

National Highway Traffic Safety Administration

DOT HS 811 789



June 2013

Prioritized Recommendations Of the National Agenda for Motorcycle Safety

Final Report

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Prioritized Recommendations of the National Agenda for Motorcycle Safety

Introduction

The National Agenda for Motorcycle Safety (NAMS) is a comprehensive plan to improve United States motorcycle safety in the 21st century. The NAMS was developed by a technical working group of experts representing all constituencies involved in motorcycle safety, led by the National Highway Traffic Safety Administration and the Motorcycle Safety Foundation (MSF), and published in November 2000 (NHTSA, 2000). The 82 individual NAMS recommendations address the full range of topics and strategies relevant to motorcycle safety: human, vehicle, environmental, and social factors to prevent crashes, reduce injuries in crashes, and care for people injured in crashes. The technical working group prioritized the 82 recommendations into three groups: urgent (4 recommendations), essential (56), and necessary (22). The NAMS is available at

www.nhtsa.gov/people/injury/pedbimot/motorcycle/00-NHT-212-motorcycle/index.html.

On September 11, 2007, the National Transportation Safety Board (NTSB) held a public meeting on motorcycle safety. Following the meeting, NTSB issued two recommendations to NHTSA:

H-07-35: Reprioritize the NAMS recommendations based on objective criteria, including known safety outcomes.

H-07-36: Following completion of the reprioritization of the NAMS requested in Safety Recommendation H-07-35, implement an action plan for States and others, such as Federal agencies, manufacturers, insurers, and rider groups, to carry out those high-priority recommendations.

This document prioritizes NTSB's Safety Recommendation H-07-35. It contains two sections. The Methods section defines three important characteristics of each recommendation, describes how the recommendations are classified according to each of these characteristics, and outlines the overall method used in establishing priorities. The Priorities section lists the highest priority recommendations.

Five Appendices provide details. Appendix A lists the 82 recommendations in their original NAMS order and gives each recommendation's classification. Appendix B describes in detail the methods used in setting priorities. Appendix C provides several tables of all recommendations and priorities. Appendix D describes how each recommendation's priority was established and provides other relevant information. Appendix E lists references.

Methods

Three Important Ways of Classifying the NAMS Recommendations

The 82 NAMS recommendations differ in three important characteristics, each of which affects how they can be prioritized based on objective criteria and how the high-priority recommendations can form the basis for an action plan. Each recommendation advocates an action. The three characteristics are:

- I. Who takes the action?
- II. What type of action is it?
- III. Who or what does the action ultimately affect and how does it affect them?

I. Who takes the action?

The NAMS recommendations are addressed to States, municipalities, rider groups, Federal agencies, motorcycle manufacturers, and insurance companies. These are aggregated into three large groups, called Organization Types.

- A. States, municipalities, and rider groups. These organizations operate in the field to train, educate, and license motorcyclists; to enact and enforce laws affecting motorcyclists; and to build and maintain the highway infrastructure on which motorcyclists ride. Their actions affect all motorcyclists directly and daily.
- B. Motorcycle and other vehicle manufacturers and insurers. They influence motorcyclists directly, through motorcycle design and performance characteristics, and less directly, through the provisions, cost structure, and incentives of motorcycle rider insurance policies and through the design of other vehicles.
- C. Federal Government. Federal agencies, primarily NHTSA, conduct research, develop programs and guidance, provide information, and establish regulations. They serve as the major support structure for many of the actions of organizations in the other two groups.

This classification does not affect the recommendations' priorities but certainly affects how the recommendations are implemented and may affect the action plan structure.

Some recommendations apply to more than one Organization Type. They have been assigned to the type that has the major responsibility.

II. What type of action is it?

Again there are three large groups, called Activity Types.

- P. Programs: Activities directly affecting individual motorcyclists, the motorcycles they ride, the roads they ride on, or the other vehicles or drivers on these roads (these are called "direct programs") or activities affecting some intermediary (such as law enforcement) that in turn will directly affect motorcyclists, motorcycles, etc. ("indirect programs").
- R. Research: Activities to study some issue or to develop or evaluate a program.

