

**DESIGN RIGHT**

Use designs appropriate to the context of the street and its uses.

The cities taking on the fourth Challenge Activity worked to go beyond minimum design standards to make streets safe and convenient for all road users. These improvements are made based on contextual factors, including vehicle volume, speed limit, number of lanes, and volume of vulnerable road users. When designing context-sensitive streets, transportation agencies consult a range of manuals for guidance and also regularly consult with stakeholders interested in multimodal access, such as transit and housing agencies, and local citizens.

From Columbia, SC, to Irvine, CA, participants educated and coordinated among transportation professionals on pedestrian and bicycle design, developed new design standards and policies, and explored using new types of designs or facilities in their communities. FHWA supported this activity by issuing several new design resources, such as the [Separated Bike Lane Planning and Design Guide](#), [Bicycle and Pedestrian Funding, Design, and Environmental Review: Addressing Common Misconceptions](#) and [Bicycle Network Planning & Facility Design Approaches in the Netherlands and the United States](#).

The winning communities for Challenge Activity 4 are New York, NY (Large City), and Henderson, NV (Small City). In New York, the redesigned Queens Boulevard reduces speeding, calms traffic, creates more space for people with new crosswalks and expands pedestrian refuges. It also provides safer

crossings, using shortened crossing distances and Leading Pedestrian Intervals to give pedestrians a few seconds' head start at intersections before the light turns green for cars, and creates a safe, convenient cycling route by installing 2.6 miles of separated bicycle lanes. The project required the city to innovate and explore new design options, and it also involved educating and engaging the public.

For Henderson, NV, participation in the Mayors' Challenge prompted a shift in how the city evaluates opportunities to incorporate bicycling facilities into the street network, including beginning to identify opportunities to provide separated bike lanes. Since the start of the Challenge, the city has either installed or begun construction on more than 21 miles of separated bike lanes, and staff have created a recommended separated bicycle lane cross section for roadway rehabilitation projects. More information on efforts in New York and Henderson is available on the [Award Winner fact sheets](#).

How are communities using innovative designs?

Communities have implemented infrastructure changes that best fit street types and surrounding neighborhoods. Central to using context-specific designs is ensuring that when bicycle and pedestrian facilities are added, they are appropriate for that location and will actually support the goal of improving safety for road users. Examples of context-specific infrastructure changes made during the Challenge ranged from incorporating off-street shared use paths on multi-lane high speed boulevards to installing mountable curbs in commercial facilities to allow for heavy truck access while limiting vehicle speeds and decreasing pedestrian crossing distances. Other important, supporting elements include street trees, pedestrian-scale lighting,

bike racks, benches, and pedestrian signals and islands.

Communities educated and coordinated among transportation professionals

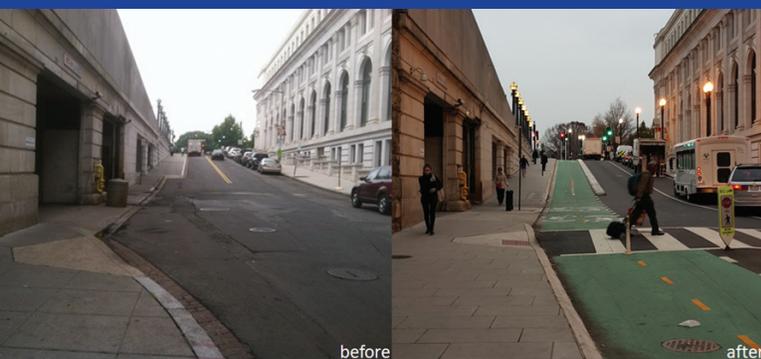
The field of pedestrian and bicycle design has matured significantly in recent years, but nationwide, there remains a lot of work to be done to educate transportation planners and engineers about new and innovative design options. During the Challenge, FHWA hosted webinars as they introduced new design resources, and Mayors' Challenge cities received special invitations to participate. To help, Eugene, OR, regularly hosts group viewing of webinars by FHWA and professional transportation organizations on design issues. Eugene staff extend invitations to staff from other agencies, consulting firms, members of the Bicycle and Pedestrian Advisory Committee, and community members.

