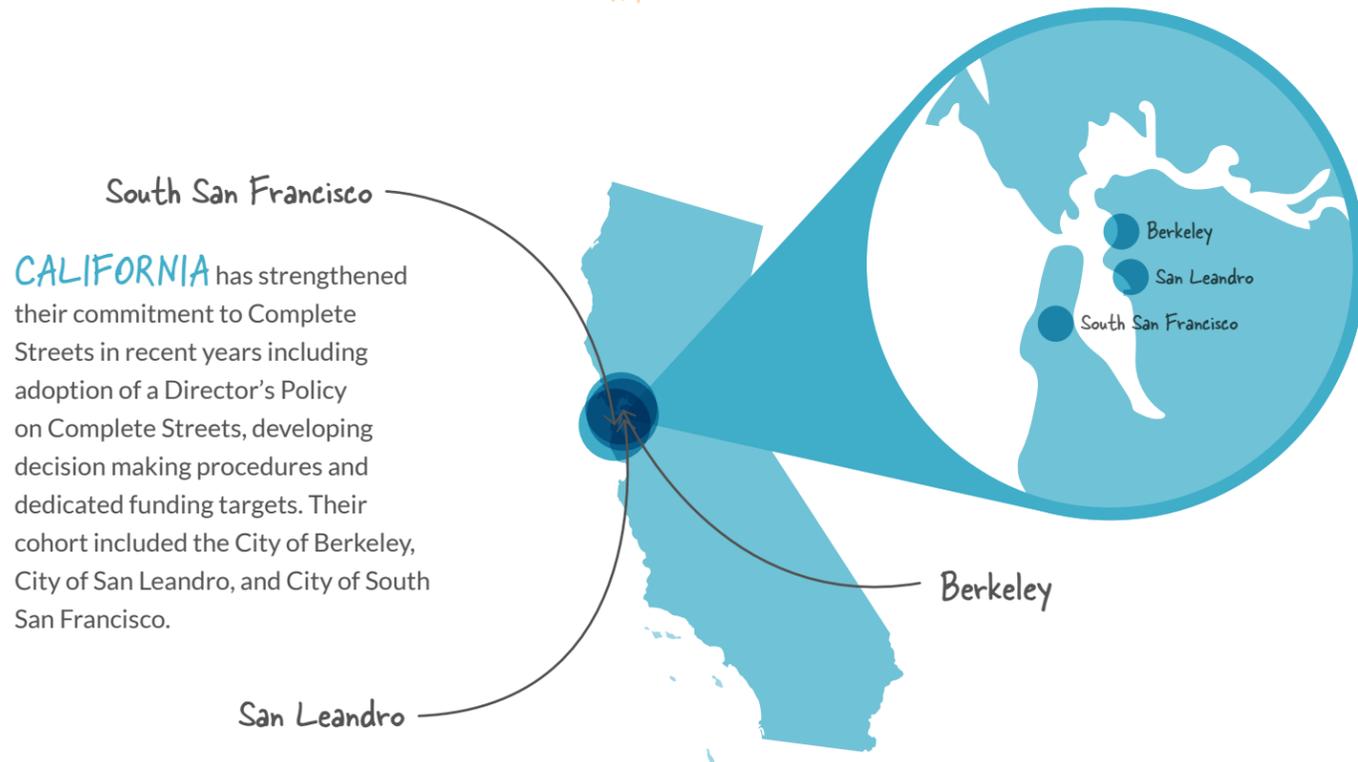


## Case studies

In November 2022, we launched Leadership Academies in Alaska, California, Connecticut, and Tennessee. In this section, we walk you through each participating community's project and what was learned along the way. These case studies were written by Smart Growth America staff, derived from SGA's direct participation in the program, participant surveys, and interviews and discussions with project leaders. Project leads at the state and local levels provided feedback on the drafts and approved the language in the case studies.

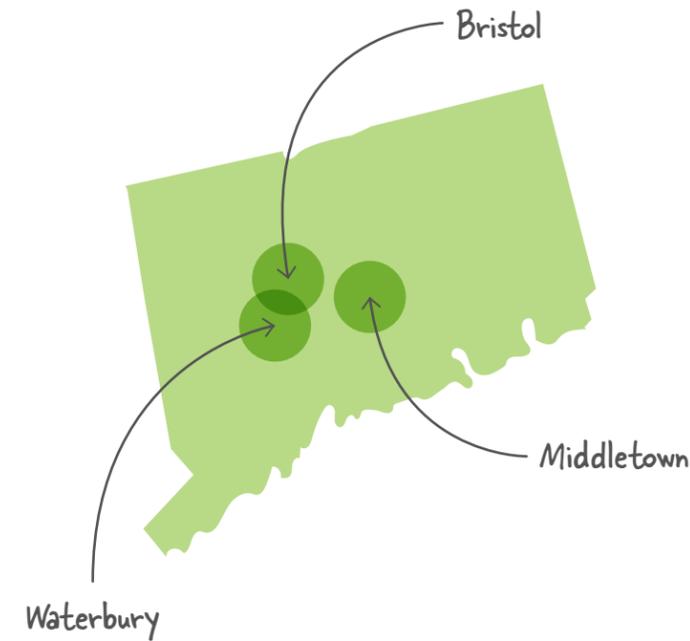


**ALASKA** has increasingly focused on Complete Streets implementation and is working to improve collaboration between the state and local jurisdictions. This includes looking at ways to streamline their processes to support more temporary demonstration projects and integration of Complete Streets approaches within areas of development. Their cohort features the City of Soldotna.



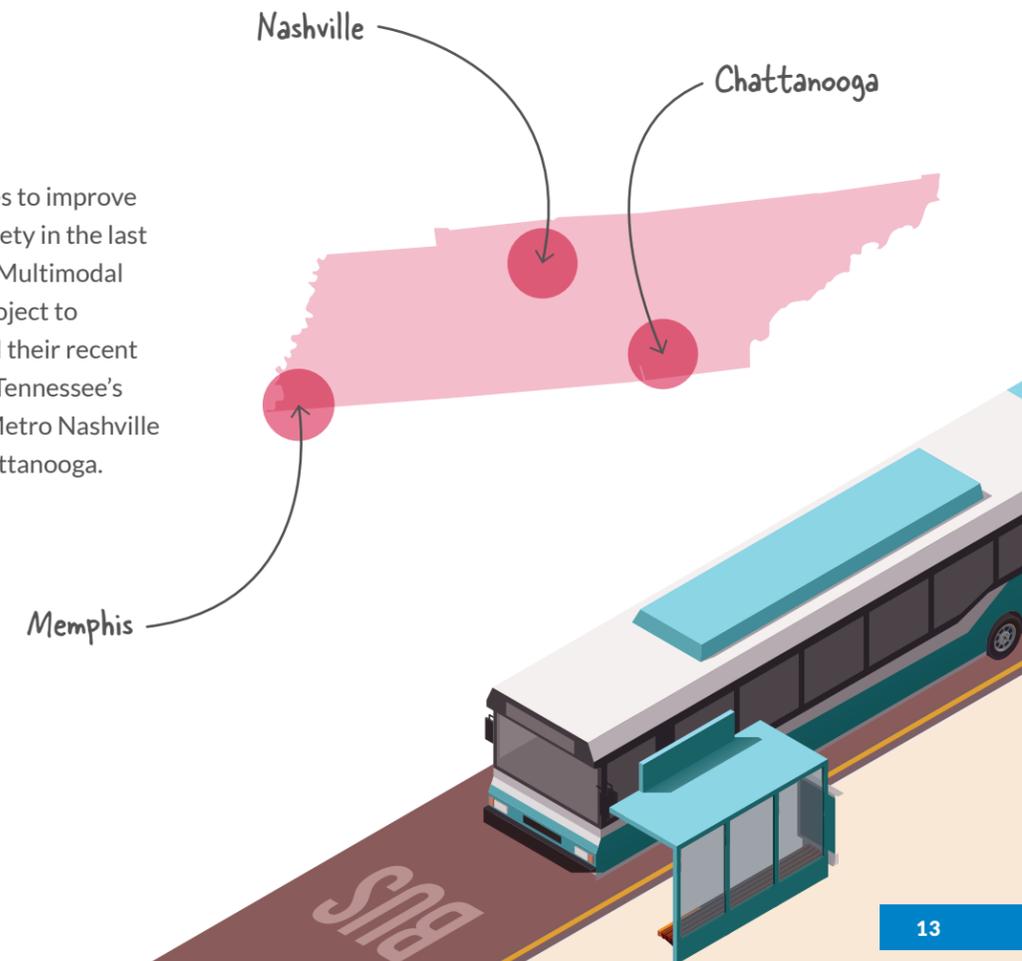
**CALIFORNIA** has strengthened their commitment to Complete Streets in recent years including adoption of a Director's Policy on Complete Streets, developing decision making procedures and dedicated funding targets. Their cohort included the City of Berkeley, City of San Leandro, and City of South San Francisco.

*Note: These case studies were written by Smart Growth America staff, derived from the SGA team's direct participation in the program, participant surveys, and interviews and other discussions with project leaders. Project leads at the state and local levels provided feedback on the drafts and approved the case studies.*



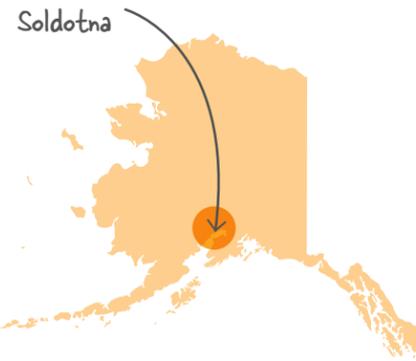
**CONNECTICUT** is working to reduce pedestrian and bicyclist risk and injuries in their state. They are hoping to build stronger relationships, find new ways to evaluate the effectiveness of safety treatments, and identify strategies to implement safety projects more quickly and responsively. Their cohort included the City of Waterbury, City of Bristol, and City of Middletown.

**TENNESSEE** has made great strides to improve their focus on multimodal users and safety in the last few years including the creation of the Multimodal Access Policy requiring every TDOT project to consider multimodal infrastructure and their recent Statewide Active Transportation Plan. Tennessee's cohort included the City of Memphis, Metro Nashville (Davidson County), and the City of Chattanooga.



## Alaska: On the path to progress

The state of Alaska, the largest and northernmost state of the U.S., has unique circumstances that present challenges to safe street design. Heavy winter snow and ice wear down traffic paint, and dark winter months and long summer days require different lighting solutions for people walking, cycling, and driving. But even with all of its differences, Alaska has many things in common with other U.S. states, including the fact that the majority of traffic fatalities occur on state-owned roadways.



The intersection of Birch Street and Sterling Highway in Soldotna

This was one reason why the Alaska Department of Transportation and Public Facilities (DOT&PF) decided to apply to participate in the Complete Streets Leadership Academy.

DOT&PF conducted outreach to three major regions in the state to see what communities would be interested in partnering with them to advance pedestrian safety. While other cities showed interest, the City of Soldotna was the most enthusiastic respondent, and the state DOT decided to partner with them on the program.

Ultimately, Alaska's participation in the Complete Streets Leadership Academy didn't result in the implementation of a quick-build project. However, DOT&PF did succeed in building a stronger relationship with a local community dedicated to advancing safer streets, and their staff learned a great deal in the process.



### CASE STUDY

#### 📍 Soldotna, Alaska: Hitting roadblocks to quick-build implementation

While local and state participants had the desire to address safety and accessibility in Soldotna, they were unable to overcome a number of challenges that ultimately prevented implementation of the quick-build project during the program. However, both Soldotna and the State of Alaska benefited from their efforts to make Sterling Highway safer. Here's what they learned.

#### Overview

The small city of Soldotna, Alaska, positioned along the banks of the Kenai River, is a prime fishing destination and home to festivals in the summer. A portion of the five-lane state-owned Sterling Highway runs through its borders, which is the only roadway connecting the Kenai Peninsula to the rest of the state and is relied upon by the freight industry to move goods across throughout Alaska. This highway also separates the majority of Soldotna residents from the popular Kenai River and Soldotna Creek Park.

This was the problem Soldotna hoped to solve when they accepted the invitation from program applicant Alaska Department of Transportation and Public Facilities (DOT&PF) to participate in the 2022-23 Complete Streets Leadership Academy. But they also hoped participation would inform future plans for the city including their Arts and Culture Master Plan and their Riverfront Redevelopment Plan, which is still in process. Participants believed a successful quick-build demonstration could help shape these plans as they were finalized. In the process, they could also build a stronger relationship and partnership with DOT&PF.

The population of the Kenai Peninsula—where Soldotna is located—is 82 percent white, 8.5 percent Indian and Alaskan Native, five percent Hispanic or Latino, two percent Asian, and one percent Black or African American. 19.1 percent of the city is below the poverty line, more than 1.5 times the rate of the Kenai Peninsula and nearly double the rate in the State of Alaska.

<p><b>Birch Street and Sterling Highway</b></p> <p>LOCATION</p>	<p><b>Improved pedestrian crossing</b></p> <p>TYPE</p>
<p><b>Less than \$10,000</b></p> <p>BUDGET</p>	<p><b>More than 8 months</b></p> <p>DURATION</p>

## Alaska's experience with the Federal Highway Administration (FHWA)

Over the course of this project, Alaska DOT&PF—like the other three state DOTs in this report—experienced hurdles as they sought to find design solutions allowed by the Federal Highway Administration (FHWA) and the previous version of the Uniform Traffic Control Devices (MUTCD). All states found these standards to be insurmountable in some ways, but DOT&PF found more barriers in the federal guidance or was unclear about what FHWA would allow or not allow. It was unclear to SGA if FHWA was providing different guidance to DOT&PF or if they were just interpreting their guidance from FHWA differently. More analysis would help. Additionally, some sort of forum for states to connect, share experiences, and identify joint solutions would be beneficial. Below, we will note the discrepancies between DOT&PF's experience and that of the other three DOTs.

### Failure to implement

The City of Soldotna and DOT&PF were ultimately unable to successfully implement the project design. Progress had been made during an in-person convening where the Soldotna team was able to talk through their vision, find compromises, and adjust their plan. When the teams went their separate ways, they lost a channel for productive, open communication, which proved detrimental to future progress on the project.

Multiple people at DOT&PF were involved and it was unclear who had authority to make approvals to move ahead. At times, Soldotna personnel would think they were in the clear to make a change, like hanging flower baskets from light poles, only to be told later that this was not a possibility. Confusion about what was and wasn't allowed slowed the project's progress and caused increasing amounts of frustration.

Part of the confusion came from the fact that the state DOT&PF was facing its own set of challenges in being able to make progress on the project. Like most states in our cohorts, DOT&PF did not have policies or processes in place to support quick-build demonstrations and participating staff said they did not feel they had the authority to create such policies. Permitting and approvals, essential to being able to put a project into the ground in a timely fashion, would have needed to be in place before engaging in the program.

The SGA team also observed that the DOT&PF faced coordination challenges between headquarters and district teams.

As is standard with quick-build demonstrations, Soldotna personnel expected to use temporary materials which differ from those normally used in permanent installations. When they turned in their plan and proposed materials, they found that the state DOT was unsure on whether or not these materials were allowed by FHWA. Soldotna was concerned that the time and expense of installing and removing permanent paint would make it infeasible to make any changes to the crosswalk at all. It is worth noting that, while every state DOT in our program struggled with finding quick-build materials allowed by FHWA, no other DOT felt constrained on the use of temporary materials, including type of paint, to the point where they were unable to install a project.

There was an observed lack of understanding of the Soldotna team's resources and confusion as to whether the state could help advance the project by sharing its own personnel, materials, and expertise. DOT&PF directed local maintenance and operations staff to assist with the project whenever possible and offered financial resources to Soldotna. They also demonstrated that they could provide state resources by installing a pedestrian counter near the intersection, which gave Soldotna some valuable information about the use of the Sterling Highway intersection. Still, staff capacity and resources were limited within the small town, and miscommunications and a lack of support by DOT&PF in other areas slowed progress.

*"There were times when they asked us to have a traffic engineer design something for the project, or submit a certain report. But we don't have a traffic engineer."*

— Laura Rhyner, Assistant to the City Manager of Soldotna

DOT&PF personnel relied on leaders within various offices to make progress on the project. This included bringing in personnel from departments such as maintenance, research and development, and statewide active transportation teams to help navigate the department and think of potential alternative solutions. This problem-solving within the DOT also demonstrated to the Soldotna team that the DOT was committed to moving forward and finding solutions, which was essential to maintaining a functioning partnership.

Ultimately, the teams were up against the most unforgiving element: time. Like the other three state DOTs participating in the academies, Alaska DOT&PF was ultimately able to find a path forward under FHWA regulations for many aspects of the project, but the long delays didn't leave enough time for the Soldotna team to install the project before the weather turned.

Soldotna had aimed to install the project so it was in place at the time when visitor traffic in the area was highest and before the challenge of winter weather would put the demonstration at risk. As the process to reach a consensus and receive DOT&PF approval dragged on, finding a path forward was proving difficult.

Similar delays have occurred on other projects where DOT&PF partnered with local communities, including one on a city-owned road:

*"I think the biggest obstacle was time. To give you an example, the city of Anchorage and the DOT have a pilot protected bike lane installed this year. That's on a city-owned roadway, and we still started working on it in January and we were hoping to have it for the summer. We only had it up for the month of September."*

— Anna Bosin, Program Manager of Research, Development, and Technology Transfer at Alaska DOT&PF



CSLA participants discussing changes to be made to the proposed project site

## Journey to implementation

### Project milestones



## Proposed project location

For the project that was ultimately not implemented, the city selected the intersection of Birch Street and Sterling Highway for their quick-build project. Summer festivals at the nearby park attract visitors from far and wide, creating increased traffic across all modes. However, during a walk audit conducted by state, local, and SGA teams, personnel on all sides observed design features that left them feeling uncomfortable. Groups of less than ten people struggled to stay within the narrow crosswalks. The crosswalks intersecting Sterling Highway are at an angle, leading to longer cross times. A Soldotna resident using a wheelchair was unable to cross the highway before the traffic signals changed. One of the buttons that would start the pedestrian counter—frequently called “beg buttons” because they require pedestrians to request a signal instead of receiving one routinely as cars do—was too high for a person in a wheelchair to reach. Birch Street had a narrow bike lane that ended at the highway, leaving cyclists with nowhere to go except into the open road.

Besides the unreachable beg button, all of these aspects of the intersection were approved by FHWA. However, city personnel and local residents wanted to address these design elements so that people walking, cycling, and using mobility aids—especially in large crowds during the summer—would be able to feel safe as they crossed

the streets. City personnel also believed that adding improvements would draw the attention of people driving through, so even more people could learn about Soldotna’s festivals and enjoy their attractions in the summer.