X. Management and support: Activities to improve and provide data, encourage partnerships, include motorcyclist considerations in various traffic safety activities, provide funding, and the like.

This classification is critical. Program activities in theory can be evaluated for their "known safety outcomes" – their effect on crashes, injuries, or fatalities. Unfortunately, many of the programs in the NAMS recommendations have not been evaluated, or evaluated well. Research, management, and support activities, on the other hand, do not have a direct effect on safety outcomes. To account for this difference, different prioritization strategies are necessary for each of these three types.

Table 1 shows that most programs are State, local, and advocate activities; research is almost completely a Federal activity; and management and support activities are shared.

| Organization Type | | Total | | |
|---------------------------|----------|----------|---------------|-------|
| Organization Type | Programs | Research | Mgmt, support | Totai |
| A State, local, advocates | 31 | 0 | 10 | 41 |
| B Mfrs, insurers | 6 | 2 | 1 | 9 |
| C Federal | 3.5 | 22.5 | 6 | 32 |
| Total | 40.5 | 24.5 | 17 | 82 |

Table 1. NAMS Recommendations by Organization Type and Activity Type

[Recommendation #35 was divided into two parts.]

III. Who or what does the action ultimately affect and how does it affect them?

The classification is more detailed, into several subject area types and subtypes. The few recommendations applying to more than one area are assigned to the area where they will have the largest effect.

This classification helps in prioritizing both the program activities that lack good evaluation evidence and also the research, management, and support recommendations. There is some research evidence on the effect of each subject area type on motorcycle safety outcomes (for example, on the role of alcohol, or of other vehicles). There also is some research evidence on the role or potential effect of specific topics within each area type (to continue the example, on the actual or potential effect of motorcyclist education in reducing alcohol-impaired riding). These latter two classifications, by activity and subject area, guide the prioritization.

Table 2 shows how the 82 NAMS recommendations are distributed across subject area and activity type classifications. Table 2 also outlines how the NAMS recommendations are numerically categorized into six major subject areas and referenced throughout this document (e.g., recommendations associated with road signs can be found in Subject Area 40, Highway and Environment, or more specifically Subject Area 41, Signage for Hazards).

Appendix A lists all 82 NAMS recommendations, in NAMS order, and gives each recommendation's original NAMS priority and its area, activity, and organization type.

| Subject Area | | A | ctivity Type | Subtotal | Total | |
|------------------|-------------------------------|----------|--------------|----------|-------|----|
| | , | Programs | Research | Mgmt | | |
| 10 Motorcyclists | | | | | | 41 |
| | 11 Alcohol and Other Drugs | | | | 5 | |
| | 11.1 Enforcement | 1 | | | | |
| | 11.2 Communications | 1 | 1 | 1 | | |
| | 11.3 Research | | 1 | | | |
| | 12 Helmets and Clothing | | | | 7 | |
| | 12.1 Helmets | 3.5* | 0.5* | | | |
| | 12.2 Clothing | 1 | 1 | | | |
| | 12.3 Conspicuity | 1 | | | | |
| | 13 Training | | | | 9 | |
| | 13.1 Current Training | 1 | 2 | | | |
| | 13.2 Improve Training | 1 | 4 | | | |
| | 13.3 Incentives for Training | 1 | | | | |
| | 14 Education and Information | | | | 8 | |
| | 14.1 Specific Knowledge | 5 | | | | |
| | 14.2 Methods | 2 | | 1 | | |
| | 15 Behavior and Skills | | 4 | | 4 | |
| | 16 Licensing | | | | 8 | |
| | 16.1 Increase Licensing | 5 | | | | |
| | 16.2 Improve Licensing | 1 | 2 | | | |
| 20 Motorcycles | | | | • | | 8 |
| | 21 Brakes | 1 | 1 | | 2 | |
| | 22 Tires | 1 | | | 1 | |
| | 23 Lighting | | | 1 | 1 | |
| | 24 Conspicuity | 1 | | | 1 | |
| | 25 Design | | 1 | | 1 | |
| | 26 Modifications | | 1 | | 1 | |
| | 27 Technology | | 1 | | 1 | |
| 30 Other Drivers | | - | | • | | 9 |
| and Vehicles | 31 Other Drivers | 4 | 1 | 1 | 6 | |
| | 32 Other Vehicles | 1 | 2 | | 3 | |
| 40 Highway and | | | | | | 8 |
| Environment | 41 Signage for Hazards | 2 | | | 2 | |
| | 42 Improve Roadway Conditions | 2 | | | 2 | |
| | 43 General | 2 | 1 | 1 | 4 | |
| 50 EMS | | | | | | 3 |
| | 50 EMS Curricula and Training | 3 | | | 3 | |
| 60 Management | | · | · | | | 13 |
| and Data | 61 Data | | | 4 | 4 | |
| | 62 Include Motorcycles | T | T | 6 | 6 | |
| | 63 Research and Funding | T | 1 | 2 | 3 | |
| Total | | 40.5 | 24.5 | 17 | | 82 |

