

Report HSRI-001590-2

DEVELOPMENT OF A NATIONAL ITEM BANK FOR TESTS OF DRIVING KNOWLEDGE

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National Highway Traffic Safety Administration
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ATTENTION: Mr. J. R. Amato (Contract FH-11-7616)

Subject: Final Technical Report, Contract FH-11-7616

Dear Sir:

Transmitted herewith are the contractually required reproducible and three copies of the subject report.

Sincerely,

William T. Pollock

William T. Pollock, Ph.D.
Principal Investigator

WTP/r
encl.

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16. Abstract Materials intended for driving knowledge test development use by operational licensing and education agencies were prepared. Candidate test items were developed, using literature and operational practice sources, to reflect current state-of-knowledge with respect to principles of safe, efficient driving, to legal regulations, and to traffic control devices. Such multiple-choice item "pools" were developed for testing drivers of Class C (passenger car and light truck), Class M (motorcycle), and Classes A and B (bus and truck) vehicles, with the pools containing 1313, 282, and 583 items, respectively. Subsequent to item review by batteries of highway safety experts, field tests to collect psychometric, normative, and validation data for the Class C items were conducted with Iowa driver education students, with Coast Guard recruits, and with various driver license applicant and driver improvement groups in Michigan. Similar evaluations and tests of the Class M pool were completed. An operational manual, "Handbook for Driving Knowledge Testing", which includes the Class C item pool and tutorial test construction material, was prepared.					
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PREFACE

This report documents the technical activities of a three-year program to develop an operational manual entitled, "Handbook for Driving Knowledge Testing" (separately published). The primary component of that handbook is an ordered set of 1,313 multiple-choice knowledge test items covering what is presently known about the significant aspects of safe, efficient and legal operation of Class C (passenger car and light truck) vehicles. Contained herein are similar item sets related to operation of Class M (motorcycle) and Classes A and B (bus and truck) vehicles. This report details how those item sets and the resulting "Handbook" were developed, and reports the many testing operations accomplished to generate psychometric, normative and validation data associated with the items.

In a project of this scope and duration, many individuals contribute. While authors of this report, William T. Pollock, Project Director, and Thomas L. McDole did not conduct the project alone. In the initial two years of the project, Wallace G. Berger, now with Biotechnology, Inc., was particularly effective in setting project plans, in developing items and in laying foundation for subsequent item tests. In later phases, David K. Damkot, now with the University of Vermont, contributed greatly to the collection and analysis of item pool data. Finally, Leda L. Ricci performed well the monumental task of keeping track of all items and data through the various pool-growing phases.

In addition to those HSRI workers, literally hundreds of other highway safety researchers and practitioners helped with the testing and evaluation activities of the program. Not all of those participants are identified here--only a few are named at appropriate points in the report text. Identified or not, their assistance is sincerely and gratefully acknowledged.

Throughout its existence, the project benefited from

the advice and counsel of an Advisory Group of distinguished highway safety operatives and researchers. At various times, that Advisory Group included Ronald S. Coppin, Dorothy A. Fruchter, William K. Hall, Newman W. Jackson, A. James McKnight, Louis Miller, John H. Reese, Basil Y. Scott, Thomas A. Seals, and John A. Whittenburg.

Finally, ample support and direction to the project were provided by the NHTSA Contract Technical Managers, initially Robert M. Nicholson and, for most of the project, John W. Eberhard.

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1.0 INTRODUCTION

Determining an applicant's knowledge of principles and regulations through paper and pencil tests has historically been a feature of most driver licensing programs. Coupled with limited measures of sensory capability and basic vehicle control ability, knowledge measures are logically assumed to be predictors of individual driving success. On the one hand, it is assumed that principles and regulations required for safe, efficient driving may be specified, and on the other that driver knowledge is highly correlated with driver behavior. That both assumptions are somewhat tenuous has been demonstrated in several recent research efforts. But the questionable validity of those assumptions should not lead to a categorical rejection of driver knowledge testing. It is expected that the utility of knowledge tests for screening and educating license applicants can be incrementally improved as the principles of safe driving become more empirically grounded.

That the state of knowledge of the driving process is not adequate has been most recently, and convincingly, argued in the context of driver education. In four independent, concurrent studies sponsored by the NHTSA (then the NHSB), researchers at American University, New York University, Dunlap and Associates and the Institute for Educational Development concluded that the efficacy of formal driver education programs cannot be evaluated in the absence of a definitive driving task analysis, i.e., quantitative specification of what the effective driver must know and do in various traffic contexts. In a report reviewing and synthesizing those four contract reports, a special committee to the Highway Research Board, under sponsorship of NHTSA, concurred with this need for a driving task analysis, both for the design and the evaluation of driver training programs (Ref. 5). In a similar vein, Miller and Dimling, in a survey

of state driver licensing practices for NHTSA, concluded that inadequate formulation of the behaviors, attitudes, and knowledge required in the driving task hampers driver licensing procedures (Ref. 6).

In an effort to correct that deficiency, NHTSA contracted with the Human Resources Research Organization (HumRRO) in 1969 to develop a systematic description of the driver's task. That task analysis effort has produced a massive set of driving task descriptors, reflecting the cognitive and behavioral elements of successful passenger car driving (Ref. 7). In order to bolster the design and evaluation of driver education and training programs, HumRRO has applied that task analysis to the development of an ordered set of instructional objectives for driver education.

The HSRI project, of which this report is a part, is in large measure an effort to exploit the HumRRO task analysis for improving driver licensing knowledge testing. While the HumRRO product certainly cannot be identified as an empirical description of driving, the analytic procedures used produced a taxonomy of driving tasks, which is recognized as the most inclusive description to date of the cognitive and behavioral elements of passenger car driving. With realization of the uncertain source of most currently-used state licensing test questions, that driving task taxonomy with its extensive literature foundation was recognized as a very desirable framework on which to build an exhaustive set of candidate knowledge test items. The intended users of that complete item "pool," of course, are those state agency personnel responsible for forming state licensing tests; additionally it was believed that such a compendium of knowledge test material would prove useful in driver education activities.

The report that follows documents the technical activities of the three-year project that developed that compendium,

which has been published separately as the "Handbook for Driving Knowledge Testing." The handbook development effort consisted of three phases, each approximately one year long.

Phase I (July 1970 - June 1971) was concerned with collecting and generating items to reflect what is known about safe, efficient, legal driving. The HumRRO task descriptions served not only as the framework on which to build the passenger car, driver license item pool, but also facilitated description of truck driving and motorcycle operations, so that the item pool could be extended to cover those vehicle types. Concomitant with that pool development, material on the principles and procedures of test construction was generated to educate or remind state test developers of the requirements of systematic test construction. Coupling the pool of raw test items with that test development material resulted in the preliminary revision of a "Handbook," intended to serve as the seed for development of an operational handbook.

Phase II (July 1971 - June 1972) generally involved item evaluation, being an effort to generate psychometric indicators of each item including item difficulty, reliability, relationship with other items, correlation with verbal ability, etc. Early in this phase, practical considerations dictated concentration on the item collection from Phase I associated with passenger car operation, with minimal evaluation of the motorcycle items, and no further development of the "raw" items for truck and bus operation.

The concluding phase, Phase III (July 1972 - July 1973), involved generation of normative statistics on the passenger car items and attempts to derive expressions of item validity. Included in this phase also was the final evolutionary step of the "Handbook for Driving Knowledge Testing."

The sections that follow describe the technical activities associated with each of those project phases.

2.0 PHASE I: ITEM POOL DEVELOPMENT

Development of the preliminary handbook for driver knowledge testing was structured on two general guidelines. In recognition of the classified licensing approach recommended by NHTSA Program Standard 4.4.5, Driver Licensing, a primary ground-rule at program outset required that the item pool and associated material be categorized by class of vehicle for which the applicant was being tested. For those classification purposes, the taxonomy adopted by the American Association of Motor Vehicle Administrators (AAMVA) defining driver license classes based on vehicle type to be driven was used, with some modifications. The AAMVA classes are:

Class "C": Any single vehicle not in excess of 24,000 pounds gross vehicle weight (GVW), or any such vehicle towing a vehicle not in excess of 10,000 pounds GVW; except buses and motorcycles.

Class "B": Any single vehicle weighing over 24,000 pounds GVW, or any such vehicle towing a vehicle not in excess of 10,000 pounds GVW, and any bus and all vehicles under Class "C"; except motorcycles.

Class "A": Any vehicles or combination of vehicles, including all vehicles under Classes "B" and "C"; except motorcycles.

Class "M": Motorcycles.

For item classification purposes, those classes were simplified somewhat to the following:

Class "C": Passenger cars and light trucks

Classes "B" & "A": All other trucks and buses

Class "M": Motorcycles

In addition to that three-way categorization of vehicle-driven for item classification, it was specified at the outset that item content within each of those vehicle-driven classes would be segregated. The three, primary content categories selected were:

1. Principles of safe, efficient vehicle control
2. Formal, legal regulations
3. Traffic control devices, signs, and markings.

Those two general guidelines resulted in a three-by-three matrix with which to categorize items to be collected and generated. The paragraphs that follow describe the project activities in filling that license class by content matrix starting with the collection of existing items from state agencies and the literature, through the development and application of protocols for generating new items, to the preparation of the preliminary handbook for driver licensing knowledge testing. The general flow of project tasks was as shown schematically in Figure 1.

2.1 COLLECTING EXISTING ITEMS

As a foundation on which to build the item pool, the initial project task involved collection of existing driving knowledge tests and of literature generally descriptive of research and operational findings on principles of safe, efficient driving. Concomitantly, techniques for classifying individual items to form a structured pool were developed.

2.1.1 COLLECTION. Gathering the available literature on driving principles was greatly simplified by the extensive bibliographies, frequently annotated, of Miller and Dimling (Ref. 6) and of McKnight et al. (Ref. 7). Beyond those sources, which mainly treated passenger car operation, some additional literature search was required to collect what

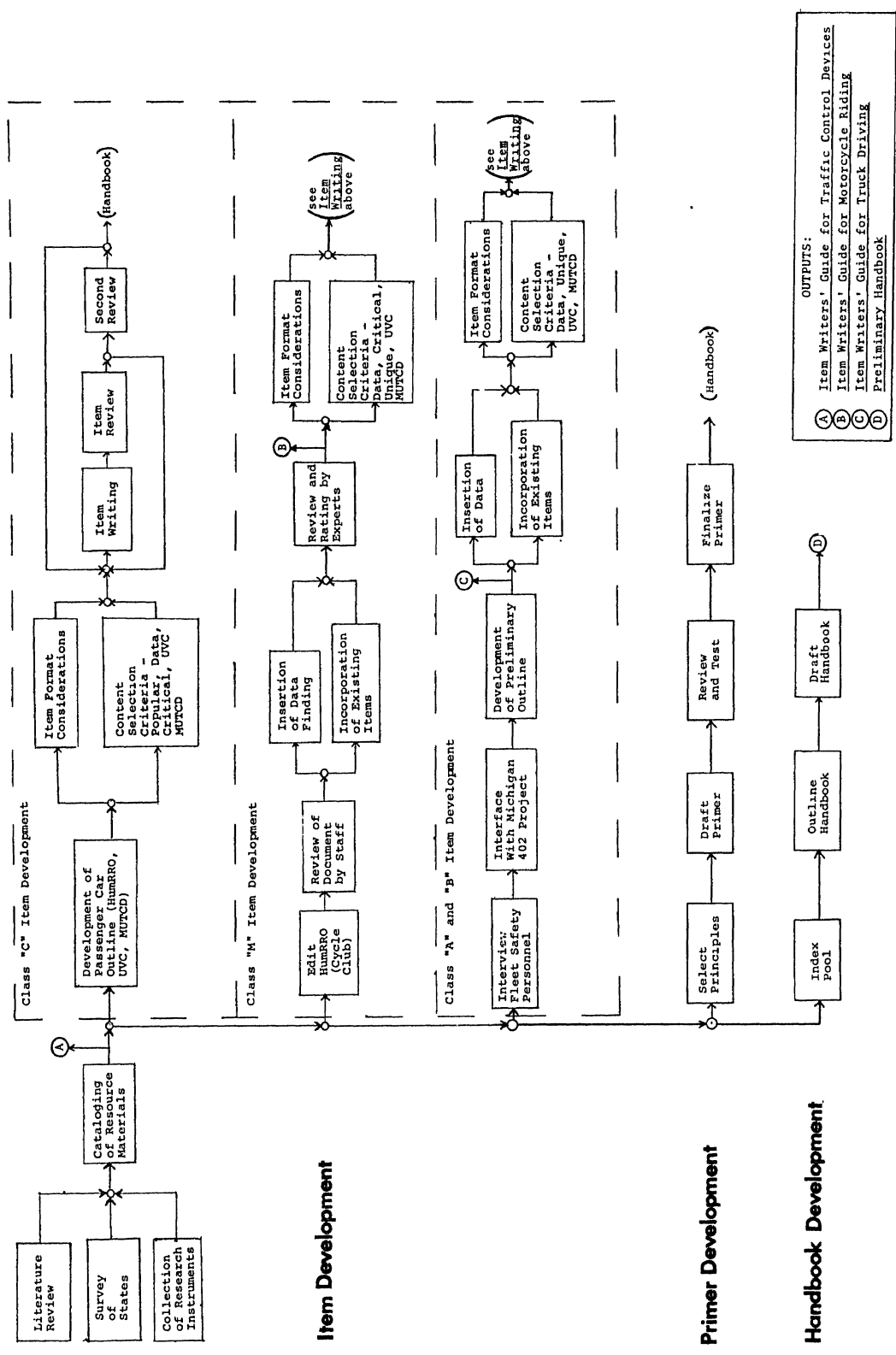


FIGURE 1. PHASE I, PRELIMINARY HANDBOOK DEVELOPMENT

proved to be a meager bibliography on principles of motorcycle operation and of truck driving.

At project initiation, it was judged impractical to attempt to cope with the individual state vehicle codes. Thus, the collection of literature on legal regulations of driving was confined to the Uniform Vehicle Code (UVC). For similar reasons, the reference data on traffic control device, sign and marking use was confined to the Manual on Uniform Traffic Control Devices (MUTCD).