Despite some initial pushback on the site selection from DOT&PF, all parties eventually got on board to move forward with Sterling Highway. This plan was further solidified during an in-person convening in May, where DOT engineers and planners joined city personnel, local elected officials, and area advocates. During this meeting, everyone was given an opportunity to share their concerns and chart a path forward for the project.

**“Our vision was to really create a safer environment for pedestrians to get across the street during our busy summer months. The big thing was to increase visibility at this intersection so that motorists would be aware that this is a high-use area, generating interest from hundreds to thousands of people.”**

— John Czarnecki, Director of Economic Development and Planning at the City of Soldotna

## Proposed project concept

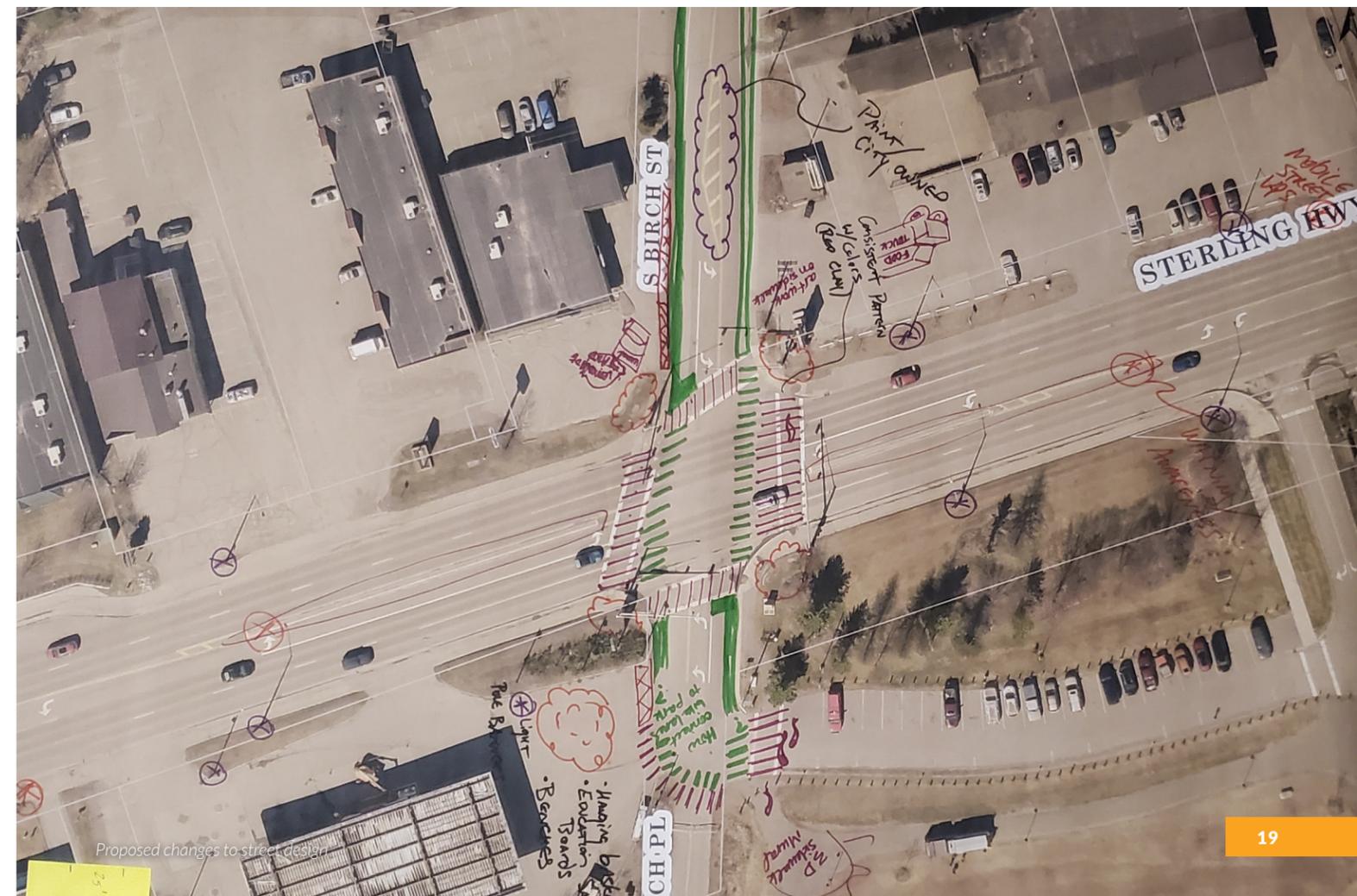
DOT&PF demonstrated their ability to look at needs and make adjustments, as they did when they adjusted signal timing after the walk audit to ensure more people would have the time they needed to comfortably cross Sterling Highway. However, this same flexibility was needed on other aspects of the project, but ultimately not provided.

To address the narrow sidewalk near crossings, the Soldotna team proposed bump-outs along the curb, giving more people space to wait for the signal to change. They planned to accomplish this with flex post delineators.

A bike lane along Birch Street disappears at Sterling Highway, forcing cyclists to cross unprotected to continue their journey. The team discussed painting a green bike box just before the crosswalk on Birch Street and adding dashed green lines across Sterling Highway, giving cyclists a place to wait and a dedicated place to ride across the highway.

The major improvements to the area would be seen in temporary paint at the intersection. In addition to the dashed green bike lane, the Soldotna team proposed widening the crosswalks and changing from the two-line parallel style to a ladder design. This would also allow the team to experiment with colors or patterns to add additional visual appeal and further attract the attention of drivers on the large, high-speed road.

Other components to enhance visibility included standard options, like introducing a pedestrian crossing sign, and more creative solutions, like hanging brightly colored flags or flower baskets on the light poles along the highway.





CSLA participants on walking audit



Alaska DOT&PF community engagement workshop

The City of Soldotna encountered some pushback from the state DOT during the convening. The state DOT wanted to ensure they were following FHWA regulations along the crosswalk, and like other DOTs in the program, cautioned against the use of nonstandard colors and designs. All DOTs in our cohort indicated their concerns with the use of color and more creative artistic details, but DOT&PF staff said they felt they didn't have clearance or authority from FHWA to paint a temporarily wider crosswalk using a ladder design over the existing parallel lines. The bike box was another concern—traffic signaling equipment was installed in the

space where the bike box would sit, and cyclists waiting in that area instead of cars could interfere with traffic light timing. There was some debate over whether or not the state DOT could consider changing the way their signals worked, at least temporarily. However, with hopes of achieving implementation, the group ultimately opted to set the bike box plan aside and attempt a simpler design for the widened crosswalk.

All-in-all, the project would have cost no more than \$10,000 which would have been covered by the program's grant.

### Key takeaways

Soldotna personnel and Alaska DOT&PF had never worked together on a project like this one before. Though implementation ultimately didn't take place, both sides walked away with new knowledge, relationships, and hopes for the future.

The state DOT's pedestrian counter and the walk audit conducted in May helped the city of Soldotna get a clearer picture of the intersection and its needs, ultimately leading to changes in interval timing for the pedestrian walk signal. Soldotna can imagine making changes on Birch Street and other city-owned roads in the future.

"We've learned a lot of good things from the educational piece of this program, and if the city wants to do something on one of its streets, I think that would be possible," said Czarnecki.

The state DOT expressed optimism as well, both for future collaboration with Soldotna and for future projects across the state to improve safety for all road users.

### Overall lessons and observations

**Establish clear processes.** Members at DOT&PF felt that the quick-build project would have benefited from having clear processes established early on, including clarifying what the state DOT would be comfortable allowing for a temporary project, whose approval would be needed, and what the approval process would look like. This would have resolved many of the challenges and frustrations faced by the city in installing their project and would be necessary if this type of work is to be replicated in other parts of the state.

**Coordination is key.** Sharing ownership of any project can be difficult, particularly when working with a team several hours away. But partnership is essential to a quick-build demonstration's success, not only in terms of clear communication but also in a willingness to share resources. This is particularly true for state DOTs working with smaller communities that might have fewer resources to spare where the state DOT could offer equipment, staff, and other resources to advance the project.

**Obstacles will arise.** A first-time quick-build always comes with challenges, and anticipating and planning for hiccups will help ensure a project's success. State DOTs and cities would be wise to embed some flexibility in their timeline and commit to resolving obstacles quickly with creativity and the larger outcomes in mind.



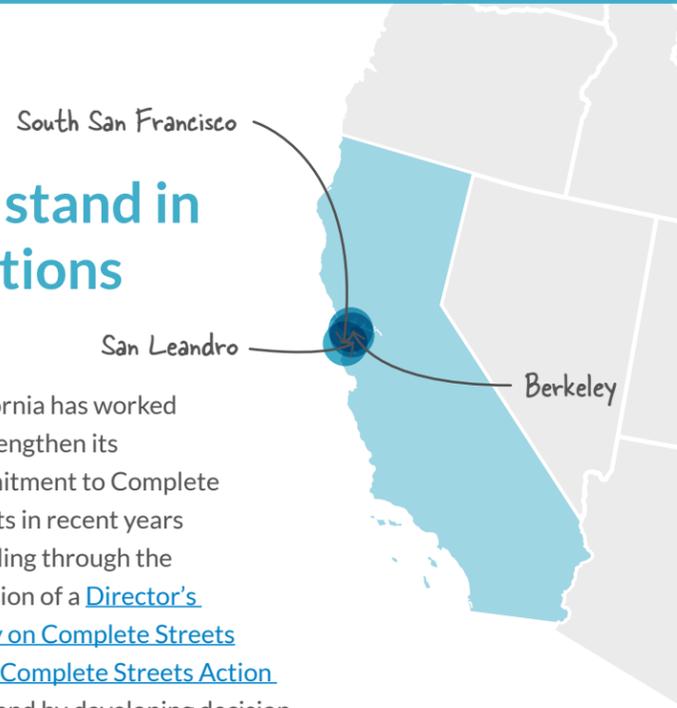
Alaska DOT&PF community engagement

## California: Internal procedures stand in the way of testing creative solutions

California's cohort for the Complete Streets Leadership Academy included the California State Department of Transportation (Caltrans) and three cities all located in the San Francisco Bay Area ([Caltrans District 4](#)): the City of Berkeley, the City of San Leandro, and the City of South San Francisco. According to the latest *Dangerous by Design* report, [California ranked the 9th deadliest state for pedestrians in the country](#) with 4,729 pedestrian fatalities recorded between 2016 and 2020.

California has worked to strengthen its commitment to Complete Streets in recent years including through the adoption of a [Director's Policy on Complete Streets](#) and a [Complete Streets Action Plan](#), and by developing decision-making procedures and dedicated funding targets. However, Caltrans and cities across the state continue to disagree and face challenges when it comes to making changes to unsafe, high-speed state-owned roads that pass through the cities. These state-owned roads within the cities are often lined with businesses, schools, hospitals, and other amenities that need safe access via different modes of transportation, not just cars. Implementation of Complete Streets projects (both temporary and permanent) that allow access to these destinations on foot, on a bike, or using transit has proved to be a continued challenge.

Caltrans recognizes the policy, process, and procedural barriers that limit change, yet continues to utilize models and measures that prioritize speeds for vehicular traffic passing through these communities on state roads. However, Caltrans is currently working to find ways to prioritize safety such as working to develop statewide guidance to enable local communities to implement quick-build/demonstration projects on the State Highway System (SHS). Through their participation in the Academy, they wanted to strengthen their partnership with local agencies and learn lessons that can inform their statewide guidance to better enable other similar projects in the future.



Sergio Ruiz, Caltrans | A cyclist trying out the pop-up buffered bike lane in San Leandro on East 14th street

### CASE STUDY

**San Leandro, California: The community gets to try a part of the approved bike plan before permanent changes**

The City of San Leandro's project was unique as they chose to demonstrate a small portion of an already-approved county-led bike-lane project. The city leveraged this opportunity to host a pop-up event to unveil an art installation, build better partnerships, and engage the community on its plans and vision for the city's transportation future.

#### Overview

The City of San Leandro is on the east side of the San Francisco Bay Area. San Leandro got its start in the 1800s when it was developed as an agricultural community, known for its cherry farms. Today, San Leandro is known for its industry-friendly reputation and has attracted many businesses including the famous Ghirardelli Chocolate Company, which is headquartered there.

The evolving city population and its changing needs have been a center of the city's efforts to increase its local and regional connectivity and make its streets safer for its citizens to walk, bike, and roll. In 2017, the city prioritized 22 streets to be partially reconstructed or rehabilitated in order to install Complete Streets elements. The city used street quality ratings, traffic counts, and commuter routes to identify the areas where a redesign would have the most impact. The city has since extended that approach to all of its ongoing and future projects, particularly street rehabilitation and maintenance projects. The city has also increasingly focused on improving safety in areas surrounding public transportation to help increase ridership and relieve some of the stress on the public roadways.

 <p><b>East 14th St (SR 185) from Hesperian Blvd to 150th Avenue</b></p> <p>LOCATION</p>	 <p><b>Bike lane pop-up demonstration</b></p> <p>TYPE</p>
 <p><b>\$4,603*</b></p> <p>BUDGET</p>	 <p><b>8 weeks</b></p> <p>DURATION</p>

*\*Utilized city-owned items and equipment (paint application machine, city trucks, city sign shop, canopies)*

Several of the main thoroughfares in San Leandro pass through or are located next to [equity priority communities](#)—meaning there is a high rate of households that do not have access to a vehicle and rely on transit, bicycling, and walking. In many cases, state highways divide these communities and separate them from key goods and services such as schools, regional transportation, and other daily needs. Based on data collected from 2009 to 2013, about 28 percent of trips in the study area are two miles or less and 55 percent of trips are five miles or less. These shorter trips are good candidates to shift from trips via personal vehicles to transit or bicycle. The city recognizes that investing in safe, active transportation options in these communities is crucial, especially around their BART (Bay Area Rapid Transit) station.

The population of San Leandro is 35 percent Asian, 28 percent Hispanic or Latino, 28 percent white, 10 percent Black or African American, one percent Indian and Alaskan Native, and one percent Native Hawaiian and Pacific Islander. Ten percent of the population is experiencing poverty, slightly less than California's rate of 12.2 percent.

## Project snapshot

San Leandro selected East 14th Street (State Route 185) from Hesperian Blvd to 150th Avenue for the quick-build demonstration site. The team utilized a city-owned striping paint machine and stencil to create a protected bike lane further supported by flex post delineators and adhesive pads to create the physical separation.



'Genie Bottle', a new art installation on the Hesperian triangle unveiled during the launch event



Bike East Bay (a local advocacy organization) staff interacting with community members during the pop-up event

This project was made possible thanks to the partnership of Bike East Bay, Caltrans, and Alameda County Transportation Commission.

## Journey to implementation

### Project milestones



The San Leandro cohort selected East 14th Street (State Route 185) which connects residents to regional transportation facilities, employment areas, and activity centers. But it's a dangerous corridor in need of improvement: about 90 percent of the corridor is identified as part of the countywide high-injury pedestrian network and 50 percent of the corridor is part of the high-injury bicycle network.

The project location on East 14th Street from Hesperian Blvd to 150th Avenue is at the edge of the city limits, adjacent to the Hesperian Triangle, and is considered to be a gateway to the city. It is close to schools, various businesses, and multimodal transportation options such as the Bayfair BART station which is 0.5 miles south of the project location and has multiple Alameda-Contra Costa Transit (AC Transit) bus routes running along the corridors.

San Leandro was the first of the three cities in the California cohort to go through the pre-permitting steps and apply for the Caltrans permit for installation. The relationships that were built through the requisite interactions with Caltrans allowed some cooperation, trust, and grace between the two agencies, which proved useful when navigating the timing of San Leandro's permit.

## Project implementation

East 14th Street is part of an upcoming [East Bay Greenway project](#) which is a regional trail project spanning multiple cities to improve pedestrian and cyclist connections along the BART corridor. This includes a separated bike lane on East 14th Street, providing a vertical barrier between the bike lane and moving traffic as well as transit boarding islands along a portion of the corridor. Unlike other projects in the academy where cities choose to test out new project ideas (which are not already a part of an approved project plan), San Leandro decided to use this opportunity to demonstrate a small portion of the already designed, approved, and upcoming bike lane to illustrate to the community the physical changes that are expected to happen along the corridor and gather additional data and community input.

As part of the quick-build demonstration project, the city hosted a pop-up event in June 2023 on the Hesperian Triangle, often referred to as "The Triangle" or "East 14th/Hesperian/150th Triangle," to share more information about the upcoming changes to the corridor and encourage community members to try out the bike lane and provide feedback. The event was also the opening of a new art installation called "Genie Bottle" in the Hesperian Triangle in addition to an existing art installation called the "[Purr Pods](#)." Approximately 70-100 people attended the one-day event which had live music, food, and presence of stalls from other community partners such as Bike East Bay.

### Outcomes

San Leandro did not collect or report any formal outcomes from the experience. Photos, videos, and media coverage demonstrated a successful launch event and engagement on the project site. Collecting data such as the number of users, their experience with the temporary bike lane, or feedback from surrounding businesses would have strengthened the case made by the quick-build project.

## Key takeaways

**Be aware of any conflicting and overlapping project timelines when a corridor is within the jurisdiction of multiple agencies.** The City of San Leandro planned their eight-week demonstration project timeline strategically so that the removal could take place in advance of a Caltrans repaving project on the same corridor. This would've been a challenge if city and Caltrans officials hadn't communicated and coordinated on the project timeline and schedules before project implementation. Alternatively, in cases where timelines overlap, there may be opportunities to collate resources which could be beneficial for all partners involved.

**Take weather into account when selecting temporary materials.** In addition to the permanent art installations already cited on the Hesperian Triangle, the city installed a temporary interactive art installation which was destroyed by high winds. Taking local weather conditions into account is crucial when selecting materials for pop-up installations.

**Starting small can be a good first step to build momentum.** San Leandro utilized this opportunity to engage the community through a demonstration of a short stretch of an already approved project and received a great response. Smaller-scale projects such as this one can be a good way to build internal and external momentum when a city is trying a new approach like quick-builds on state-owned roads, but it would be a missed opportunity if the city does not capitalize on the momentum quickly. Subsequent tests of more creative ideas to improve safety on city streets should be planned to help move toward successive implementation as soon as possible.

**Data collection is key to making your case.** San Leandro chose to not collect any formal feedback around the project including at the pop-up event. Collecting data would have provided important opportunities for community engagement and input. Data collected could have been used in determining next steps and demonstrating the impact of the project for future planning.