 Table 2. NAMS Recommendations by Subject Area and Activity Type

*Recommendation #35 was divided into two parts.

Setting Priorities

The model priority strategy applies to recommendations for programs that address problems of known size and that have good research evidence on their effectiveness. For each of these, two quantities can be estimated:

1) Problem Area size. Programs attempt to affect motorcyclists, motorcycles, roads, other vehicles, or other drivers. If the program were completely effective – if it completely changed behavior, or modified all motorcycles, etc. – how many fatalities would be prevented?

2) Effect size. Based on direct or indirect evidence, how large an effect is the program likely to have?

Multiply these two quantities to estimate the recommendation's overall impact on safety outcomes. For example, if alcohol causes 30 percent of fatal motorcycle crashes (in the sense that the crashes would not have occurred if the motorcycle riders had been sober) and if a specific alcohol program is estimated to reduce alcohol-impaired motorcycling by 20 percent, then a recommendation to implement this program nationwide would have a $30\% \times 20\% = 6\%$ impact on fatalities.

Fatalities are used instead of injuries or crashes as the problem size measure for several reasons. With very few exceptions, recommendations will have similar relative effects on fatal and non-fatal injury crashes and their outcomes. Data on fatal crashes and their characteristics, from FARS, is far better than data on non-fatal crashes. Finally, most motorcycle crashes produce some injuries, so there is little difference between injury and non-injury crashes.

Effectiveness is estimated for programs without good research evidence by weighing the available evidence that the program would produce some change and that the change would reduce motorcyclist crashes and fatalities.

Effectiveness is estimated for research recommendations by combining somewhat subjective assessments of the likelihood that the proposed research will be successful in answering the research question, that the results will provide useful information, that the information will lead to a program that can be implemented, and that the program will reduce crashes and fatalities.

Many management and support recommendations are so general that their effect cannot be estimated directly. When possible, the effect is estimated as with research recommendations by combining somewhat subjective assessments of the likelihood that the management recommendation will be successful in accomplishing what is proposed, that the result will lead to program changes, and that the program changes will reduce crashes and injuries.

Across the 69 recommendations for which impacts can be estimated, impact sizes range from 8.21 (for recommendation # 31, Use effective strategies to increase use of FMVSS 218 compliant helmets) to essentially zero. Figure 1 illustrates the distribution of impacts.

Figure 1. NAMS Recommendations by Impact



Eleven recommendations have impacts of 1.50 and above, with #31 by far the highest. Another 9 have impacts from 0.64 to 1.05. The rest all have impacts below 0.50. These three groups are separated by vertical lines in Figure 1. Tables C-1 to C-4 in Appendix C give the problem size, effect, and impact of each recommendation.

