09 Students and Bicycling

Bicyclists have unique characteristics. They operate as vehicles yet are as vulnerable as pedestrians when involved in crashes. Student bicyclists have varied levels of ability, depending on age and skill level. Some will feel comfortable riding in the street, while others prefer riding on bicycle lanes or paths. Bicycling can help students who live too far from school to walk comfortably to participate in active transportation. Note that all the bicycle facilities should be installed after conducting a formal study and following a data-driven process.

Introduction

The *Safe Routes to School Guide* maintained by the National Center for Safe Routes to School at saferoutesinfo.org recommends that schools encourage more bicycling by teaching bicycle safety, offering bicycle repair classes, and providing adequate bicycle parking facilities that shield bicycles from inclement weather and discourage theft. This chapter discusses some ways that bicycling to school can be encouraged and made safer, including by providing:

- Bicycling accommodations to and from school,
- Bicycle storage at school,
- Bicycle safety education, and
- Programs and special events to encourage bicycling to school.

Bicycle Accommodations

Children often have minimal riding skills, little experience and limited physical capabilities. Children also often have an inappropriately high level of confidence, or at least fearlessness, in their riding skill and lack judgment regarding safe bicycling practices. To support bicycle use as a healthier and safer alternative to auto travel for short local trips by students and others, enhanced bicycle accommodations must be provided. On-street facilities, such as bicycle lanes, are more appropriate for upper elementary school and older children who have sufficient bicycle-handling skills and knowledge of bicycle and traffic safety rules. Off-street or separated facilities such as trails and bicycle tracks are more appropriate for younger elementary school children. The benefits, drawbacks, and typical applications of bicycle accommodations, including on- and off-street facilities, bicycle tracks, intersection treatments, signing, striping, and other bicycle-related treatments, are discussed in this section.

DESIGN GUIDELINES

NJDOT Complete Streets Design Guide, The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, the Manual on Uniform Traffic Control Devices (MUTCD), the NJDOT Pedestrian and Bicycle Compatible Design Guidelines (AASHTO Bike Guide), the Federal Highway Administration (FHWA) Designing Sidewalks and Trails for Access, Best Practices Design Guide, and the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide should be followed during planning, design, and construction projects to ensure that appropriate bicycle facilities are provided.

On-Street Bicycle Facilities

Conventional Bicycle Lanes

Description: A portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Most common bicycle facility in use in the United States.
Benefits: Enables bicyclists to ride at their preferred speed without interference from motor vehicle traffic conditions; facilitates predictable behavior and movements between bicyclists and motorists; visually reminds motorists of bicyclists' right to the street.
Drawbacks: Not all users will be comfortable in a bicycle lane; when next to on-street parking there is a risk of bicyclists getting 'doored', which is when a driver or passenger inadvertently opens their car door into the path of an oncoming bicyclist; greater enforcement is required to prevent motorists from parking in the bicycle lane, and brush/yard waste piled in shoulders which are designated as bicycle lanes.
When to Use/Typical Application: Consistent with the AASHTO Bike Guide and the NJDOT CSDG , bicycle lanes should be typically 5 -7 feet wide. Six feet of width is recommended where speeds are greater than 30 mph. Width may reduce to 4 feet on streets with no curbs.



Conventional bicycle lane in Hoboken, NJ. Image: VTC

Buffered Bicycle Lanes

Description: A buffered bicycle lane is a conventional bicycle lane paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.
Benefits: Provides greater offset between motor vehicles and bicyclists; provides space for bicyclists to pass another bicyclist without encroaching into the adjacent motor vehicle travel lane; encourages bicyclists to ride outside of the door zone when buffer is between parked cars and bicycle lane; appeals to a wider cross-section of bicycle users.
Drawbacks: Reduces the natural "sweeping" effect of passing motor vehicles, potentially requiring more maintenance.
When to Use/Typical Application: Consistent with the AASHTO Bike Guide, buffered bicycle lanes should be considered on streets with high-traffic volume, regular truck traffic, high parking turnover and higher speed limits. Per the AASHTO Bike Guide, this facility improves comfort on roads > 6,000 ADT or > 30 mph; buffer width scales with speed. Refer to the NJDOT CSDG for bikeway selection guidance.



A buffered bicycle lane in Newark, NJ. Image: VTC

Contraflow Bicycle Lanes

Description: A contraflow bicycle lane is a bicycle lane designed to allow bicyclists to ride in the opposite direction of motor vehicle traffic. It converts a one-way traffic street into a two-way street: one direction for motor vehicles and bicycles, and the other for bicycles only. A contraflow lane is separated from opposing traffic with yellow center-line striping.
Benefits: Decreases trip distance, the number of intersections encountered, and travel times for bicyclists by eliminating out-of-direction travel; limits dangerous wrong-way riding by allowing cyclists to safely ride in the opposite direction of cars; reduces sidewalk riding.
Drawbacks: May introduce additional conflict points as motorists may not expect on-coming bicyclists.
When to Use/Typical Application: Where it would provide substantial savings in out-of-direction travel and/or direct access to high-use destinations; where there will be fewer conflicts when compared to a route on other streets; when there are few intersecting driveways, alleys, or streets on the side of the street with the contraflow bicycle lane; where bicyclists can effectively and conveniently make transitions at the termini of the lane.