In addition to collecting those reference sources on driving principles, regulations, and control devices, systematic collection of existing tests of driver knowledge was completed. To augment and update HSRI holdings of state licensing tests and license applicant manuals, a form letter was sent to each of the 50 states and the District of Columbia requesting that material. The final returns from that solicitation effort showed 46 jurisdictions responding with the requested material. Several of the five non-respondents explained that they would not provide the material because their tests were currently in revision. Since the 46 returns covered all regions of the United States, they were believed an adequate sample of state-used knowledge test items.

In addition to the state items, various research tests and item compendia were collected. Sources for those items included individual researchers, driver education personnel, state agencies, driver education activities, textbooks, and professional associations.

From all those sources, a total of 11,099 individual knowledge test items were collected. Table I shows the components of that total by source and by vehicle type to which the item was related.

2.1.2 CLASSIFICATION. In order to gain insight into the spectrum of item content and redundancy, or popularity,

TABLE I. SOURCES AND TYPES OF ITEMS COLLECTED

<u>Source</u>	<u>Class C (Passenger Cars)</u>	<u>Classes A&B (Trucks)</u>	<u>Class M (Motor- cycles)</u>	<u>Class B (School Buses)</u>	<u>Other (Taxi, chauffeur, etc.)</u>
State Exams (45 + D.C.)	4,587	1,191	904	656	883
State Developed Tests	275	118	40		40
Instructional Material	1,175	291			
Research Tests	717	80			
Item Compendium			142		
Sub-Totals	<u>6,754</u>	<u>1,680</u>	<u>1,086</u>	<u>656</u>	<u>923</u>
Grand Total	11,099				

of that content across the various jurisdictions and test developers, two coders at HSRI separated out the individual items and indexed the individual items for analysis. Where duplicate items were found in equivalent forms from a given state, only one copy of the item was retained. Duplications of items, or item content, from different sources, were retained, however. Each individual item was copied on a file card, with reference indexing added to identify the correct answer, state or test of item origin, and an HSRI identifying number.

At this item indexing stage, each item clearly pertinent to passenger car driving was cross-referenced to one of three taxonomies available at that point in the project. Items with content related to driving principles were indexed with the number of the appropriate task description in the HumRRO task listings. Those with legal regulation content were indexed with the appropriate numbered paragraph of the UVC, while those dealing with traffic control devices were related to the appropriate section of the MUTCD.

Since considerable interpretation was frequently required in this item content versus reference indexing, test was made of the within and between coder reliability of the procedure. A set of 40 items was randomly selected for re-coding by each of the two coders. The first coder assigned identical indexing codes to 38 (95%) of the test items, and the second coder successfully reproduced 36 (90%) of the codes. These levels of individual reproducibility were deemed adequate for the present study.

As indicated, that coding and indexing of collected items was mainly concerned with items related to passenger car driving principles, for which the HumRRO task taxonomy served admirably. Since no similar taxonomy of principles for motorcycle operation or truck driving was discovered, items relating to those vehicle types were simply grouped at that point in the project until arrangements of appropriate taxonomies could be completed. (See Section 2.2, below.)

A major conclusion from this collection and indexing of existing knowledge test items was that the scope, or breadth of driving principles content, of the collected items was quite narrow. Not surprisingly, the collection of states' items showed high redundancy, with only slight content variety offered by the non-official tests. Quite obviously the collected items fell way short of covering many of the important cognitive aspects of driving, as shown for example in the absence of items related to most of the driving tasks judged "critical" by the HumRRO task description review experts.

That finding of limited item scope early in the project confirmed the need for extensive item generation, both to provide an item pool reflecting reasonable coverage of driving knowledge and to provide an adequate item collection for states considering extensive testing, for example with home study/correspondence test procedures.

2.2 DEFINING THE ITEM POOL DOMAIN

That item generation activity had to be conducted, of course, in the context of clearly defined content boundaries, or domains of concern. Such a domain definition is required for guiding item generation, and also for determining,

1. How adequately the domain represents the knowledge areas important for safe, efficient legal driving, and,
2. To what extent the items adequately sample the content of the domain.

While the context, and intended area of application, of this item pool development is driver license testing, the pool is intended to sample only the cognitive qualifications of license applicants. Figure 2 shows the four major determinants of driver response. In that schematic structure, the domain of concern to this item pool development is the

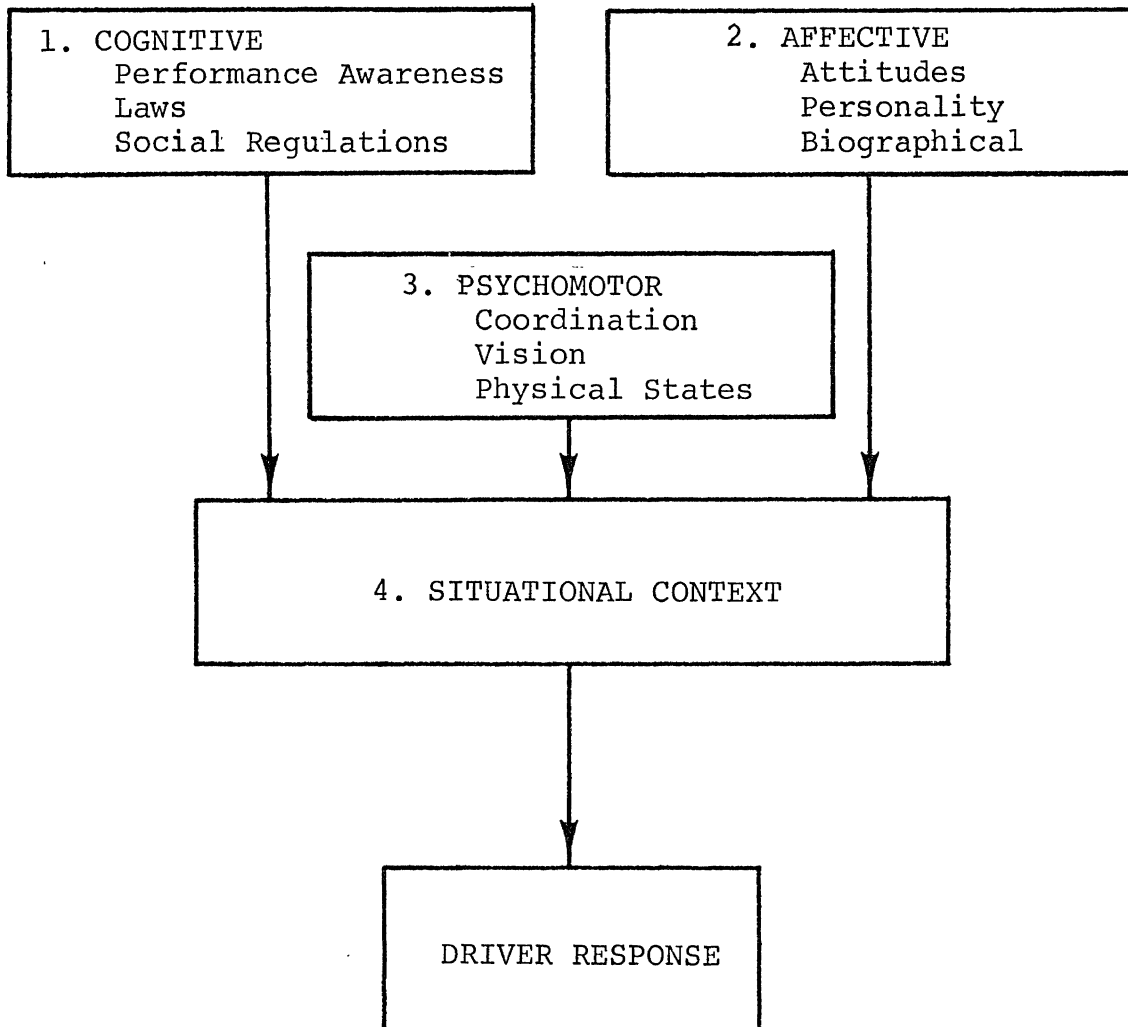


Figure 2. Components of Driver Response

collection of cognitive components of the driver response. The affective, psychomotor, and situational components are contained in the cognitive domain only to the extent that they can be reduced to language, i.e., knowledge.

The domain problem thus reduced to developing a knowledge taxonomy inclusive of the three vehicle classes and the three knowledge areas--principles, laws, and signs--identified in the introductory paragraphs for Section 2.0.

In recognition of the intended operational applications, the total driving knowledge domain was structured into sub-domains to cover the following vehicle and general content areas:

1. Passenger Cars (Class C)
2. Motorcycles (Class M)
3. Trucks (Classes A and B)
4. Traffic Control Devices
5. Legal Regulations

2.2.1 PASSENGER CAR (CLASS C) DOMAIN. Fortunately the HumRRO Driver Education Task Analysis (Ref. 7) for passenger cars was near completion at the beginning of the HSRI project, and proved to be an excellent taxonomy of the behaviors and knowledges defining the passenger car domain. That taxonomy was therefore adopted as the domain definition for passenger car item generation, and, as described in later paragraphs, the reference format for developing the other vehicle sub-domains.

In addition to its completeness, the HumRRO task descriptions had two other aspects particularly pertinent to forming the item pools. First, many of the task descriptions were associated with supporting evidence in the form of observational or experimental studies. And second, each of the task descriptions was rated on its degree of criticality to the driving task.

One other consideration made the HumRRO work particularly useful in this item pool generation project. As currently conceived, the classified licensing system assumes that drivers must have a Class C, passenger car, license as a qualification for applying for other vehicle driving licenses. Thus, defining the domains of desired knowledge for motorcyclist and truck driver was reduced to identifying those behaviors and knowledges important to other vehicle operation over and beyond the Class C domain.

2.2.2 MOTORCYCLE (CLASS M) DOMAIN. Finding a reasonably complete description of motorcyclist behaviors and knowledges, however, proved frustrating. That search, involving literature review and discussions with motorcycle dealers and riders, revealed that the bulk of motorcycle literature dealt with the mechanical tasks in learning to ride, with little on systematic description of tasks required in successful road operation. Thus, it was apparent that forming a motorcyclist knowledge domain, beyond those knowledges common with passenger car driving, was required.

Using the HumRRO task taxonomy as a foundation framework, a procedure was developed for, one, identifying unique and critical aspects of motorcycle operation and, two, providing an outline for cataloging existing items and guiding the preparation of new items. With assistance from the Michigan Department of Education and the Greater Lansing (Michigan) Safety Council, contact was established with the Cycle Conservation Club of Michigan, an organization of road and trail motorcycle enthusiasts. Three members of that Club, including its President and Secretary, volunteered to act as a committee to re-write the HumRRO task descriptions to reflect the behaviors and knowledges required for safe, efficient motorcycle operation. In completing that re-write, the committee modified existing descriptions, deleted inappropriate descriptions, and added new task descriptions

where needed. Several new sections were needed to complete the domain of motorcyclist task descriptions.

That motorcyclist task description listing was then checked for content and completeness by HSRI staff using available literature and already-collected motorcycle license test items. Modifications were entered where necessary, and a numbering system applied to the task descriptions. Where possible in this re-write, the original HumRRO task description numbers were retained. Thus, those descriptions from HumRRO unchanged in the motorcyclist task listings retained the appropriate HumRRO all-numeric designator. Task descriptions new and unique to motorcycling were given alpha-numeric designators.

Copies of that draft taxonomy of motorcyclist tasks were then returned to the three Cycle Club re-writers, and were also provided to three other "experts" in motorcycling and motorcycle safety. Each of those reviewers was asked to do the following:

1. In reviewing the task descriptions,
 - Change any statement that might reflect unsafe or improper motorcycle use,
 - Delete any totally improper or wrong statement,
 - Add any statements or sections that should be, but are not, included.
2. Indicate those task descriptions believed significantly more important for motorcyclists than for car drivers from a safety and traffic flow standpoint.

With that review, the task statements were finalized to form a taxonomy of motorcycle operation tasks. While constituting a rudimentary motorcyclist task analysis, that taxonomy was prepared as a working paper entitled, "Item Writers' Guide for Motorcycle Riding: A Preliminary Outline."

While hardly defensible as exhaustive, that outline of task descriptions was adopted as the domain definition for motorcycling knowledge, and subsequently used as the reference for generating the motorcycle (Class M) item pool.

2.2.3 TRUCK (CLASSES A & B) DOMAIN. Systematic literature search similarly failed to reveal a composite outline of truck driving tasks, resulting in the decision to generate a truck driver task taxonomy similar to that developed for motorcycling.

Initiation of that trucker task taxonomy development was greatly facilitated by a then-current, joint project of the Michigan Department of State and the Lansing (Michigan) Community College. That project, operated as a federal grant-in-aid (Section 402) project, involved preparation of written and road test material for implementing Michigan's truck driver licensing system. Pre-publication copy of those test protocols was provided HSRI, and served as the foundation for the trucker taxonomy development.

With that initial material, contact was established with Personnel and Safety Directors of three major trucking companies based in the Detroit area. Discussions were held with these individuals in order to further detail trucker task descriptions, particularly with respect to hook-up, uncoupling, and loading/unloading, to urban driving, and to rural and highway driving. Attention was given to identifying those tasks considered critical to safe and efficient operation.

Those discussions lead to further discussions with other trucking representatives. In all, six industry representatives were contacted, providing input on a wide variety of vehicles and driving situations. Contact was also

established with a representative of the U. S. Army Transportation School, a school bus fleet supervisor, and an official of the Michigan Public Service Commission.

Summary of the material collected from those sources was completed, using a format similar to that adopted from HumRRO for the motorcycle "Item Writers' Guide." Expansion of that summary was effected by use of available literature and abstracting from the 1700 truck items collected from state tests and other sources. Of particular value for that purpose was the American Trucking Association's Fleet Safety Service Manual, which constitutes a reliable source of information on the general procedures for truck driving as well as specific legal rules and regulations. Finally, the UVC and the Bureau of Motor Carrier Safety Rules and Regulations were reviewed for additional trucker task descriptions, particularly those dealing with driver operation in safe and efficient driving.