Next, three implementation issues are considered: costs, time, and any obstacles to implementation. Each is estimated in broad categories – low, medium, and high – in a subjective manner, following the model of *Countermeasures That Work* (NHTSA, 2009a).

Overall priorities are then assigned by considering each of the four criteria: impact, cost, time, and obstacles. The final prioritization attempts to balance these four criteria, with the full understanding that this balance is subjective. Others may start with the same information and produce different overall priorities.

Nine management and support recommendations for which effect sizes cannot be estimated are prioritized separately and quite subjectively. Three recommendations are not assigned priorities.

Overall, 12 recommendations are classified priority 1, 29 are priority 2, 39 are priority 3, and 3 are not prioritized. Priorities follow the impact rankings closely: All recommendations with an impact of 1.50 or higher are priority 1, and are assigned to priority 1A, with the exception of recommendation #56. This produces 10 "top priority 1A" recommendations. The two remaining priority 1 recommendations (#1 and #3) are so general that they cannot be acted upon directly but only through other, more specific recommendations included within them. They are assigned to priority 1B as a reminder that they state important overall principles.

The 29 priority 2 recommendations have been subdivided by impact. The 10 with impacts above 0.64 are priority 2A; the 14 with impacts 0.16 to 0.50 are 2B; and the remaining 5 are priority 2C. Finally, 39 recommendations are priority 3 while three recommendations were not assigned a priority, for a total of 83 (recommendation #35 was divided into two parts).

Appendix B describes these prioritization methods in greater detail. Appendix D discusses each recommendation in turn and explains how its problem size, effect, impact, cost, time, obstacles, and priority are determined.

Priorities

Table 3 summarizes the 22 highest priority recommendations – priority 1 and 2A - by organization. See Appendix C for the complete priorities for all recommendations, tabulated in several ways.

States, Municipalities, Rider Groups: The 10 highest priority recommendations cover the critical issues of impaired riding (#28 and #29), helmets (#31 and #33), motorcyclist conspicuity (#61), training (#9 and #57), licensing (#11 and #17), and involvement of police and judges in motorcycle issues (#45). Most are program recommendations that can be implemented fairly quickly.

Manufacturers and Insurers: The 2 highest priority recommendations both involve improvements in motorcycle brakes (#55 and #56). None of the highest priority recommendations is directed to insurers.

Federal: The 10 highest priority recommendations cover impaired riding (#27), helmets (#35.1 and #35.2), crash avoidance attitudes, skills, training, and technology (#7, #21, #22, and #25), licensing (#20), and 2 general recommendations supporting research and funding (#1 and #3). Most involve research that requires both time and funding.

These 22 recommendations form a comprehensive high-priority agenda for improving motorcycle safety in the years ahead.

Table 3. High-Priority NAMS Recommendations by Organization

| | National Agenda for Motorcycle Safety | Aree | Turno | Impost | Impost | Briority | | | | |
|-----|---|----------|----------|--------|--------|----------|------|-------|------|---------|
| | Recommendations | Area | Type | impact | Rank | Impact | Cost | Time | Faso | Overall |
| No. | Recommendation States, Municipalities, Rider groups Use effective strategies to | <u> </u> | <u> </u> | | Kalik | | 0031 | 11110 | | overan |
| 31 | FMVSS 218- compliant helmets Educate police and judges on motorcycle safety | 12.1 | Ρ | 8.21 | 1 | 1 | 1 | 1 | 3 | 1A |
| 45 | issues Educate police on alcohol-related | 62 | Х | 1.60 | 8 | 1 | 1 | 2 | 1 | 1A |
| 29 | behavior of motorcyclists Discourage mixing alcohol or other | 11.1 | Ρ | 1.50 | 10 | 1 | 2 | 2 | 1 | 1A |
| 28 | drugs with motorcycling Provide training to all who need or | 11.2 | Ρ | 1.05 | 12 | 1 | 2 | 2 | 2 | 2A |
| 9 | seek it Provide additional education/training | 13.1 | Ρ | 0.80 | 14 | 2 | 3 | 3 | 2 | 2A |
| 57 | techniques Merge rider education/training | 13.2 | Ρ | 0.80 | 14 | 2 | 3 | 3 | 3 | 2A |
| 11 | and licensing into one-stop operations States issue motorcycle endorsements immediately upon | 16.1 | Ρ | 0.80 | 14 | 2 | 1 | 2 | 3 | 2A |
| 17 | course completion Encourage motorcyclists to increase | 16.1 | Ρ | 0.80 | 14 | 2 | 1 | 2 | 3 | 2A |
| 61 | conspicuity Communicate helmet use benefits, work toward greater | 12.3 | Ρ | 0.75 | 18 | 2 | 2 | 2 | 1 | 2A |
| 33 | voluntary use of FMVSS helmets | 12.1 | Р | 0.68 | 19 | 2 | 2 | 2 | 1 | 2A |