CASE STUDY

**South San Francisco, California:**  
Persistence is key to success  
when trying something new

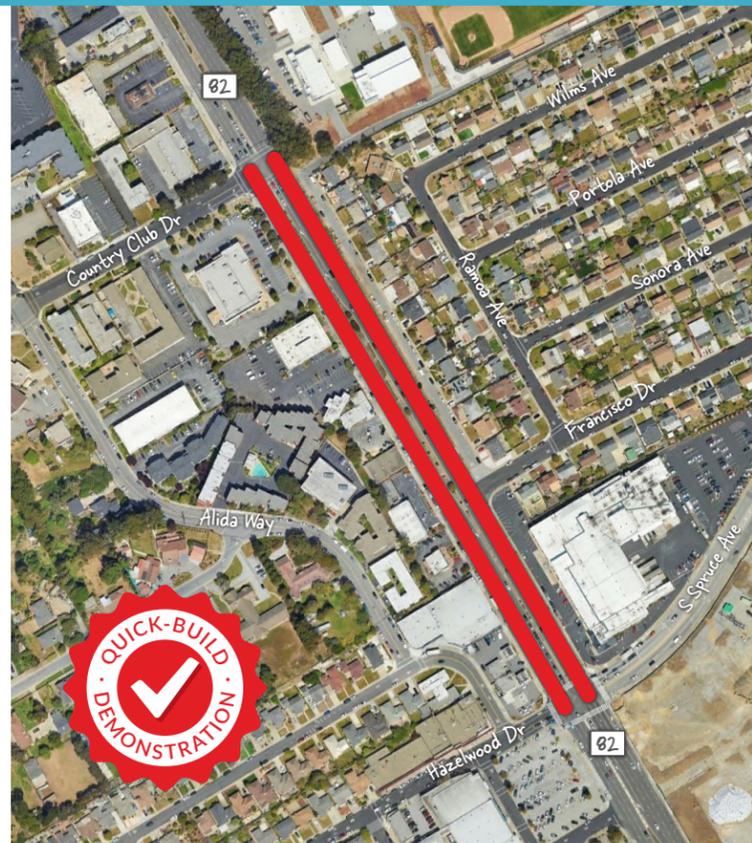
South San Francisco's project had several challenges—from differences of opinion on site selection with the city council to additional costs for seeking consultant support to design challenges with ADA accessibility ramps after installation of the bus boarding island. However, the city staff and supporting partners were determined to find solutions, which resulted in a resounding success for the project.

Overview

The City of South San Francisco is located in the Bay Area on the San Francisco side of the peninsula. It was branded as “the industrial city” in the early 1900s by the Chamber of Commerce when steel manufacturers, shipbuilders, lumber companies, and other industries were booming in the community. This evolved later in the century with biotechnology and pharmaceutical companies replacing the core business type in the city.

The city is in a period of change with an ongoing update to the 1999 General Plan which includes Complete Streets directives, the development of a new Active Transportation Plan, new policies focusing on the safety and connectivity for non-auto modes, and building on momentum created during the pandemic when more people were walking and biking.

Despite having policies in place, the city had not pursued any significant improvements on state-owned roads and wanted to use their participation in this program to build relationships with Caltrans to look at state highways as areas of opportunity to pursue more ambitious projects supporting biking, walking, and transit.



 <p><b>Country Club Drive to South Spruce Avenue/ Hazelwood Dr on El Camino Real (SR 82)</b></p> <p>— LOCATION</p>	 <p>Class IV protected bike lanes, high visibility crosswalks, and Zicla bus boarding platforms</p> <p>— TYPE</p>
 <p><b>Approximately \$200K*</b></p> <p>— BUDGET</p>	 <p><b>10 weeks</b></p> <p>— DURATION</p>

\*Consultants did the installation

\*SamTrans intends to buy the Zicla bus boarding platforms to try on other locations.

“Complete Streets, as a visual exercise, can be an effective tool to show residents of South San Francisco that non-vehicular modes of transport have a place on the roadway.”

— South San Francisco program application

The population of South San Francisco is 43 percent Asian, 29 percent white, 29 percent Hispanic or Latino, two percent Black or African American, one percent Native Hawaiian and Pacific Islander, and one percent American Indian and Alaska Native. About 6 percent of the population is experiencing poverty, half the rate of California's 12.2 percent.



Zicla bus boarding platform installed along the corridor (Source: Justin Horng, SamTrans)

Project snapshot

El Camino Real (ECR), or State Route 82, is a main thoroughfare for the community and creates challenges in terms of safety, connectivity, and achieving equity goals. The city has a strong desire to improve resident access to high-quality transit service by making their streets safer for all people and transportation modes and bridging the gaps in safety that exist on the roadway. The proposed project location was a 2500-foot stretch on the ECR corridor and the goal was to have temporary Class IV protected bike lanes, new high visibility crosswalks at Country Club Dr and ECR, and a [Zicla bus boarding platform](#) for hybrid bike/bus zones. At the end of the project, almost 60 percent of those surveyed supported making the changes permanent.

Journey to implementation

Project milestones





Illustrative drawing showing the proposed demonstration project corridor location on El Camino

The City of South San Francisco chose to focus on El Camino Real (SR 82) as their corridor of interest. In California, the name El Camino Real (“The Royal Road”) has resonated for generations. Extending over 600 miles from San Diego in the south to Sonoma in the north, ECR was, in essence, California’s first highway, connecting 21 Franciscan missions. Today, despite the changes in surrounding land uses that have brought in more businesses, schools, services, and other destinations along ECR, most parts of the corridor continue to prioritize the speed of vehicles passing through over people walking, biking, or using transit to get to a destination along the corridor. The City of South San Francisco’s participating cohort recognized these issues and wanted to test out temporary changes to reduce speeds, protect vulnerable people crossing the street, and improve transit access and operations.

Early on in the process, when the team began their site selection within the long corridor, their city council did not agree with their proposed first choice due to limited information on the effort itself and concerns from adjacent businesses about a loss of parking. Though the team said that they were disheartened, a resilient team bounced back quickly and came up with three alternative project locations to take back to the city council. In this second attempt, the project team and city council were able to agree on one stretch of the corridor: Country Club Drive to South Spruce Avenue/Hazelwood Dr on ECR.

Due to all the iterations in the site selection decision-making, there were significant delays in the timely submission of the permit application to Caltrans for project installation to happen as planned. But the continuous communication between the project leads at the city and Caltrans staff in the pre-permitting meetings and ongoing academy sessions resulted in a record-breaking approval timeline for project installation with the permit being issued in two weeks instead of the typical 4-8 weeks. This allowed for the installation of the project in July 2023 and a successful launch event in August 2023.

### Project installation

The project installation and outreach process came with its own set of challenges. The team, supporting partners, and consultants did a tremendous job of overcoming the challenges they faced, such as missing necessary tools to install the bus boarding platform, slope challenges with the ramps for ADA accessibility, and a broken QR code for the survey in the flyers. The tenacity and commitment of everyone involved in the project was nothing short of exemplary which resulted in a successful project that caught the attention of the neighboring cities in the process.

The high visibility crosswalks on Country Club Drive and ECR were permanently installed by Caltrans under their ongoing [Safety Enhancement Project](#) before the city could install their temporary crosswalks. This was both a happy coincidence and also an indicator of communication gaps between state and local agencies.

The primary materials used on the project included 3M pavement marking tape, spray paint for bike lane signage, delineators, and the Zicla bus boarding platform. Everything was installed on the ground by Alta Planning and Design, who served as the city’s consultants.



Buffered bike lane installed along the project corridor (Source: Sandhya Laddha, Silicon Valley Bicycle Coalition)



New crosswalks installed by Caltrans on Country Club Drive and ECR (Source: Justin Horn, SamTrans)

Legend

-  Protected Bike Lane
-  Zicla Bus/Bike Platform
-  High Visibility Crosswalk
-  Bike Lane Buffer



EL CAMINO REAL (SR82)

COUNTY CLUB DR.



Plan continued on the following page...

**Legend**

-  Protected Bike Lane
-  Zicla Bus/Bike Platform
-  High Visibility Crosswalk
-  Bike Lane Buffer



EL CAMINO REAL (SR82)

Plan continued on the following page...

**Legend**

-  Protected Bike Lane
-  Zicla Bus/Bike Platform
-  High Visibility Crosswalk
-  Bike Lane Buffer



S SPRUCE AVE

EL CAMINO REAL (SR82)

HAZELWOOD DR



## Outcomes

This project was new and experimental in more ways than one for the city and Caltrans, and everyone persisted despite multiple hurdles along the way. The lessons learned through this project set an example for both agencies and partners in terms of what can be achieved with little time, great teamwork, and resource pooling.

Caltrans surpassed its previous records on the timing to approve the permit to the city for this project. And while it was crucial to make the project possible after delays, this was also an inspiring marker for Caltrans staff and opened doors for other cities' staff who avoid projects on state-owned roads due to permitting timelines.

Furthermore, the impact of the project was measured through observations, data collection, and engagement. Highlights include:

- The Zicla bus boarding island has proven to be a huge success with passenger pick-up time reduced from 1 minute and 15 seconds to 10 seconds since the project.
- SamTrans, the local transit agency, loved the island's success and has offered to buy back the island from the city to test it out in other locations across their service jurisdiction.
- Given there are no sidewalks on this section of ECR, which has a school nearby, the city observed that students used the bike lane to walk to the school after getting off the bus since the bike lane directly connects to the back entrance of the school, illustrating the need for pedestrian infrastructure.



Zicla bus boarding platform installed along the corridor  
(Source: Justin Hornig, SamTrans)

In terms of outreach and engagement of the project, the team distributed flyers (both in English and Spanish), took the project to their [Bicycle and Pedestrian Advisory Committee](#), hosted a launch event in August several weeks after installation, and invited local partners, community members, and elected officials from the city in addition to neighboring jurisdictions. Online surveys, one for adjacent businesses and one for all community members, have been open since the project installation. It asks questions related to safety, impact on foot traffic to businesses, generally observed consequences of the project, support for making the project permanent, support for children riding their bike to and from school if the project was permanent, and more. The city has received 98 responses to date with a mixed bag of positive and negative feedback. Internally, city staff from various departments collected feedback about the project through various community engagement efforts on other projects in the city. For example, the city hosts the South San Francisco Citizens' Academy, a nine-week course that engages participants in a hands-on overview of city government. It is an opportunity for residents to learn how and why city decisions are made and how city funds are allocated. During Public Works week, members of the Citizen's Academy provided very positive feedback about the El Camino Real demonstration project, especially about the larger space and faster times for bus boardings, and noted a desire to see these in other areas of the City.

## Key takeaways

**Having to iterate and shift from original plans is not a bad thing.** The goal of these temporary demonstration projects is to allow cities to troubleshoot and resolve challenges along the way to ensure that lessons are learned and the final project serves the community's needs.

**Costs for temporary projects can still be significant.** While temporary projects cost significantly less than permanent projects, the costs of purchasing materials for temporary quick-build projects can still be notable, particularly if they span long stretches of time and require outside contractor support. Cities that have adopted this model as an ongoing part of their system tend to store materials that can be reused for multiple projects and lean on their public works staff and volunteers as much as possible for installation to reduce associated costs.

**Don't think small.** The South San Francisco project team dreamt big and faced a lot of challenges as a result. But they leaned on multiple partners for support and help, stayed in consistent communication with their city council and Caltrans staff, and committed to making this happen. It wasn't smooth sailing, but all of their efforts resulted in this being a huge success for the city and its partners, and the largest quick-build project that Caltrans has ever participated in on a state-owned road.



Cyclists trying out the bus boarding island installation on El Camino Real  
(Source: Tim Oey, Silicon Valley Bicycle Coalition)



This project was made possible thanks to the partnership of San Mateo County Office of Education, Silicon Valley Bicycle Coalition (SVBC), Caltrans, San Mateo County Transportation Authority, SamTrans and the consultants at Alta Planning and Design.

CASE STUDY

**Berkeley, California: Staff capacity and resource limitation prevent implementation of an unconventional project**

The City of Berkeley’s vision was to test an unconventional design to improve safety for cyclists navigating a non-linear intersection on San Pablo Avenue. But despite a productive process, ultimately the project **was not installed** due to various capacity constraints outlined below. Nevertheless, going through the design iteration process within their team, discussing permitting with Caltrans, exploring contractor support options, and conducting community engagement with adjacent businesses gave the city important learnings they will be able to leverage in the future.

Overview

The City of Berkeley is located in Northern California on the east side of San Francisco Bay, is home to the University of California, Berkeley, and is the birthplace of the 1960s Free Speech Movement. The city’s vision is to be “a model pedestrian and bike-friendly city where traveling on foot, bike, or with an assistive device is safe, comfortable, and convenient for people of all races, ethnicities, incomes, ages, and abilities.” The city has made strides in its efforts towards making streets safer for people using non-auto transportation modes. In 2018, the city adopted a Vision Zero policy, with the goal of reducing severe and fatal traffic crashes, which disproportionately impact pedestrians and bicyclists, to zero by 2028. This policy was strengthened by an update to the Berkeley Bicycle Plan passed in 2017, a Vision Zero Action Plan in 2020, and an update to the Berkeley Pedestrian Plan in early 2021.

The population of Berkeley is 55 percent white, 21 percent Asian, 12 percent Hispanic or Latino, eight percent Black or African American, and one percent American Indian and Alaska Native. 17.6 percent of the population is experiencing poverty, higher than California’s rate of 12.2 percent.

 <p><b>Intersection of San Pablo Avenue and Addison Street</b></p> <p>— LOCATION</p>	 <p><b>Bicycle boulevard crossing for an off-set intersection</b></p> <p>— TYPE</p>
 <p><b>Approximately \$100K*</b></p> <p>— BUDGET</p>	 <p><b>N/A</b></p> <p>— DURATION</p>

\*Includes contractor support for installation  
\*These are estimates since the project wasn't installed.

These, combined with efforts to identify and address an Equity Priority Area, are important steps to creating a city where all its citizens can thrive.

To build on the supporting policies and realize on-the-ground change, Berkeley requires the support and partnership of Caltrans since two of their major corridors, Ashby Avenue and San Pablo Avenue (the focus of this project) are state-owned roads. The goal of the quick-build project was to open the door to further collaboration with Caltrans on Complete Street improvements on the state routes in Berkeley by demonstrating the benefits of such improvements through temporary projects. The project also intended to test an alternative design for safer bike-crossing across an unsafe intersection.



Challenges for implementation

Throughout the program, Berkeley experienced staff turnover and capacity challenges. With limited staff time available to be fully dedicated to this project and competing priorities, the city would’ve needed to rely on an outside contractor to complete the project, incurring additional costs. Due to these challenges, the city withdrew from the academy before the project could be installed. Despite the result, the city charted out its community engagement plan and began initial engagement.

Berkeley ultimately was unable to move to see their quick-build demonstration come to fruition.

Journey to implementation

Project milestones



The City of Berkeley selected an intersection on San Pablo Avenue for their proposed project due to several considerations. According to their crash data analysis, they found that the highest density of collisions occurred where the bicycle boulevard crossed a major arterial, San Pablo Avenue, which is also known as State Route 123. San Pablo Avenue had previously been identified in other city plans as a corridor in need of traffic safety improvements and is one of the city’s Equity Priority Areas.

The project site was an **offset intersection** where San Pablo Avenue meets Addison Street, asymmetrically resulting in the bicycle boulevard not going straight across. This intersection is located in the West Berkeley area, which has a disproportionately high minority population compared to the City of Berkeley (57 percent minority population in the project area versus 42 percent in the City of Berkeley) and lower median income (\$46,971 versus \$80,912).

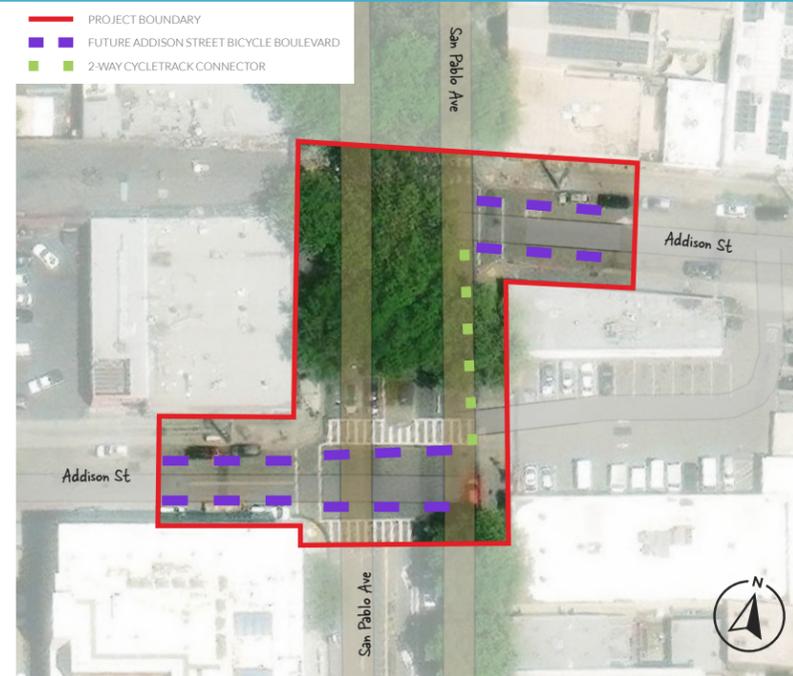
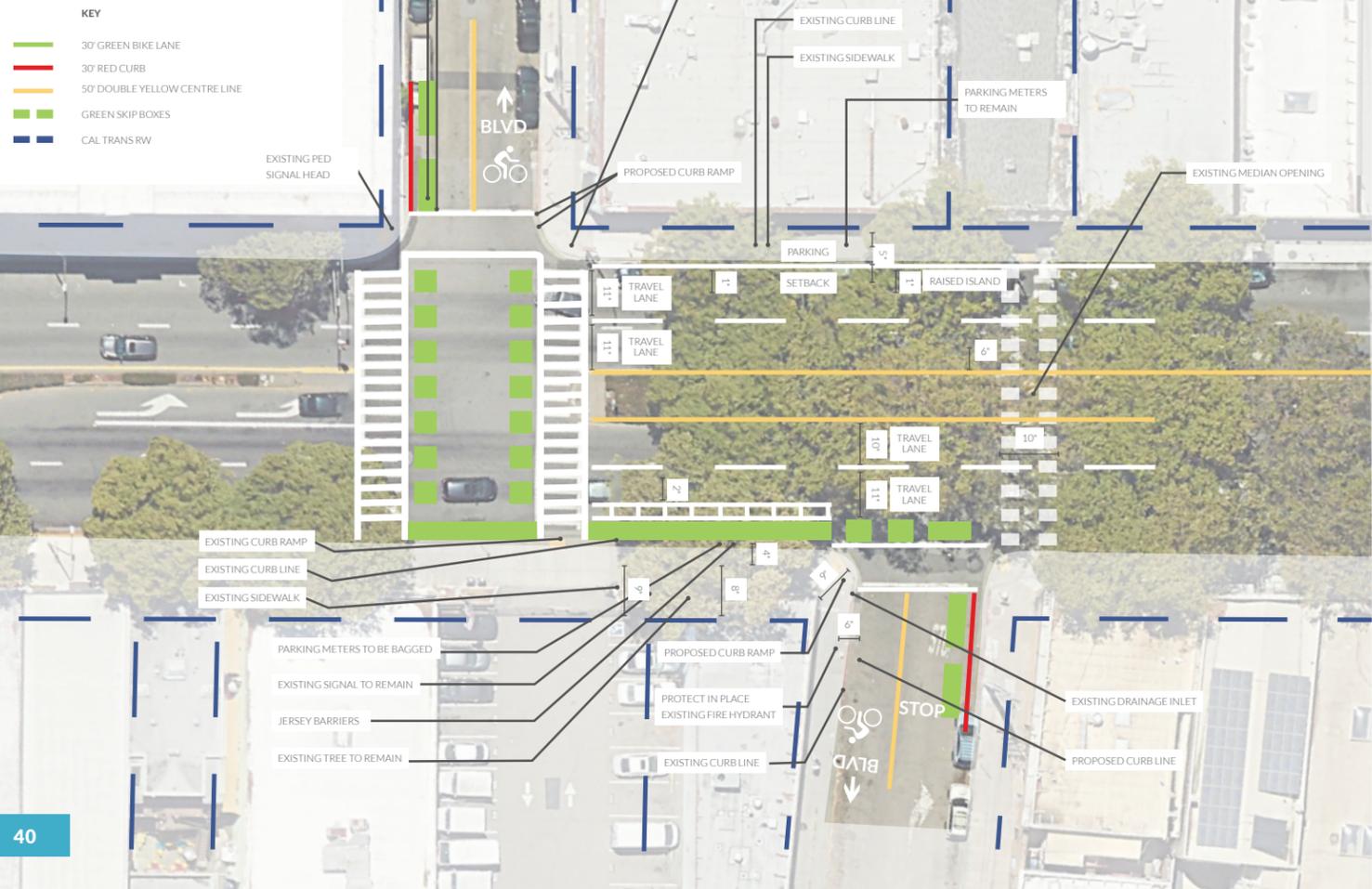
### Proposed project concept