A contraflow bicycle lane in Newark, NJ. All vehicular traffic on this roadway moves in the opposite direction. Image: BikeNewark

Advisory Bicycle Lanes

Description: An advisory bicycle lane is similar to a conventional bicycle lane, but is used only on narrow, low-volume, low-speed streets. An advisory bicycle lane is marked with a solid white line on the right (next to parked cars) and a dashed line to the left. These markings give priority to bicyclists in these lanes, but are also available to motorists if space is needed to pass oncoming traffic. These are also known as "suggestion lanes."
Benefits: Provides bicyclists a designated place to ride while also allowing motorists to use the space to pass oncoming traffic; reminds people that the road is a shared space; directs bicyclists where and how to ride; reduces motorist encroaching on bicyclists.
Drawbacks: Unfamiliarity with the treatment can lead to confusion.
When to Use/Typical Application: Roads that are too narrow for conventional bicycle lanes; roadways with low traffic volume; only used on roads without marked centerlines; used in both rural and urban areas. Consistent with the AASHTO Guide for the Development of Bicycle Facilities (2024) < 25 mph preferred (35 max); < 3,000 ADT preferred (6,000 max). Considered "experimental" by FHWA/MUTCD; use of advisory bicycle lanes must be formally requested.



Advisory bicycle lanes in Washington DC. Image: District Department of Transportation

Protected Bicycle Lanes

Description: Protected bicycle lanes, also referred to as separated bicycle lanes, are bicycle facilities that provide physical separation between bicyclists and motor vehicle traffic. These facilities are designed to accommodate users of all ages and abilities and can be implemented across a wide range of street contexts. Elements such as medians, parked cars, barriers, guide rail, curbs, or flexible delineators serve as buffers and provide varying levels of protected separation between bicycle lanes and general-purpose travel lanes. Converting a conventional or constrained bicycle lane to a protected bicycle lane can be expected to reduce motor vehicle–bicycle crashes by more than 50%.

Benefits: More attractive for bicyclists of all levels and ages; dedicates and protects space for bicyclists; eliminates risk and fear of collisions with over-taking vehicles; reduces risk of 'dooring' compared to a bicycle lane; prevents double parking; keeps motorists from easily entering the cycle track.

Drawbacks: Snow removal and street sweeping may require special equipment; requires considerations at crossings of driveways and intersections.

When to Use/Typical Application: Consistent with the AASHTO Bike Guide and NJDOT CSDG, separated bicycle lanes may be appropriate along roads that have high vehicle speeds and high-traffic volume, but few intersections, driveways, and other junctions; along streets with high bicycle volumes; the desirable separated bicycle lane width is 5 feet practical minimum, 6.5 - 8 feet recommended, 10 feet maximum per direction; vertical separation through mountable curb and edge lines. The preferred and minimum width of the buffer with on-street parking is 3 feet. The minimum width permitted without parking is 1.5 feet.



A protected bicycle lane that separates people on bicycles from automobiles using concrete barriers in Jersey City, NJ. Image: VTC



A protected cycle track in New Brunswick, NJ. Image: VTC

Off-Street Bicycle Facilities

Shared-Use or Multi-Use Paths

Description: A shared-use path is physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or an independent right-of-way. Multi-use paths accommodate a variety of non-motorized users, most often bicycle and pedestrian traffic. Paths are an addition, and complementary, to the roadway network.
Benefits: Completely separated from motor vehicle traffic; can provide users with shortcuts; can provide an enjoyable recreational opportunity; have few intersections and as a result is safer for bicyclists than facilities located alongside or on roadways; appeals to users of all ages and abilities.
Drawbacks: Rarely the most direct means of transportation; shared-use paths attract a variety of user groups who often have conflicting needs.
When to Use/Typical Application: Minimum recommended width is 10 feet; 11–12 feet or more where peak-hour volumes exceed 300 users or where inline skating or e-bike use is expected. Minimum 5 feet of lateral separation from roadways, or vertical barrier where constrained. Shared- use paths are subject to the accessibility requirements of the Americans with Disabilities Act (ADA).



Peters Brook Greenway in Somerville, NJ is an example of a shared-use path with off-road facilities. Image: VTC

Sidepaths

Description: A sidepath is a specific type of shared-use path that runs adjacent to the roadway.
Benefits: Provides an element of separation from motor vehicles; appeals to a wide variety of users.
Drawbacks: A two-way sidepath on one side of the road may need additional road crossings; bicyclists using the roadway may be harassed by motorists who believe bicyclists should be on the sidepath; there are potential conflicts with motorists at driveways and intersections.
When to Use/Typical Application: Where right-of-way or other physical constraints prohibit path alignment in independent rights-of-way and there are no practical alternatives for improving the roadway or accommodating bicyclists on nearby parallel streets; when the sidepath can be built with few street and/or driveway crossings; when the adjacent roadway has relatively high-volume and high speed traffic. The minimum recommended distance between a path and the roadway curb is 5 feet. When the separation is less than 5 feet, a physical barrier or railing should be provided. Utilizing or providing a sidewalk into a shared-use path is undesirable. Sidepaths are discouraged where traffic volumes exceed 6,000 ADT, posted speeds exceed 35 mph, sufficient setback exists for alternative facilities, or driveway density exceeds 20 per mile.