From those many sources, an extended taxonomy of trucker task descriptions was prepared, similar in format and indexing scheme to the HumRRO passenger car driver taxonomy and the motorcyclist taxonomy described in Section 2.2.2. That task listing, identified as "Item Writers' Guide for Truck Driving: A Preliminary Outline," was also prepared as a working paper. That "Guide" was adopted as the domain description for truck driving knowledge, and was subsequently used as the reference source for generating the truck (Classes A and B) item pool.

2.2.4 TRAFFIC CONTROL DEVICE DOMAIN. The three preceding sections concentrated on defining the domains of driving principles relatively unique to each of the three primary vehicle classes. Traffic control devices, including all of

the devices, signs and markings placed to inform, guide and regulate drivers, are with few exceptions pertinent to all vehicle drivers. Thus, the domain definition for traffic control device knowledge can be insensitive to vehicle class. In reviewing existing tests and testing procedures concerned with traffic control devices, items seem to be concerned with one or more of the following characteristics of control devices:

1. Identification of the device from its shape, color, message, etc. (e.g., physical characteristic)
2. Location of the device (e.g., deployment)
3. Meaning of the device (e.g., interpretation)

Those findings cause the conclusion that a taxonomy of traffic control devices should, in addition to being exhaustive of type devices, include for each device information on the above three characteristics.

Two general reference documents are appropriate in this context--Manual on Uniform Traffic Control Devices, 1970 Edition (MUTCD) and Uniform Vehicle Code, 1968 Edition, (UVC). The MUTCD, while exceedingly detailed on the physical characteristics and the deployment of individual devices, has little to say about interpretation or what the driver should do in response to the device. Conversely, the UVC stresses interpretation to the exclusion of physical characteristics and deployment of each device.

Since a single source providing all three characteristics of each device, i.e., the devices domain, was required, decision was made to combine the required data from the UVC and the MUTCD into such a single source. In combining selected portions of those documents, the American Automobile Association's Sportsmanlike Driving was frequently consulted to ascertain the socially desirable behaviors, in contrast to the legal requirements, in response to control

devices. In that reference source development, pictorial representation of the device was included where possible and instructive.

The material descriptive of device characteristics, deployment, and meaning was packaged as the "Item Writers' Guide for Traffic Control Devices: A Preliminary Outline," and used as the third special working paper. That "Guide" was adopted as the domain description for traffic control device knowledge, and was subsequently used as the reference source for generating items relative to control devices.

2.2.5 LEGAL REGULATIONS DOMAIN. Legal regulations are only slightly less general to all classes of drivers than traffic control devices. Thus, definition of the domain of legal regulations was structured so that all vehicle classes were covered. An additional objective was that the domain definition relates applicability of each element of law to individual states. That technique of relating state's practices to a generalized set of legal regulations was selected after review of state codes showed a morass of inconsistent, conflicting codes and ordinances. Constructing a reference source for items responsive to all those jurisdictional differences was judged impractical.

Several general references on the legal regulation of drivers were considered and discarded. The Uniform Vehicle Code with Statutory Annotations was judged much too atomistic in reviewing individual state excursions from recommended statutes in the UVC. Rules and regulations promulgated by the Bureau of Motor Carrier Safety (BMCS) were also considered and dropped as a major element of the legal requirements domain applicable to Classes A and B. Several considerations made the BMCS regulations undesirable.

1. Sampling of state practices showed that the regulations were very selectively adopted, both between states and within a given state,
2. Given those variations in state practices, no source was available indicating the extent and content of the states' departures from the BMCS regulations,
3. A development effort conducted by the BMCS was focused specifically on preparing a written test based on the BMCS regulations, and,
4. Many of the BMCS rules were incorporated in the UVC.

Given those conclusions, the UVC was selected as the domain of legal regulations. That document was selected for several reasons.

1. It is readily accessible to test constructors and licensing officials,
2. The format is familiar to licensing officials, and in many cases is organizationally equivalent to existing state codes,
3. State officials know, or can easily determine, where their state code differs from the UVC.

To facilitate the determination of a particular item's pertinence to a given state code, plans were developed to key each statute-related item in the "Rules of the Road" (Chapter 11) of the UVC with an indicator of state conformity to the UVC statute. Using a condensed version of the conformity rating scale used by Kearney (Ref. 8), the following four designators were applied to the applicable legal regulation items:

- "+", indicates that the state's law is substantially the same as the UVC provision (Kearney's 5,4,3);
- "?", indicates that the state's law is probably the same as the UVC (Kearney's 2,1);

"0", indicates that the state has no comparable law (Kearney's 0);

"-", indicates that the state's law is not in conformity (Kearney's -1,-2,-3);

With those special compliance indicators, the Uniform Vehicle Code, particularly the "Rules of the Road" chapter, was accepted as the domain of legal regulation knowledges. One exclusion was defined. Those UVC sections pertaining to signs, signals and markings were excluded from the legal regulations domain since they were included in the traffic control devices domain.

2.3 GENERATING ITEMS

With the formation of the knowledge content domains, generation of items to reflect the included content began. Rules were developed to assure inclusion of all significant content from the individual domains and to assure item constructions that offered high utility to test constructors.

2.3.1 CONTENT SELECTION CRITERIA. Rules for content inclusion were developed to minimize the likelihood of omitting potentially critical content areas and, conversely, to maximize the inclusion of content elements having some demonstrable content validity. Since the type and amount of content support information differed for the vehicle classes, a separate set of selection criteria were developed and used for each of the three vehicle classes.

Class C Vehicles: The selection criteria developed for the passenger car and light truck class consisted of the following:

1. Criticality: All HumRRO task descriptions having a criticality rating of +4 or higher (mean = 0, standard deviation = 10) were selected.

2. Supporting Data: All HumRRO statements associated with supporting data related to accident or injury severity reduction and traffic flow facilitation were selected. That data could be of an experimental, observational, actuarial, or experiential nature, and were generally cited in HumRRO or other available source.
3. Consensus: The central concept of a content element found in two or more state tests or research scales was selected.
4. Legal: Each pertinent section and sub-section of the UVC was considered potential item content.
5. Control Devices: Each warning and regulatory sign and other traffic control devices described in MUTCD was considered potential item content.

Class M Vehicles: Content selection criteria for items dealing with motorcycling were developed from the taxonomy of tasks described earlier. In addition to the generally applicable criteria for Class C item content selection, the following additional criteria for motorcycling items were developed.

1. Unique to Motorcycles: All task statements in the taxonomy related uniquely to motorcycle operation, e.g., use of front brakes, effects of passengers on balance, etc., were selected.
2. Special Criticality: Tasks and knowledges rated more critical for motorcycle operation than for car driving were selected.

Classes A & B Vehicles: Considering the procedures used in developing the "Item Writers' Guide for Truck Driving: A Preliminary Outline," each statement was considered related to a unique or critical aspect of truck

operation and thus selected for item content. In addition, as with the Class M case, the "consensus," "legal," and "control devices" selection criteria defined under Class C were also applied to the truck class.

Each of those selection criteria were then applied to the five content domain reference sources described in Section 2.2, and the complete spectrum of knowledge content elements for item generation identified.

2.3.2 ITEM FORMAT CONSIDERATIONS. Items used in state and other tests come in a variety of formats, including true-false, multiple choice, sentence completion, and pictorial representation. Given the desired concentration on item content for the item pool, it was early decided that a single, uniform format for the pool would be appropriate. After review of the several available formats, the multiple-choice format was elected as the uniform format for the following reasons.

1. Most of the domain source document statements are re-stateable as multiple-choice items.
2. Most states presently use a multiple-choice item format (Miller and Dimling, Ref. 6).
3. The format is compatible with most automatic testing procedures (if the number of choices is limited to 4 or less).
4. Items soprepared are easily converted to fewer-choice or true-false formats.
5. The format offers more latitude in psychometric operations.
6. By judicious selection of answer alternatives, a considerable amount of information can be presented, and tested in a single multiple-choice item (Malany, Ref. 9).

7. Use of a standardized item format permits use of any set of items in a test battery without applicant confusion over several sets of instructions.
8. Multiple choice items are easily scored and administered (Olsen et al., Ref. 10).

Given that selection of common item format, rules were also developed to assure good test construction practice in the item constructions. Review of test construction experience, as reported for example by Malany (Ref. 9) and by Anastasi (Ref. 11) and of test experimentation, as reported for example by Terranova (Ref. 12), by Carpenter (Ref. 13) and by Conley (Ref. 14), resulted in the preparation of the item writing rules and guidelines given in Table II. As a result of these rules, no one of the 12,000 items collected from state and other tests (see Section 2.1.1) could be included in the item pool without modification.

2.3.3 ITEM WRITING. With contents specified and item format and construction rules defined, item writing began. Collected items from existing tests were reviewed for content and format, and modified to fit the project ground rules. Obviously, many new items had to be constructed to reflect content not covered by the relatively narrow content scope of the existing items.

With items generated to cover all content elements, review of format and content was initiated. Two HSRI reviewers independently checked each item and resolved in conference any disagreements before the completed item entered the pool. The major effort in that final review concerned making plausible the three distractors, i.e., wrong answers, for each of the items.

Table III provides sub-totals of the complete item pool so developed, broken out by vehicle class and content

TABLE II. RULES FOR ITEM CONSTRUCTION

1. Do not include one item that supplies the answer to another on the same test.
2. Make each item independent of the others. Do not have the correct response to one item dependent upon the response to another on the same test.
3. Make the test comprehensive, but exclude trivial and insignificant items. Sample the whole range of important topics.
4. State questions clearly; eliminate ambiguous items. Well-constructed test items should lend themselves to one and only one interpretation by those who know the subject matter involved. That is, a given test item should mean essentially the same thing to all of the applicants who know the point in question.
5. Include no item for which the answer is obvious to a person who does not know the subject matter.
6. The responses (choices) should all be related to a central point of concept.
7. Do not include a pair of mutually exclusive and exhaustive statements among the choices. For example, "You should pass other vehicles on:
 - a) the right
 - b) the left
 - c) steep hills
 - d) sharp curves"This practice has the effect of reducing a four-choice item to a two-choice one.
8. The distractors should be as informative as the correct response.
9. The stem should be as short as possible (less than sixteen words).
10. The choices should be of equal length and verbal difficulty.
11. Word questions in the simplest manner possible. Confine the terms used to the minimum vocabulary needed.
12. Do not use definitions (e.g., "Highway hypnosis is..."). Definitional items tend to measure verbal ability and memory rather than knowledge of the critical driving behaviors involved.
13. Include items at all levels of difficulty to insure a significant range of test scores and to get discriminations.
14. Make out the key or answers to the questions at the same time that the test is made.
15. Use a panel of experts to initially determine the adequacy of the item and the appropriate answers.

TABLE III. ITEM DISTRIBUTION BY SELECTION CRITERION AND VEHICLE CLASS

<u>Selection Criterion</u>	Class C		Class M		Class A&B	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Supporting Empirical Data (D)	133	10.0	30	6.5	502*	86.2
Rated Critical (C)	231	17.4	48	10.4		
Two or More Previous Uses (P)	37	2.8	10	2.2		
Unique to Vehicle Class (U)			278	60.0		
Traffic Control Device	259	19.5				
Legal Regulation	344	25.9	38	8.2	75	12.8
D and C	204	15.4	11	2.4		
D and P	36	2.7	2	.4	6	1.0
D and U			11	2.4		
P and U			23	5.0		
P and C	21	1.6	3	.6		
P, U, and D			8	1.7		
P, D, and C	63	4.7				
D, U, and C			<u>1</u>	<u>.2</u>		
Totals	1328	100.0	463	100.0	583	100.0

*This group of items actually falls somewhere between supporting data (D) and criticality (C).

selection criterion used.

Concern over the readability level of test items is always legitimate. The educational diversity of license applicants makes it imperative that items be easily read and understood. To keep the items formed here at an easy readability level, several writing rules were particularly emphasized.

1. The item's stem was restricted to less than seventeen words.
2. Each foil was kept to a minimum, uniform number of words in a given item.
3. One-syllable words, rather than poly-syllabic words were used wherever possible.
4. A list of simpler, equivalent terms was used instead of less common, technical terms, e.g., "... turn off the engine," "speed up" rather than "accelerate," etc. Attempt was made to eliminate technical jargon and regional terms where possible.

To determine the effectiveness of these guidelines, the readability of a group of HSRI items was compared with that of their counterparts secured from the states. A Flesch count was selected as a simple means of assessing readability.* Fifty pairs of items were randomly selected from the approximately 500 that had been written for the Class C vehicles to that point in the project.

One item of each pair was a pre-existing state item and the other item was its HSRI counterpart. The average sentence length (stem plus correct answer) for the pre-existing items was 28 words, while the HSRI items had an average sentence length of 18 words. Comparing the two sets of items in terms of their approximate reading levels,

* See Flesch, R., "A new Readability Yardstick", Journal of Applied Psychology, June 1948.

the HSRI items were at the 7 grade level ("reading ease score" of 78) and the existing items were at an 8-9 grade level ("reading ease score" of 64). These results compare favorably with those found by Conley (Ref. 14) on a set of items being used by the State of Illinois ("reading ease score" of 58) which is equivalent to a 10 grade reading level.

It should be noted that the foregoing readability analysis does not pertain to the items generated for the Class M and Classes A and B pools. The technical jargon and heavy equipment orientation of truck and motorcycle operations present formidable problems in terms of readability. However, the procedures used in constructing the Class C items were also followed for the other vehicle classes, thus hopefully reducing the items' verbal difficulty without sacrificing item content.

2.4 FORMING THE ITEM POOLS

With a pool of nearly 2400 items, it was apparent that item retrieval was a significant problem. Even configured in three sub-pools -- Class C (1328 items), Class M (463), and Classes A and B (583) -- several indexing and location schemes were required for locating and keeping track of individual items, both for efficiency in further project work with the items and for providing development of workable pool indexes for the final handbook. Three item indexing and cross-indexing schemes were developed.

The first of these indexes was simply the outline of the content topics covered by each item in the sequence in which the items appeared in the pool. The items were arranged in the pool according to their relation to content elements in the domain reports described earlier. Thus, this first indexing scheme, called the Composite Topic Index, was nothing more than the primary content headings of the

HumRRO task taxonomy, of the UVC and the "Writers' Guide" for control devices for the Class C pool; the primary content headings of the motorcycle "Writers' Guide" for the Class M pool; and headings from the truck "Writers' Guide" for the Classes A and B pool. Each item was numbered from 1 to 1328 in the Class C pool, so this Composite Topic Index simply gave a short content description of each item, starting with item 1.

