

Table 1-A State Rumble Strip Table

KEY:

* State rumble strip policy is accommodating to bicyclists and seems to be followed. These states are good examples for other states to emulate.

 Indicates states of critical concern.

 Rumbles appear to be a growing issue, more research needed

State	State Policy Location	Rumble Application Info	Photos/Documentation
Alaska	Alaska DOT&PF Rumble Strip Policy: http://dot.alaska.gov/stwddes/dcspubs/assets/pdf/directives/071309_rumble_strip_pol.pdf Alaska Rumble Strip Info pg: http://dot.alaska.gov/stwddes/dcstraffic/rumble/index.shtml	Policy is new, adopted last year. 6-7' shoulders required for rumble to be added. It requires periodic 12-foot gaps in the rumbles to allow bicycles to cross over. The previous policy allowed only 5 1/2 foot gaps - and most of the state's highways were milled with those shorter gaps. As the highways are resurfaced and reconstructed, the longer gaps required by the new policy will replace the old - stuck with them for years to come.	No photos provided
*Arizona	www.azdot.gov/Highways/Traffic/standards/PGP/TM480.pdf	Policy Accommodates Cyclists State is a member of http://www.zerofatalities.com/ Shoulder rumble strips are a big part of this group's safety countermeasures program.	N/A
Arkansas	http://www.arkansashighways.com/planning_research/traffic_safety/strategichighwaysafetyplan.pdf#search=%22Rumble%20Strip%22	Safety Policy mentions bike/peds but no application of rumble strip impact on either group within the rumble strip section. Cyclists report that multiple rural roads have rumble application with little or no shoulder Supposed FHWA exemption to standards from state FHWA division. Backlash against widespread rumbles has forced AHTO to suspend rumbles except on road with 4+ foot shoulders. Apparently prior planned rumbles were based on outdated database.	Map of rumble job orders from Fall 2009
*California	www.dot.ca.gov/hq/trafficps/signtech/signdel/policy/ch6changes_rumblestrips.pdf	Policy states: 1) Where bicycles are permitted, shoulder rumble strips should not be used unless approximately 1.5 m of clear shoulder width for bicycle use is available between the rumble strips and the outer edge of the shoulder. 2) If shoulder width is less than 1.5 m and rumble strips are required, then only raised and inverted profile thermoplastic stripe shall be used.	N/A

*Colorado	http://www.dot.state.co.us/DesignSupport/MStandards/2000_M_Standards/2000%20Roadway%20Geometry%20and%20Pavement/Roadway.htm	1) No rumble strips on shoulders less than 6' when guardrail present 2) 12' gap every in every 60' section.	
*Connecticut	Policy not accessible	CT-DOT told advocate that in general, rumble strips only go on limited access roads. When tried on secondary roads/highways, the problem was complaints from local residents because of the "noise"	
Florida		Uses raised paint markings in current application Issue arose from Charlotte County, State DOT is responding. US 41 West(North) of State Road 29 has rumble strips in the shoulder for miles	Photo Attached A-1, U.S. 41, Charlotte Co.
Georgia		2' shoulder, no rumble strip 4' or greater, skip pattern rumble strip Bicycle improvements will be accommodated into all widening and reconstruction projects of existing bikeways and approved bike routes.	
Hawaii		Rumble strips on Big Island milled to shallower depth after cyclists' input.	
Illinois	www.dot.state.il.us/safety/Eng/HSIP_Policy_Safety_1_06.pdf	Safety Policy mentions use of rumble strips but no mention of application in regard to bicycles. Example: Route 45 in southern Illinois (Johnson, Williamson, and Saline Counties) was getting at least a minimal asphalt shoulder strip added and rumbled to the existing roadway.	Attached, Route 45