Example of a sidepath in Cherry Hill, NJ. Image: VTC

Intersection Treatments

Grade Separated Crossings

Description: A grade separated crossing provides continuity of a bicycle/ pedestrian facility over or under a barrier. There are two main types of grade-separated crossings: overpasses (bridges) and underpasses.
Benefits: A grade-separated crossing is a safe way for bicyclists and pedestrians to cross rivers, streets, and railroads.
Drawbacks: Many bicyclists and pedestrians will not use an overpass that is inconvenient. Instead, they may choose a time-saving, and sometimes more hazardous crossing. Fencing or other controls may be required to reinforce the safe crossing point. Also, the need for ADA compliance results in long and/or snaking zig-zag ramps which can require significant additional right-of-way.
When to Use/Typical Application: A grade separated crossing should be considered when a bicycle facility meets a barrier, such as an active railroad, stream, or freeway, and continuity of the route is desired. When a heavily utilized multi-use pathway intersects with a high volume multi-lane roadway, it is desirable to provide an overpass or an underpass to separate multi-use pathway users from conflicts with motor vehicle traffic.
Consistent with the AASHTO Guide for the Development of Bicycle Facilities (2024), the need for grade separation is based on motor vehicle volumes, operating speeds, and crossing distance, and is most appropriate at:

- Multi-lane arterial roadways with posted speeds greater than 40 mph and volumes exceeding 15,000 ADT, or
- Complex interchanges where safe at-grade crossings are difficult to achieve.



An underpass along the Middlesex Greenway, NJ. Images: VTC



A bicycle and pedestrian overpass spanning Route 1 in Lawrence Township. The overpass is part of the Delaware and Raritan Canal State Park trail. Image: VTC.

Bicycle Crossing Markings

Description: Bicycle crossing markings, also known as "crossbikes" or "crosswalks for bicycles," are pavement markings adjacent to the crosswalk indicating space for bicycles to cross major intersections. They increase the visibility of bicycles at intersections and encourage motorists to yield right-of-way to bicyclists waiting to cross.

Benefits: Provides greater visibility for bicyclists at intersections; informs all roadway users of where bicyclists should cross; separates modes to reduce conflicts.

Drawbacks: Bicycle Crossing Markings will have higher than normal wear based on the level of crossing auto traffic.

When to Use/Typical Application: Where main bicycle routes cross relatively minor collectors; where cross traffic has to yield right-of-way to crossing bicyclists; not appropriate where speeds exceed 30 mph unless signalized. Applicable to all bikeway types (e.g. bicycle lanes, separated bicycle lanes, and shared-use paths) where bicycle crossings intersect motor vehicular traffic, including multi-leg or offset intersections.



A crossbike in Ocean City.



A crossbike in Jersey City. Image: Hudson County Office of Digital Information

Signing and Striping

Shared Lane Markings or Sharrows

Description: A shared lane marking or "sharrow" is a road marking used to indicate a shared lane environment for bicycles and automobiles. It is not a facility type but is used to support a complete bicycle network. Shared lane markings are most appropriate for lower volume, lower speed streets.
Benefits: Reinforces the legitimacy of bicycle traffic on the street; assists bicyclists with lateral positioning away from the door zone and other hazards; may be configured to offer directional and wayfinding guidance; requires no additional street space; reduces the incidence of sidewalk riding and wrong-way riding.
Drawbacks: Does not dedicate exclusive use for bicyclists.
When to Use/Typical Application: When there is insufficient width to provide bicycle lanes; on a steep downgrade; shared lane markings are recommended on streets with 25 mph speed or less; sharrows shall not be used on shoulders or in designated bicycle lanes; they should be placed immediately after an intersection and spaced at intervals not greater than 250 feet thereafter. Placement guidance varies by context and typically includes: centered within the travel lane where lane widths are less than 14 feet; minimum of 4 feet from the curb face; 11 feet from the curb where adjacent to parking.



Sharrows in Long Branch, NJ. Image: VTC



A sharrow marking in Princeton, NJ. Image: VTC

Wayfinding Signs and Markings

Description: A bicycle wayfinding system consists of comprehensive signing and/or pavement markings to: designate a system of routes; designate a continuous or preferred route; provide location-specific guidance.
Benefits: Indicates to bicyclists and motorists that they are on a designated bikeway; identifies the best routes to destinations; pavement markings can be installed to help reinforce routes and directional signage and to provide bicyclist positioning and route branding benefits; under urban conditions, pavement markings may often be more visible than signs to users of the route.
Drawbacks: When used alone, bicycle route signs convey little meaning. They should include destinations and distances.
When to Use/Typical Application: Signs are typically placed at decision points along bicycle routes – typically at the intersection of two or more bikeways and at other key locations leading to and along bicycle routes; signs should be oriented so bicyclists have sufficient time to comprehend the sign and change their course, when needed. AASHTO Guide for the Development of Bicycle Facilities (2024) specifies sign size, mounting height (7 feet minimum in urban settings), placement frequency (≤ ½ mi), and consistency with local jurisdictional numbering systems.



Hoboken Terminal Wayfinding Sign In Hoboken. Image: VTC



Trail Wayfinding Sign in Cherry Hill, NJ. Image: VTC



Newark Bikeways Wayfinding Sign. Image: www.bikenewark.org

Bicycles Allowed Use of Full Lane Sign (R9-20)

Description: The BICYCLES ALLOWED USE OF FULL LANE sign may be used in locations where it is important to inform road users that bicyclists might occupy the travel lane.

Benefits: Reinforces the law to both motorists and bicyclists that bicyclists may occupy the travel lane.

Drawbacks: Fear that the sign could mislead inexperienced bicyclists into operating in situations that are beyond their ability.

When to Use/Typical Application: The BICYCLES ALLOWED USE OF FULL LANE sign may be used on roadways where no bicycle lanes or adjacent shoulders usable by bicyclists are present and where travel lanes are too narrow for bicyclists and motor vehicles to operate side by side; the sign may be used in addition to or instead of the Shared Lane Marking.