Staff in Bonita Springs, FL, have benefitted from increased interdepartmental coordination established while developing its Complete Streets Policy. The Department of Public Works now requires all projects to incorporate safe infrastructure for non-motorized travel where applicable, and city staff are currently working together to incorporate flexible, context-sensitive design options into future land use documents.

Staff in Brownsville, TX, regularly attend conferences, watch webinars and consult design manuals during the design process. Brownsville passed a resolution to adopt the National Association of City Transportation Officials (NACTO) Urban Street Design Guide and Urban Bikeway Design Guide as resources for guidance on the development of bicycle facilities; use of these guides is supported by FHWA.

Communities embraced new design standards and policies

Building on significant national discussion in recent years about roadway design and increasing flexibility to provide pedestrian and bicycle facilities, Challenge cities developed and adopted new design standards, manuals, and guidance. Participation in the Mayors' Challenge prompted Longwood, FL, to adopt context-sensitive design standards and begin to develop a Complete Streets Design Manual. The City of Springfield, OR, updated design standards for street construction projects. Moscow, ID, has implemented a more flexible land development review process to encourage context-sensitive designs, and Stamford, CT, is using its new Complete Streets policy to incorporate more discussion of safe design into the local zoning and site plan review processes. Nashville, TN, used context sensitive designs by implementing the Major and Collector Street Plan, which identifies



Before and after street redesign in Washington, DC.



Flexible posts create a separated bike lane and pedestrian bulb-out in Louisville, KY.

a range of appropriate bikeway and sidewalk facilities for different contexts, as the city standard.

Communities explored new facility types and designs

Many communities planned and built new types of roadway designs, such as road diets and separated bike lanes, during the Challenge. West Palm Beach, FL, experimented with temporary bike lanes and shared roads, allowing all users to intermingle on low-speed, low-volume roads. In the spring of 2016, Eugene, OR, constructed a road diet pilot project on South Willamette Street. The project converts the street from four travel lanes to two and adds a center turn lane and bike lanes. Over the next year, staff will collect data on traffic counts, crashes, economic activity, and public opinion on the pilot. In 2018, Eugene will reconstruct the street, including rebuilding sidewalks and adding streetscape enhancements, such as street trees, pedestrian-scale lighting, bike racks, and benches.

Nashville, TN, expanded pedestrian and bicycle networks through routine roadway and sidewalk maintenance efforts, constructing its first left-side separated bike lane on 16th and 17th Avenues South, also known as "Music Row." Nashville worked with partners to clearly indicate how cyclists should navigate intersections using design and signage.



Hardy Street in Kaua'i County, HI. The major street reconstruction incorporates safer infrastructure such as sidewalks, bike lanes, safe pedestrian crossings, a roundabout, medians and other traffic calming features.

Columbus, OH, built its first permanent separated bike lane on Summit Street during the Mayors' Challenge. The two-way bike lane uses flexible posts and parked cars for separation; includes green turn queue boxes and bike signals; and connects to a network of other bike lanes and routes that provide access between neighborhoods and downtown. This project was accomplished through a routine resurfacing project and required coordination with and approval from the Ohio Department of Transportation since the street is a designated state route. Columbus is also exploring locations to implement low-stress neighborhood bikeway networks, such as neighborhood greenways, and the creation of a GIS model-based system for prioritizing sidewalk investments on local streets using the new sidewalk inventory developed by the Mid-Ohio Regional Planning Commission

Sioux Falls Pilots Road Diet Project Design; Will Make it Permanent

Sioux Falls, SD, piloted a road diet project on a three-lane, one-way street in the downtown area. The project repurposed one traffic lane of Main Avenue from Sixth Street to 14th Street to increase safety for pedestrians and bicyclists, add parking, extend public seating areas, and

calm traffic. Curb extensions, also called bulb-outs, physically narrow the roadway, creating safer and shorter crossings for pedestrians while increasing sidewalk and planting space available for streetscape improvements. The project reduced average traffic speed by 8 percent, bringing it

closer to the posted speed limit. It also created 60 parking spaces, and local businesses made use of the bulb-out areas. Overall the response to the pilot was very positive, and work is now underway to make the changes permanent.

For more information about the Mayors' Challenge results and award winners see: www.transportation.gov/mayors-challenge/awards-and-results