

Overview of Advisory Bike Lanes

Current Status and Path Forward

ABLs Place in the Bicycle Facility Universe

ABLs are appropriate only for two lane, low-volume, low-speed roads. The consensus at this time is that speed should be limited to 35 MPH or less. Acceptable traffic volumes differ depending on whether Dutch or American guidance is referenced. Dutch upper limits range from 3,000 to 5,000 ADT with lower volumes used at higher speeds. The American upper limit is 6,000 ADT with no recommendation for lower volumes as speeds increase.

This places ABLs on streets which are candidates for mixed traffic (AKA yield roadway), bicycle boulevard, or a standard bike lane treatment. ABLs compare favorably to bike boulevards and can be placed on streets too narrow for standard bike lanes. ABLs may be superior to standard bike lanes where wider bike lanes are possible with ABLs – this is important with on-street parking.

Current Use

Other countries use ABLs with the Netherlands a leader in experience and number of installations. The FHWA considers ABLs to be an experimental treatment. Approximately 20 ABLs have been installed in the US and Canada with the first being installed in 2011. More are known to be in the planning, design or bid stage. Both interest and adoption rate appear to be increasing despite an unclear legal and regulatory context.

Potential Substrate

The US has almost 3 million miles of paved roads. Approximately 75% are rural. Rural roads tend to have lower volumes than urban roads which makes them both more appropriate ABL sites and less likely to receive funding for other types of biked improvements.

ABL installation consists only of a change in striping in the overwhelming majority of cases. This is either very cheap or free when conducted as part of a resurfacing project. Increasing pressure to create biked facilities and tight funding makes ABLs attractive.

These factors could soon make ABLs one of the fastest growing facility types in North America.

Context: Legal, Regulations, Guidance

Due to their unique configuration and operation, the legal context is unclear for ABLs.

Legal obstacles exist. Motor vehicle codes often prohibit cars from entering a bike lane except for crossing or turning movements. State motor vehicle codes differ and other obstacles may exist.

The use of ABLs to provide pedestrian facilities involves unanswered ADA compliance questions.

ABLs have been used when removal of parking lanes or lane narrowing is considered infeasible – this has resulted in poorly designed facilities. In some circumstances (e.g. narrow bike lanes next to parking lanes on streets with higher volumes), ABLs may be more dangerous than shared lane markings.

Only one national guidance document exists. This is the FHWA Small Town and Rural Multimodal Networks Guide (ABLs are called Advisory Shoulders there). Other existing sources, e.g. AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads ($ADT \leq 400$), bear on aspects of ABLs.

Assuming Dutch guidance is accurate and applicable to the North American context, the Small Town Guide provides guidance which may create ABLs which are more dangerous than necessary. No data exists to support some of the important recommendations in the Small Town Guide.

The FHWA classifies ABLs as experimental and requests their use be approved via the Request-To-Experiment (RTE) process. For various reasons, some jurisdictions have avoided the RTE process.

The RTE process requires an evaluation at the end of the study period as a condition of approval but the protocols, required data, and study quality are left up to the jurisdiction. Five engineering studies exist at this point. Comparability and aggregation of results is questionable.

Public & Industry Awareness

Awareness of ABLs is still low in the biked industry and is almost nonexistent in the general public, general engineering and public works fields.

Other than the Small Town Guide, no official design guide exists for this facility. This inhibits awareness and uptake. The upcoming revision to the AASHTO Bicycle Guide may include information on ABLs.

No forum exists to facilitate discussion about this facility. Little to no content is provided at conferences, no listserv exists, and my website (advisorybikelanes.com) is the only comprehensive online resource of which I am aware.

Due to low public awareness, public outreach and education is still important for each project.

No educational material is included in standard driver training manuals. The same is true for police, fire and other public safety workers.

Research

The Dutch have published a number of studies on their ABLs. They have assessed crash rates, motor vehicle speed changes and BMV horizontal clearance changes as the result of ABL installation. All generally show positive trends toward lower speeds and fewer crashes. Horizontal clearance during BMV passing events shows little change or even a slight decrease on some installations.

There are a few studies of centerline removal and ABL use from Great Britain. These also show generally positive trends, primarily lower speeds and crash rates.

Except for some municipal studies, no study of ABLs has occurred in North America. Some American research is applicable to ABLs, e.g. the impact of centerline removal and relationship between lane width and vehicle speed.

I have submitted a Research Needs Statement to a number of TRB committees who have expressed strong interest. I am working on a more complete Problem Needs Statement for the AASHTO research funding body. I have submitted a research grant application to Oregon DOT. I am unaware of other efforts but find it hard to believe that none exist.

Research Needs (in approximate order of priority IMO):

- proper sizing of center travel lane (what width of center lane gives rise to motorists guessing incorrectly that they can pass oncoming traffic without using bike lanes?),
- appropriate speed/volume and other characteristics for facility selection,
- appropriate sight distance criterion,
- use of color in bike lanes
- proper sizing/markings of bike lane (what width and markings of bike lane gives rise to motorists guessing incorrectly that the bike lane is a vehicle travel lane?),
- unfamiliar motorist's understanding of an ABL-equipped roadway - what is needed to communicate proper operation,
- use of channelizing islands - when, where, use of one versus two (paired or unpaired),
- savings in maintenance \$ by moving vehicles away from road edge and varying course
- intersection treatments

Resources

All of the resources below, and more, can be found at www.advisorybikelanes.com. The most important resources are listed here:

1. Video of ABL presentation (good introduction to ABLs) given at TREC's Seminar series - <http://trec.pdx.edu/events/professional-development/Seminar-10202017>
2. White paper discussing 12 ABL installations in North America - <https://altaplanning.com/resources/advisory-bike-lanes-north-america/>
3. FHWA Small Town and Rural Multimodal Networks Guide (the only official American planning and design guidance on ABLs) - https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/

Path Forward

Steps which can move ABLs forward are:

- Identify legal and regulatory obstacles to safe, widespread use of ABLs
- Explore changes to current guidance which may create less safe ABLs
- Create model language for a law which creates a well-defined environment for ABLs
- Initiate research on high priority questions
- Identify strategies to increase public awareness of ABLs
- Obtain appropriate guidance for ADA compliance when ABLs used as pedestrian facilities
- Create a mechanism for discussion of ABLs among interested professionals, e.g. email listserv
- Standardize evaluation studies required by FHWA's experimental process
- Establish and maintain list of installed ABLs
- Collect and distribute lessons learned as we accrue experience