R9-20

Image: MUTCD

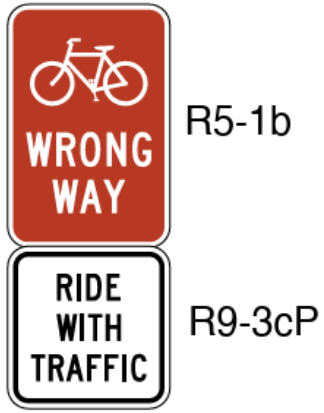
WRONG WAY RIDING Sign (R5-1B)

Description: The bicycle WRONG WAY and RIDE WITH TRAFFIC signs are used to remind bicyclists that bicycles are vehicles and when operated on a roadway they should travel in the same direction as other roadway traffic.

Benefits: Reinforces the legal requirement of bicyclists to ride with traffic.

Drawbacks: Can contribute to sign clutter if not mounted back-to-back with other signs.

When to Use/Typical Application: For locations where wrong-way riding by bicyclists is frequently observed; this sign and plaque may be mounted back-to-back with other signs to minimize visibility to other traffic; the RIDE WITH TRAFFIC plaque should be used only in conjunction with the Bicycle WRONG WAY sign, and should be mounted directly below the Bicycle WRONG WAY sign.



Bicycle Boulevards

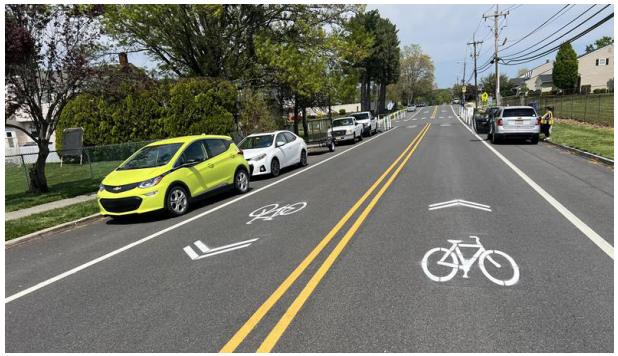
Description: A bicycle boulevard is a low-volume and low-speed street that has been optimized for bicycle travel through treatments such as traffic calming, signage and pavement markings, and intersection crossing treatments. These treatments allow through movements for cyclists while discouraging similar through trips by non-local motorized traffic. Motor vehicle access to properties along the route is maintained.

Benefits: Bicycle boulevards are effective at increasing bicycling levels and perceptions of safety and can be accomplished with minor changes to street configuration; slower vehicle speeds accomplished with traffic-calming measures reduce risk of serious collisions; since they are shared facilities, no additional street width is needed; bicycle boulevards can be combined with neighborhood greening efforts to enhance street closures and traffic circles with trees and landscaping.

Drawbacks: Residents and officials often raise concerns related to traffic reduction and calming such as access to property, impact on traffic patterns, enforcement issues with motorcycles and mopeds, and emergency response.

When to Use/Typical Application: Bicycle boulevards are best suited for two-lane residential streets where vehicle traffic can be restricted to low volumes and slow speeds. Ideally they are parallel to major streets that can provide an alternative without lengthy deviation. Consistent with the AASHTO Guide for the Development of Bicycle Facilities (2024), bicycle boulevards function most effectively within grid networks. In suburban or non-grids environment, short segments non-grid environments may be needed to bridge cul-de-sacs to maintain route stay direct.

Examples of Bicycle Boulevards

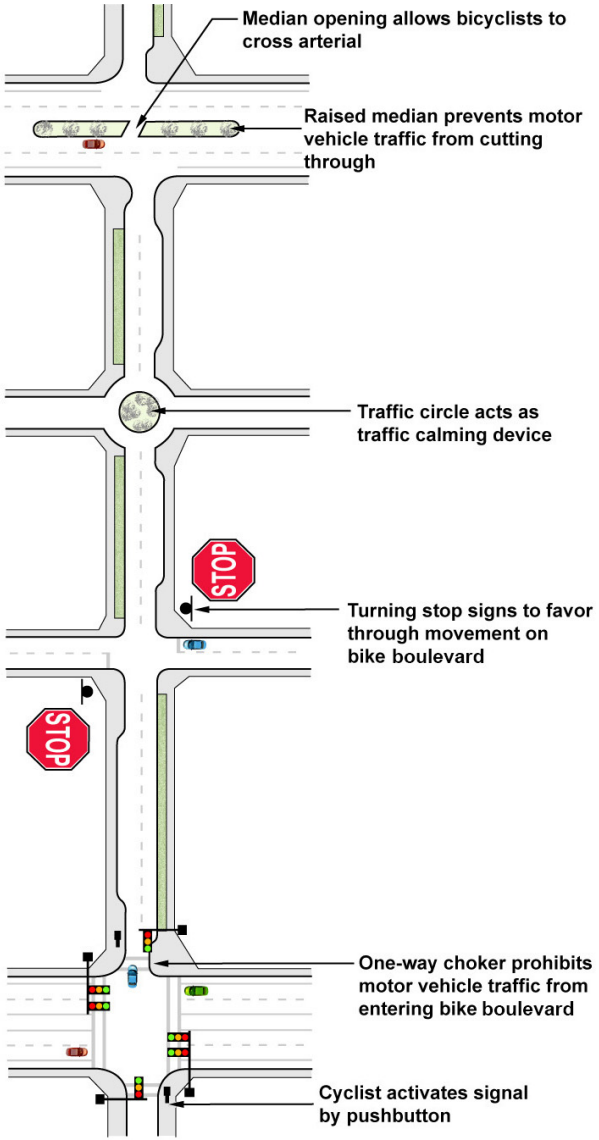


Temporary Bicycle Boulevard in Evesham Township, NJ. Image: Cross County Connection TMA



Bicycle Boulevard Demonstration Project in Voorhees Township, NJ. Image: Cross County Connection TMA

Elements of a Bicycle Boulevard



Elements of a Bicycle Boulevard.