| | Manufacturers, Insurers Study effectiveness of linked and antilock brakes; if | | | | | | | | | |
|------|---|------|---|------|-----|-----|---|---|---|----|
| 55 | positive, use more widely Use research information to implement other | 21 | R | 3.00 | 3 | 1 | 2 | 3 | 2 | 1A |
| 56 | braking-related countermeasures | 21 | Ρ | 1.50 | 10 | 1 | 2 | 3 | 2 | 2A |
| 27 | Federal Study motorcyclists' alcohol, drug, and medication use patterns Study riders' attitudes, behavior | 11.2 | R | 3.50 | 2 | 1 | 3 | 3 | 2 | 1A |
| 7 | effect on crash involvement Identify critical | 15 | R | 2.40 | 4 | 1 | 3 | 3 | 2 | 1A |
| 21 | crash avoidance skills Revise FMVSS 218 | 15 | R | 2.00 | 5 | 1 | 3 | 3 | 1 | 1A |
| 35.2 | - Improve performance Evaluate crash avoidance | 12.1 | R | 1.96 | 6 | 1 | 3 | 3 | 3 | 1A |
| 25 | technology (e.g,. pre-crash warning systems) Develop training, licensing, technology measures to | 27 | R | 1.80 | 7 | 1 | 3 | 3 | 2 | 1A |
| 22 | address crash avoidance problems Government and industry research studies, both | 13.2 | R | 1.60 | 8 | 1 | 3 | 3 | 3 | 1A |
| 1 | comprehensive and specific Build academic and funding capacity for | 63 | R | N/A | N/A | N/A | 3 | 3 | 3 | 1B |
| 3 | motorcycle safety research | 63 | х | N/A | N/A | N/A | 3 | 3 | 3 | 1B |
| 35.1 | - labels Develop & evaluate enhanced motorcycling model | 12.1 | Ρ | 0.87 | 13 | 2 | 1 | 3 | 2 | 2A |
| 20 | using graduated licensing concepts | 16.2 | R | 0.64 | 20 | 2 | 2 | 3 | 2 | 2A |

Table 3: Key

Area: see Subject Area classification in Table 2.

Type: P = Programs; R = Research; X = Management and Support

Impact: measured as a percentage of motorcyclist fatalities

Impact rank: from 1 (highest) to 69 (lowest), with 13 unranked recommendations (N/A) Priority - Impact, Cost, Time, Ease, Overall: 3-point scale, with 1 = best and 3 = worst. Priorities 1 and 2 have been further divided into parts with A = highest and C = lowest