Since that topical index ran some five pages of type, the second indexing scheme was simply an alphabetic rotation of that topical index, again with item number entries. Finally, the third indexing procedure consisted of an item classification matrix. One dimension of the matrix listed typical driving skills or knowledges, e.g., lane usage, sign interpretation, passing, etc., while the other dimension gave specific situations where the knowledge may be used, e.g., expressways, intersections, curves, etc. Within the cells of the matrix were located the number identifiers of particular items related to the specific combinations of content and situation. Some items, because of their content, were identified with more than one cell of the matrix.

The format of the pool proper was designed to present maximum pertinent information without cluttering the item listing themselves. Each page of items had the following standardized characteristics.

- At the top of the page is the "Composite Topic Index" term heading which refers to the placement of the item in the overall pool index.
- Certain groups of related items are identified by additional "catch" headings (e.g., "stop signs," "starting diesel engine," etc.).
- The next entries consist of the items themselves. Each item is identified with a number.
- Certain of the "Composite Topic Index" headings on item pages have footnotes associated with them. These refer the reader to sections which contain related items which expand the scope of a section.

- For items presented in the Rules of the Road section, ratings appear at the bottom of the page which list the suitability of the item in testing the knowledge of the particular Uniform Vehicle Code law in a given state.
- For items in the "Traffic Control Signs, Signals and Markings" section parenthetical references appear in the stem of many of the items. The reference numbers refer the reader to the appropriate symbolic representation of the device in the May 1970 draft of MUCTD.

Again these multiple indexing schemes were adopted both to facilitate bookkeeping during subsequent project activities and to permit evolution of effective indexes for final handbook use.

Those activities completed the "raw" item pool developments of Phase I.

2.5 PREPARING THE TEST CONSTRUCTION PRIMER

With realization that the utility of the item pools depended largely on the sophistication of its users, the development of a primer on test construction was undertaken.

The primer was intended for individuals involved in performing, evaluating or supervising a test construction program. The diversity of the expected audience was the foremost consideration in preparing the primer. Because its main purpose was to enable a diverse group of readers to conceptualize the test construction process, the primer was not intended to be either a theoretical treatise or a "cook-book." (Other texts that fulfill these purposes are already abundantly available.) Its intent, instead, was to present an intuitive yet systematic approach to test construction for the relatively unsophisticated reader.

On the basis of classical test construction principles and operational practice, a preliminary draft of an introduction to the philosophy of testing, the concepts of item

writing and test organization and the procedures for item analysis was written. This draft was given to several local psychometricians and technical aides, as well as a state licensing official, for review and comment. A revised document was prepared and distributed to three technical aides at HSRI and the director of a state licensing station, no one of which had test construction experience.

A short (10 item) multiple-choice, pre- and post-test and a written exercise were prepared in order to determine whether the tutorial material presented was understood by the four readers. All of the readers obtained higher scores on the post-test and successfully completed the exercise.

Based on these exercises, the primer was further modified in order to make the test construction process appear less formidable. In particular a series of rules of thumb were developed and inserted in the text with an appropriate explanation. Required computations were simplified, and illustrated. In addition, the references and more technical footnotes were removed from the body of the primer and presented at the end.

The contents of that primer included the following:

- Introduction
- Glossary
- Characteristics of a Good Test
 - Test must be reliable.
 - Test must be valid.
 - Test must be economically and logistically feasible.
 - A reliable, valid test begins with good items and a good format.
- Test Construction and Analysis
 - Item construction and Item difficulty.
 - How items are related: the concepts of variance, covariance and correlation.

- Selecting items on the basis of their correlations with each other.
- Reliability: Its meaning and importance.
- What our test measures: The question of validity.
- Designing several equivalent tests.
- Questions to be Asked When Evaluating a Test

2.6 FORMING THE PRELIMINARY HANDBOOK

Completion of the item pool and the test construction primer produced the two primary elements originally specified for the preliminary version of the "Handbook for Driving Knowledge Testing." Since each of those handbook elements was quite lengthy, they were separately bound. That separation is not inconsistent with intended operational application, where separation of the tutorial material, i.e., the primer, from the resource material, i.e., the item pool, might be desirable.

Since that version of the handbook was preliminary, reproduction of copies was held to the minimum consistent with working copy needs of the project and with need for NHTSA and selected research and operational personnel review. Distribution of the preliminary version for operational use prior to the revisions expected during Phases II and III was not warranted.

3.0 PHASE II: ITEM POOL EVALUATION

With the completion of Phase I, a draft "handbook" of resource materials for constructing driving knowledge tests was constructed. Recognizing the "raw" nature of the 2,400 multiple-choice items, Phase II was designed to evaluate the language construction, the content validity, and the psychometric characteristics of the individual items and item sets. It was early recognized that complete evaluation of all three item sub-pools would not be possible. Thus, it was elected to give first priority in item evaluation to the Class C (passenger car and light truck) pool, with lesser attention to the Class M (motorcycle) pool, and no further effort to the Classes A and B (truck and bus) pool. Several considerations influenced those decisions. Primary focus for the Class C pool was selected for the obvious reason that this driver class constitutes the bulk of the driver population, and is the class most treated in licensing and education activities. In addition, the greatest volume of research and operational state-of-the-art with Class C vehicles permitted development of an item pool reflecting that knowledge.

Conversely, the relative lack of information on motorcycling coupled with only minor attention to licensing and education with this vehicle class argued less justification for systematic test material development. Finally, further work with the Classes A and B pool was deferred in favor of the concomitant developments by the Bureau of Motor Carrier Safety of truck and bus driving knowledge test material.*

*Richardson, Bellows, Henry & Co., Inc. The Development of Written Examinations on the Motor Carrier Safety Regulations. Final Report on Contr.DOT-FH-11-7807, July 1972 (available from NTIS as PB-213 402); and, Roland & Co. A Driver Training and Apprenticeship Program for Commercial Vehicle Drivers. Contr.DOT-FH-11-7988, February 1973-August 1974.

The sections that follow describe the item evaluation activities with the 1300-plus items of the Class C pool, followed by description of the similar, but lesser-scope evaluation of the 463 items of the Class M pool. While not in the nature of item evaluation, the concluding section describes a Phase II effort to update and configure the Phase I "Item Writers' Guide for Truck Driving: A Preliminary Outline" as a preliminary trucker task analysis.

3.1 CLASS C POOL EVALUATION

Evaluation of the 1300-plus items covering safe, efficient and legal operation of Class C vehicles consisted of three consecutive stages.

1. Language Adequacy Evaluation
2. Content Validity Evaluation
3. Psychometric Evaluation

3.1.1 LANGUAGE ADEQUACY EVALUATION. The purpose of this review was to augment the HSRI item writers' application of item construction criteria by exposing each item to a common response mechanism, i.e., an "applicant." The goal was to identify those items which, through semantic and syntactic construction, either prevent the person with the required driving knowledge increment from answering the item correctly, or conversely, permit the un-knowing person to logically select the correct answer. This concern is recognizable, of course, as the classical first step in psychometric procedures.

To implement this language review, nine local high school students, each of whom had recently completed driver education, were selected to respond to the entire Class C item pool. Each student had taken driver education less than a year before this project activity. Two of the students had taken high school driver education in states

other than Michigan; one had commercial driver education; and the remaining six had been instructed in various Michigan schools.

The Class C items were divided and reproduced into 15 booklets of approximately 90 items each. Within each booklet, the item pages were rotated so that each respondent took the items in a different order. The booklets were administered over a 7-day period, with each respondent instructed to answer every item and to indicate those items that they were unsure of, either because the item was unclear or because they had to guess the answer.

Subsequent to scoring the "tests," individual interviews were held with the students to determine reasons for response uncertainty. The following guidelines were used in developing the schedule and protocol for those interviews.

1. For each item booklet:
 - a. The two respondents with highest scores were selected, and,
 - b. One of those respondents was questioned on each item answered incorrectly or with uncertainty indicated by him.
2. For each item answered incorrectly by five or more respondents:
 - a. It was determined whether a particular incorrect answer was selected by more than half, and,
 - b. One of the respondents was interviewed relative to the incorrect response.

Applying those guidelines resulted in review of over half of the 1,328 Class C items. In the subsequent interviews, the following protocol was used by the interviewer.

- Why was the particular answer chosen?
- Guessed?
 - Yes -- Why this particular answer?
 - No -- Because,
 - Answer selected also correct under some conditions?
 - Yes -- What conditions?
 - No -- Because,
 - Misunderstood question?
 - Yes -- What part and how change?
 - No -- Because,
 - Misinformed?
 - Yes -- Why is correct answer wrong?
 - No -- Any other comments.

Responding to the results of this language review, HSRI staff modified more than half of the Class C items by changing words or phrases in accordance with the respondents' comments.

3.1.2 CONTENT VALIDITY EVALUATION. In addition to language review, assurance was also required that the HSRI item writer had faithfully reflected the intended driving knowledge increment in his item construction.

Recall that the 1300-plus items of the Class C pool were developed from three knowledge domain sources. "Driving principle" items were largely developed from the HumRRO task analysis; "law" items from the UVC; and "sign" items from the Uniform Manual of Traffic Control Devices. Thus, the Class C pool consisted of the following categories:

Principle Items	725
Law Items	344
Sign Items	<u>259</u>
TOTAL	1328

Review by recognized authorities in traffic safety was selected as the method for assuring accuracy and content validity of the individual items. Candidate reviewers for the "principle" items were selected from the list of judges used in the HumRRO task analysis project. Experts on the UVC, the domain from which "law" items were constructed, were selected from a list provided by Mr. Edward Kearney, Executive Director of the National Committee on Uniform Traffic Laws and Ordinances. Finally, candidate reviewers for the "sign" items were selected from present and previous members of the Motorist Information Committee of the Highway Research Board. Using those procedures, a list of 64 "primary" authorities and 60 "back-up" experts was assembled.

To use these reviewers the Class C pool was broken into 32 sets of approximately 40 items each. Each of the item sets was prepared in booklet form, with each item presented with the source material from which the item was prepared, i.e., a task statement from the HumRRO task analysis, a paragraph from the UVC, or a section and drawing from the MUTCD. Adjacent to each source/item entry in the booklet were the two questions asked of the reviewer relative to the source and item relationship.

- Are there any important portions of the source material not covered by the item?
If "yes," please explain.
- Are there any common situations for which the indicated correct answer would be inappropriate or one of the incorrect answers would be more appropriate?
If "yes," please explain.

Since the project plan called for independent review

of each item by at least two authorities, each of the 32 item booklets was sent in early October, 1971 to two of the 64 "primary" reviewers. Selected experts from the "back-up" list were solicited to fill in for the "primary" reviewers who declined the task.

Schedule pressures were such that the review task had to be closed after a two-month period. Even with follow-up letters and phone calls, complete reviews were received from only 53 reviewers, identified with appreciation in Appendix A. While 18 of the item sets were covered by two or more reviewers, fourteen of the sets were reviewed by only one authority.

Comments provided by the reviewers were generally incisive and helpful. In many instances, contact was made with individual reviewers to clarify a comment or suggestion. As a result of this review by authorities, over half of the Class C items were reviewed and revised to some extent by the HSRI project staff.

With the language and the content validity reviews completed in December 1971, implementation of plans for pilot tests for psychometric evaluation of the Class C pool was begun.

3.1.3 PSYCHOMETRIC EVALUATION. At this stage of item evaluation, data were required on the psychometric adequacy of the items constituting the Class C pool. These data, required for the final "polishing" step of the item pool, were identified to include as a minimum the following indicators for each item.

1. Difficulty -- expressed as the proportion of respondents correctly answering the item.
2. Reliability -- the extent to which respondents continue selecting the correct answer on successive exposures to the item, expressed as a correlation between responses in a test-retest situation.

3. Relationship to variables not related to driving -- expressed as correlations with scholastic achievement, verbal ability, sex, age, etc.
4. Relationship to other items -- expressed as a correlation between the given item and other items in a knowledge sub-domain, e.g., freeway driving.

Given the large number of items for which these data were needed coupled with the need for re-testing, the decision was made to use high school driver education students as the respondent group. Given information that a major driver education project was then just getting underway in Iowa, contact was established with the Iowa Department of Public Instruction. At that time, late 1971, Project PRIDE (Program Research in Driver Education) was being established as a joint project of the Department of Public Education and NHTSA.

Subsequent discussions with Mr. Donald Koroch (Department of Public Instruction) and Dr. Leland Tack (Director, Project PRIDE) indicated the availability of some 2,500 driver education students for Class C pool test purposes. It was agreed that one class period of 50 minutes would be made available in each of two successive weeks in January 1972, coinciding with the final weeks of driver education for students in nine high schools. The distribution of those available driver education students was,

Des Moines Public Schools	--	1130 students in 5 schools
Davenport Public Schools	--	730 students in 2 schools
Waterloo Public Schools	--	605 students in 2 schools

Given those respondent availability conditions, the Class C pool was formed into 25 "tests" of about 50 items each. In order to get responses from individuals on all items in a given knowledge area, the "tests" were formed by grouping all items in a given knowledge sub-domain. Thus,

one test consisted of 50 items related to freeway driving, another related to code licensing regulations, another to warning signs, etc.

Prior to forming those tests, Dr. Tack and others reviewed the full pool for applicability of each item to Iowa. As a result, some 30 percent of the legal items were revised or omitted to assure compatibility with the Iowa vehicle code.

Using the 25 "tests" with IBM Mark-Sense answer sheets, the first week of testing, 3-6 January 1972, involved initial administration of the "tests" and the collection of achievement test scores, where available, from the school records for each of the participating students. In most cases, the achievement scores collected were the scores from two sub-tests of the Iowa Test of Educational Development (ITED). One of those sub-tests (Test 5; Reading, Social Studies) is considered a measure of reading ability; the other (Test 8; General Vocabulary) is a measure of word comprehension. In cases where those ITED scores were not available, comparable sub-test scores from the Iowa Test of Basic Skills (ITBS) were collected. Of the approximately 2,000 students tested during the first week, a total of 1,926 had those achievement scores available, resulting in an average of 77 students per item set providing both achievement scores and item responses.