Bicycle Storage at Schools

Once they reach school, students must have a secure place to park their bicycles, preferably one that also provides protection from the elements. Not having a well-planned bicycle parking option can lead to several undesirable outcomes such as theft, damage, and locked bicycles becoming an obstacle to critical safety infrastructure (like emergency exits, hand rails, and fire hydrants) or damaging fragile trees or landscaping. In terms of bicycle racks and bicycle storage, the Safe Routes to School Guide maintained by the National Center for Safe Routes to School at saferoutesinfo.org uses the Bicycle Parking Guidelines from the Association of Pedestrian and Bicycling Professionals (APBP):

NEW JERSEY SCHOOL BICYCLE PARKING GUIDE

The New Jersey School Bicycle Parking Guide provides information to help schools make appropriate decisions when purchasing and installing racks. Schools should utilize the Guide to prepare materials or lessons to show students how to lock their bicycle properly.

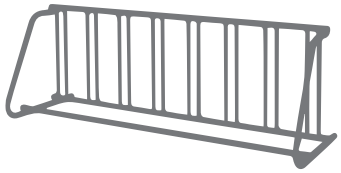
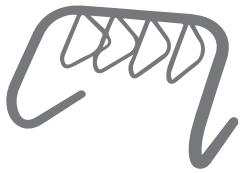
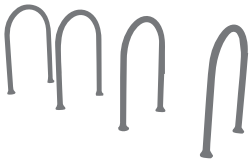
When selecting bicycle parking, schools should consider factors such as security, weather protection, ease of use, and capacity. School location and the ages of riders are also important considerations when determining the most appropriate type of bicycle rack.

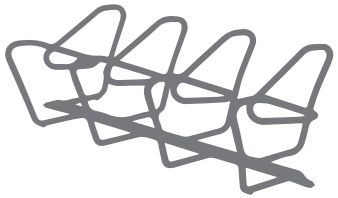
Subject to available space and budget, recommended bicycle rack types include inverted U-racks and grid racks, depending on priorities related to security, usability, and capacity. While rack appearance may be considered, functionality should take precedence over aesthetics.

Additional guidance, including rack selection considerations and installation best practices, is available at: https://www.saferoutesnj.org/school-bicycle-parking-guide/.

- **The Rack Element** is the part of the bicycle rack that supports one bicycle. A good bicycle rack element holds the bicycle frame without bending the wheel and should have no moving parts. Rack elements are typically constructed of metal in an inverted U-shape, which allows for a variety of bicycle sizes and locks.
- **The Rack** is one or more rack elements joined on any common base or arranged in a regular array and fastened to a common mounting surface. It should be anchored so that it cannot be stolen with the bicycles attached and so that it provides easy, independent bicycle access. Inverted U-shaped rack elements mounted in a row should be placed on 30-inch centers, allowing two bicycles to be secured to each rack element (one per side).
- **The Rack Area** is a bicycle parking lot where racks are separated by aisles. It may contain one or more racks. If possible, the rack area should be protected from the elements using any combination of structures, like a wall and awning. Avoid locating a bicycle rack area on grass or dirt as a rainy day can turn the bicycle parking lot into a mess. A preferred solution would be to locate the bicycle rack area on a concrete pad.
- **The Rack Area Site** is the relationship of the rack area to a building entrance and approach. Locate the bicycle rack area within visibility of the building entrance it serves and consider the route bicyclists use to approach that entrance. Bicycle rack areas should be sited in a space that discourages vandalism and maximizes use, while avoiding conflicts with driveways, buses, and large numbers of pedestrians.

Ideally, rack areas should be sited as close, or closer than, the nearest car parking space and provided near all high-traffic building entrances. It is preferable to choose multiple locations that are more convenient to users than one large rack area. The following table, which extends to the following page, contains a matrix of different bicycle racks and shelters, with pros and cons.

Rack Type	Pros	Cons
Grid Rack 	• Easy to use • Portable • Inexpensive • Wheelwell increases stability (when used properly)	• Frequently used incorrectly, which may induce wheel damage • Frequently sited incorrectly • Bicycles may be parked too densely • Incompatible with U-Locks • Does not meet APBP guidelines
Wave Rack 	• Attractive • Portable option • Inexpensive	• Moderate ease-of-use • Frequently used incorrectly • Frequently sited incorrectly • One touch point • Inefficient use of space • Does not meet APBP guidelines
Coat Hanger Rack 	• Attractive • Two touch points • Portable option • Relatively inexpensive • Meets APBP guidelines	• Bicycles may be parked too close together • Some versions do not accommodate all bicycle sizes • Top bar may limit usability with some bicycles
Inverted U-Rack 	• Attractive • Easy to use • Two touch points • Portable option • Flexibility of placement • Relatively inexpensive • Meets APBP guidelines	• In-ground installation requires additional capital expense • Round-tubed versions may be vulnerable to cutting (designs with horizontal bars may be more secure)