The project goal was to test a design solution for a safe bike boulevard crossing across San Pablo Avenue at the selected intersection. Initially, the city started with the idea of a conventional configuration of adding a one-way cycle track on each side of San Pablo Avenue, but faced pushback from adjacent businesses about parking impacts, had cost concerns, and was faced with cumbersome Caltrans permitting procedures related to signal timing modifications. This pushed the city to explore an alternate configuration of a two-way cycle track on one side of the street (as seen in the image below). The city envisions a potential permanent project similar to the original one-way cycle track at street level on each side of San Pablo Avenue.

The proposed materials for this pilot project were traffic paint, which is temporary and can be easily removed, orange jersey barriers filled with water to create the separation for the two-way protected bikeway (up to 13 jersey barriers were anticipated), and a mix of traffic signs and Berkeley bicycle boulevard signs to guide people through the project area and communicate how to use the bike lane.

While the decision was eventually made to not move forward with the project, the city had identified ways to gauge success. These included things like the bicycle traffic count, a user survey, feedback from local businesses, parking information, and how the proposed materials would have stood up to the test of use.

Proposed concept design of the temporary two-way bikeway on the intersection of San Pablo Avenue and Addison Street. (Note: project was not installed)



Offset intersection project location at San Pablo Avenue and Addison Street

### Next steps for the project or project site

In November 2023, the Berkeley City Council considered and approved two conceptual designs for the Alameda County Transportation Commission (ATC) to explore with Caltrans: their preferred option of a one-way cycle track on each side of the street; and a fallback option that includes a two-way cycle track on the east side. Whichever design is chosen, the ATC will be constructing the project simultaneously with other Safety Enhancement Projects on San Pablo Avenue, expected for spring 2025.



Existing street view and conceptual rendering of the proposed demonstration project (Note: the project was not installed, Source: City of Berkeley)

### Key takeaways

**Identify potential issues and obstacles early on in the process and communicate them to partners.** While it is inevitable that some unexpected issues will arise throughout the process, things like competing priorities and staffing challenges can and should be considered in the early stages of planning. Doing so allows for improved coordination to resolve these issues and the potential of getting support from partners to do so.

**Despite a failure to implement the project, lessons can still be taken from the process.** The main goal of a quick-build demonstration project is to test new and creative ideas to better understand the project implementation process. While limited information is gathered when a project doesn't move from paper to pavement, having engaged on this project for months, the city staff benefitted from building a greater understanding of the two-way cycle track option, making it a competitive alternative for a permanent project in the future.

**Open communication allows agencies to build trust and opens the door for creative and alternative solutions.** Upon understanding that the temporary project was intended for the summer months when the region does not expect heavy rainfall, Caltrans was able to waive a required hydrology review.



## Connecticut: Transforming processes for sustained change

The Connecticut cohort brought together leadership, staff, and community members from the Connecticut Department of Transportation and the cities of Bristol, Waterbury, and Middletown.

Despite being one of the smallest states in the country, Connecticut has not been immune to the nationwide increase in traffic fatalities. The state saw [62 pedestrian deaths](#) in 2022 and [ranks 24th in pedestrian fatalities across the nation](#).

Connecticut is not new to Complete Streets and has made strides in adopting its approach. In 2014, the Connecticut Department of Transportation (CTDOT) adopted their [Complete Streets Policy](#), which called for a safe, efficient transportation network. In 2019, Connecticut created its [Active Transportation Plan](#), which evaluated the state's past accomplishments and gave recommendations on how to prioritize walking and bicycling networks within Connecticut's transportation system. Participating in the Complete Streets Leadership Academy gave the Connecticut Department of Transportation an opportunity to work alongside cities to make changes on the state-owned roads.

The Complete Streets Leadership Academy helped CTDOT identify barriers to potentially utilizing quick-build demonstrations elsewhere.



To support this, CTDOT plans to develop tools to include a list of pre-approved project types and materials and a streamlined process for permitting. Once readily available, communities will be able to better collaborate with the state on impactful changes for the most dangerous roads.

*"Our transportation planning and design processes did not historically prioritize pedestrian accommodations, and our procedures to implement safety improvements were not built for speed. Participating in this program provided an opportunity for staff from across our agency to confront that realization, and work on changes that can be institutionalized for the future."*

— Garrett Eucalitto, Commissioner of the Connecticut Department of Transportation

CTDOT released their brand new [Complete Streets design criteria](#) on August 24, 2023. The criteria will be applied to all projects, representing a commitment to embed Complete Streets practices in everything that the DOT does. "This change will solidify and ensure that pedestrian, bicyclist, and motorist safety is incorporated into the billions of dollars worth of projects we have planned in our Capital Program," said Scott Hill, Chief Engineer and Bureau Chief of Engineering and Construction at CTDOT.

### CASE STUDY

#### Bristol, CT: Creating safer routes to community destinations

Bristol has made commitments to Complete Streets in the past as a strategy to confront their lack of biking and walking infrastructure. With major state routes running through its borders, the Bristol team was eager to collaborate directly with CTDOT in the program so that they could learn how to make their roads safer for all users—and create a roadmap for other cities to do the same.

#### Overview

Bristol is located just 20 miles outside of Hartford, Connecticut with its own vibrant identity. Residents and visitors enjoy a downtown home to shopping, restaurants, and events like the annual Mum Festival and the regular Bristol Farmers Market. Largely residential, the area supports commuters to and from Hartford as well as those who work at the flagship ESPN campus.

As with many cities across the U.S., Bristol streets are designed primarily for serving vehicles, creating an unsafe environment for those walking, biking, and otherwise outside of them. Providing safe, accessible, and convenient trip options for these community members was a driving factor in their participation in the Complete Streets Leadership Academy. Bristol is currently undergoing a number of [transportation](#) and [development projects](#) that could allow the city to embrace alternative modes of transportation. These efforts made it an opportune time for Bristol to implement Complete Streets tactics along a state route in their community.

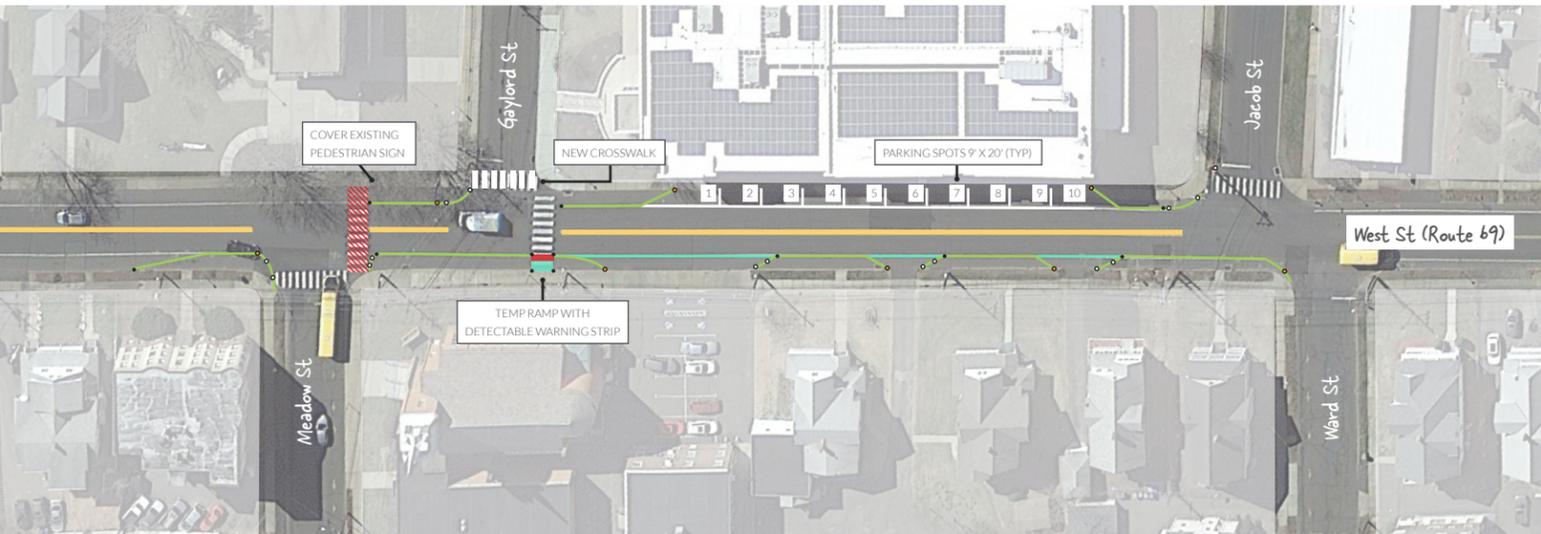
<p><b>215-277 West Street (CT 69) between Meadow St and Ward St</b></p> <p>LOCATION</p>	<p><b>Improved pedestrian crossing</b></p> <p>TYPE</p>
<p><b>\$15,000</b></p> <p>BUDGET</p>	<p><b>September 29, 2023 - November 2, 2023</b></p> <p>DURATION</p>

The population of Bristol is 71 percent white, 20 percent Hispanic or Latino, and 7.5 percent Black. 8.9 percent of the population is experiencing poverty, slightly lower than Connecticut's rate of 9.8 percent.



A multi-lane road in downtown Bristol along a sidewalk lined with storefronts

### Project snapshot



Bristol's quick-build project looking east on Gaylord Street. View of the intersection of a two-lane street showing two newly painted crosswalks and traffic cones and poles placed on either side of the road to temporarily narrow the lanes

View of St. Stanislaus Roman Catholic Church on West Street in Bristol

Bristol has made commitments to Complete Streets in the past as a strategy to build streets that value the safety of people walking and riding bikes. From the program's launch, Bristol had a clear idea of where they wanted to deploy their quick-build demonstration. The site covered several blocks on West Street (CT 69), home to key community destinations including Immanuel Lutheran School, the Boys and Girls Club, and St. Stanislaus Roman Catholic Church, making it a place that draws more pedestrians. The offset crosswalks and frequent parking made it a challenging place for pedestrians to cross and otherwise get around to the popular places.

Bristol temporarily removed one of the existing offset crosswalks and installed a temporary perpendicular crosswalk to encourage crossings at a single location and to make it more clear to drivers to yield to people walking. The project also improved visibility for both drivers and people on foot at the intersections by removing the capability to park at corners. The team worked with community members—including the Boys and Girls Club—to host a launch event in September where they solicited feedback and celebrated the temporary changes.

West Street/CT 69 is both a state-owned road and a major downtown street running parallel to primary downtown streets. Pedestrians faced long mid-block crosswalks, offset intersections, and poor visibility at corners due to parked cars. Drivers had little to deter their high speeds with wide lanes and no protected crosswalks.

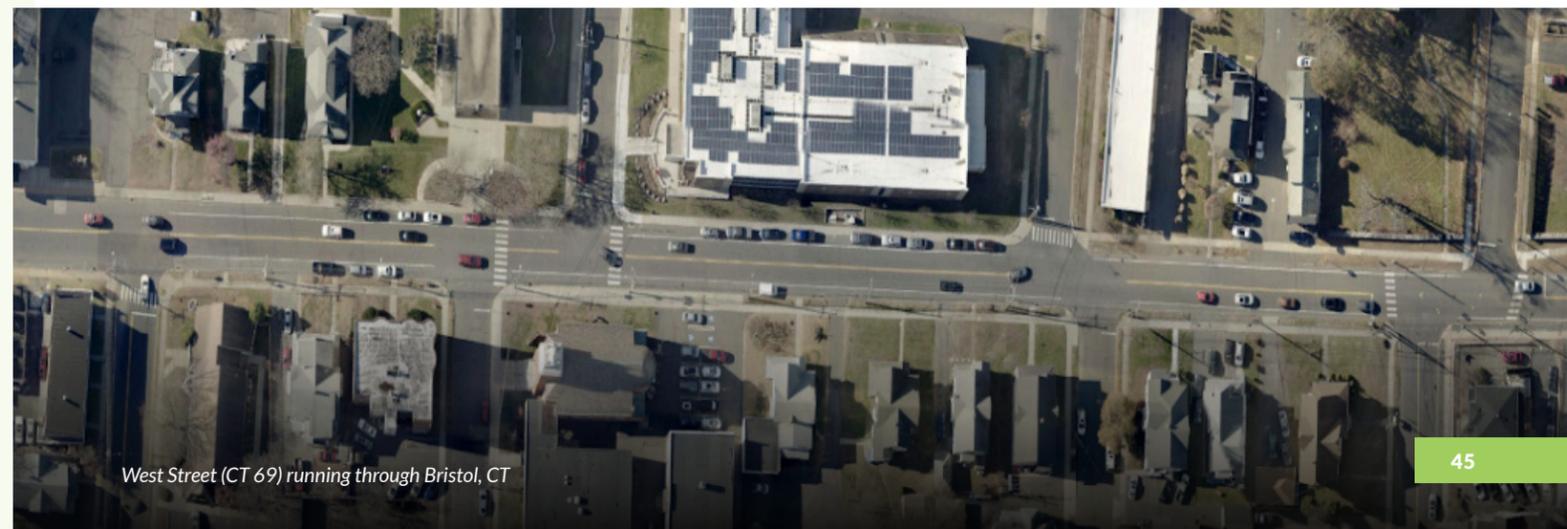
Bristol made the most of having direct connections with CTDOT through the program, working together to identify possible interventions to deploy. The City of Bristol displayed commitment and leadership by devoting staff time and resources and also benefited from the support and involvement of the city's mayor who participated in March's in-person workshop.

*"We were looking for something to improve pedestrian safety. We were looking for something with nearby properties that had pedestrian needs. [...] We thought it was a good choice based on the fact we have schools, churches, a senior center, and the Boys and Girls Club right nearby."*

— Anthony Lorenzetti, an Engineer with the City of Bristol

Community engagement was prioritized throughout the program. The team took the opportunity to inform the community about the project one week before its launch by setting up a booth at the [Summer Festival at Rockwell Park](#) on August 19th. Bristol's staff celebrated the project's success with a community event featuring ice cream, pedestrian safety information provided by CTDOT Safe Routes to School (SRTS) program, and paper and crayons were provided to children in the gymnasium due to inclement weather outside. Additionally, CTDOT [conducted a walking tour](#) of the improvements.

### Journey to implementation



West Street (CT 69) running through Bristol, CT

## Outcomes

City staff knew it would be important to compare vehicle speeds before and after the project’s implementation and to observe the number of drivers who yield to pedestrians in the crosswalk while the project was in place. Bristol was prepared to collect this data and use it to inform future efforts. NVCOG provided pre- and post-installation corridor traffic speed data. The speed data confirmed that the travel speeds were reduced during the installation, from approximately 38 miles per hour pre-installation to approximately 29 miles per hour at the end of the installation period.

Regular communication with CTDOT presented both opportunities and challenges for Bristol. While it allowed for a successful design and permitting process, there were frustrations on both sides throughout the process. According to Dawn Leger with the City of Bristol, early guidance and collaboration around the project would have been an investment in smoother success down the road including "knowing in advance what the limitation would be."



This project was made possible thanks to the partnership of Nancy Levesque (lead), Mayor Caggiano, Raymond Rogozinski, Dawn Leger, Dave Oakes, Andrew Armstrong, Richard Hart, Joshua Medeiros, Anthony Lorenzetti and external partners CTDOT, NVCOG, Boys and Girls Club, West End Association, Bristol Board of Public Works, Bristol Engineering and Public Works Department, and the Bristol Housing Authority.

## Key takeaways

**Community connections are key.** When making changes, it is important to think about who will be the most impacted by them and make an effort to include those groups in the process from start to finish. This will not only help create a better project that improves the community but also builds trust within the community and can ultimately lead to more community support and involvement in future efforts. In Bristol, the city made sure to do a lot of outreach in preparation for the quick-build demonstration and held a launch event that allowed the community to interact with the changes and give their feedback.

**Strong collaboration equals success.** When embarking on a project, it’s critical to connect with all the partners as early as possible whether they are local community groups, city or county staff, or those from a state department of transportation. Bristol found experiences interacting with CTDOT and transportation professionals from other cities extremely valuable, especially when they were able to connect in person.

**Keep the momentum going.** Coming out of the Complete Streets Leadership Academy, Bristol was figuring out what the project meant for long-term change. Quick-build projects are useful tools to test out potential infrastructure improvements without investing tons of funding and to make sure they work for the community before putting in something permanent. When implementing a quick-build, start thinking of ways to use the lessons learned to plan for future permanent investments in transportation safety.