During the second week of testing (10-13 January), each student re-took the same item set "test." While the students had been alerted to more testing, they were not told, of course, that they would be re-taking the same test. Over 90% of those participating in the initial testing completed the re-test. As a result, a total of 1,797 students provided test and re-test scores, averaging 72 students per item set.

The individual answer sheets, along with appropriate identifying codes, were transformed to IBM punch cards with data reduction then performed at the University of Michigan Computing Center. Using specially prepared programs, summary data were prepared for each item and included the following.

1. Item difficulty, i.e., the proportion of respondents correctly answering the item.
2. Correlation between item and achievement scores, using only the ITED Test 8 and the ITBS percentile scores.
3. Correlation between item score and total score on the "test" containing the item.
4. Correlation between test and re-test scores on each item.

Given those indices of item performance, criteria were developed to identify unacceptable items. For that purpose, individual items were tagged for review if they had one or more of the following characteristics:

1. A correlation of .30 or more with the ITED or ITBS vocabulary scores.
2. A test-retest reliability coefficient of less than .30.
3. A negative correlation with the total score of the "test" of which the item was a part.
4. An item difficulty (P-value) less than .50, i.e., answered incorrectly by more than half the respondents.

Those indices were used, of course, to isolate items that (1) were excessively related to verbal ability; (2) had an unacceptably large number of respondents change their answer when re-tested; (3) were more often answered correctly (incorrectly) by respondents showing less (more) information

about the knowledge sub-domain of which the item was a part; and/or (4) covered little-known content areas or had two or more "correct" answers.

Applying those criteria resulted in the identification of 481 "defective" items.* In order to retain for the item pool the knowledge content of those items, each faulty item was reviewed and re-written by a project staff member using specially-prepared fault/correction guidelines. Subsequently, each revised item was independently reviewed by a second project member to assure knowledge content integrity and item format conformity. Using those procedures, 361 items were revised, 8 were deleted, and 112 were judged adequate in their original form. In addition, ten new items were prepared to restore knowledge content that had been removed in the revision process.

That revision and re-write exercise thus resulted in 371 pool items without psychometric evaluation. To provide those psychometric data and to verify adequacy of the item revisions, arrangements were again made with the Iowa officials for a smaller scale replication of the earlier testing exercise.

Given identical constraints on driver education student availability, nine test forms consisting of about 50 items each were prepared. Each of the forms had about 40 of the re-written items plus 10 items that had exceeded the psychometric criteria applied to the earlier test results. These "good" items were added as controls to permit demonstration of student sample comparability between the two field tests.

This replication exercise was conducted in Des Moines, Waterloo, Cedar Falls, and Cedar Rapids, with initial testing

*Project spin-off occurred at this point with the selection by Dr. Tack of some 250 "non-defective" items for use in knowledge testing activities of Project PRIDE.

during the week of 1-5 May 1972, and re-testing during 8-12 May. Again, all procedures were the same as the January tests, including the collection of student ITED sub-scores.

Each of 893 students completed one of the nine test forms, providing a range of 95-104 responses per item. Eighty-eight percent of that group was available the following week to re-take the same test form, providing a range of 83-96 re-test responses per item.

Analysis of data from the 10 items common to the first test in Iowa showed sufficient similarity with the first test results, so that comparability of the two student samples was accepted. Analysis of responses and correlations from the 371 re-written items showed considerable success -- some 65% of the reformed items showed acceptably low correlation with vocabulary scores, acceptably high test reliability, and acceptable difficulty. While good practice would require re-writing and re-testing of the remaining 130 items with questionable characteristics, the contract schedule could be stretched no further. Thus, the 130 items were returned to the pool, minus 17 items with completely unacceptable statistics and marginal content relative to safe, efficient, legal driving. This final culling action resulted in a final Class C item pool of 1,313 items, with the great majority having associated data on difficulty, response distribution (proportion of responses to each answer alternative), correlation with verbal ability, and reliability.

All of those items and associated data from the Iowa tests are not contained in this Technical Report. For publication economy the full pool and Iowa data are contained in the operational "Handbook" resulting from this project. (The Topical Outline to that full pool is contained in Appendix D to this report.) As discussed later in Section 4.0 of this report, a selected set of those items was used in Phase III of the project for collecting normative and validation data --

full reproduction of those Phase III data are contained later in this report. The net result -- again for reporting economy -- is that data redundancy across this report and the "Handbook" has been minimized. The reader interested in all items and data must have both reports.

3.2 CLASS M POOL EVALUATION

Concurrent with the Class C pool evaluation, a more austere version of that evaluation scheme was being operated with the 463 "raw" items of the Class M (motorcycle) pool. Procedures identical to those for the Class C pool were used for language adequacy, content validity and psychometric evaluations.

3.2.1 LANGUAGE ADEQUACY EVALUATION. To assist in isolating items with semantic or syntactic problems, nine young male motorcyclists were recruited at a local driver licensing station after each had successfully qualified for his Michigan motorcycle operator license. Each was paid for taking a test consisting of the full, 463-item, Class M pool and for a de-briefing interview on items with which difficulty was experienced.

Using those procedures, approximately 200 items were identified for construction review and re-write to improve language adequacy.

3.2.2 CONTENT VALIDITY EVALUATION. The 463 items were then formed into 10 sets of about 45 related items each, and prepared in booklet form as was done with the Class C items.

In concert with Mr. Lewis S. Buchanan, NHTSA, and others, a list of 30 "primary" and 10 "back-up" experts was compiled. Each of the individuals was identified with some aspect of research, manufacture/sales, professional riding, enthusiast--group leadership, etc., dealing with

motorcycles. As with the Class C content review, this group of reviewers was to be asked for comments on the adequacy of each item in reflecting the source material from which it was drawn. The source material in this instance was the HSRI-prepared working paper on motorcyclist tasks, "Item Writers' Guide for Motorcycle Riding: A Preliminary Outline." A copy of that paper was included with the item booklet sent to each reviewer.

Each of the ten item sets was sent to three of the "primary" reviewers. Return rate from those reviewers was disappointingly slow and of low volume. Even using "back-up" reviewers, follow-up letters, and persuasive phone calls, this review period extended for five months (August-December 1972) before our criterion of at least two reviewers per item was met. The 25 participating reviewers, each of whom did a thorough, professional job, are identified in Appendix A.

A recurring criticism from the reviewers was that many of the Class M items were excessively basic, i.e., perhaps appropriate in beginner instruction but hardly critical to motorcycle safety. In evaluating that criticism and comparing the general contents of the Class C and Class M pools, HSRI staff recognized that criticism and purged 181 items from the Class M pool. Review did indeed show that those items involved fundamental, routine motorcycle operation tasks not comparable to any item sets in the Class C pool, e.g., items dealing with simple mechanics of engine starting, gear shifting, etc.

That tightened-up pool thus consisted of 282 items, including those re-written to conform to reviewer comments.

3.2.3 PSYCHOMETRIC EVALUATION. With increasing commitments to development of the Class C operational "Handbook," this final task with the Class M pool was

necessarily of marginal adequacy. As opposed to the massive tests in Iowa with the Class C pool, psychometric test of the 282-item Class M pool was restricted to generating only item difficulty and test-retest reliability data using a group of 35 licensed motorcyclists.

That rider group was recruited by newspaper ad and word-of-mouth in the Ann Arbor area and consisted mainly of university undergraduates. The median age of the group was slightly over 20 years, with a range of 16-30 years; years of riding experience showed a range from 1-9 years with a median of 2-1/2 years. Only one female motorcyclist participated. Given those statistics, the group could hardly be characterized as representative of the motorcyclist population. However, the age and experience levels of the sample certainly correspond with those prominent in motorcycle accident statistics.

The 282-item pool was broken into 6 sets of about 50 items each. Each of the riders completed all six sets. The order in which the item sets were presented was counter-balanced across riders to distribute test-taking practice and fatigue effects. Re-test of each rider on all sets was accomplished one week after the initial testing.

Scores from that exercise were reduced to provide for each item,

1. Response distribution (proportion of responses to each answer alternative),
2. Test-retest reliability coefficient, and
3. Correlation between item response and total score of the 282-item test.

The full Class M pool, its Outline and Topic Index, and the item data identified above are reproduced in Appendix B. No further activity with this partly-developed pool was attempted. While hardly constituting an

evaluated, ready-to-use set of motorcycling items, that pool is offered for continued development and use by individuals and agencies involved in testing motorcycling knowledge in education and licensing contexts.

3.3 CLASSES A & B DEVELOPMENTS

As described in the introduction to Section 3.0, priority decisions for contract resources left development of the truck and bus driving item pool suspended at the end of Phase I. At that point a pool of 583 "raw" items had been developed as described in Section 2.0 of this report. For continued development and use by activities involved in truck and bus knowledge testing, that pool of "raw" items, with its associated Outline and Topic Index, is reproduced in this report as Appendix C.

However, one final activity related to truck and bus driving was accomplished during Phase II. Recognizing the pertinence to other research of the rudimentary trucker task analysis, "Item Writers' Guide for Truck Driving," developed in Phase I, NHTSA elected to commit a modest effort to update and expansion of that task analysis beginning.

To effect that analysis update, it was elected to sub-contract the effort to Human Factors Research, Inc., in order to exploit their experience and contacts gained in DOT-sponsored truck driving research. The tasks specified in that sub-contract were as follows:

Task 1: Review for completeness and accuracy the rudimentary taxonomy and descriptions of truck and bus driving tasks prepared by HSRI as "Item Writers' Guide for Truck Driving; A Preliminary Outline" (HSRI Working Paper, August, 1971); augment and correct those task descriptions as

required to provide complete description of (a) general driving tasks that are particularly important for truck and bus operation, and (b) those tasks that are unique to truck and bus operation.

- Task 2: Validate, using a panel of experts experienced in truck and bus operations, the accuracy and completeness of the taxonomy and descriptions produced in Task 1; revise the task description set to reflect recommendations from this panel.
- Task 3: Following the procedures used by HumRRO, as described in their Volume II, Task Analysis Methods, determine the criticality of the individual task descriptions from Tasks 1 and 2, above.
- Task 4: Reduce the expert rankings of Task 3 to individual task description indices, again using the HumRRO procedures as a model; annotate the task description tabulation of Tasks 1 and 2, above, with those criticality indices.
- Task 5: Prepare a summary report of the effort to include the annotated tabulations of Task 4, description of the methods used, and identification of the experts used in Tasks 2 and 3.

With successful completion of those tasks, the report from Task 5 was prepared as a stand-alone report and released for dissemination by NHTSA. For further details

on that task analysis, see the distributed report.*

Those, then, were the activities that constituted Phase II of the "Handbook" development project. In summary, the products resulting were,

1. An evaluated pool of 1,313 items related to Class C vehicle operation.
2. A semi-evaluated pool of 282 items related to Class M vehicle operation.
3. A second-generation task analysis of truck and bus driving.

Section 4.0 that follows describes the activities of Phase III, solely concerned with continued development of the Class C item pool and preparation of the "Handbook for Driving Knowledge Testing."

*Human Factors Research, Inc. Truck and Bus Driver Task Analysis. Final Report on Subcontract No. 1 to HSRI, Univ. of Mich., under Contract NHTSA-FH-11-7616, May 1973, released by NHTSA as Rept. No. DOT/HS-800-835, available from National Technical Information Service under Order No. PB 221 003/7.

4.0 PHASE III: ITEM POOL VALIDATION

The third, and final, phase of the project was involved mainly with the Class C (passenger car and light truck) item pool. In general, the goal was use of various driver groups to get two types of data descriptive of item performance -- normative data, i.e., quantitative expression of how drivers with various personal and driving-related characteristics respond to the items, and validation data, i.e., expression of the relationship between item performance and other measures of driving performance. These data were required for inclusion in the operational "handbook" as item descriptors for use in the recommended systematic test construction procedures promoted by the handbook.

Since the full pool of 1,313 items was impractically large for "real" driver samples, the first activity of this phase was the systematic selection of a manageable sub-set of items representative of the full pool. Subsequently, this "Special Test Set" of items was used under research conditions with Coast Guard recruits and under operational conditions with Michigan driver license applications to generate the normative and validation data required. The paragraphs that follow describe those activities, and conclude with description of the final configuring of the operational "Handbook for Driving Knowledge Testing."

4.1 SPECIAL TEST SET ITEM SELECTION

Use of the full 1300-plus items of the Class C pool with Iowa students during Phase II was both necessary and practical. Necessity for psychometric screening of each item left no alternative to full pool use. Meeting that necessity was

practical by assuming homogeneity of the student population on driving-related variables, e.g., age, training, experience, etc., so that sample expansion to capture those variables was not required. Finally, time available with each student (100 minutes) was relatively luxurious, making many item responses per student possible. All those conditions made practical the full-pool use with driver education students.

Working with "real" driver groups, however, introduced a different set of conditions. Rather than seeking homogeneity of respondents, the goal of normative data must include provisions for keying those data to normal variations in the driver population -- variations with respect to age, training, driving experience, dominant driving locale, demonstrated driving difficulties, etc. Adding variables, of course, automatically expands sample-size needs when number of items and required responses per items are kept constant. Multiplication of items times responses times driver variables resulted in the need for over 200,000 drivers, given the limited time available per driver, to provide sufficient normative data for each item in the full pool. That magnitude of sampling clearly exceed project scope.

Reduction of this sample size to practical levels initially involved tightening-up the driver variable list, mainly by coarse grouping of variable values, e.g., five-year age intervals instead of two, Michigan drivers only instead of several states, etc. However, even with such shrinking of driver variables, practical sample sizes were not possible. Thus the decision to shrink the item set for normative and validation data purposes.

Selection of items for this Special Test Set (STS) was mainly guided by the full-pool psychometric data developed in Phase II with Iowa driver education students. With the goal of a 250-item STS, the first-pass selection of items used the

cluster analysis data from the Iowa test. The cluster analysis program used in Phase I constitutes a rudimentary factor analysis -- it identified those sets of four or more items which show high inter-correlation with respect to the pattern of responses from a group of respondents. Thus an item cluster contained those items with something, hopefully knowledge, in common, such that a common pattern of responses was elicited from the respondents. Using those cluster data, individual items were selected from each of the dominant, i.e., many item, clusters from the Iowa data. The item difficulty and reliability data were also used. The difficulty index was used to select items showing a broad difficulty range; the reliability data were used to maximize inclusion of reliable items in the STS. Finally, the 246 items so selected were compared with the knowledge taxonomy to determine representativeness of the full pool knowledge domain, and to determine that items reflecting high criticality to safe, efficient driving were included in the STS.