Rack Type	Pros	Cons
Wheelwell Dock Rack 	• Easy to Use • Portable • Inexpensive • Wheelwell increases stability (when used properly)	• Frequently used incorrectly, which may induce wheel damage • Frequently sited incorrectly • Bicycles may be parked too densely • Incompatible with U-Locks • Does not meet APBP guidelines
Artistic/Creative Rack 	• Attractive • May provide branding opportunities. • Possibility of community design input	• May not have two touch points. • May not accommodate all bicycle types • May be expensive • Does not meet APBP guidelines
Artistic/Creative Rack 	• Easy to use • Two touch points • Design provides stability • Portable option • High-density • Meets APBP guidelines	• Can be expensive



Bicycle rack in a high-visibility area at Buzz Aldrin Middle School in Montclair, NJ. Image: School Bicycle Parking Guide/NJ Safe Routes to School Center.



Egg Harbor City Community School has covered bicycle parking. Image: Cross County Connection TMA

Bicycle Safety Education

A comprehensive, on-bike program can be an ideal method for teaching bicycle skills and safety, but finding time to conduct the program can be a challenge. With the busy schedules of today's families, holding classes after school and on the weekends may not lead to high levels of participation. To reach the greatest number of children, bicycle education can be incorporated into the regular school day. Fitting bicycle education within the curriculum of physical education (PE) classes is a cost-efficient way to teach bicycle safety to a large cross section of students and young people. The following are examples of ongoing programs:

- The Ewing Police Department invited children aged 4–12 to the 2025 Community Fest Bike Rodeo. The event focused on teaching children the rules of the road and providing safety tips for both riders and their bicycles.

- The City of Summit hosted two bike rodeos and a pedestrian safety fair in October 2025 as part of the Mayor's Wellness Campaign. During these events, Avenues in Motion representatives performed helmet fit checks and basic bicycle maintenance inspections. Participants also learned about the city's new bicycle and e-bike ordinances.

- The Township of Nutley hosted a Bike Rodeo in June 2025, where residents learned bicycle safety tips and participated in bike-handling courses.

HELMET LAW IN THE STATE OF NEW JERSEY

Title 39:4-10.1
"A person under 17 years of age shall not operate, or ride upon a bicycle as a passenger, unless that person is wearing a properly fitted and fastened bicycle helmet. This requirement shall apply to a person who rides upon a bicycle while in a restraining seat which is attached to the bicycle, or in a trailer towed by the bicycle."

RESOURCES

- **Greater Mercer TMA Bike and Pedestrian Safety Presentations**
  GMTMA staff deliver customized presentations for students on a variety of bicycle and pedestrian safety topics. These presentations focus on teaching essential safety skills while keeping learning engaging and fun.

  Even if you reside outside of a specific local service area, other Transportation Management Associations (TMAs) can assist you statewide. You can locate your regional contact by visiting the Safe Routes NJ Regional Coordinator Finder.

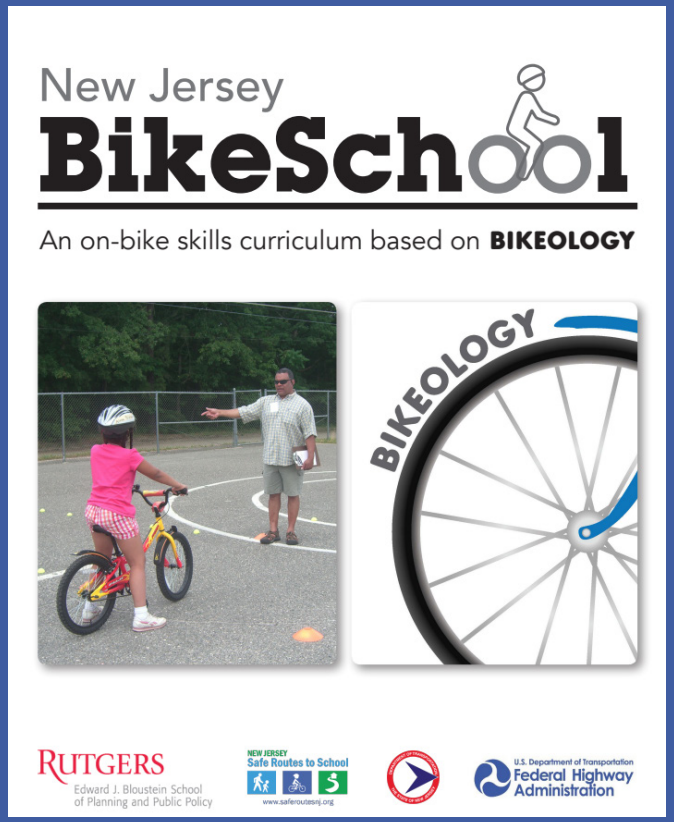
- **Middlesex County Bicycle Rodeos**
  Bicycle rodeos are community-based events designed to teach children fundamental bicycling skills and traffic safety laws. Keep Middlesex Moving (KMM) is the designated Transportation Management Association (TMA) for Middlesex County. The organization coordinates with schools and local partners in Middlesex County to plan bike rodeos, prepare safety courses, lead events, and train volunteers.