## CASE STUDY

### Middletown, CT: Lighting the way to safer streets

With the goal of putting their [2023 Complete Streets Initiative Master Plan](#) into action, Middletown joined the Complete Streets Leadership Academy to design and deploy a quick-build project to improve visibility for pedestrians. Despite early setbacks, the team from Middletown was able to pivot and successfully implement a quick-build project that informed future efforts in the community.

### Overview

Middletown is located in the central part of Connecticut, alongside the Connecticut River. It is 16 miles south of Hartford and is the largest city in the Lower Connecticut River Valley Planning Region. The city’s Complete Streets Initiative Master Plan has identified key corridors for improvements to walking and biking and hoped that participating in the Complete Streets Leadership Academy would grow existing efforts and kickstart additional change.

The population of Middletown is 70 percent white, 15 percent Black or African American, 11 percent Hispanic or Latino, and five percent Asian. 11.2 percent of the population is experiencing poverty, higher than Connecticut’s rate of 9.8 percent.

### Project snapshot

One great contributor to the national pedestrian safety crisis is the lack of visibility of pedestrians, with almost [6,000 pedestrian deaths happening when it is dark outside](#). Middletown sought to address this by installing pedestrian-level crosswalk lighting at the signalized intersection of Grand Street and Main Street. The location sees significant numbers of people walking as it is near multiple restaurants and other amenities.

 <p><b>From Washington St (CT66) to Hartford Ave/ Arrigoni Bridge</b></p> <p>LOCATION</p>	 <p><b>Improved pedestrian crossing and lighting</b></p> <p>TYPE</p>
 <p><b>Approximately \$10,100*</b></p> <p>BUDGET</p>	 <p><b>October – November 2023</b></p> <p>DURATION</p>

\*For lighting, cameras, related materials, and installation.

“Pedestrian visibility is a huge safety concern,” said Howard Weissberg, Deputy Director of Public Works for the City of Middletown. “Your typical overhead street lighting is 24-25 feet high and it’s really designed for motor vehicles. It tends to provide negative contrast, essentially pedestrians are in a shadow.”

### Journey to implementation



Middletown’s initially proposed project hit a snag early on in the process. Middletown planned to create back-in-only parking on Main Street by changing the angle of the parking spaces. However, when a local newspaper heard about the project and [wrote an article](#) on it, public opposition grew and the team realized that the constraints of the academy program did not allow time for the necessary engagement to build community support. Quickly, Middletown shifted to address concerns over pedestrian visibility and opted to explore lighting improvements to an intersection on Main Street. Regardless, the pivot away from parking took staff time and resources and delayed progress on the ultimate installation.

“We first had to establish what the town wanted to do,” Howard Weissberg from the City of Middletown explained. “Then we had to jump through the hurdle of doing it on a state-owned road, the hurdle of making it a temporary installation only lasting only a few months.”

The successful project focused on the intersection of Main Street and Grand Street. Main Street is the heart of downtown Middletown, home to busy restaurants and shops. There are also key social services including a Community Health Center, a soup kitchen, and a Salvation Army. Middletown staff knew the area to have high pedestrian traffic and saw an opportunity to explore strategies to balance the needs of all road users.



### Project installation

Middletown considered several different lighting systems to improve pedestrian visibility. In the end, they decided to use automated lighting that would turn on and off in coordination with the controlled crossing. The light would turn on when it is safe to walk and turn off during the “Don’t Walk” phase. It provides a well-lit crosswalk for people walking, and alerts drivers to the presence of the people at the intersection. To gather data, Middletown installed cameras that would detect when a pedestrian was present.

### Outcomes

In addition to improving visibility, the city hoped that the lighting would encourage pedestrians to cross only when the signal indicated that it was safe. Interviews on the ground were conducted and people noted that it was more comfortable to walk with the lighting installed. Businesses, law enforcement, and other community members also noted that it improved visibility and some inquired whether it would be made permanent.

Taking part in the Complete Streets Leadership Academy and installing a quick-build project demonstrated to the city such projects can address a pedestrian safety concern without having a negative impact on other modes and activities. Middletown hopes that the effort can be replicated at other locations with minimal investment now that it has been done once before.

### Key takeaways

**Expect the unexpected.** Proposed projects may encounter reactions from the community that you didn’t expect or come up against external variables that can’t be tackled. Be flexible, creative, and open to change. Middletown’s original project idea received opposition before it was even solidified. The city then decided to pivot and come up with a project that was achievable and impactful.

**Make a project that fits.** Quick-build demonstrations can have a positive impact on a community without being overly ambitious. Exploring possibilities that are within budget, timeframes, and resources can still identify solutions to make permanent in the future.

This project was made possible thanks to the partnership of Howard Weissberg (lead), Alice Diaz C, Joseph Vazquez, Chris Holden, Erik Costa, Kevin Elak, Laura Baum, and Gary Middleton.

CASE STUDY

**Waterbury, CT: A safer place for everyone**

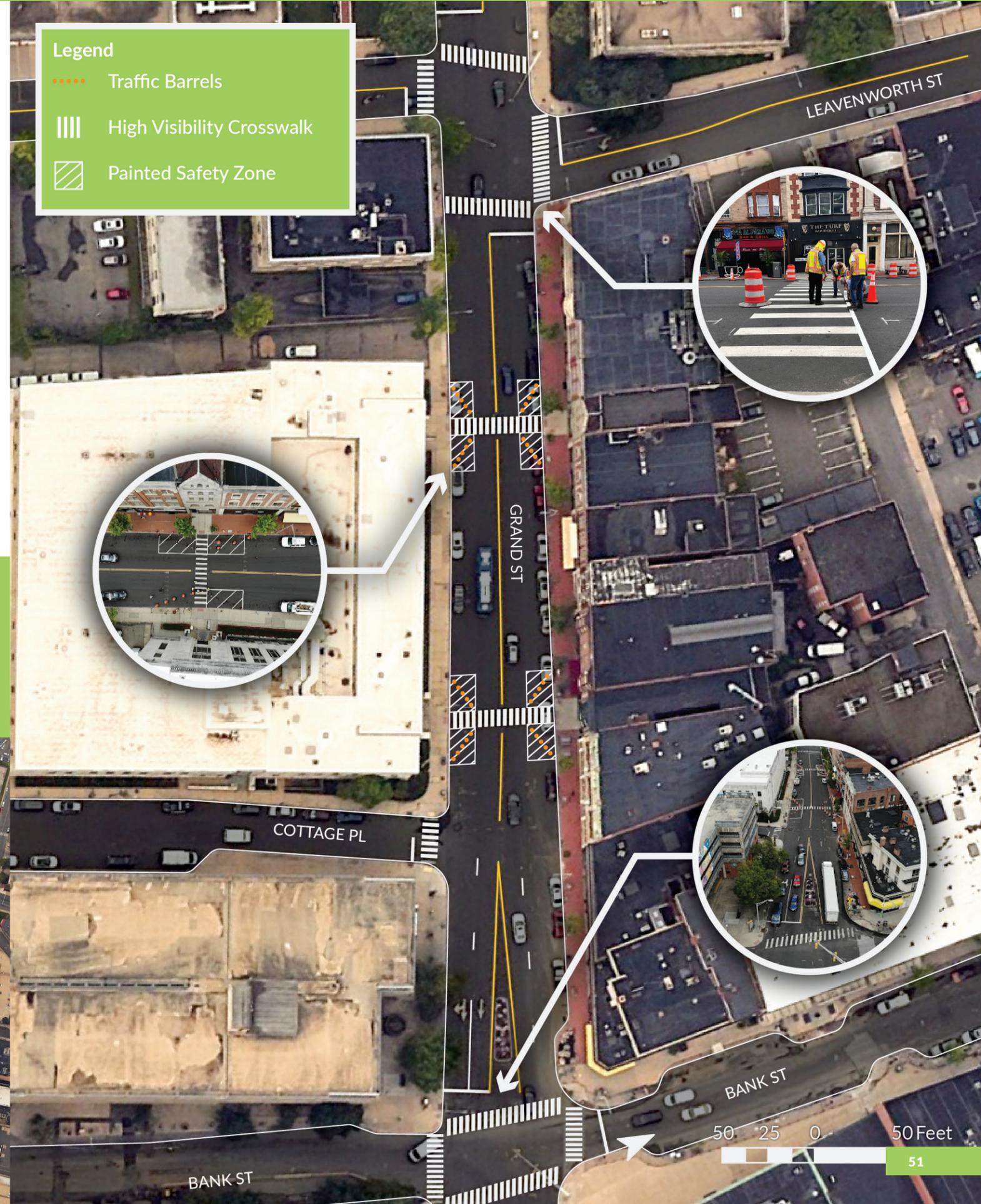
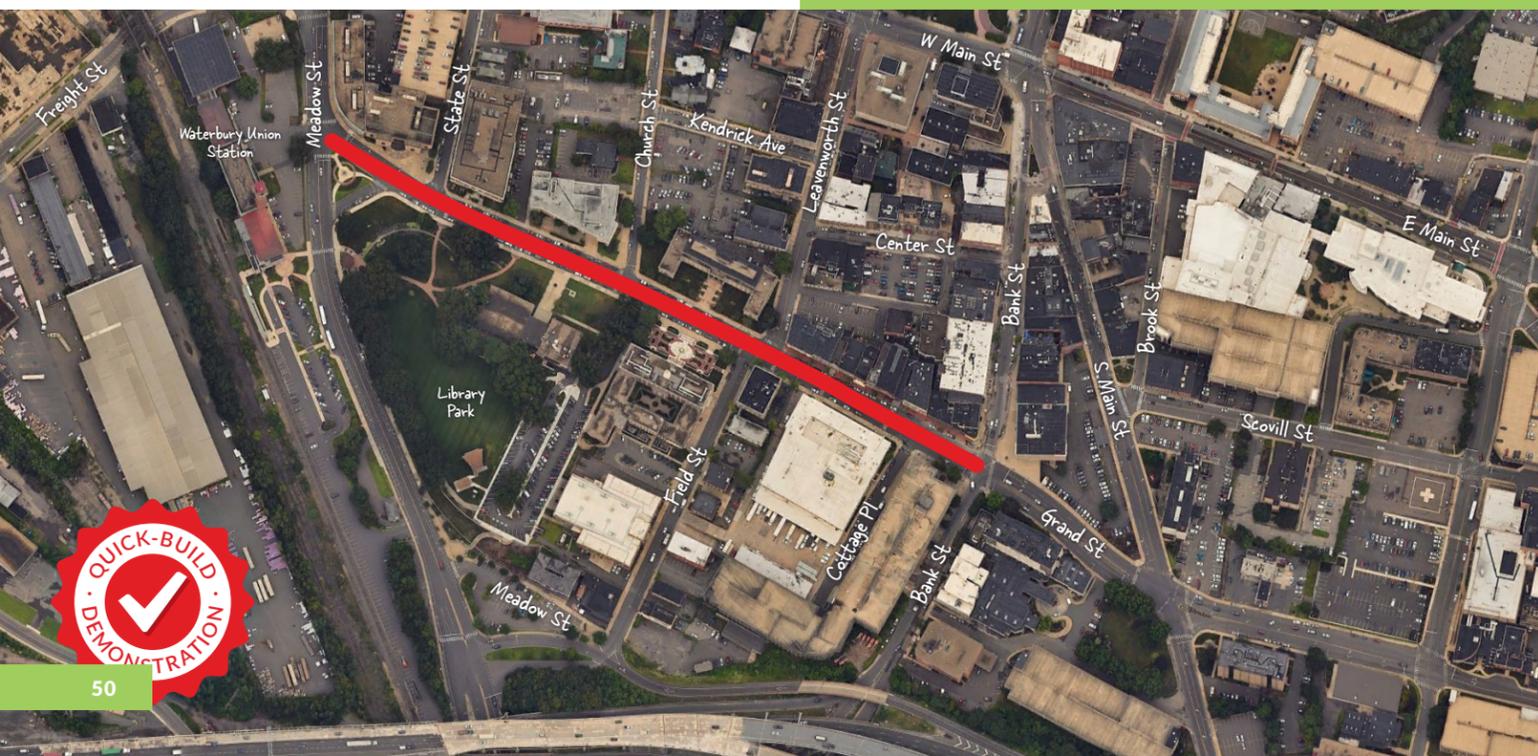
The City of Waterbury adopted their [Complete Streets Resolution](#) in 2014 to improve access for bicyclists and pedestrians. Over the years, the city has worked to revitalize their downtown and keep Complete Streets principles in mind along the way. Participating in the Complete Streets Leadership Academy gave Waterbury the dedicated time to focus on addressing problems related to the safety and accessibility of people walking and biking.

Overview

About 30 miles southwest of Hartford and 77 miles northeast of New York City, Waterbury is the largest city in the Naugatuck Valley Planning Region and the second-largest city in New Haven County. Waterbury has worked to [revitalize their downtown](#) for almost 10 years. Projects intended to make the community more accessible and bolster the economy have also continued to support the throughput of cars on the interstate that passes directly through Waterbury's downtown.

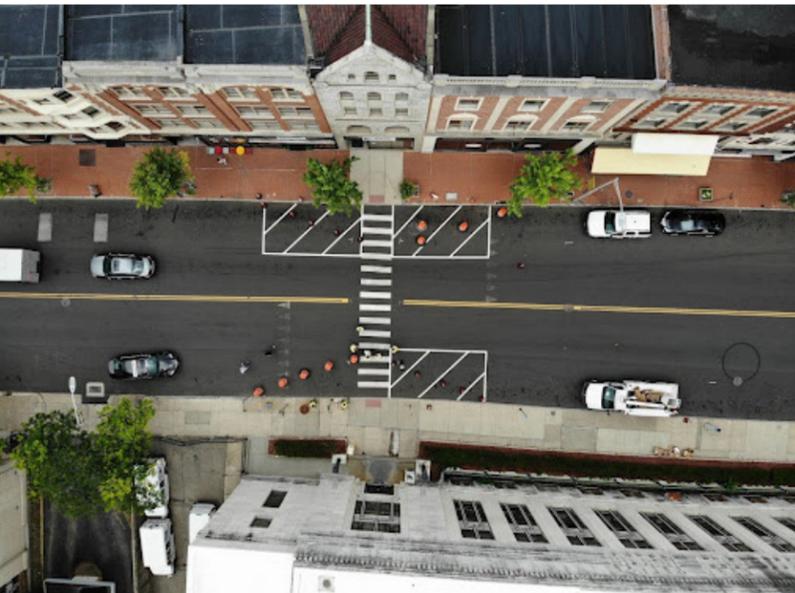
 <p><b>Grand Street</b></p> <p>LOCATION</p>	 <p><b>Improved pedestrian crossing</b></p> <p>TYPE</p>
 <p><b>\$15,000</b></p> <p>BUDGET</p>	 <p><b>August 14th-September 22nd</b></p> <p>DURATION</p>

The population of Waterbury is 45 percent white, 36 percent Hispanic or Latino, 28 percent Black or African American, and three percent Asian. 21.7 percent of the population is experiencing poverty, more than double that of Connecticut's rate of 9.8 percent.



The Complete Streets Leadership Academy allowed Waterbury to dedicate time to demonstrate the value of using a holistic approach that considers all modes of transportation including walking, rolling, biking, and public transit use. It was an opportunity to reimagine what a main street could look like that serves residents, encourages visitors, and protects the interstate travel the area supports.

### Journey to implementation



Improvements for pedestrians on Grand Street included a freshly painted crosswalk and paint extending from the sidewalk which narrows the two lanes and makes a shorter crossing for pedestrians. Photo courtesy of Naugatuck Valley Council of Government.

### Project snapshot

Waterbury partnered with The Naugatuck Valley Council of Governments (NVCOG) to identify the project site and decide which project to install. Grand Street is a major commercial, residential, and civic corridor in the heart of downtown which also connects to a number of interstates. This project aimed to address unsafe vehicle speeds, long pedestrian crossings, and crosswalks that lack visibility, all of which put pedestrians at high risk.

The Waterbury project shortened the crossing distance for pedestrians, narrowing travel lanes to 11.5', and providing at least 25' of no parking area on both sides of the crosswalks at the intersections to improve the visibility of pedestrians. It also improved the vehicle visibility of those crossing the street.

Even though it serves as a local main street for the city and is just a block north of a high-speed corridor designed to move cars quickly (Interstate 84), Grand Street's current design focuses on vehicle movement and does not safely support other modes of travel. "This is a critical downtown commercial block for the city, and it's wide, it's fast, and it's dangerous," said Rich Donovan, NVCOG (Naugatuck Valley Council of Government). "So the goal was to make it a friendlier place to be rather than a quick place to drive through." In addition to improving safety, the project seeks to draw the community to the area, giving businesses and the economy overall a boost—which is the point of a main street.

Throughout the project, the Waterbury team faced several challenges. The team worked to balance the immediate needs of the community, ensure that the project contributed to a safe and functional space, and demonstrate a future vision for the area even as it served the day-to-day of the existing community.

### Project installation

The Waterbury project focused on improving the pedestrian experience for those visiting the many businesses and services along Grand Street. Waterbury and NVCOG partnered on outreach activities with community members, local businesses, and other decision makers in the area. The team knew that early buy-in would be critical for building support for the project installation, which would in turn help capture data on its use. The team utilized social media, websites, and a walk audit of the area. One aspect of the project that they knew would raise concerns was the removal of several parking spots. Early engagement with businesses and ongoing communication with community members was essential in navigating the potential pushback.

Installation focused on high-traffic areas and crossings. Waterbury used barrels, traffic cones, and other easily moved materials to narrow lanes and improve crossing protection. They also increased the visibility of existing crosswalks with temporary paint and tape.



(Top): People in neon yellow high visibility vests painting a crosswalk (Bottom): A street level view of a crosswalk on Grand Street, with orange barriers and white paint on either side to narrow the two lanes

This project was made possible thanks to the partnership of Vincent Caterino (lead), Roy Cavanaugh, Noreen Brady, Judith Mancini, Robert Nerney, Kevin Taylor, Aisling McGuckin, RN, Albana Lane, RDH, MS, Zachary Keith, Mark Nielsen, Chief Fernando Spagnolo, Jr., Chief Terrence Ballou, and external partners including Waterbury Public Works, Waterbury Chamber of Commerce, Waterbury Fire Department, Waterbury Police Department, Waterbury Engineering Division, the Office of Mayor O'Leary, Waterbury Development Corporation, Main Street Waterbury, and Naugatuck Valley Council of Government.

### Outcomes

Waterbury saw an almost immediate impact. Data collected in August 2023 demonstrated an 11 percent decrease in speeds from similar data collected in April 2023. These reduced speeds not only make it safer for people walking and biking, but improve safety for drivers and bring other benefits related to health, the economy, the environment, and more.