Representativeness of knowledge content of the full pool by the 246-item STS is illustrated in the notations given on the Class C Item Pool Outline and Topic Index (for the full pool) contained in Appendix D. Also reproduced in that Appendix is the full set of items constituting the STS, with items from the three major sections of the Class C pool as follows:

Driving Principles items	149
Laws and Regulations items	58
Signs and Signals items	39
	<hr/>
TOTAL	246

That item set, then, was the instrument subsequently used with Coast Guard recruits and Michigan drivers in attempts to generate validation and normative data.

4.2 COAST GUARD RECRUIT SAMPLE

Under NHTSA sponsorship, the Development Education and Training Research Institute (DETRI) of American University operated a research project to develop and evaluate methods of advanced driver instruction. The project, conducted at the Coast Guard Recruit Training Center in Cape May, New Jersey, was intended as a longitudinal research study of driver performance subsequent to controlled exposure of driver groups to various experimental advanced driver instruction curricula. As base-line data, extensive personal and driving history data, as well as performance measures during project involvement, were collected for each recruit participant in the DETRI project.

As a cooperative venture to meet HSRI data needs and to assist DETRI knowledge testing requirements, arrangements were made for HSRI access to some of the DETRI-project recruits. Use of these respondents to the STS was selected with three goals envisioned.

1. Recruit data from the STS would provide the desired "validation" correlations between STS item performance and other DETRI-collected measures of driving performance, e.g., range and classroom scores, personal and driving history, etc.
2. Time available with the recruit group would permit each recruit to respond to each of the 246 items of the STS, and thus provide the conditions for formal factor analysis with the possibility of identifying driving knowledge factors, i.e., grouping of items with some common knowledge component.
3. While hardly representative of the driver population, the recruit group would provide another sample of

"normative" data to complement the Iowa student data and the to-be-collected Michigan driver data.

Meeting factor analysis and normative data stability conditions suggested the need for a minimum of 200 recruit respondents. To minimize fatigue effects, arrangements were made to administer the STS over a three-day period. Thus, the 246-item set was prepared in three, 80-plus item forms. As done in the Iowa testing, items relating to the same knowledge content and similar knowledge content groups were kept together on the "test" forms. Thus, Form A contained only driving principle items; Form B some principle and some law items; and Form C some law and all of the sign items. Paraphrased, items were not randomized. To counter-balance practice, each group of three recruits was assigned the forms such that each recruit completed the three forms in a different order, i.e., a Latin Square presentation order was used.

4.2.1 FACTOR ANALYSIS. Those data collection procedures were used with the 136 licensed-driver recruits of the "Spring Group" (1972) of recruits assigned to the DETRI project. While considerably short of the 200 respondent goal, analysis of the responses from that sample was initiated. Factor analysis of those responses was accomplished using the "Factor Analysis with Varimax Rotation" program available in The University of Michigan Statistical Research Laboratory program file.*

Due to program limitations, not all of the 246 items could be used as variables in the factor analysis. Thirty-four items were selected, consisting of 21 driving principle items,

*For full description of that analysis package, see Program BMD03M, Factor Analysis, in Dixon, J. D. (Ed.), BMD Biomedical Computer Programs. University of California Press: Berkeley and Los Angeles, 1967.

8 law and regulations items; and 5 signs and signals items. A first analysis was computed that called for eleven factors, with no limit placed on the variance of a factor to be rotated. Results from that run were rejected--factor loadings were obviously too diluted when seeking that many factors with only 34 variables (items). A second computations was run with a four-factor limit on the program.

Factor loadings from the four-factor run were quite high (.33 to .67). Item numbers, relatable to the STS item listing in Appendix D, associated with the four factors are given below.

<u>Factor A</u>	<u>Factor B</u>	<u>Factor C</u>	<u>Factor D</u>
114	242	428	123
376	317	446	269
509	350	689	270
795	401	718	
843			
870			
932			
1155			
1275			
1278			

While the analysis established statistical relationships between items in each of the four factor groupings, identification of underlying knowledge factors responsible for the groupings was not possible. Factor A, for example, contains items concerning stopping on hills, what to do about a canceled driver license, how to enter a traffic circle, and what a detour sign means. A common knowledge element with those diverse items is not interpretable. Similarly Factor B, with items on the order of driver operations when backing up, what to do when bumps and holes appear in the road ahead, and first operations on starting downhill, is not interpretable.

Subsequent to that un-rewarding analysis DETRI provided answer sheets from an additional 91 recruits, the DETRI

"Fall Group" (1972). Further factor analysis runs were completed on the 34 items used with the "Spring Group," first with the responses from the "Fall Group," then with combined responses from the full set of 227 recruits.

Again, in each instance, the item factors produced contained non-sensical content groupings. Oddly enough, the item groupings formed for the Spring Group were completed different from those for the Fall Group.

Given these un-interpretable results, factor analysis was discontinued and the search for driving knowledge content factors dropped.

4.2.2 CORRELATIONS WITH OTHER MEASURES. As described earlier, plans were to exploit the individual recruit data files built by DETRI. Of particular interest for correlation with performance on the STS items was the Composite Range Test Score generated for each recruit by the DETRI staff. The Cape May Range Test was a relatively sophisticated set of behind-the-wheel exercises, ranging from simple basic control maneuvers to rather complex perceptual/motor/judgement situations.

Unfortunately, through a fortuitous combination of circumstances, both of the recruit groups "tested" with the STS items subsequently were prevented from having the Range Test due to range modification work.

Similar failure was experienced in attempts to get other data on recruits, e.g., driving history, measured attitudes toward driving, scholastic achievement. Through schedule misunderstandings, HSRI attempts to acquire those data for correlation with STS performance came too late in the phase-out of the DETRI project.

Thus, contrary to project plans, operations with the Cape May recruit groups did not provide for validation of item performance against other real or surrogate measures of driving performance.

4.2.3 NORMATIVE DATA. Those operations did, however, provide individual item response distribution data. While hardly constituting a valid driver population sample, the Coast Guard recruit groups sampled do constitute a reasonable geographic sample (all areas east of the Mississippi River) of the age/sex group most prominent in accident statistics (males between the ages of 17-24). For those reasons, the individual item response distributions, computed for the 227 recruits as a group, are included in the STS item data tables. (These tables are contained in Appendix D and are fully discussed in sections that follow.)

4.3 MICHIGAN DRIVER SAMPLE

For obvious reasons, the State of Michigan was the leading candidate as the site for collecting item normative data. Subsequent to briefing on the HSRI operational plans and goals, authorization to operate in Michigan driver licensing stations and driver improvement centers was granted by Mr. Richard H. Austin, Michigan Secretary of State. Actual coordination of the field operation was assigned to the Office of Driver and Vehicle Administration, Mr. George Stevens, Administrator.

The general plan for the normative data operation was direct substitution of tests formed from the HSRI Special Test Set of items for the licensing and driver improvement tests used in Michigan. The target groups of drivers for this data collection effort were:

1. Original Applicants, those drivers applying for their first driver license.
2. Renewal Applicants, those drivers licensed in Michigan applying for renewal under the state's retest-at-renewal system.
3. Transfer Applicants, those drivers licensed in some other state applying for a Michigan license due to residence assumption in this state.
4. Problem Drivers, those Michigan driver referred for driver improvement action under the state point system.

The paragraphs that follow describe the test construction and pilot test activities; the sampling plan, and the normative data collection and analysis activities for each of those driver groups.

4.3.1 TEST CONSTRUCTION AND PILOT TEST. Official Michigan knowledge testing with Class C drivers is done with two basic test instruments -- a 40-item, multiple-choice test in several equivalent forms for use with original and transfer applicants and with "problem" drivers, and a 10-item, multiple-choice test in several equivalent forms for use with renewal applicants.

Adapting to that test format required arrangement of the STS into several equivalent test forms. In order to use all 246 items, seven forms of 40 items each were constructed, each with the following gross characteristics.

34	unique items
5	items in common with all other forms
1	item in common with one other form
<hr/>	
40	items per form

Within that gross re-arrangement of STS items, Iowa psychometric data and the content taxonomy were used to assure content and difficulty equivalence across the seven test forms.

Content equivalence was attempted by assigning equal numbers of principle, law, and sign items to each of the test forms. Within each of those gross content areas, items relating to specific content areas, e.g., urban driving, were spread across the seven forms.

Test difficulty equivalence was set using the individual item P-values, i.e., proportion of correct responses, established in Phase II with Iowa driver education students. Using a cut-and-try procedure with the constraint of content equivalence, items were shuffled by P-value until the seven sets of

40 item each had an (Iowa student) average item P-value between .781 and .794.

The procedures for developing test forms with equivalent content and difficulty were observed not just to demonstrate test construction procedures for use in the operational "Handbook," but also in recognition that Michigan applicants (originals and transfers) would be accepted or rejected based on their performance with the HSRI tests. That rigor of application of test results is not true, however, with renewal applicants. Michigan licensing policy views renewal applicant "testing" as basically an educational process, so that poor performance on the knowledge test triggers additional attention to the applicant, not automatic rejection.

Thus, preparation of the 10-item tests using STS items was relatively simple. In arranging items in each of the 40-item test forms, attempt was made to assure successive groups of ten items with reasonable inclusion of principle, law and sign items and with reasonably constant average P-values. Thus, the first ten items of Original Form 1 constituted Renewal Test 1, items 11-20 constituted Renewal Test 2, etc. The 28 Renewal Tests formed in that manner had a range of average P-values of .765 - .803, again based on the Iowa driver education student data. Identification of the test form that each of the STS items was assigned to is shown in the first column of the item data tables in Appendix D. For example, the nineteenth item in the full Class C pool, identified in the appendix data tables as "Pool No. 19," also has the identifier of "5-30" in the first column. This means that this item was the 30th item on Original Test Number 5. (Note that this item was also the 10th item in Renewal Test Number 19 -- see the description above on renewal test form construction.)

In order to try-out the administration and scoring procedures planned with the HSRI test forms and to demonstrate "fairness" of the proposed tests to Michigan officials, pilot-test of the seven, 40-item test forms was conducted at two

state licensing stations, one in Ann Arbor and one in Jackson. State licensing personnel at those two stations administered the HSRI tests to 349 original license applicants, providing an average of about 50 applicants for each of the seven test forms.

Analysis of the results from that group showed test difficulty values reasonably equivalent to the Iowa values on which the tests were formed. The Michigan sample results showed average P-values of .765 - .810 across the seven test forms, compared to the range of .781 - .794 for the Iowa students. These results were accepted as adequate demonstrations of test form difficulty equivalence.

Comparison of the pilot sample results with score results from the 40-item Michigan Operator Tests was also completed. For that comparison, a sample of 1,605 Michigan tests completed by applicants at the Ann Arbor and Jackson stations were collected. Test score distributions for applicants with the Michigan tests versus the HSRI tests are shown in Figure 3. On that plot, note that the HSRI tests are considerably more difficult than the Michigan tests, i.e., fewer applicants got a given number of HSRI test questions right.

That measured difference between the Michigan and the HSRI tests lead to two conditions for the full Michigan test operation. First, a passing score of 25 or more items correct was accepted for the HSRI tests, since the pilot test comparisons suggested that cut-off as equivalent in passing rate to the 30 correct item threshold normal with the Michigan tests. Second, since much of the knowledge content reflected in HSRI items was not contained in the Michigan Driver's Manual, it was agreed that any complaining, failing applicant would be offered immediate re-test with a Michigan test. Otherwise, the failing applicant would be urged to study the manual and return for re-testing.

Given those pilot test results, approval was given by

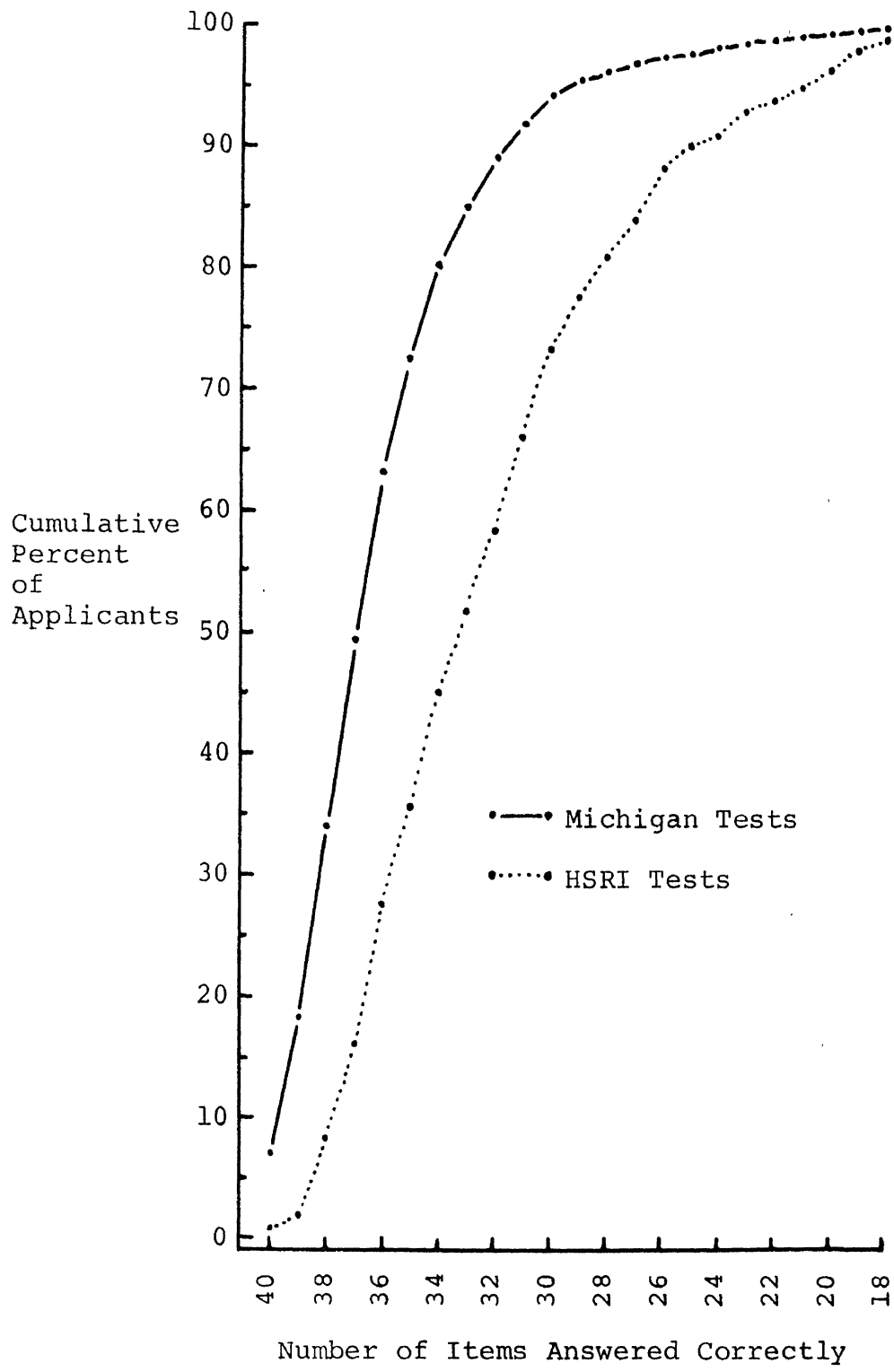


Figure 3. Pilot Test Scores

state officials to substitute the HSRI test forms for official test forms in accordance with the agreed-upon sampling plan.*