Iowa	http://www.iowadot.gov/rumble/rumble.aspx	<p>1/3 of primary highway system has rumbles; assume if bicycle map shows paved shoulders, rumbles are applied. Below issues with provided documentation/url photo links provided at right:</p> <ol style="list-style-type: none"> 1) Termination of shoulder 2) This is 151 near Amana - Iowa's largest tourism destination. After the fact, DOT said they would have done a big shoulder, but had no idea it was a bike route. 3) This is Hwy 1 near Keosauqua. DOT ran short on the shoulder, but still put the rumble in. 4) Typical intersection treatment. Rumbles should be stopped well before intersections, but no effort to change the design guideline. 5) Rumble Stripe on Hwy 63. Notice DOT moved the fog line to experiment with the visualization of the line. 6) This is a rumble strip in Buchanan County. The county engineer got a research grant to try this. They aren't deep and he only uses it on a corner. 7) A big of a problem with stop sign rumbles. Had a bicyclist hit - on the 3rd set of them. The motorist waited until the 3rd set to pass the bikes as close to the intersection as possible. 	<p>1) http://bit.ly/b1ROHS</p> <p>2) http://bit.ly/aRK4yo</p> <p>3) http://bit.ly/cJQykg</p> <p>4) http://bit.ly/cPI2mR</p> <p>5) http://bit.ly/a7S6eu</p> <p>6) http://bit.ly/9SJIug</p> <p>7) http://bit.ly/cMGWHR</p>
Kentucky		<ol style="list-style-type: none"> 1) Rumble Strip Evaluation Report done by the University of KY School of Engineering tested use of rumble strips on roads 22 -27ft including shoulder and recommends more rumble implementation. 2) KTC letter in response to cyclists concern notes that bicycles are assumed to ride in the lane of traffic as the shoulder isn't deep enough to accommodate cyclists. 	<ol style="list-style-type: none"> 1) Report Attached 2) Response Letter Attached
Maryland	www.bikede.org/021110_rumble_draft.pdf	<ol style="list-style-type: none"> 1) Rumble strips if shoulder >5 feet 2) <5 feet, installation coordinated with Bicycle coordinator & Bike/Ped Advisory Committee. 	Rumble policy attached.
Massachusetts		Application to one highway led to cancellation of annual bike race because of safety concerns. This poses an economic impact for community hosts.	No photos provided
Minnesota	http://www.dot.state.mn.us/trafficeng/safety/rumble/rumble_stripes.html	Counties don't have to adhere to state policy if shoulders are too narrow.	MnDOT website photo: http://bit.ly/abkLgR
Mississippi		1) The policy states that as long as the route being of State highway classification or higher including US and Interstate provides a minimum of 11ft lane width and a 2 ft paved shoulder there will be a rumble strip or stripe on that route unless it is in a residential or business district. Some routes have been retrofitted to allow for a rumble strip/stripe to be added	1) Emailed response to request for policy

		<p>but for the most part going forward any rehab or new construction on the aforementioned route types will have rumble strips or stripes. From contract: "grind 12-in. rumble along edge of pavement and spray 6" thermoplastic inside 6-inches of the rumble strip to create a "Rumble Stripe""</p> <p>2) List of project amounts and ARRA Funding specified in report at right.</p>	<p>2) http://www.gomdot.com/Divisions/IntermodalPlanning/Resources/Programs/S TIP/pdf/STIP/VOL1CH1.pdf</p>
Missouri	<p>http://www.modot.mo.gov/business/documents/PracticalDesignImplementation.pdf http://epg.modot.mo.gov/index.php?title=Category:626_Rumble_Strips</p>	<p>Policy states edge line rumbles added to all resurfacing projects with shoulders 2 ft or wider; DOT jurisdiction over 80-90% of all roads in state.</p> <p>Estimates on Construction in 2009-10: Approximately 1170 miles of resurfacing on minor MoDOT roads; essentially all will have either no shoulder or a 2 foot shoulder with added rumble stripe.</p> <p>About 1160 miles of MoDOT road in Missouri were and are being repaved/rehabilitated or shoulder added through ARRA (counting all roads/miles **except for** interstate freeways). This appears to be about 60-80% of MoDOT's work in 2009/2010.</p> <p>Bicycling is mentioned in the "Incidental" section of the policy and states that roads must have "proven bicycle traffic" to not warrant application. TransAmerica Trail, Mississippi River Trail and Lewis and Clark Trail all in jeopardy of having roadways rumbled.</p> <p>Photo Documentation (see Google earth link at right)</p>	<p>http://bit.ly/cj8zqS</p>
*Montana		<p>DOT design office oversees application, follows FHWA guidelines or seeks cyclists input when possible. Never applied to shoulders less than 4 ft. Includes gaps and not applied where there is a guard rail Noted small section of Hwy 200 not in compliance with state/federal policy.</p>	<p>No photos provided</p>
*New Hampshire		<p>Strips not to be placed on shoulders in a manner to impede use of the shoulders by bicyclists, as of Jan. 1, 2009. Some previously installed strips on non-Interstate roads were installed to Interstate specs: in the middle of a 4' shoulder.</p>	
New Mexico	<p>http://nmshtd.state.nm.us/main.asp?secid=15674</p>	<p>NMDOT standard is now 12 inches wide and with 12-foot gaps every 60 feet, placed to begin no more than 16 inches from edge stripe.</p>	<p>Photo Attachment 1-A</p>

