Summary of Key Policy and Design Issues for Striped Shoulders vs. Bicycle Lanes in New Jersey Suburban and Rural Areas

Introduction

This document is a brief overview of the differences between bicycle lanes and striped shoulders, as well as an overview of the significant 2012 *Polzo v. County of Essex* court case.

Definitions

From *The State of New Jersey Department of Transportation Roadway Design Manual*

Bicycle Lane

"A portion of a roadway that has been designated by striping, pavement markings, and signs* for the preferential or exclusive use of bicyclists."

South Mill Road Bicycle Lane
Photo Credit: Jerry Foster

* In other design guidance and within practical use, signage has become optional.

Shoulder

"The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of the base and surface courses. The shoulder may be used for bicycle travel where allowed. It may also be used by pedestrians in the absence of a sidewalk."

Bicyclist on striped shoulder in Mercer County
Photo Credit: Greg Krykewycz

New Jersey Vehicle Code and Bicycles

Bicycles are not considered "vehicles" in the New Jersey Motor Vehicle Code, however, bicyclists have the same rights and responsibilities as drivers:

*1. "A vehicle is defined as every device in, upon or by which a person or property is or may be transported upon a highway, **excepting devices moved by human power** or used exclusively upon stationary rails or tracks or motorized bicycles."*

2. "Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle."

Polzo v. County of Essex Court Case

In 2012, the New Jersey Supreme Court ruled in *Polzo v. County of Essex* that people riding bicycles should use road shoulders at their own risk and that the municipality is not responsible for any damages or injuries that occur.

This particular court case involved an experienced cyclist, Mathi Kahn-Polzo, who was riding with a group of other experienced cyclists, and flipped over a depression in the shoulder of Parsonage Hill Road that was not fully maintained by the county. Kahn-Polzo later died from injuries sustained in this crash.

This case was influential because it determined that within the state of New Jersey, a local government does not have to maintain the roadway nor the shoulder to mitigate roadway conditions that would cause damages to a bicycle/bicyclist but not an automobile/driver.

Furthermore, if there are hazards that would cause damage to an automobile/vehicle operating in the shoulder, the locality still does not have responsibility since shoulders are intended for emergency vehicles only. This places the liability for any injuries that may occur while riding in the shoulder on the bicyclist.

However, if the shoulder was marked as a bicycle lane intended for bicycles and not vehicles, the lane would have to be maintained at a standard suitable for bicycle use.

Highlights of the Case Summary

"Indeed, a bicycle rider is directed to ride on the furthest right hand side of the roadway, not on the roadway's shoulder. The Motor Vehicle Code does not designate the roadway's shoulder as a bicycle lane."

Because bicyclists must follow the same rules as vehicles under New Jersey Motor Code, bicycles should not ride in the shoulder, which is not a travel lane.

"Liability attaches to a public entity only when a pothole or depression ***on a roadway*** *constitutes a dangerous condition [for vehicles]...****A public entity's designation of a portion of the roadway as a bicycle lane would alter the generally intended use of that part of the road and would require the public entity to maintain it in a reasonably safe manner for those purposes."***

Since the shoulder is not a part of the roadway, it currently does not need to be maintained for bicycle use. However, a bicycle lane would require proper maintenance since it is intended for bicyclists.

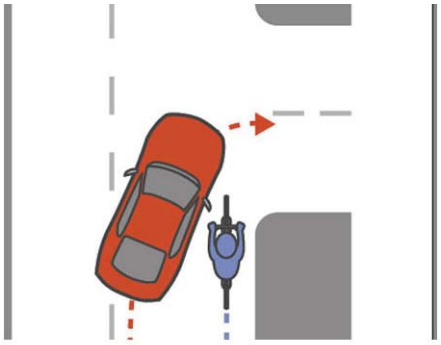
"Public entities do not have the ability or resources to remove all dangers specific to bicycles."

However, even within a roadway, public entities do not have the resources to remove dangers specific to bicycles that would not damage an automobile or vehicle, such as tree branches, minor potholes, or stones.

Source: Polzo v. County of Essex Case Summary, http://law.justia.com/cases/new-jersey/supreme-court/2012/a-74-10.html.

Right Hook Crashes

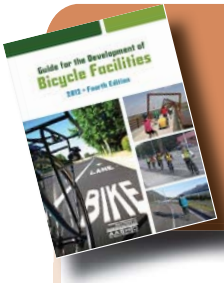
One concern that is shared by shoulders and bicycle lanes, but more accute with shoulders, is the risk of right hook crashes. A right hook is when a driver turns and cannot see a bicyclist on their right because the bicyclist is in the driver's blind spot. With bicycle lanes, dotted turn lane areas indicate that bicycles mix with automobile traffic before the turn occurs; pavement markings help ensure that drivers will have an expectation that a bicycle may be present. These treatments are typically absent with striped shoulders.