4.3.2 SAMPLING PLAN. For logistic reasons, a gross sampling plan was selected that called for operation in all state-operated licensing stations in only 20% of Michigan's 83 counties. The 16 counties for operation were randomly selected from the population of counties, biased by passenger car registrations since drivers-by-county data were not available. Thus, Wayne County, which includes Detroit, was nearly an automatic selection since over 40% of Michigan's cars are registered there. Conversely, Iosco County with less than 1% of the state's registrations had a low selection probability. The counties selected by that process, the number of stations in each county and the number of HSRI tests assigned to each county are given below.

<u>County</u>	<u>Stations</u>	<u>Test Forms Assigned</u>	
		<u>Original</u>	<u>Renewal</u>
Bay	1	49	644
Berrien	2	189	1260
Calhoun	2	126	1092
Genesee	2	238	2240
Iosco	1	21	168
Jackson	1	84	980
Kent	2	231	1764
Livingston	1	42	420
Macomb	4	497	4228
Manistee	1	14	168
Marquette	2	49	392
Montcalm	2	35	336
Oakland	5	658	5292
Saginaw	1	175	1484
Shiawassee	1	28	532
Wayne	14	1799	14065
	<u>42</u>	<u>4235</u>	<u>35056</u>

*In both sample planning and subsequent operations in Michigan licensing stations, special appreciation is due Mr. Harley Neideffer, Director, Bureau of Field Services, Michigan Dept. of State, for his continuing helpful advice and support.

The number of test forms assigned to each county and station was based on the average monthly applicant load at each station and on the practical necessity for not exceeding two weeks of operation in any station. Not surprisingly, the test form assignments were perfectly correlated with the proportional distribution of passenger car registrations in this 16-county sample. Note also that the form assignments are multiples of the seven-form original tests and the 28-form renewal tests, i.e., each station got equal numbers of each test form.

The test forms and answer keys were hand-carried by HSRI staff to each of the selected licensing stations, and briefings given on test goals and administration requirements. Testing of original, transfer and renewal applicants at the stations was completed during the last two weeks of July, 1972.

Results from testing with each of those driver groups are presented separately in the following paragraphs.

4.3.3 ORIGINAL APPLICANT SAMPLE. In addition to responses to the 40 test items, each original applicant was provided space on the test form to indicate sex, date of birth, type of driver education completed, and previous driver license status. (This question to the applicant was added as cross-check on the license examiner's indication of the reason for original-testing each applicant.) In addition, a code number on each test form identified the testing station, thus providing (assumed) dominant driving location of the applicant.

Of the 4,235 original forms distributed, a total of 4,059 were returned in useable condition. Not all of those forms were accepted for analysis, however. As discussed above, the HSRI tests, by direct substitution for the Michigan tests, were used for all applicants for which an original applicant test is specified. In addition to original (no previous license) and transfer (new resident) applicants,

Michigan policy specifies use of the original test with drivers returning from suspension or revocation and with drivers whose license has expired. Since those classes of drivers were not pertinent to the normative data sampling plan, their test forms were set aside.

That final culling action resulted in 3,451 forms selected for analysis, consisting of 2,940 original (no previous license) applicants and 511 transfer (new resident) applicants. (Reduction and analysis of the transfer applicant forms are discussed in paragraph 4.3.4, below.)

Each of the 2,940 original applicant forms was reduced to punch card form to include a unique numerical identifier of each applicant, test form number, licensing station number, sex, driver education status, and, of course, the response option selected for each of the 40 test items. From the computer file constructed with those data, print-out of applicant characteristics was used to form the set of applicant variables and associated value groups for use in determining item performance relative to characteristics of the inexperienced "drivers."

That set of original applicant variables is shown in Table IV. Note that values for the age variable are both truncated and broad at the upper ages. Those value groupings reflect, of course, the characteristics of the obtained sample plus application of the data-stabilizing criterion of a minimum of 10 applicants per test form, i.e., ten responses per item.

The "Location" variable in Table IV requires explanation. Assuming that most applicants chose the licensing station within or nearest to the area in which most of his driving was done, construction of a variable and associated values to distinguish the urban versus rural nature of that driving was elected. Oddly enough, a simple urban-rural dichotomy was not workable -- a few station locations were clearly urban and a few definitely

TABLE IV. ORIGINAL APPLICANT
VARIABLES AND SAMPLE DISTRIBUTION

<u>Variables</u>	<u>Applicants</u>	<u>Range of Applicants' per Item *</u>
Sex:		
Male	1,329	178-207
Female	1,607	222-240
Age:		
<18	1,882	251-278
18-19	364	40-65
20-24	286	33-50
25-34	203	21-36
>34	134	12-19
Driver Education:		
High School	2,009	273-302
Commercial	209	25-33
None	575	73-94
Location:		
1 (Urban)	359	44-61
2	1,178	156-175
3	812	111-123
4	397	51-61
5 (Rural)	194	25-32
TOTAL	2,940	402-434

rural, but the majority were somewhere between. Thus, a five-point location scale was devised and defined as follows:

- Location 1 -- Highly urban, inner city of metropolitan area (Detroit).
- 2 -- Residential ring of metropolitan area, unclustered and identified with the metropolis.
- 3 -- Clustered communities and towns satellite to the metropolis, i.e., suburban.
- 4 -- Cities, independent geographically, with rural surroundings.
- 5 -- Towns, independent, with rural surrounds.

Using that location "scale," three HSRI researchers, each very familiar with the environs of each station, independently

*Equal numbers of applicants did not take each test form, i.e., item set. This column shows the numbers of applicants taking the least-used and the most-used test forms.

grouped the 42 stations used. Good agreement was found with three-way discussion used to resolve disagreement. The final groupings resulted in 5 stations identified with Location 1, 7 with Location 4, and 10 each with Locations 2, 3, and 5.

Referring back to Table IV, the applicant distribution across the variables shows that the no-previous-license sample captured basically metropolitan-fringe and suburban teen-agers fresh out of driver education. However, adequate sample sizes were obtained for older original applicants in other locations as shown in the last column of Table IV. Note that because of missing data on the test form, applicants within a given variable do not necessarily add-up to the total applicants given at the bottom of the table.

The individual item response distribution data for each of those original applicant variables are given in Appendix D. Table V summarizes those data by the coarse knowledge content categories of principles, laws and signs. Table entries are average P-values, i.e., the mean of the distribution of correct-response proportions for individual items. Thus, each entry may be loosely considered the "score" by the applicants, grouped as identified by the column headings, on each of the item content groupings.

Looking at the variables in turn, Table V shows a small, but consistent performance difference in favor of male applicants, which is not inconsistent with tests having a mechanical flavor. The age variable shows a rather sharp decrease in "scores" with age, probably reflecting the sample bias toward "fresh-out" driver education students. Note, however, the performance rally of the oldest group on law items, perhaps reflecting an experience-gained sensitivity to legal constraints. The driver education variable shows expected strength of the high school group, surprisingly nearly matched by the commercial education group. Note the inconsistent low score on legal items from the commercial

TABLE V. SUMMARY OF ORIGINAL APPLICANT PERFORMANCE

	<u>Original Applicant Variables</u>															
	<u>All</u>	<u>Sex</u>		<u>Age</u>					<u>Driver Ed.</u>			<u>Location</u>				
		Male	Fe- male	<18	18- 19	20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5
Principle Items (149)	.73	.76	.73	.79	.68	.65	.64	.64	.78	.76	.64	.64	.74	.78	.76	.78
Law Items (58)	.75	.76	.75	.78	.72	.72	.68	.72	.78	.68	.68	.67	.76	.76	.76	.78
Sign Items (39)	.76	.78	.74	.80	.70	.67	.65	.65	.79	.77	.66	.65	.76	.78	.76	.81
All Items	.74	.76	.73	.79	.69	.67	.65	.66	.78	.74	.65	.65	.75	.77	.76	.78

group, perhaps reflecting curriculum differences between high school and commercial instruction. Except for Location 1 (inner city), scores from the various test areas were reasonably constant. As shown below with renewal applicants, the inner city applicants consistently score lower than other applicants. How much of that difference is attributable to true knowledge difference and how much to differences in educational and cultural enrichment is debatable.

The above observations and similar "interpretations" of group score differences that follow with other driver groups must be viewed with caution. Single variable interpretation, when that variable is confounded with all others, is risky. However, sample size precludes any finer comparisons, i.e., insufficient cases would accrue, for example, in trying to compare male, teen-age, high school applicants in the inner city versus a similar sub-group in rural surrounds.

As mentioned above, the individual item response distribution data for original applicants, of which Table V is a summary, are given in the data tables of Appendix D.

4.3.4 TRANSFER APPLICANT SAMPLE. While not originally planned as a sample group, transfer applicants were caught in the HSRI testing effort in sufficient numbers (511) to serve as a stand-alone sample group. However, the sample characteristics and size permitted only a limited-values age variable to be used for sub-grouping the applicants. By and large, the applicants were males appearing at stations in and around Detroit, Grand Rapids and Flint. The age characteristics of that group of transfer applicants is given in Table VI. Note the critically small number of applicants per item in the two older age groups.

This applicant group consistently out-performed all other groups tested with the STS items. Summary data on their performance is given in Table VII. It might be speculated that

TABLE VI. TRANSFER APPLICANT VARIABLES
AND SAMPLE DISTRIBUTION

<u>Variables</u>	<u>Applicants</u>	<u>Range of Applicants per Item</u>
Age:		
<25	161	17-28
25-34	191	21-36
>34	149	12-29
TOTAL	511	61-85

TABLE VII. SUMMARY OF TRANSFER
APPLICANT PERFORMANCE

	<u>Transfer Applicant Variables</u>			
	All	<u>Age</u>		
		<25	25-34	>34
Principle Items (149)	.80	.80	.81	.78
Law Items (56)	.83	.82	.84	.84
Sign Items (39)	.82	.83	.83	.80
All Items	.81	.81	.82	.80

the context and mechanics of the testing situation served to facilitate their display of knowledge. Each applicant was an experienced driver facing the challenge of a new administrative and legal environment -- motivation must have been generally high. Station policy also provides for knowledge refreshment and acquisition immediately preceding testing. Each applicant has the Michigan transfer requirements explained, and is given a copy of the reasonably complete Michigan Driver Manual to review before taking the knowledge test. Such procedures should tend to optimize transfer applicant performance.

As with original applicants, full display of transfer applicant responses to individual STS items is given in Appendix D.

4.3.5 RENEWAL APPLICANT SAMPLE. The experienced Michigan drivers forming the renewal applicant sample received the 10-item sets of STS item, formed as described in paragraph 4.3.1, above. As with the original test forms, the renewal test forms provided space for applicant response to several personal characteristics questions. In addition to sex and date of birth, each applicant was requested to provide his Michigan driver license number (for subsequent record look-up), an estimate of years he had been driving, and an estimate of the number of miles driving in the past 12 months.

As with the original test forms, the 34,251 usable renewal test forms were coded, key-punched and formed into a computer file. Print-out of the applicant characteristic data was subsequently used to form the renewal applicant variable and values set. The resulting variable list is given in Table VIII.

The renewal applicant variables as shown in that table are, of course, similar to the variables used with the original applicants. The age categories for renewals are naturally more extensive for renewals. Note the absence of a "years driving" variable. Inspection of that characteristic showed such high correlation, thus redundancy, with the age characteristic that

TABLE VIII. RENEWAL APPLICANT VARIABLES
AND SAMPLE DISTRIBUTION

<u>Variables</u>	<u>Applicants</u>	<u>Range of Applicants per Item</u>
Sex:		
Male	16,964	572-651
Female	16,893	564-637
Age:		
<20	2,274	61-99
20-24	3,914	122-161
25-34	8,205	261-329
35-44	5,915	183-238
45-54	5,737	180-238
55-64	4,308	136-178
>64	2,667	84-113
Location:		
1 (Urban)	3,746	128-138
2	12,675	449-457
3	9,897	350-357
4	5,378	189-195
5 (Rural)	2,555	89-92
TOTAL	34,251	1,209-1,229

driving years was dropped as a variable. (Those data were retained, however, and used in the comparison described in 4.4.2, below.) Annual miles driven was also rejected as a variable, first because of the high missing data rate and then because of the high incidence of obviously unstable estimates, e.g., less than 1 mile per year, 250,000 miles per year, etc. In addition, many forms showed examiner-entered mileage, suggesting at least examiner prompting.

Note the healthy number of applicants per item for the renewal applicant sample. While those data loadings could have been split to provide finer variable value groups, the same order of groupings dictated by the smaller original applicant sample was chosen to facilitate comparison across the two driver groups.