New York	www.nysdot.gov/programs/rumblestrips	Current policy prevents rumble strips on secondary highways. State DOT developing a draft policy to install rumble strips on secondary highways. NY Bicycle Coalition has Position Statement on why they oppose this treatment. www.nybc.net/rumble-strips/	Photos on NY Bike Coalition website: www.nybc.net/rumble-strips/
*North Carolina		162 miles of Rumble Strips added before stopping (saved 23 miles) Estimate cost: \$254 to apply; \$1,600 to mitigate (grind, resurface)	No photos provided
Ohio		1) Adopted policy calls for installation only when there are 4' paved shoulders. 2) Plan to install rumble "stripes" (under shoulder line) on 3' shoulders on 1,650 miles of two-lane highways. The plan for these stripes has reportedly been approved by the MPO for Northern Ohio. The most recent crash data (2008) on secondary roads indicates that rumbles would prevent very few driver-related crashes. 3) General view that cyclists prefer to ride in traffic lanes, not on shoulder.	
Pennsylvania		Only on shoulders >4 feet. Rumbles installed in violation of policy, state DOT plans to modify/correct but not for many years due to cost.	No photos provided
South Carolina	http://www.scdot.org/events/rumblestrips/photos.shtml	Rumble strips often with <1-foot shoulder and rumble stripes. Staff turnover has interrupted communication between cyclist organizations and state DOT director of safety. As many of 1,000 miles of roads already have rumbles. Shoulders <4-feet often rumbled with "Hockey Puck" bumps, e.g. SC-342S in York County. According to past conversations with the DOT engineers and research, 600 miles of RS are being installed on interstates, with another 1,000 miles to be installed along other roads. RS will be added to about 2,800 miles of state roads by mid-2010; not sure if this is still an accurate estimate. Federal money, mostly from the stimulus/ARRA, is being used to pay for 90% of the projects.	SCDOT, http://bit.ly/cWGiL6
Tennessee	http://www.tdot.state.tn.us/Chief_Engineer/assistant_engineer_design/design/DGpdf/DESIGN%20GUIDELINES.pdf	Policy State: No rumble strip if shoulder is less than 2 feet wide but documentation proves this isn't being followed. Hwy 100 between Nashville and Natchez Trace Parkway rumbled: high density residential, business corridor. 2- to 3-foot shoulders. State policy being rewritten with help from Bike Walk Tennessee	http://tinyurl.com/ykyrcxc

Utah	www.udot.utah.gov/main/uconowner.gf?n=10467111469420169	<p>Shoulders are wide enough to provide a minimum of four feet of shoulder between the SRS and the edge of paved shoulder. Increase the dimension to five feet if barrier or guardrail is present at the edge of the shoulder. Approximate 60-mile stretch of US 6, parts of Hwy 491 east of Monticello and SR138 in Tooele do not comply with policy. Additionally, it was noted that application of rumbles "weaved" and made the shoulder unusable for cycling.</p>	Photo Attachment 1-A
Washington		<p>Olympic Region had to correct both SR 3 and SR 101. On these they didn't follow or even know of the Bicycle and Pedestrian Advisory Council (BPAC) guidelines. Cited the bicycle considerations were on a different design page and so the on the ground engineers didn't know about the policy that included bicycle considerations or the need to communicate with the BPAC.</p>	No photos provided
Wyoming		<p>16" wide, set off half foot from the edge stripe. 48' on, 12' gap.</p>	