Waterbury, NVCOG, and CTDOT were able to use this as an opportunity to improve relationships and communications. This will lead to additional changes not only in Waterbury but in the broader area served by NVCOG. This project helped reinforce the concept that main streets can be safe and attractive streets that support productive places and serve residents and encourage visitors, while also balancing the needs of thru-travel. Participants noted an increased knowledge in how to balance vehicular traffic with active transportation and some of the logistical issues that need to be navigated in order to successfully do so. Data collected after the project was removed showed an increase in vehicle speeds, further demonstrating the impact of the decrease in lane width on driver behavior.

### Key takeaways

#### Partnerships can help overcome internal barriers.

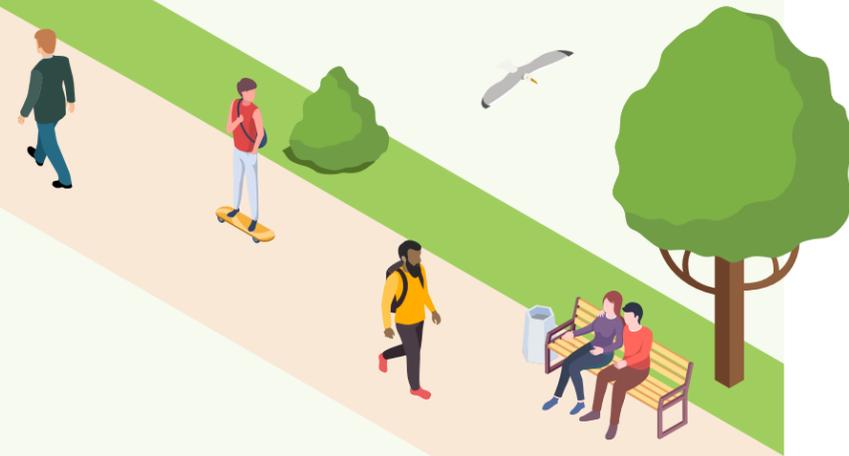
Waterbury faced internal staffing and resources challenges early on. By engaging NVCOG, they were able to build capacity and successfully complete the project. It also brought in other partners who could be part of future efforts for permanent changes to the area.

#### Early communication and engagement is key.

Local businesses were concerned about the impact of removing of parking spots. The team knew that it was key to engage businesses early in the project. Multiple forms of communication, including an in-person activity, demonstrated the need and potential of the proposed changes.

#### Data can tell a story.

Numbers don't lie and the early success in reducing speeds contributed to the narrative of the project. Capturing before and after data is critical to being able to make the case that the project was successful and to inspire future action.



## Tennessee: A quicker way to deliver on statewide street safety

The State of Tennessee's Complete Streets Leadership Academy cohort included Metro Nashville (Davidson County), the City of Memphis, and the City of Chattanooga. Tennessee was [the 17th deadliest state](#) for pedestrians in 2020, with 677 people killed while walking from 2016 to 2020.

In light of these alarming traffic fatalities, Tennessee has made strides to improve its focus on multimodal users and safety in the last few years, including its recent [Statewide Active Transportation Plan](#) and the creation of the Multimodal Access Policy requiring every Tennessee DOT (TDOT) project to consider multimodal infrastructure.

TDOT's collaboration was an essential asset from the beginning. Tennessee's Statewide Active Transportation Plan identified quick-build and demonstration projects as an area of great opportunity and immediate call to action to increase accessibility and create safer environments for all roadway users. The Complete Streets Leadership Academy training and resulting projects will help to advance both TDOT's Multimodal Access Policy and enhanced Project Scoping Guide, which supports consideration of all types of road users in Tennessee and helps foster collaboration with local personnel to tackle safety concerns on state and local roadways. TDOT hopes to use lessons learned to begin creating a process and policy to more easily enable local- and state-administered quick-build demonstration projects.

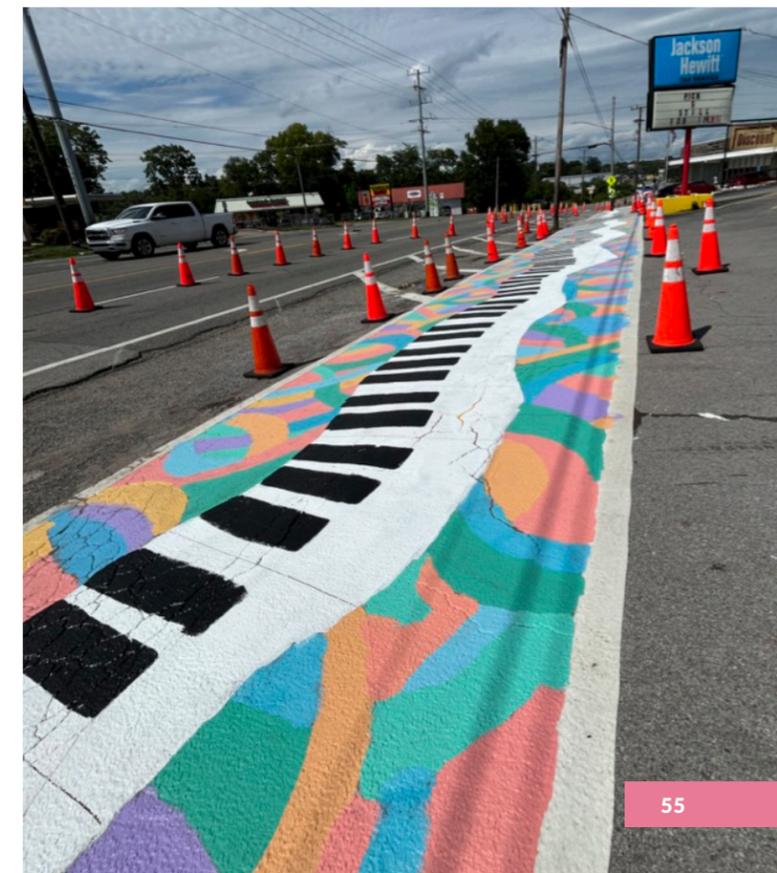


*"Because of this program, we've already been taking steps to ensure that we can be better able to do quick-build projects across the city in the future, including state routes, which never felt like a possibility we could seriously consider until now."*

— Brandon Sutton, Transportation Design Manager, Chattanooga Department of Planning



A group of people gather on a sidewalk on the day of the project installation. Some wear neon yellow high visibility vests.



CASE STUDY

**Nashville, TN: Building upon existing momentum**

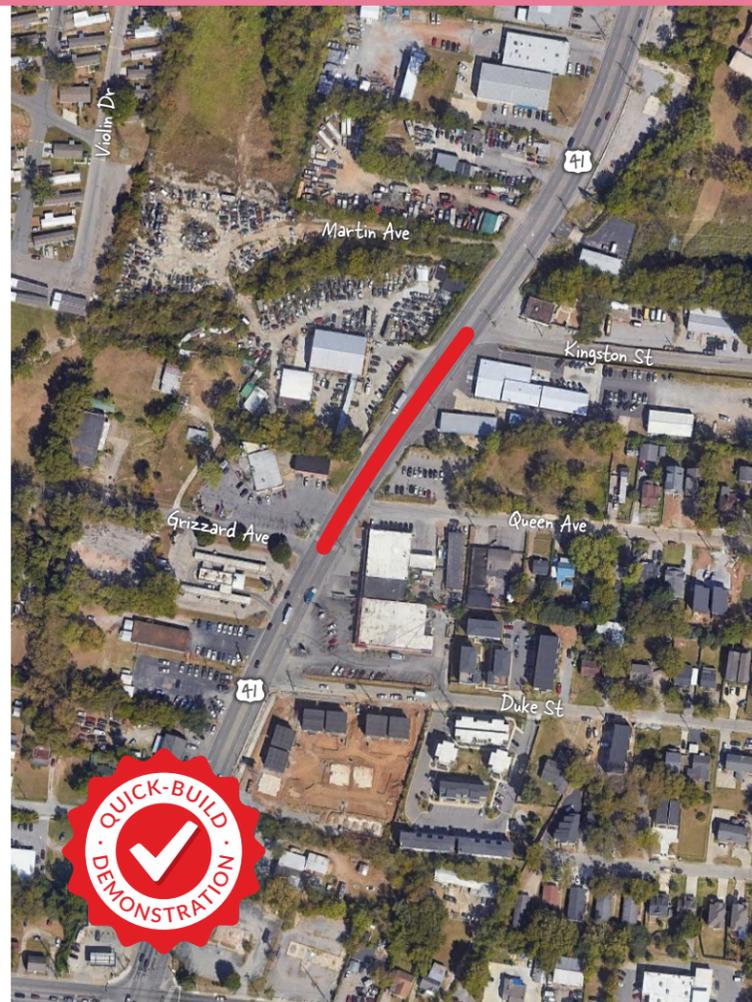
With a newly adopted Vision Zero plan in place, Metro Nashville joined the Complete Streets Leadership Academy to strengthen partnerships and test out new paths to achieving safer streets. Working together to improve crossings for people walking allowed them to strengthen their relationships with local partners and provide quick, tangible benefits to a community that was ready for change.

Overview

Located in the heart of Tennessee, the Nashville metro area is the largest in the state, both in terms of population and land area. Metro Nashville became a Vision Zero city in 2022, the same year they ranked [41st highest in pedestrian deaths](#) out of 101 metros in the country. In their efforts to reduce roadway fatalities, Nashville DOT (NDOT) created a five-year Vision Zero Implementation Plan, identifying specific projects and programs to improve safety. One such program was a program to install quick-builds throughout the metro area.

NDOT applied for the Complete Streets Leadership Academy to demonstrate the effectiveness of quick-build approaches in improving traffic safety. Beyond their primary goal, they also hoped to foster deeper partnerships within the city's DOT, and with TDOT and external partners, to further their Vision Zero efforts.

The population of Nashville is 59 percent white, 27 percent Black or African American, 11 percent Hispanic or Latino, and 3.5 percent Asian. 14.5 percent of the population is experiencing poverty, slightly higher than Tennessee's rate of 13.3 percent.



Project snapshot

Once selected to participate in the Complete Streets Leadership Academy, NDOT went to work selecting a location for their quick-build project. This selection proved challenging—the metro area is large, and many locations would benefit from safety interventions. However, as they combed through potential sites, one location stood out among the rest due to the high pedestrian traffic along the route and the known equity concerns in the area: Dickerson Pike and Queen Avenue.

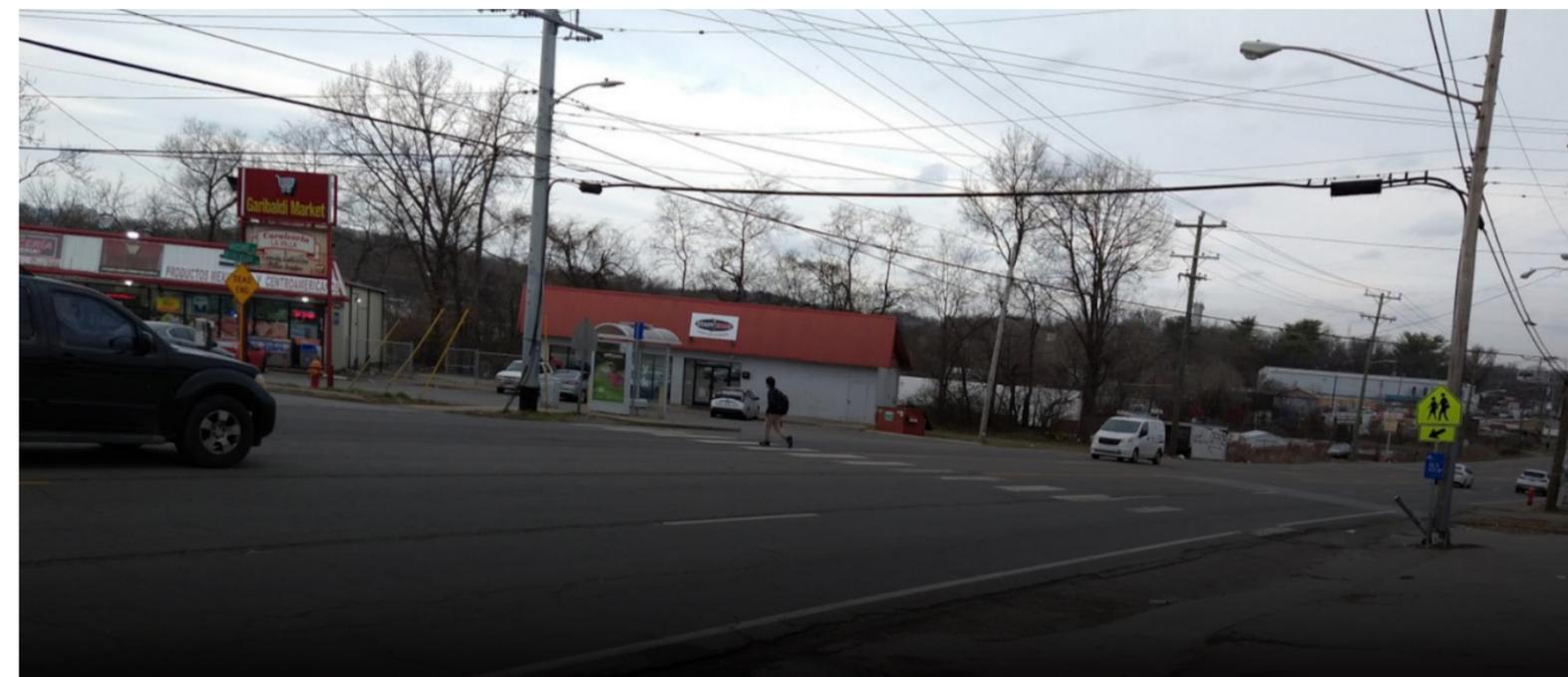
To reclaim pedestrian space, the Nashville team painted walkways along the east side of Dickerson Pike and the north side of Grizzard Avenue, a roadway on the west that dead-ends into Dickerson. The painted walkway on the east side of Dickerson included a mural by local artist Charles Key, who used affordable and easily accessible materials including colored concrete seal applied with roller brushes to make the art attractive and functional. Adding art further drew attention to the changes along Dickerson, both attracting pedestrians and signaling drivers to slow down and watch for people walking.

NDOT also made multiple changes to the long crosswalk to make it more comfortable and safer to traverse. A pedestrian refuge in the center turn lane, painted with bright yellow paint and lined with flex posts, shortened the length people needed to cross. NDOT also refreshed the crosswalk with thermoplastic and replaced the school bus crossing signage with pedestrian crossing signage to match current needs.

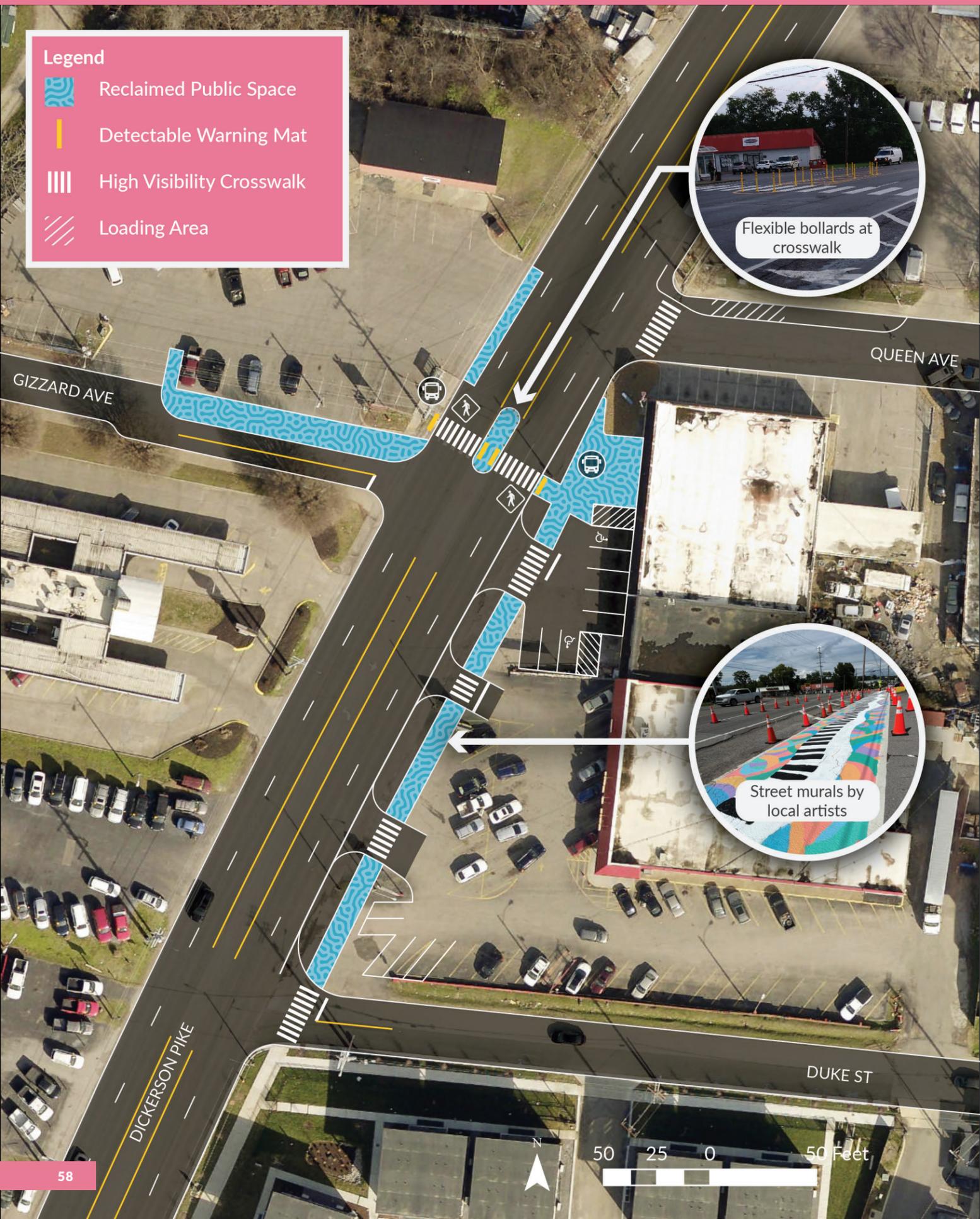
*“A lot of folks have lived here for decades, and they’ve seen a lot of things change. Nashville has changed a lot, but the level of danger at this intersection has not changed. So I guess for me, the problem statement is that this place is still deadly, and the community is ready to see some action.”*

— Anna Dearman, Walking & Biking Manager, NDOT

 <b>Dickerson Pike and Queen Avenue</b> LOCATION	 <b>Improved pedestrian crossing and bus stop</b> TYPE
 <b>\$19,000</b> BUDGET	 <b>6-8 months</b> DURATION