Prioritized Recommendations of the National Agenda for Motorcycle Safety

Appendix A NAMS Recommendations and Classifications

| No. | National Agenda for Motorcycle Safety Recommendation | Subject Area | Туре | Org. |
|------|---|-----------------|------|------|
| 1 | Government and industry research studies, both comprehensive and | 63 | R | С |
| ~ | Specific | 64 | V | 0 |
| 2 | Develop uniform crash and EMS reports | 01 | | |
| 3 | Build academic and funding capacity for motorcycle safety research | 03 | | |
| 4 | Motorcycle safety information clearinghouse | 14.2 | X | C |
| 5 | and training | 14.2 | Р | C |
| 6 | Methods and media for information distribution: PSAs, ads in enthusiast media, etc. | 14.2 | Р | А |
| 7 | Study motorcyclists' attitudes, behavior, effect on crash involvement | 15 | R | С |
| 8 | Develop programs to reduce dangerous behavior and reinforce safe behavior | 15 | R | С |
| 9 | Provide training to all who need or seek it | 13.1 | Р | А |
| 10 | Study effectiveness and impact of rider education/training | 13.1 | R | С |
| 11 | Merge rider education/training and licensing into one-stop operations | 16.1 | Р | А |
| 12 | Increase State use of motorcycle program assessments | 62 | Х | А |
| 13 | Establish benchmarks for education/training effectiveness and motorcycle program operations | 13.1 | R | С |
| 14 | Study effectiveness of on-street training | 13.2 | R | С |
| 15 | Research to assure that licensing tests measure crash avoidance skills, behaviors | 16.2 | R | Ċ |
| 16 | Identify and remove barriers to obtaining motorcycle endorsement | 16.1 | Р | А |
| 17 | States issue motorcycle endorsements immediately upon course completion | 16.1 | P | A |
| 18 | Enforce penalties for improperly licensed motorcyclists | 16.1 | Р | А |
| 19 | Train license examiners in motorcycle issues | 16.2 | Р | А |
| 20 | Develop and evaluate enhanced motorcycling model using graduated licensing concepts | 16.2 | R | С |
| 21 | Identify critical crash avoidance skills | 15 | R | С |
| 22 | Develop training, licensing, technology measures to address crash avoidance problems | 13.2 | R | Ċ |
| 23 | Evaluate effectiveness of education/training in developing crash avoidance skills | 13.2 | R | С |
| 24 | Evaluate need for simulator training in motorcycle skills | 13.2 | R | С |
| 25 | Evaluate crash avoidance technology (e.g. pre-crash warning systems) | 27 | R | Ċ |
| 26 | Study alcohol drug and medication effects on motorcyclists' skills | 11.3 | R | Ċ |
| 27 | Study motorcyclists' alcohol drug, and medication use patterns | 11.0 | R | Ĉ |
| 28 | Discourage mixing alcohol or other drugs with motorcycling | 11.2 | P | Ā |
| 29 | Educate police on alcohol-related behavior of motorcyclists | 11.2 | P | Δ |
| 30 | Encourage partnerships with other alcohol/traffic safety groups (MADD, | 11.2 | X | A |
| 31 | Use effective strategies to increase use of FMVSS 218-compliant | 12.1 | Р | А |
| 32 | Educate motorcyclists on protective equipment with information source, | 12.2 | Р | А |
| 33 | Communicate helmet use benefits, work toward greater voluntary use of EMVSS helmets | 12.1 | Ρ | А |
| 34 | Use effective strategies to ensure all helmets meet FMVSS 218 | 12 1 | Р | А |
| 35.1 | Revise EMVSS 218 - labels | 12 1 | P | C |
| 35.2 | Revise FMVSS 218 – improve performance | 12.1 | R | Č |