Example of a right hook situation
Photo credit: Bicycling.com

Key Design Guidance

New Jersey follows a variety of guidelines for the design of bicycle lanes and striped shoulders. The AASHTO guide indicates shoulders may be used for bicycles, but a different intersection treatment is preferred. Furthermore, New Jersey DOT has also encouraged bicyclists to use shoulders in its *New Jersey Bicycling Manual.* The New Jersey Complete Streets policy implies that bicycle users in the shoulder should be under the protection of state law.



American Association of State Highway and Transportation Officials (AASHTO): *Guide for the Development of Bicycle Facilities*

"Bike lanes are travel lanes, whereas in many jurisdictions, paved shoulders are not."

"Paved shoulders, if provided on intersection approaches, typically stay to the right of the right-turn lanes at intersections, whereas bike lanes are placed on the left side of right-turn lanes because they are intended to serve through movements by bicyclists; through bicyclists should normally be placed to the left of right-turning motor vehicles."

New Jersey Department of Transportation (NJ DOT): *Complete Streets Policy**

"In rural areas, paved shoulders or a multi-use path shall be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day. **Paved shoulders provide safety and operational advantages for all road users.**"

*Although the Complete Streets Policy does not explicitly state that shoulders can be used for bicyclists, it is implied.

New Jersey Department of Transportation (NJ DOT): *Bikeway Planning and Design Guidelines*

"The greater speed and size of the bicycle and rider [compared to pedestrians] means that, in general, bicycles are best accommodated as part of the roadway and not on sidewalks. **Additional outside lane dimensions or widened shoulders perform this function most typically."**

New Jersey Department of Transportation (NJ DOT): *New Jersey Bicycling Manual*

"This means **riding on the right side of the road or on the shoulder,** with traffic, not against it. The law says you must ride as far to the right as practicable. This does not mean as far to the right as possible."

Two Perspectives and A Hybrid Approach

Perspective 1: Striped Shoulders Remain a Useful Low-Level Treatment

Financial Feasibility

Counties and municipalities, who are required to maintain many local roads, need to prioritize financial resources for where bicycle lanes are most appropriate. **It is costly to convert all shoulders to bicycle lanes, and localities often lack sufficient maintenance capability. Some bicyclists may prefer to ride on shoulders** rather than inside the right hand portion of roadway, despite the lack of maintenance within the shoulder.

Perspective 2: All Striped Shoulders Should Become Bicycle Lanes

Safety for All Users

A facility should have a minimum level of safety for all users, regardless of cost, because it is required by the New Jersey *Complete Streets Policy.* Furthermore, **since bicyclists must obey all motor vehicle laws while on the roadway, bicyclists should also be ensured the same level of maintenance / upkeep as motor vehicles**. This means creating dedicated bicycle facilities with bicyclists as the intended users.

Safer Shoulders with Crossing Improvements

A Hybrid Approach

As reflected throughout this document, there is a policy tension in that striped shoulders are not considered travel lanes - and so bicyclists must use them at their own risk - but are acknowledged for bicycle use in various national and local industry guidance.

In response to this tension and the fact that bicyclists continue to ride on striped shoulders, small improvements such as **marking key shoulder crossings at intersections with signage, signals, and / or dashed-lines** (see right) may be an appropriate and attainable step to increasing bicyclist visibility while requiring less maintenance and not triggering liability. In locations where bicycle volumes are high or the user groups are especially vulnerable (near schools, senior facilities, etc.), converting a striped shoulder to a bicycle lane may be a more appropriate option.

I-476 at PA-3: Merge with dashed lines across the right exit turn lane in the shoulder.
Photo Credit: DVRPC

Key Findings

Although bicycling on shoulders is acceptable practice under federal and local design guidance, a striped shoulder is not a travel lane. The Polzo case affirmed that unless a portion of the roadway is marked specifically for bicyclists (ie. bicycle lanes), it is not required to be maintained at a level that provides perceived safety for bicyclists. Legislation would be necessary to change these conditions. However, acknowledging risks and making small improvements, such as dashed-line intersection improvements, may improve the environment for bicyclists who choose to ride in striped shoulders, while acknowledging the potential risk of bicycle-specific obstacles and road defects.