Conditions at the intersection of Dickerson and Queen. Photo courtesy of NDOT



### Journey to implementation



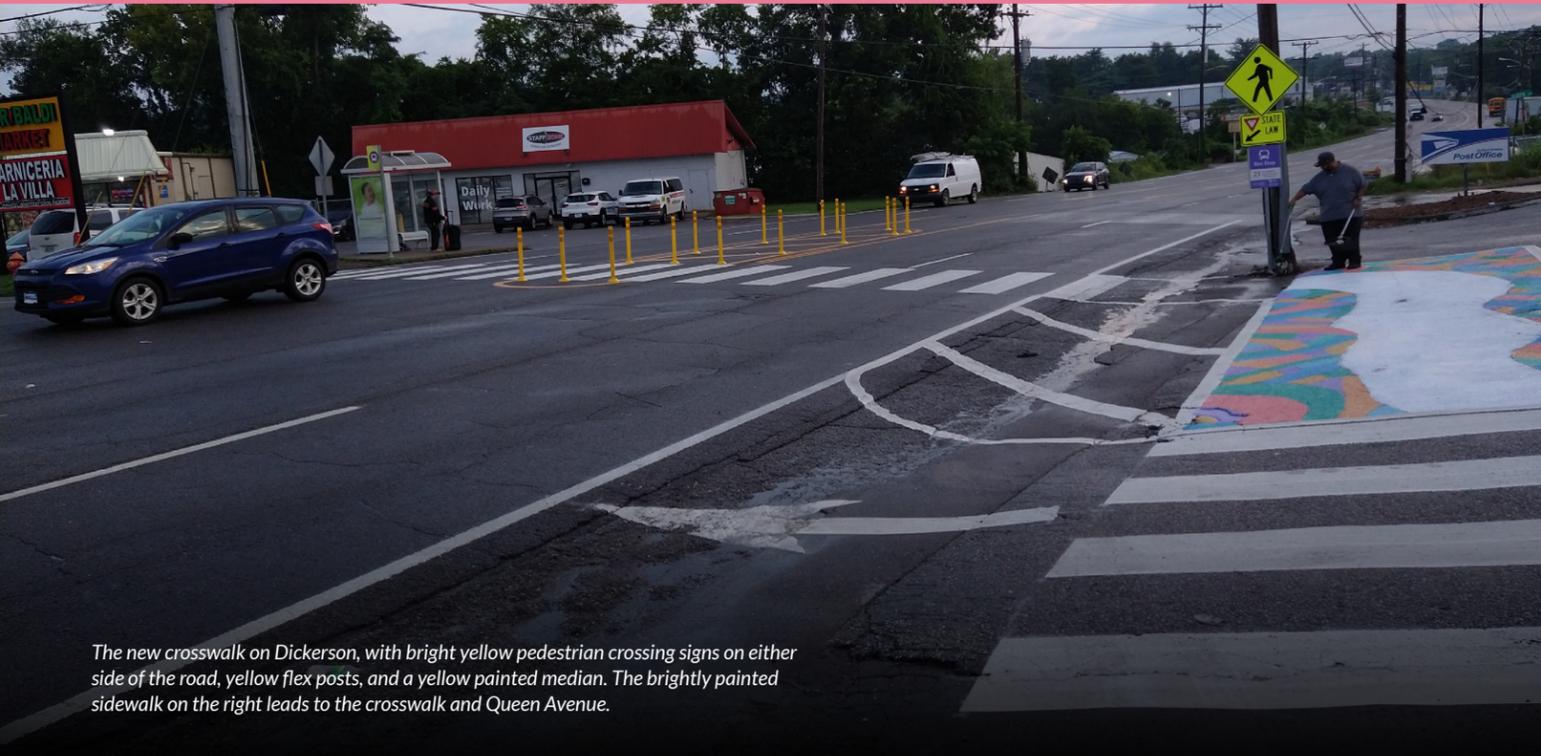
Dickerson Pike is a state-owned roadway. It's a key transit corridor and a top crash corridor (ranked in the 99th percentile of crashes in the state). The section of Dickerson Pike between Trinity Lane and Broadmoor is one of the highest-risk areas for pedestrians in the region. A large quantity of the surrounding population doesn't have access to a car or chooses to walk, bike, or take public transit instead of driving, putting them at a high risk of injury because the road's design has prioritized moving cars quickly ahead of safety for all road users.

Despite these known safety concerns, the project area hasn't seen major transportation improvements in 30 years. A quick-build demonstration was a way for local and state decision makers to demonstrate to the people who live around Dickerson Pike—who are primarily low-income and people of color—that their safety and accessibility are a priority. As community members face above-average rates of health disparities, higher incidences of chronic diseases, and rising temperatures as a result of urban heat islands, it is increasingly important that they have opportunities to engage those in power to secure commitments to address their safety, accessibility, and health challenges. Quick-build demonstration projects give the public a meaningful avenue to do that.

***"It is an extreme risk to your life to stand at this bus stop or use the crosswalk. Cars back out of the post office into you. No cars ever stop for pedestrians in the crosswalk. The crosswalk is on a blind hill with a curve. There isn't even a flashing light or button you can hit. This area is unsafe in every way. I'd challenge the city leaders to come on any random day and attempt to use this crosswalk, or tell me how safe they feel standing at this bus stop."***

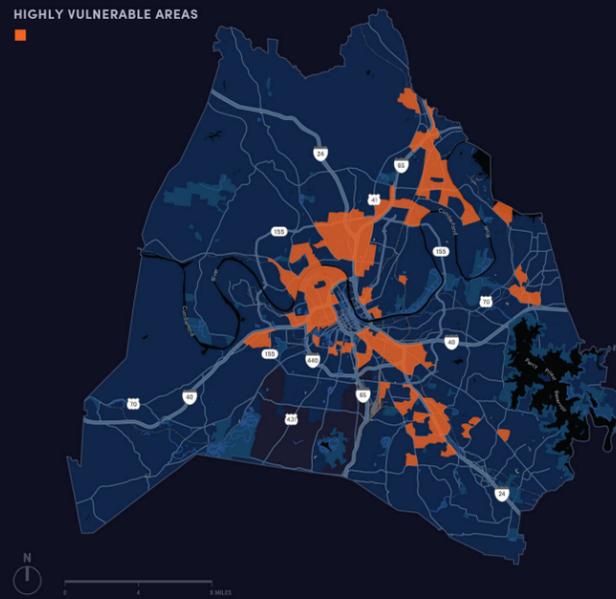
— Anonymous quote from NDOT public engagement

Dickerson Pike has a highly active bus route but lacks sidewalks and other necessary pedestrian safety infrastructure. Curb cuts for parking lots are prevalent, endangering pedestrians forced to walk along the side of the road, without a sidewalk, to reach their bus stop. The unsignalized crosswalk crosses five lanes of vehicle traffic, including a center turn lane. Inaccurate signage underscores the need for changes. For example, current signage warns of a school bus crossing, but the school bus no longer stops there.



The new crosswalk on Dickerson, with bright yellow pedestrian crossing signs on either side of the road, yellow flex posts, and a yellow painted median. The brightly painted sidewalk on the right leads to the crosswalk and Queen Avenue.

Map of the highly vulnerable areas. The Dickerson and Queen intersection rests inside a highly vulnerable area. Graphic from NDOT Vision Zero Action Plan.



For years, the community has built momentum for change. Walk Bike Nashville and Civic Design Center have spent countless hours [conducting studies and engaging community members](#) in the area long before NDOT’s quick-build project, [including a previous tactical urbanism project led by local youth](#) to test-drive design interventions. These efforts built a strong foundation for action when the current project began.

By selecting Dickerson Pike, NDOT prioritized equity and chose a location that would benefit people walking, cycling, and taking the bus. It also allowed the agency to follow through on the community-building work of Walk Bike Nashville and the Civic Design Center.

*“I think we see in a lot of places where we’re partnering on transportation improvements, there’s just a lack of trust that anything’s really going to happen. And so maybe a demonstration is an improvement that the community hasn’t seen in the past, and it’s a step.”*

— Anna Dearman, Walking & Biking Manager, NDOT

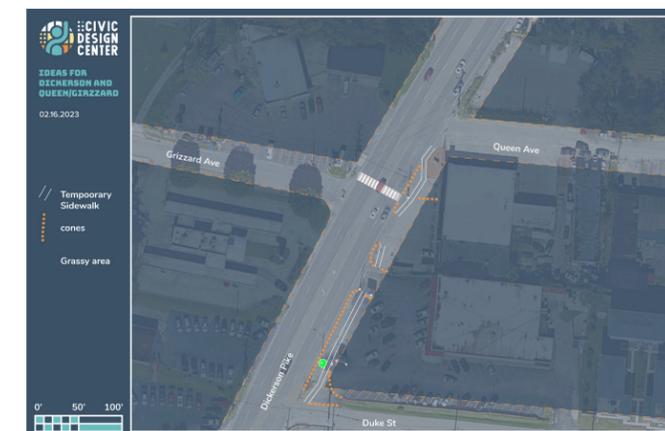
## Project installation

The lack of sidewalks along Dickerson Pike, coupled with driveways interspersed along the road, endangered pedestrians and left drivers with no clear indication that people would be walking in this area. NDOT’s safety improvement efforts included delineating pedestrian space with painted sidewalks and dashed crosswalks so that drivers would know to pause and look for people walking and cycling before driving in and out of parking lots.

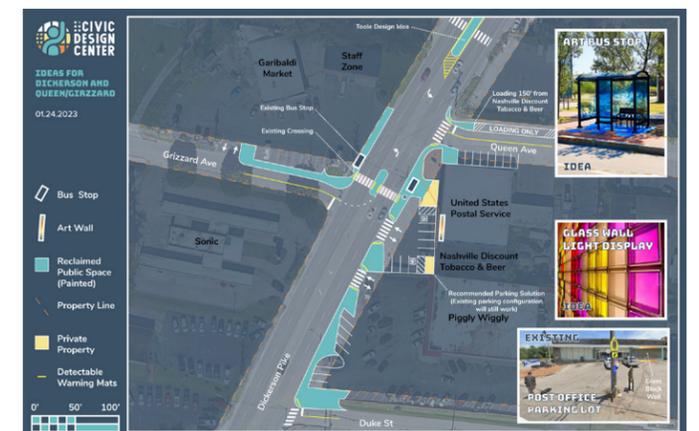
Before the installation of their quick-build, NDOT took important measures to further study their proposed design. From 6 a.m. to 5 p.m. on Wednesday, May 31, 2023, they installed 100 cones and white and yellow striping tape to map out their plan in a “pre-demonstration” project. This step gave them the chance to gather additional input from the community through 100 baseline surveys and 75 post-installation surveys, provided in both English and Spanish. They also used Miovision cameras to collect data on how people traveled, which gave them valuable insight into additional changes they needed to make (including trees that needed to be trimmed along Grizzard Avenue so that drivers could safely turn without encroaching on the painted sidewalk).

Community engagement didn’t stop there, and it was held at times that were convenient for community members and in locations that were easily accessible to them. Project partners Walk Bike Nashville and Civic Design Center played an essential role in gathering feedback, with public engagement events like Walk Bike Nashville’s Walking Wednesdays and Trinity Community Commons Tuesday dinners that existed long before NDOT’s quick-build project was planned. As they gathered input on their project, the Nashville team had people on the ground every day gathering feedback, with Spanish and English surveys administered by project partners, led by Walk Bike Nashville and the Metro Public Health Department Nashville.

This level of engagement sparked valuable conversations that will impact the viability and usefulness of any permanent changes at Dickerson Pike.



Mapped proposal for the pre-demonstration project at Dickerson and Queen. Shading along Grizzard Avenue shows where trees impact drivers’ views. Graphic courtesy of the Civic Design Center



Mapped brainstorm of quick-build design, updated based on results of the pre-demonstration project. Painted walkways were widened along the north side of Grizzard to account for visibility concerns. Some design elements, like the glass wall light display and art bus stop, were not installed. Graphic courtesy of the Civic Design Center

This project was made possible thanks to the partnership of Walk Bike Nashville, Civic Design Center, Metro Public Health Department, NDOT, TDOT, WeGo Public Transit, the Nashville Mayor's Office, Greater Nashville Regional Council, and artist Charles Key.

### Outcomes

This project was uncharted territory for NDOT, and the team had to make creative use of materials and think out-of-the-box on their design decisions. With half a year to develop their plan and install it, they had to alter decisions about materials on the fly, recognizing that some materials would take longer to arrive and install than others. Because they were working on a state-owned roadway, they relied on clear communication and relationship building with TDOT to navigate state design standards and make their project a reality.

Quick-builds allowed NDOT to test out safety improvements on a temporary basis, giving them an opportunity to boost buy-in within their agency for more permanent change to roadways. These low-cost projects were also easily replicable, so for a relatively low lift, NDOT could build momentum on safety improvements throughout the metro area.

Communication with TDOT helped build relationships with different regional engineering teams. These relationships will make it easier for NDOT to embark on design solutions for state-owned roads in the future. NDOT also enjoyed stronger communication within their own DOT, as multiple team members worked together to identify hurdles and come up with solutions. Having someone at NDOT who was ready to take ownership of the project, and others who were quick to support its implementation, was critical to this project's success and the success of NDOT's ongoing implementation of quick-builds.

### Key takeaways

**Dedicated time and space can improve partnerships and foster future collaboration.** Nashville metro's quick-build demonstration project was an important step toward building a stronger partnership between NDOT, TDOT, and the community, which has sparked the potential for long-term Vision Zero improvements at the Dickerson and Queen intersection. This exercise testing creative, temporary solutions also sets a strong foundation for future quick-builds in the metro area.

**Build upon existing momentum.** While many intersections in the Nashville metro area would benefit from safety interventions, partners had been working at the Dickerson and Queen intersection long before NDOT started their project there, creating a strong foundation of knowledge and community input for the demonstration. NDOT was also able to draw upon existing momentum for change from TDOT, which has identified multiple Nashville locations for Pedestrian Safety Initiative Projects.

**A lot can be learned with some striping tape and a few cones.** NDOT benefited by using tactical urbanism in advance of their quick-build to create an even deeper understanding of their project site and the needs of the surrounding community. The data they collected, in addition to community input, helped create a more successful demonstration project.

**Community members will notice when they feel safer, and they'll want that feeling everywhere.** Though outside the scope of NDOT's demonstration project, community members offering feedback frequently pointed to the nearby successful HAWK signal at Dickerson and Sunset Avenue, which provides a flashing signal when pedestrians want to cross. Effective changes like those made in this quick-build project can inspire similar improvements to be made elsewhere.

### CASE STUDY

#### Memphis, TN: Trying out plans before they become permanent

The City of Memphis passed a Complete Streets plan in 2019 to make their streets safer, building on an earlier 2013 policy. But the plan's non-binding nature combined with the lack of dedicated funding and support produced significant challenges in implementing the policy. Their participation in the Complete Streets Leadership Academy armed them with more methods and partnerships to make safe streets a reality.

#### Overview

Located along the Mississippi River in the southwest corner of Tennessee, the majority-Black city of Memphis has seen local traffic crash trends worsen in recent years. This trend is particularly noticeable on state-owned roads, like highways and arterials, that run through Memphis.

People walking and biking are disproportionately injured and killed in these crashes. In 2019, motivated by local crash trends, the City of Memphis incorporated a Complete Streets Plan into its comprehensive plan, building upon the Complete Streets Policy that passed in 2013 and its Complete Streets Project Delivery Manual from 2014.

The 2019 Complete Streets Plan helped fill some of the gaps left in the policy, but plans are nonbinding, and traffic deaths continued getting worse. In 2022, [Smart Growth America ranked Memphis](#) as the third most dangerous city for pedestrians, even using specific examples from Memphis to show how street design decisions on state-owned roads contribute to this danger. With a median household income less than half of the state's, the community is also more vulnerable to the financial costs that come from crashes. For example, 42.6 percent of the people lack health insurance which would mean that the burden of covering any health care costs related to recovery from being in a car crash would fall solely on individuals.

	
<b>Summer &amp; Baltic mid-block crossing</b>	<b>Improved pedestrian crossing</b>
LOCATION	TYPE
	
<b>\$25,000</b>	<b>8 months</b>
BUDGET	DURATION

To make their roadways safer, city staff decided to apply for the Complete Streets Leadership Academy, an opportunity to further their existing tactical urbanism and Complete Streets efforts. This would also be a valuable way to build relationships with TDOT and tackle the dangerous conditions on the state-owned roadways.

The population of Memphis is 64.5 Black or African American, 26.5 white, and eight percent Hispanic or Latino. 24.2 percent of the population is experiencing poverty, almost twice that of Tennessee's rate of 13.3 percent.

### Project snapshot

The Memphis quick-build demonstration project took place on Summer Avenue between Tillman Street and Baltic Street. To provide pedestrians and cyclists with a safer place to cross the five-lane roadway, the City of Memphis worked with TDOT to add a striped crosswalk, providing more visibility to the crossing. They also installed pedestrian crossing signs with a flashing LED light that alerts drivers and placed an “island” made of flex curb and cold mix asphalt in the center lane to calm traffic and reduce conflict points. The City of Memphis helped add ADA-compliant curb ramps so that more people would be able to use the crosswalk safely, regardless of how they travel.

*“We are committed to partnering with TDOT to accommodate all users on our streets, and to decrease serious and fatal crashes through safer design.”*

– City of Memphis Complete Streets Leadership Academy application

### Journey to implementation



In the National Complete Streets Coalition’s Best Complete Streets Policies of 2013 report, Memphis’s policy scored high on considering all users and modes and applying to all projects and phases, but only moderately well (12 points out of 20 points) on implementation steps. The policy failed to set a clear vision and intent, establish clear exceptions, apply to multiple jurisdictions, adopt specific design criteria, acknowledge context sensitivity, and establish performance standards. The Coalition’s policy grading framework has since been updated to place a stronger emphasis on implementation.

The Memphis project location was selected because it is a hub for people walking and biking, with two transit stops nearby. Even with a lack of safe infrastructure, an average of 30.5 pedestrians and cyclists cross this roadway per hour, meaning someone crosses at least every two minutes. Between 2020 and 2022, six pedestrians and cyclists were hit while trying to cross the street. Two people were seriously injured, and four people were killed.

The City of Memphis already has a Complete Streets plan for this area, created by TDOT, but that plan hasn’t been implemented yet. Their quick-build project followed the existing draft plans but utilized temporary materials. In doing so, Memphis was able to test out how the design would function so that any needed changes could be made in advance of a permanent installation.

### Project implementation

Once they selected the site for their quick-build, the City of Memphis started working with TDOT to narrow down their plans. Like any project involving a state-owned roadway, modifications required strong communication and flexibility from both sides. Fortunately, this program was designed to bring a willing state DOT to the table and TDOT was ready to collaborate on solutions.