| No. | National Agenda for Motorcycle Safety Recommendation | Subject Area | Туре | Org. |
|-----|---|-----------------|------|------|
| 36 | Study protective equipment benefit, consider standards if warranted | 12.2 | R | С |
| 37 | Educate other motorists to be more conscious of motorcycles | 31 | Р | А |
| 38 | Educate motorcyclists that they may not be seen; provide defensive strategies | 14.1 | Р | A |
| 39 | Include information on motorcyclists in driver manuals and licensing tests | 31 | Р | A |
| 40 | Require motorcyclist awareness class for motorists guilty of violating cycle right-of-way | 31 | Р | A |
| 41 | Devote adequate funding to develop and implement motorcyclist awareness info | 31 | Х | A |
| 42 | Insurance policies should not be valid for improperly licensed operators | 16.1 | Р | В |
| 43 | Collect, analyze, distribute motorcycle-specific loss data from insurers | 61 | Х | В |
| 44 | Develop guidelines for insurers for premium reductions for education/training and licensing | 13.3 | Р | В |
| 45 | Educate police and judges on motorcycle safety issues | 62 | Х | А |
| 46 | Include police in State motorcycle program assessments | 62 | Х | А |
| 47 | Develop and implement standard motorcycle crash data collection and reporting | 61 | Х | С |
| 48 | Include motorcycle crash procedures in basic crash investigation training | 61 | Х | A |
| 49 | Sanction drivers contributing to motorcycle crashes to increase motorcycle knowledge | 31 | Р | A |
| 50 | Educate traffic safety organizations on motorcycle safety issues | 62 | Х | А |
| 51 | Raise importance, increase funds for motorcycle programs in State highway safety offices | 63 | Х | A |
| 52 | Integrate motorcycle safety representatives into traffic safety activities | 62 | Х | А |
| 53 | Study how current motorcycle designs affect crashes and injury causation | 25 | R | В |
| 54 | Improve tires and wheels to reduce puncture flats | 22 | Р | В |
| 55 | Study effectiveness of linked and antilock brakes; if positive, use more widely | 21 | R | В |
| 56 | Use research information to implement other braking-related countermeasures | 21 | Р | В |
| 57 | Provide additional education/training on proper braking techniques | 13.2 | Р | А |
| 58 | Study the role of vehicle motorcycle modifications in crashes | 26 | R | С |
| 59 | Educate riders how modifications and loads affect motorcycle operating characteristics | 14.1 | Р | A |
| 60 | Study why motorists don't see motorcycles; develop and implement countermeasures | 31 | R | С |
| 61 | Encourage motorcyclists to increase conspicuity | 12.3 | Р | А |
| 62 | Encourage manufacturers to increase conspicuity of apparel and parts | 24 | Р | В |
| 63 | Reconsider State requirements prohibiting conspicuity modifications | 23 | Х | А |
| 64 | Study effects of automobile daytime running lights on motorcycle safety | 32 | R | С |
| 65 | Study safety implications of lane splitting | 15 | R | С |
| 66 | Educate motorcyclists on lane use strategies, including HOV lanes | 14.1 | Р | A |
| 67 | Identify and prioritize roadway bazards to motorcyclists | 43 | R | C |
| 68 | Revise design, construction, maintenance standards to include motorcyclist needs | 43 | P | Ă |
| 69 | Create working group to recommend changes to highway standards for motorcycle needs | 43 | Х | С |
| 70 | Post hazard warnings for motorcyclists | 41 | Ρ | А |

| No. | National Agenda for Motorcycle Safety Recommendation | Subject Area | Туре | Org. |
|-----|---|-----------------|------|------|
| 71 | Revise MUTCD for better signage for hazardous road or construction conditions | 41 | Р | С |
| 72 | Educate motorcyclists about common roadway hazards | 14.1 | Р | А |
| 73 | Remove slippery sealants and road surface repair substances | 42 | Р | Α |
| 74 | Educate road design and maintenance staff about conditions hazardous to motorcyclists | 43 | Ρ | A |
| 75 | Reduce roadway debris | 42 | Р | Α |
| 76 | Educate motorcyclists how to overcome hazards presented by other vehicles' designs | 14.1 | Ρ | A |
| 77 | Emphasize motorcycle safety in other vehicle design | 32 | Р | В |
| 78 | Study how other vehicle designs affect motorcycle safety | 32 | R | С |
| 79 | Include motorcyclist component in EMS training | 50 | Р | Α |
| 80 | Include motorcyclist component in first aid/bystander training | 50 | Р | Α |
| 81 | Use EMS Agenda for Future to promote motorcycle safety | 50 | Р | С |
| 82 | Include motorcycles in ITS design and development | 62 | Х | С |

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