

APRIL 2017

ite journal

A COMMUNITY OF TRANSPORTATION PROFESSIONALS



Building Paths to Better Health



How to Build the Best Bike Lane in America

BY PETER TRINH

Bike facilities should be safe. Bike facilities should be clear. Bike facilities should be intuitive. But what people don't think about enough is how bike facilities should connect and integrate into a network, or in the bigger picture, the city. Especially a rapidly growing major city like Seattle, WA, USA. After years of extensive outreach, planning, design, and construction, the City of Seattle ironed out all the wrinkles and built the Westlake cycle track, which has recently been named America's Best New Bike Lane of 2016 by PeopleForBikes.org.





CITY OF SEATTLE

Bicyclists riding through the parking lot prior to the Westlake cycle track being built.

Anyone who has explored Seattle knows that the city faces terrain challenges when it comes to transportation. Often, the most difficult issues arise when it comes to bike facilities. The Westlake cycle track was a project to connect the downtown core to the neighborhoods immediately north, where there was a heavy residential presence. Given the high bicycle commuter rates in Seattle, many bicyclists needed a flat, intuitive connection to get to and from work every day. Even though there were already buffered bike lanes just two blocks west of Westlake Avenue on Dexter Avenue, the 300-foot climb coupled with high-volume of turning traffic and lack of protection just wasn't good enough. All the reasons that Dexter Avenue wasn't quite working made the Westlake cycle track a vital project.

The project faced many challenges to begin with, including the fact that Westlake Avenue was a high-volume roadway and designated major truck street, carrying 24,000 total cars a day. Because of this, existing bicyclists were forced to ride in the roadside parking lot of Westlake Avenue, taking advantage of the flat terrain of the road but having to navigate the 1.2-mile-long parking lot. This led to unpredictability for both drivers and bicyclists. Imagine a high volume of bicyclists weaving through a parking lot during peak hours with a capacity for 1,220 vehicles.

Given the high-volume of the roadway and the desire of bicyclists to ride in the parking lot, the best place to build the cycle track was within the parking lot area. In a city that is already lacking in public parking, taking space in a parking lot for a cycle track and losing parking stirred up a lot of opposition. Business owners were concerned that losing parking would affect their businesses. The big question became: how do you make everyone happy, including bicyclists, pedestrians, drivers, and business owners?

The project went through an extensive public outreach process that included listening to concerns of residents, users, and business owners from all sides. This process included two large open house events where attendees learned about the project and voiced their concerns. This helped the design team plan and design a project that was organic to the community. Besides the open house events, the design team met monthly for a year with a Mayor-appointed Design Advisory Committee made up of members representing various interests including freight, pedestrians, bicyclists, the marina, and business owners. This outreach process proved that if you can get everyone working together, problems can be solved.

The Westlake cycle track project design plan was to build a two-way, raised cycle track adjacent to the sidewalk, completely separated by motor vehicles traveling on Westlake Avenue. The



Attendees at a Westlake Cycle Track open house event.

design took into account parking and implemented a geometry and circulation plan that ended up preserving 90 percent of the existing parking, a number that satisfied users and business owners. Some aspects of this parking preserving design was a detailed, tight-knit geometry that followed closely with the existing layout of the parking stalls, and hugging the existing sidewalk, making for the

most efficient use of space. Instead of losing parking stalls for the cycle track, the design narrowed the drive aisle and converted it to one-way circulation with diagonal parking. As with all on-street bicycle facilities, driveways crossing the cycle track were a concern. The design needed to consider sight distances for vehicles entering and existing driveways. Using the American Association of State Highway and Transportation Officials calculated sight distance triangles, parking was restricted adjacent to driveways to ensure a clear line of sight for all users.

The result is a cycle track designed for riders of all ages and abilities that is flat, intuitive, protected, and predictable for all users, providing that much needed comfortable connection between north Seattle and the downtown core. Bicyclists are separated from pedestrians and vehicles, and drivers no longer should worry about backing out into the drive aisle without knowing if a bicyclist is about to pedal by. Just like many successful bicycle projects in Seattle, the project proved that building world-class bicycle facilities can help change how people travel around the city and increase bicycle ridership. Since the opening of the Westlake cycle track, bicycle ridership on the corridor has doubled. [itej](http://itej.org)



Before (left) and after (right) images of the parking lot along Westlake Avenue that was modified to incorporate a cycle track while preserving 90-percent of the parking.



CITY OF SEATTLE

These images of the new Westlake cycle track project show how the original parking lot (left image) was reconfigured to incorporate the bike lanes and pedestrian crossings (right image).



Peter Trinh is a multimodal engineer for the City of Seattle, WA, USA Department of Transportation. He is a native Californian, born and raised in the San Francisco Bay Area. Peter holds a bachelor of science in civil engineering from the University of California, Davis, and a master of science in civil engineering

from San Jose State University. He has designed various award winning projects throughout California, including bike trails, protected bike lanes, pedestrian bridge overcrossings, and complete streets projects. Peter is also a freelance writer, contributing numerous technical, social, and travel pieces to publications around America. He is a member of ITE.



KEEPING YOU FOCUSED ON TRANSPORTATION

WWW.ITE.ORG

ITE Spotlite helps you stay in the know.

In an age where information is everywhere, ITE members can look to *ITE Spotlite* to deliver timely news.

ITE's bi-weekly e-newsletter has a sharpened focus on the news and trends in surface transportation that matter most to you.