*“The Department, and specifically the Regional Traffic Office and the City Traffic Engineering Office, interact several times a week on normal business. This project gave both agencies insight into how each other’s process works.”*

– Jason Moody, Tennessee DOT

### Outcomes

To involve the community in the quick-build project, the Memphis team distributed a double-sided mailer explaining the project, the future of the site, and why Memphis is involved in the Complete Streets Leadership Academy. During the quick-build project, city staff were stationed on-site to talk to community members. Links to an online survey were advertised throughout the city so that people could easily provide feedback on the project and whether or not it made them feel safe.

Responses to the changes were overall positive, building confidence in TDOT’s plan for permanent change.

### Key takeaways

**Internal capacity is essential to success.** There were staffing issues within the City of Memphis team that impacted the quick-build project’s road to implementation. When plans for Summer Avenue were first put in motion, three people were working together on the city’s Bikeway Pedestrian Program. By the end of the project, only one staff member remained. While the project was ultimately successful, there were some aspects of the project that needed to be set aside as internal capacity dwindled.

**Barriers will arise—but they don’t have to stop a project in its tracks.** Originally, the Memphis team planned to involve an artist to draw attention to the demonstration project using bright colors along the sidewalks of Summer Avenue. However, their artist had a scheduling issue that made this portion of the project difficult to accomplish. Though the final version of their quick-build project didn’t fully match their original vision, the Memphis team continued moving forward and still took valuable steps toward building strong partnerships and paving the way for permanent change.

This project was made possible thanks to the partnership and dedication of City of Memphis, Tennessee Department of Transportation (TDOT), Memphis Area Transit Authority (MATA), Innovate Memphis, and Shelby County Tennessee.

CASE STUDY

**Chattanooga, TN: Adding flexibility to safe street design**

The City of Chattanooga has taken steps in recent years to address the safety of all road users, but it sought to find a more nimble approach to addressing dangerous street design. Their participation in the Complete Streets Leadership Academy allowed them to deliver a quick-build demonstration project on a TDOT state route.

Overview

Located in the southeastern part of Tennessee, nestled beside the Tennessee River and the foothills of the Appalachian Mountains, Chattanooga was ranked the 65th most dangerous metro area for pedestrians in 2022, [with traffic fatalities on the rise since 2011](#).

The city has had a Complete Streets policy on the books since 2014. Since the policy's adoption, the city has completed multiple Complete Streets projects as part of ongoing maintenance and as standalone projects. Still, city personnel recognized a need for faster methods to create change.

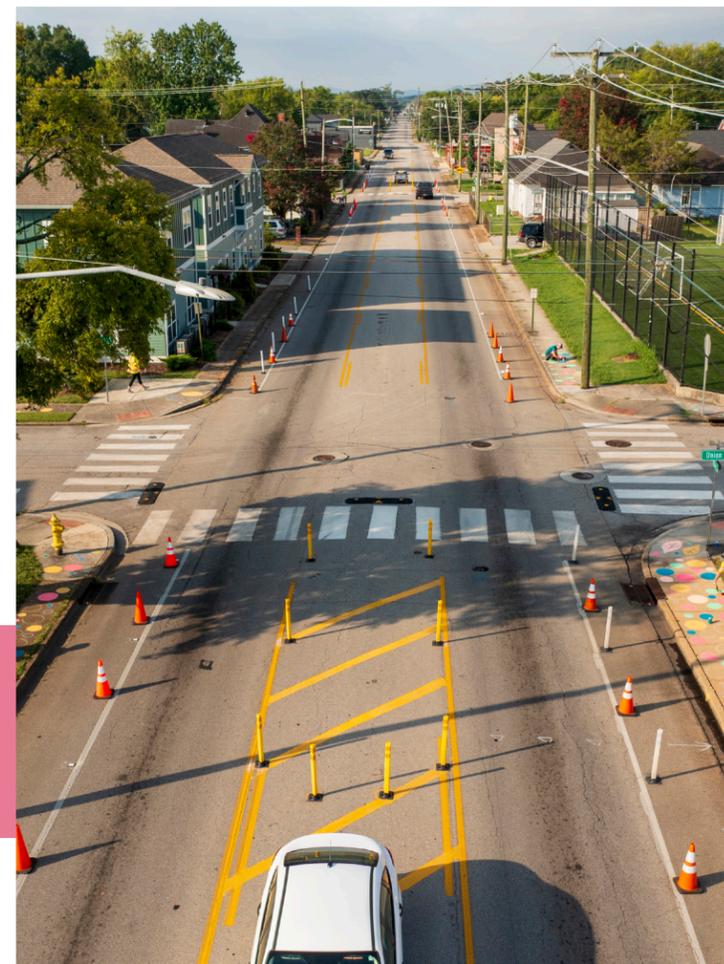
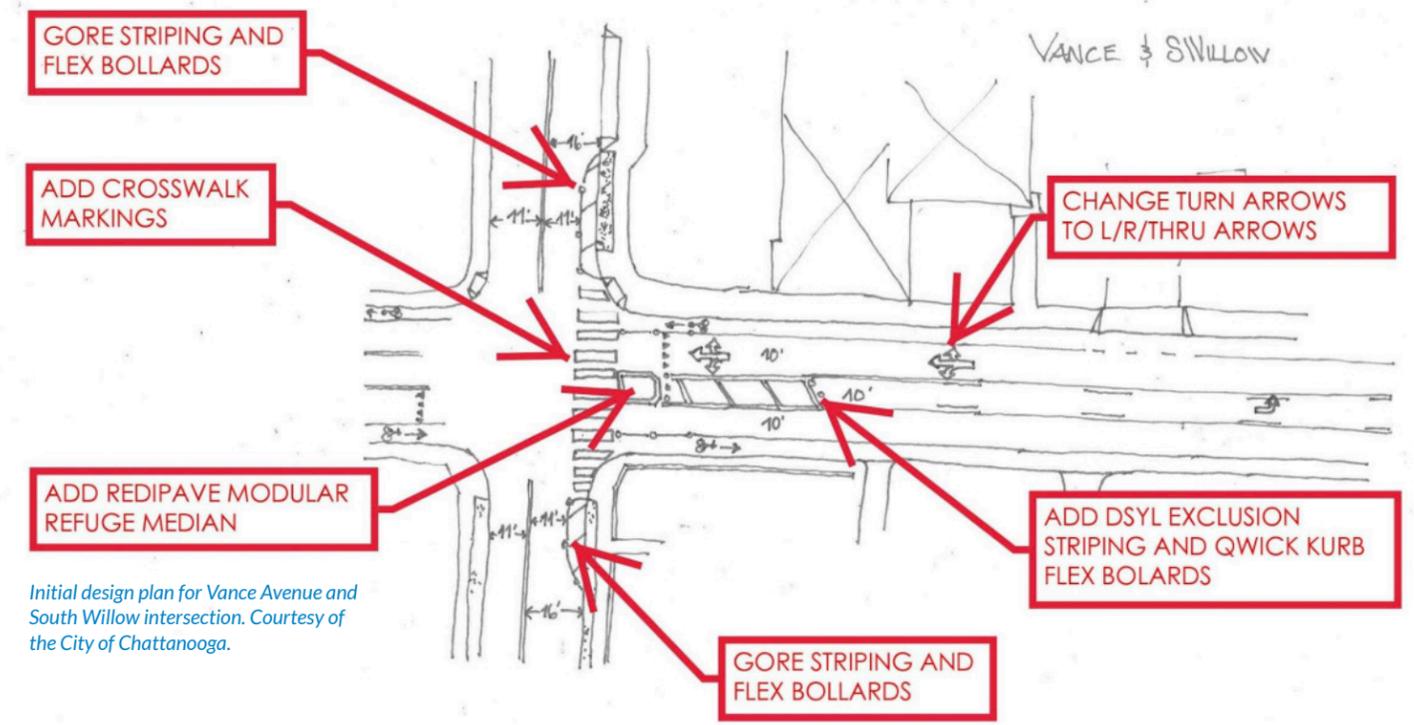
The National Complete Streets Coalition has updated their framework for scoring policies as of 2023. Additions to the framework since 2014 include: prioritizing underserved communities and mandating coordination. [See the updated framework here.](#)

The population of Chattanooga is 59 percent white, 29.5 percent Black or African American, 7.5 percent Hispanic or Latino, and 2.5 percent Asian. 17.6 percent of the population is experiencing poverty, slightly higher than Tennessee's rate of 13.3 percent.

 <b>South Willow Street</b> LOCATION	 <b>Crosswalk installations</b> TYPE
 <b>\$14,801.31</b> BUDGET	 <b>11 months</b> DURATION

*Generally, we are pretty good as a community at installing longer-term, heavy infrastructure projects, but these can take so long and be so expensive that we end up with a real gap."*

— Brandon Sutton, Transportation Design Manager, Chattanooga Department of Planning

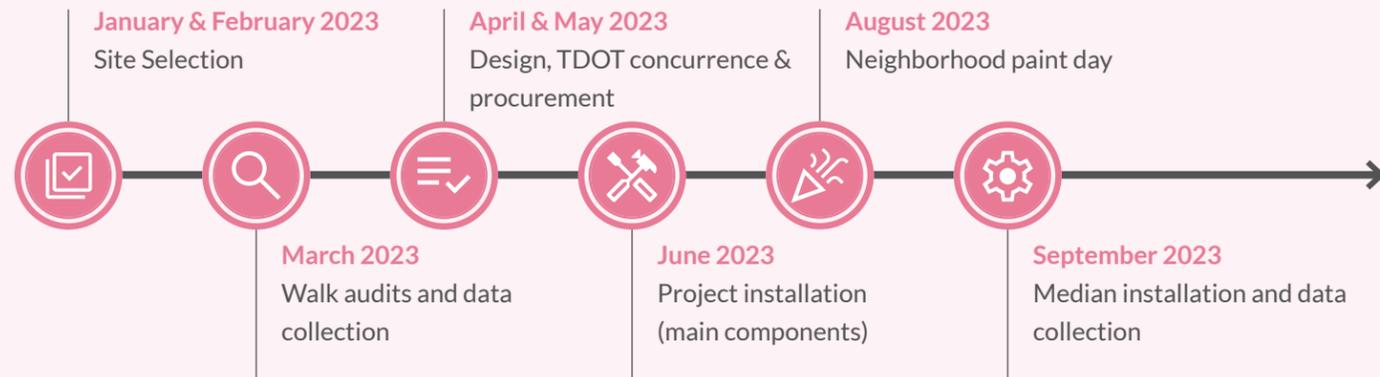


By partnering with TDOT and gaining more experience with quick-build projects through the Complete Streets Leadership Academy, the city hoped to develop a more nimble approach to providing safer streets for all users—and one that could be repeated on other state routes and arterials within the city.

Project snapshot

After analyzing state routes across the city, the City of Chattanooga selected state-owned South Willow Street for the quick-build demonstration with the hopes of improving the pedestrian experience and safety. Although multiple state routes have high crash rates, South Willow Street was selected to demonstrate that safety improvements could be made at a relatively low cost and to ease coordination with TDOT. They decided a minimum of two crosswalks were needed, and then collaborated with TDOT to determine the best placement. Ultimately, Chattanooga's quick-build demonstration plan included one crosswalk at Union Avenue and an additional crosswalk a block away at Kirby Avenue. In addition to the two newly installed striped crosswalks, the

### Journey to implementation



team also identified methods to slow drivers, and reduce areas of potential conflict.

When the City of Chattanooga first got involved in the Academy, they expected to install a quick-build at one intersection: South Willow Street (a state-owned road) and Vance Avenue to shorten the distance people would need to walk to reach a marked crosswalk.

However, before the project got underway, city personnel visited the project site and conducted a walk audit of South Willow Street with neighborhood leaders. The street forms the boundary between the neighborhoods of Ridgedale and Highland Park, and participants observed concerning road conditions—sidewalks that aren't wide enough to be

***“In about 30 to 40 minutes, we saw 12 pedestrians cross South Willow Street at unmarked areas between Bailey Avenue and Anderson Avenue. Most of these pedestrians were children.”***

— Brandon Sutton, Transportation Design Manager, Chattanooga Department of Planning

compliant with standard design guidance and tire tracks cutting directly across curb ramps, indicating that drivers were likely driving too fast and not looking out for people walking or cycling on the sidewalk. Most alarming, with no marked crosswalks available, they observed multiple people were crossing the street at unmarked areas.

South Willow has high average daily traffic, which often moves along at speeds higher than posted. Many residents need to cross South Willow to access community services such as a popular soccer field, local daycares, grocery stores, and transit stops. The community had long requested that safety improvements be made, speaking to the urgency for steps to be taken to help reconnect the community divided by such a dangerous road. Based on their observations and knowledge of the area, the City of Chattanooga realized there was a more immediate need for basic traffic safety improvements near popular attractions and destinations along a different section of the corridor. The project team agreed and the project shifted to include the area of concern.

City personnel signed up for the Complete Streets Leadership Academy because they wanted to hone their skills at implementing traffic safety changes quickly and working closely with local TDOT staff to collaborate on changes to state routes. They tried out new placements for materials

they'd used in the past (like flex posts) and worked around roadblocks in the scheduling and implementation of their temporary median.

### Project implementation

To create safer places for people to cross the street between the signalized crossings, Chattanooga deliberately spread the program's limited \$15,000 budget across two separate intersections in the area where foot traffic was highest. The project installed two striped crosswalks with rubber removable medians to slow drivers and reduce the number of conflict points at the intersections where the pedestrian refuges were installed. To further reduce speeding, the project also included two removable speed bumps so that cars would have to slow before turning onto Kirby or Union.

The City of Chattanooga used flex posts and traffic paint along South Willow Street to reclaim public space for people walking and cycling. Later, they added further visibility by using geometric shapes along the walkway, painted in colors not typically seen on roadways. Designed and installed

with direct input from neighbors on both sides of South Willow Street, this sidewalk art created a sense of place by pulling inspiration from the Highland Park and Ridgedale neighborhoods.

### Outcomes

By building part of their quick-build before the modular medians arrived, city personnel were able to start collecting community feedback early, improving community engagement overall and expediting the installation.

The initial reception was positive, with community members reaching out to share their excitement and appreciation, and the Chattanooga team measured an eight percent reduction in average vehicle speed. The City of Chattanooga also measured pedestrian activity in the area to see if the addition of safe infrastructure was impacting the way people traveled, and they found that when they installed safe crosswalks, people were eager to use them.



Union Avenue intersection conditions before the demonstration project. Photo courtesy of the City of Chattanooga.

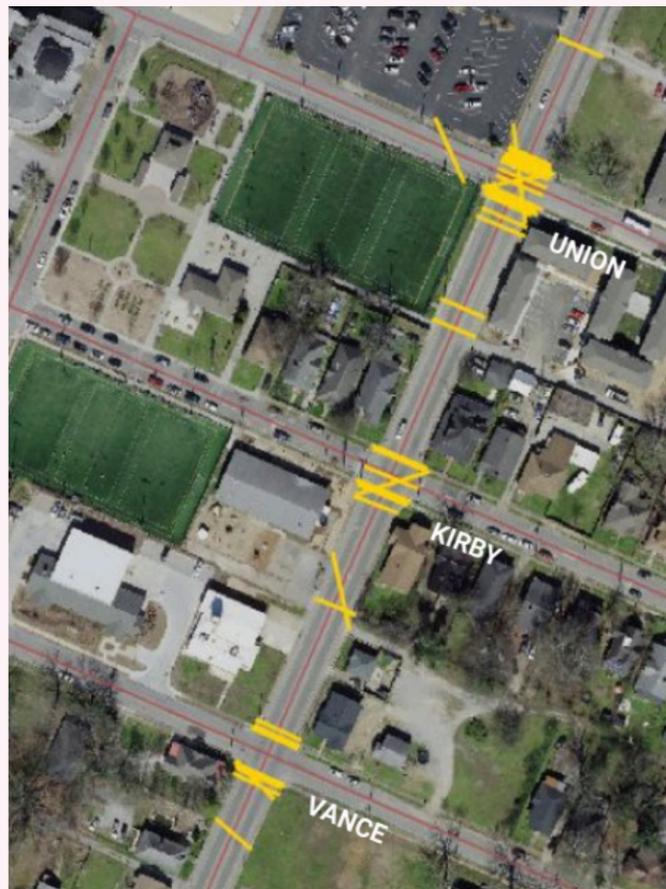


Union Avenue intersection conditions immediately after the demonstration project. Photo courtesy of the City of Chattanooga.

## Key takeaways

Thanks to this quick-build project, the City of Chattanooga will create a quick-build program with several more demonstration projects planned in the coming years. They've also formed a valuable partnership with TDOT, which they hope will bring more possibilities to implementing safe infrastructure in their community. Some of their key takeaways include:

*Observed pedestrian paths during the demonstration project marked in yellow, with high pedestrian activity at the newly installed crosswalks. Graphic courtesy of the City of Chattanooga.*



This project was made possible thanks to the partnership and dedication of Chattanooga Department of Planning, Chattanooga Department of Public Works, TDOT Multimodal Planning Office, TDOT Region 2, TN Department of Health, and CARTA.

**Look for your “people attractors.”** The Chattanooga team realized that the site of their quick-build should be a place where multiple destinations were clustered together—this was a place where people needed to be able to walk safely to reach their essential destinations. The importance of these destinations was reinforced by community members throughout the ongoing engagement process. For that reason, the team decided to prioritize a project that would better connect people to the goods and services they need and use every day.

**Infrastructure improvements can reduce speeds.** Slowing vehicle speed is a key tactic to improve safety for people walking and cycling because the risk of injury and death increases as driver speed increases. However, though this project was meant to improve pedestrian safety by addressing street design, it wasn't explicitly a traffic-calming project. Even so, the mere introduction of crosswalks and flex posts naturally slowed vehicles as drivers became more aware of other road users.

### **One small step towards reconnecting communities.**

Without proper infrastructure for people to cross, South Willow Street divided two neighborhoods. However, the simple introduction of crosswalks and pedestrian refuges helped address this divide—a small step, but an initial and inexpensive one that allowed the city to help knit these neighborhoods back together.

**Improvements can be cost-effective.** The improvements on South Willow Street cost less than \$15,000, demonstrating that a relatively small investment can quickly improve the street for all users, especially the most vulnerable users. Similar quick-build projects are quicker, lower cost tools for the City of Chattanooga to use to improve streets citywide.

**Collaboration supports innovation.** Buy-in from TDOT helped ensure that communication was quick and efficient. The city conferred with the state on the types of materials to use, compliance for curb ramps, and other interventions they could try on the state-owned road. Only four weeks passed between Chattanooga's design adjustments and TDOT's final review, which took place over email without a need for other permits.



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