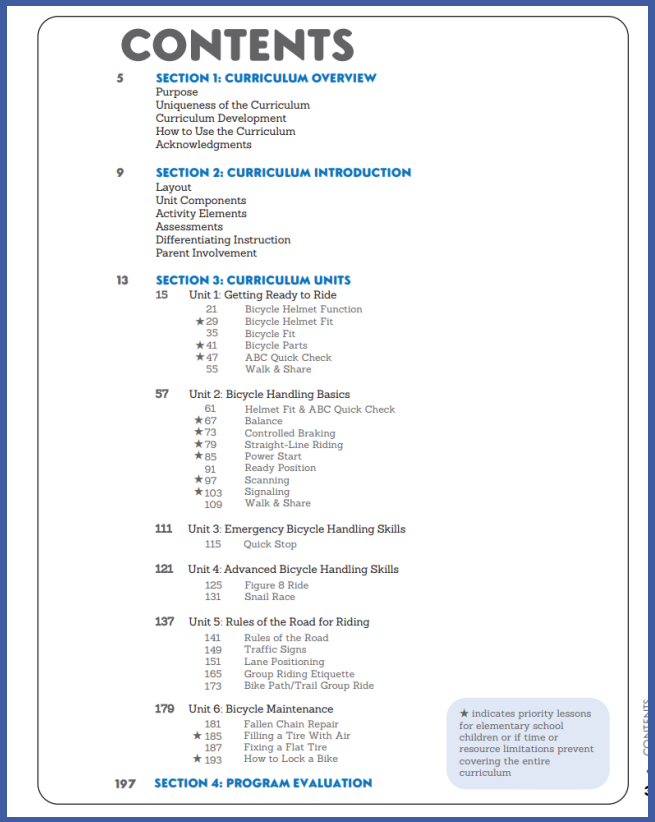
  Find more information at: Keep Middlesex Moving

SPOTLIGHT: NJ BIKE SCHOOL CURRICULUM

The NJ Bike School Curriculum equips physical education teachers and recreation specialists with the knowledge and resources needed to deliver on-the-bicycle safety education for students in grades 6–12. The curriculum outlines essential preparation steps and minimum skill benchmarks for teaching safe bicycle riding, with a focus on developing recreational-level riding skills.

The curriculum is unique in that it aligns with National Standards for K–12 Physical Education, has been proven effective in improving students' bicycle safety knowledge and skills, and is designed to accommodate a wide range of student ability levels. It can be implemented in various settings—including schools, after-school programs, clubs, and camps—depending on available time and resources. Instructors are encouraged to cover as much content as possible, but at minimum should teach the skill-based activities in Units 1, 2, and 3. These units provide the foundational skills necessary for safe bicycling and should be completed consecutively before moving on to additional units, regardless of students' prior experience.





CONTENTS

5 SECTION 1: CURRICULUM OVERVIEW
Purpose
Uniqueness of the Curriculum
Curriculum Development
How to Use the Curriculum
Acknowledgments

9 SECTION 2: CURRICULUM INTRODUCTION
Layout
Unit Components
Activity Elements
Assessments
Differentiating Instruction
Parent Involvement

13 SECTION 3: CURRICULUM UNITS
15 Unit 1: Getting Ready to Ride
21 Bicycle Helmet Function
★29 Bicycle Helmet Fit
35 Bicycle Fit
★41 Bicycle Parts
★47 ABC Quick Check
55 Walk & Share

57 Unit 2: Bicycle Handling Basics
61 Helmet Fit & ABC Quick Check
★67 Balance
★73 Controlled Braking
★79 Straight-Line Riding
★85 Power Start
91 Ready Position
★97 Scanning
★103 Signaling
109 Walk & Share

111 Unit 3: Emergency Bicycle Handling Skills
115 Quick Stop

121 Unit 4: Advanced Bicycle Handling Skills
125 Figure 8 Ride
131 Snail Race

137 Unit 5: Rules of the Road for Riding
141 Rules of the Road
149 Traffic Signs
151 Lane Positioning
165 Group Riding Etiquette
173 Bike Path/Trail Group Ride

179 Unit 6: Bicycle Maintenance
181 Fallen Chain Repair
★185 Filling a Tire With Air
187 Fixing a Flat Tire
★193 How to Lock a Bike

197 SECTION 4: PROGRAM EVALUATION

★ indicates priority lessons for elementary school children or if time or resource limitations prevent covering the entire curriculum

Find more information at https://www.saferoutesnj.org/wp-content/uploads/2020/07/FINAL-NJ-Bikeschool-Curriclum-with-Bikeology.pdf

Bike-to-School Programs and Special Events

There are several activities or events that could be held to focus attention on bicycling to school:

- Participate in National Bike to School Day each May as part of the League of American Bicyclists' National Bike Month celebration. May is also usually recognized as New Jersey Walk and Bike to School Month through an annual proclamation by the Governor.

- Make Earth Day a "Bike-to-School Day"; this could also be used to help encourage walking to school. After Earth Day, each Wednesday for the rest of the school year celebrate walk- or bike-to-school Wednesday. In Linwood, for example, school officials take part by meeting children at a local park one-half hour before classes begin and walking with them to school.

- Another example of a special event is "Transition Day" in Fair Haven. On the last day of classes, school officials and graduating 3rd graders take a ceremonial ride from Viola L. Sickles Elementary School to the Knollwood Middle School to mark the transition to 4th grade. Parents, police, and the school superintendent all take part in this annual event. Along the route, parents hold up signs to celebrate their child's completion of the 3rd grade and at Knollwood School 4th graders welcome the arriving group.



Students bicycling from elementary to middle school on "Transition Day" in Fair Haven, NJ. Image: NJDOT

HUDSON COUNTY TMA PROVIDES MULTIPLE PROGRAMS TO ENCOURAGE BICYCLING TO SCHOOL

The Hudson TMA offers several programs that support bicycle education. The organization provides three key initiatives: the Bike Safety Presentation, Bike to School, and the Hudson Bike School.

- **Bike Safety Presentation**: Offered in the spring, this presentation features TMA staff demonstrating the use of safety gear, proper signaling, and other essential bicycle skills and safety tips.
- **Bike to School:** TMA staff provide bicycle safety training and assistance when schools and families seek to establish a "bike train" to and from school.
- **Hudson Bike School:** The TMA has developed a comprehensive bicycling curriculum for use in elementary schools. The curriculum can be integrated into a school's physical education program at no cost. TMA staff train physical education teachers and supply the curriculum materials.
- School districts and municipalities can partner with their local TMA to bring regional bicycling programs to local schools.



Hudson County TMA Bike to School Program, NJ. Image: Hudson County TMA

COLLINGSWOOD SCHOOL DISTRICT BICYCLING POLICY

Students in grades 3–12 are allowed to ride bicycles to school. Students must comply with all applicable state and local laws when riding a bicycle. Each school's principal may develop rules for the operation of student bicycles on school grounds. Bicycle parking should be in a designated area outside the school building. The school principal may revoke a student's bicycling privileges if the student fails to follow state, local, or school rules.



A student departing from Collingswood Middle School on a bicycle.

MODEL BICYCLING TO SCHOOL POLICY

The NJ Safe Routes Resource Center at the Alan M. Voorhees Transportation Center (VTC) at Rutgers University - with NJDOT and the National Policy and Legal Analysis Network to Prevent Childhood Obesity (NPLAN) - developed a model bicycling to school policy that can be adopted by school districts around the state to encourage bicycle safety and bicycling to school. The model policy, along with a model walking to school policy, is available from the SRTS Toolbox on the NJ Safe Routes Resource Center website (https://www.saferoutesnj.org/walking-bicycling-policies/). The model bicycling policy includes the following safety guidelines:

For children in 3rd grade and below:

- Students should be accompanied by an adult when bicycling to or from school, as well as complying with the other conditions below.
- Parents are strongly cautioned to exercise great care and supervise carefully since children in 3rd grade and below are unlikely to have the developmental and judgment skills for unsupervised bicycling.

For children in 4th grade and above:

- The District should provide bicycle education to teach traffic skills and rules as well as improved judgment in individual and group bicycling. Every child should take this training or a similar bicycle safety course before riding in traffic.
- Students who ride bicycles to and from school should have written consent from a parent or legal guardian and agree to the conditions listed below.

Students should follow state law and safety guidelines for bicyclists:

1. According to N.J. state law, anyone under 17 that rides a bicycle or is a passenger on a bicycle must wear a helmet (N.J.S.A.39:4-10.1). Any student without a helmet will have their bicycle confiscated by the Building Administrator until a parent or guardian picks it up. Noncompliance with this rule will result in disciplinary action.
2. In New Jersey, bicycles are defined as vehicles under the state motor vehicle code contained in N.J.S.A. 39:4-10, et.seq. Parents and students should be aware of these state bicycling laws and follow them at all times. Riders should follow the rules of the road including but not limited to:
   a. Obeying all traffic lights and signals (N.J.S.A. 39:4-14.1),
   b. Using hand signals before making turns,
   c. Only one rider per seat – never let a friend ride on the handlebars or wheel pegs (N.J.S.A. 39:4-12),
   d. Stopping and looking left, right, then left again before leaving driveways or entering any street,
   e. Riding with traffic (N.J.S.A. 39:4-14.2) and not too close to parked cars – doors can open suddenly,
   f. Riding where drivers can see you and not swerving between cars,
   g. Equipping the bicycle with a bell or other audible device that can be heard at least 100 feet away, but not a siren or whistle (N.J.S.A. 39:4-11), and
   h. Using headlights and taillights visible at 500 feet – white in the front and red in back - if you must ride at dawn, dusk or after dark (N.J.S.A.39:4-10).

3. Bicycles ridden to school should be roadworthy and regularly maintained. Students should test tires for air before riding. Additionally, the brakes must be functional (N.J.S.A. 39:4-11.1). While at school, all students must comply with these rules:

- Bicycles may not be ridden on school grounds during arrival and dismissal; they must be walked.
- Bicycles must be parked in the racks provided. Students must bring and use bicycle locks.
- Helmets must be stored in locker, backpack, or attached to bicycle.
- Students are not to interfere with any bicycles, helmets, or other equipment (steal, unlock quick releases, bounce helmets, etc.).

RESOURCES

Design Guidance

- National Center for Safe Routes to School Guide, On-street Bicycle Facilities, guide.saferoutesinfo.org/engineering/on-street_bicycle_facilities.cfm
- MUTCD 2023 Edition Part 9. Traffic Control for Bicycle Facilities, https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/mutcd11theditionhl.pdf
- NACTO Urban Bikeway Design Guide, https://nacto.org/publication/urban-bikeway-design-guide/
- APBP Bicycle Parking Guidelines, www.apbp.org/resource/resmgr/publications/bicycle_parking_ guidelines.pdf

Education and Encouragement

- NJ Safe Routes Resource Center has links to lesson plans and bicycle assembly program information, https://www.saferoutesnj.org/
- Bike to School Day, www.walkbiketoschool.org/
- League of American Bicyclists, National Bike Month, bikeleague.org/bikemonth