Summary performance data, keyed to the renewal sample variable list, are presented in Table IX. Note that only 244 items of the 246-item STS are reported with this group. Insidious typographical errors with two items on the Renewal Test Forms invalidated those items. Thus, items 428 (principles) and 1086 (signs) are not included with this driver group. Table IX data show, as did the original applicant data, that males have a slight edge in scoring over the females. Similarly, performance decreases with age, with quite a drop-off for the over-64 age group. The location variable shows constancy between four of the location types, but again, as with originals, a relative drop in performance with the Location 1, inner-city, group. Note, however, that the inner-city renewals do not differ as much from other renewals (about .06 P-value units) as do the inner-city originals from their driving experience peers (about .10).

As before, the individual item response data from which the Table IX summary was formed are given in Appendix D.

4.3.6 PROBLEM DRIVER SAMPLE. Getting performance data from a sample of Michigan problem drivers required somewhat different procedures than used with the groups discussed above. An initial problem was that of defining the criteria for including a driver in this category.

A first criterion was that the driver had displayed sufficient illegal or maladaptive behavior to require his personal appearance for re-examination. Backed by law, Michigan Department of State policy requires such re-examination in a variety of cases.

1. Mental or physical infirmities or disability.
2. Violation of driver license restriction.
3. Police report of driving incompetence.
4. Involvement as an operator in a fatal accident.
5. Citation for drunken driving.

TABLE IX. SUMMARY OF RENEWAL APPLICANT PERFORMANCE

	<u>Renewal Applicant Variables</u>													
	<u>Sex</u>		<u>Age</u>						<u>Location</u>					
	Male	Female	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5
All	.77	.74	.81	.79	.80	.76	.70	.69	.64	.68	.75	.73	.77	.77
Principle Items (148)	.77	.74	.81	.79	.80	.76	.70	.69	.64	.68	.75	.73	.77	.77
Law Items (58)	.78	.77	.80	.80	.81	.80	.78	.73	.64	.71	.77	.79	.79	.79
Sign Items (38)	.76	.76	.82	.80	.82	.76	.73	.68	.62	.68	.74	.77	.76	.76
All Items (244)	.77	.75	.81	.80	.80	.77	.72	.70	.64	.69	.76	.75	.77	.77

6. Application for license restoration after suspension or revocation.
7. Accumulation of 4 or more violation "points" during probationary (first year) license period.
8. Accumulation of 12 or more points in a two-year period.
9. Negligent involvement in 3 or more accidents in a two-year period.

Some of those re-examination reasons, e.g., 1, 2, 5, and 6, appear to have little connection with driving knowledge, while others, e.g., 3 and 4, were applied at too low a rate for practical sampling. Thus, only the last three classes of drivers cited for re-examination were selected for sampling, i.e., the early violators, the repeat violators and the accident repeaters.

Sampling of those problem driver types at the 42 licensing stations used with other driver groups was not practical. Some of those stations did not conduct driver improvement activities; others that did had un-acceptably low volumes of problem drivers. For those reasons, the problem driver sampling plan was constrained to the four Driver Improvement Centers operated by the Department of State in Detroit, Pontiac, Flint and Grand Rapids. As discussed in paragraph 4.4.2, below, those location constraints did not completely invalidate comparison of problem versus other driver group, because the four Center locations coincide with foci of sampling for the other driver groups.

At the Centers, the Michigan 40-item test is used as one of the re-examination instruments. Therefore arrangements were made with Mr. Douglas Savala, Director, Bureau of Driver and Field Services, Department of State, for direct substitution of the same seven, 40-item forms used with original and transfer applicants for the Michigan test.*

*Mr. Harold Kimmel and Mr. Monte Mohr were subsequently involved in excellent handling of the HSRI testing at the Driver Improvement Centers.

While the seven item sets were used intact, changes were made in the form headings to accommodate to the problem driver group. In addition to sex and date of birth, each driver was asked to provide Michigan driver license number and years of driving experience.

Through briefings, analysts at the centers were instructed in use of the HSRI test forms and associated material, and were asked to use those forms only with the target driver sub-groups identified above. In addition, arrangements were made to attach a copy of the driver's official driving record print-out to his completed test form for return to HSRI.

This sampling operation was conducted at the Driver Improvement Centers in December 1972. From that exercise, a total of 1,187 usable forms were collected. Coding and file building of those cases was completed as before.

Print-out of the characteristics of these drivers showed inadequate sample sizes for females (62) and for the accident-repeater type of driver (35). Thus, the variable list for formatting normative data for the problem driver group reduced to that shown in Table X involving a total of 1,090 drivers.

TABLE X. PROBLEM DRIVER VARIABLES
AND SAMPLE DISTRIBUTION

<u>Variables</u>	<u>Applicants</u>	<u>Range of Applicants per Item</u>
Age:		
<20	315	34-60
20-24	393	49-64
25-34	266	33-48
>34	116	10-23
Group:		
1 (Early Violators)	173	12-31
2 (Persistent Violators)	917	121-140
TOTAL	1,090	148-166

That break-out and associated drivers with each variable value shows the sample to consist mainly of young male drivers who have shown a two-year persistence in traffic law violation. Table XI provides summary performance data for the sub-groupings of the problem driver sample. Variation within the groupings is minimal, with only a suggestion of inferior knowledge test performance with the oldest age group.

TABLE XI. SUMMARY OF PROBLEM DRIVER PERFORMANCE

	<u>Problem Driver Variables</u>						
	<u>All</u>	<u>Age</u>				<u>Group</u>	
		<u><20</u>	<u>20-24</u>	<u>25-34</u>	<u>>34</u>	<u>1</u>	<u>2</u>
Principle Items (149)	.76	.78	.76	.77	.72	.74	.77
Law Items (58)	.77	.77	.76	.78	.75	.73	.77
Sign Items (39)	.78	.79	.79	.79	.74	.80	.79
All Items	.77	.78	.76	.78	.73	.74	.77

Additional use of the data from this driver group for "validity" comparison purposes is discussed in paragraph 4.4.2, below. Full response distribution data from the problem driver sample is contained in the tables of Appendix D.

4.4 PERFORMANCE DATA COMPARISONS

The preceding sections presented STS performance data by driver group and attempted to identify within group differences in performance associated with characteristics of that group. This section treats those project efforts to identify between group performance differences. Here the attempt was both to

isolate differences that might have meaning for item pool use in operational test construction focused at specific tests for different driver groups, i.e., multiple norms, and to relate STS item performance to gross indices of driving success, i.e., to "validate" the item set performance.

4.4.1 NORMATIVE DATA. As stated earlier, exposure of the STS items to various grossly-categorized driver group was completed in order to develop quantitative expressions of how drivers with various personal and driving-related characteristics respond to the items. Paragraphs 4.3.3 - 4.3.6, above, described operations with four such grossly categorized groups and provided observations on item performance differences within each group.

Gross comparisons between driver groups, with items grouped by principles, laws and signs, show some slight, probably of no practical significance, differences. Table XII contains those summary performance data for the four Michigan driver groups as well as for the Iowa students and the Coast Guard recruits.

TABLE XII. SUMMARY PERFORMANCE DATA FOR ALL GROUPS

	Iowa	Coast Guard	<u>Michigan Drivers</u>			
			Orig.	Ren'l	Prob.	Trans.
Principle Items (149)	.79	.72	.73	.76	.76	.80
Law Items (58)	.76	.74	.75	.77	.77	.83
Sign Items (39)	.79	.76	.76	.75	.78	.82
All Items (246)	.78	.73	.74	.75	.77	.81

While differences between drivers so grouped are minimal with large item sets, variations across groups are quite striking when performance on individual items is considered. This variation is illustrated by the response distributions to items 47 and 213 given in Table XIII. In each instance, the driver group P-values show rather large differences between the inexperienced drivers, i.e., the Iowa students and the Michigan, and the experienced. Evaluation of those differences shows that the P-values in such a comparison are significant. Note with the Michigan problem driver group the low P-value and the high proportion of that group picking response option a) in item 213.

Since the STS performance data show many such instances of P-value divergence (and consistent with the normative data concept), the full Class C pool prepared for the "Handbook" contains those response distributions by item data for each of the six driver groups tested.

4.4.2 VALIDATION DATA. As a final attempt to "validate" the STS, a special comparison between the performance of Michigan renewal versus problem drivers was completed. In that comparison, the simple hypothesis was that renewal drivers with no record of violations and accidents would out-perform problem drivers with extended records.

The problem driver group selected for that comparison was an all male group from the sample described in paragraph 4.3.6 identified with a 12-or-more point accumulation, i.e., the "persistent" violator sub-group. Forming a comparison group of male renewal drivers used years of driving experience as the matching variable. Since the majority of the problem drivers fell in the 4-9 years of driving experience category, that value was used as the primary matching variable.

One additional constraint was applied. Since the problem drivers were sampled only at the four Driver Improvement Center locations, selection of comparison renewal drivers

TABLE XIII. RESPONSE DISTRIBUTIONS: ITEMS 47 AND 213

	<u>Michigan</u>					
	<u>Iowa</u>	<u>Guard</u>	<u>Orig.</u>	<u>Trans.</u>	<u>Ren'l</u>	<u>Prob.</u>
47. When the vehicle in front of you is turning, you should:						
a) Follow as close as possible.	.01	.00	.02	.00	.02	.01
b) Change lanes and quickly pass the turning vehicle.	.47	.32	.44	.35	.13	.25
c) Increase your speed slightly.	.08	.10	.07	.01	.02	.05
*d) See if the turn can be safely made.	.44	.58	.47	.64	.83	.69
213. When turning left at an intersection:						
a) You have the right-of-way over oncoming traffic.	.01	.02	.03	.00	.01	.19
b) You should blow your horn and proceed with caution.	.01	.04	.02	.00	.01	.01
*c) Check cross traffic from both directions.	.75	.79	.79	.96	.89	.73
d) Pull halfway into the intersection and edge into cross traffic.	.22	.15	.17	.04	.08	.07

was constrained to those renewals tested at stations in the immediate vicinity of the four Centers. Inspection of the full renewal driver sample described in paragraph 4.3.5 showed that some 2,500 cases of male renewal drivers with 4-9 years of driving experience had been tested at the selected locations. Driver record print-outs were obtained for that renewal driver set from the Michigan Department of State. Review of those records produced a total of 1,047 drivers with zero-point accumulation in the last two years.

The comparison groups formed by those procedures consisted of 394 problem drivers and 1,047 renewal drivers, "matched" by sex (all male), driving experience, and testing location. The larger renewal sample was selected in order to get an approximately equal number of responses per item across the two groups, since each problem driver completed a 40-item test while each renewal driver had only a 10-item test.

Performance data for the comparison groups, categorized by principle, law, and sign items are presented in Table XIV.

TABLE XIV: SUMMARY PERFORMANCE DATA:
RENEWAL AND PROBLEM DRIVERS

	Problem Drivers	Renewal Drivers
	-----	-----
Principle Items (148)	.78	.83
Law Items (58)	.77	.82
Sign Items (38)	.80	.85
All Items (244)	.78	.83

This comparison shows that the "clean" renewal drivers did indeed out-perform the "persistent violator" problem driver group. Further analysis shows that the renewal group had an average P-value greater than .09 more than the problem group

on 68 of the 244 items tested. Conversely, the problems beat the renewals by that margin on 8 items.

Review of those items in which the problem drivers were inferior suggests the following qualitative observations:

- Problem drivers showed a tendency to incorrectly select "signalling" as a situation solution in items 103, 115, 135 and 137.
- That group scored low on items involving "passing" situations, items 269, 270 and 273.
- Problem drivers showed difficulties with items involving headlights, both own car and on-coming, as tested by items 627, 631, 635, 641, and 657.
- Trailer-towing items were poorly handled by the problem drivers as shown by their responses to items 64, 65, and 71.
- Problem drivers scored lower on items dealing with "deceleration" lane usage, see items 526, 527, and 528.

On a somewhat more speculative side, problem drivers scored poorer than renewals on 10 of the 18 items in which "not" was a crucial part of the item stem. Since no control was possible on the educational status of drivers in the comparison groups, this difficulty with negative-stem items might be interpreted as a language problem.

That language observation notwithstanding, this comparison suggests a gross, but positive relationship between item performance and driving success. While hardly constituting the hard quantitative relationship between items and independent indicies of driving capabilities originally envisioned, that finding coupled with the showing of item and driving experience relationship (paragraph 4.4.1) is offered as "empirical" demonstration of item pool validity.

Those relationships, coupled with the high content and construct validities inherent in the items due to construction procedures, are accepted as Class C pool validity indicators pending more solid evidence from operational use of the pool.

4.5 FINAL HANDBOOK CONFIGURATION

That provision for operational use of the Class C items is contained in the separately-published "Handbook for Driving Knowledge Testing." The main feature of that handbook is, of course, the 1,313-item Class C pool. As discussed in paragraph 2.4, that pool is presented with items categorized by content sub-groupings with major divisions of principles, laws, and signs.

Based on the considerations developed in the various testing and normative data development activities, the data provided with each item are those believed to be most useful to test constructors. Thus for each item, the basic reliability and verbal ability correlations obtained with the Iowa student group are offered as indicies of the stability and language purity of the items.* In addition to those statistical indicators, the response distributions obtained with each item from the Iowa testing are also provided.

In addition to those base data, the 246 items constituting the Special Test Set have additional data by virtue of their use with other groups. In the limiting case, some 43 additional columns of response distribution data could have been presented with each of the STS items, as done in Appendix D. Presenting that magnitude of data in an operational handbook, however, was considered unwise. Survey of the project Advisory Group produced a general consensus that summary response data for each of the major driver groups would be adequate for the

*Note that some 71 items, including 68 law items, are included in the Class C pool, but have no associated data--their content did not apply in Iowa and the items remain untested.

handbook, with the proviso that notation in the handbook pointed to the finer-grained data contained in this technical report. Therefore, each of the STS items in the handbook has the aggregate, all-cases response distribution for each of the Coast Guard and Michigan original, transfer, renewal and problem driver groups.

Included with the handbook pool is an extended Outline and Topic Index, as well as an Alphabetic Index to that Outline.

Text accompanying the pool has been kept to a minimum consistent with description of the pool, where it came from, and recommendations on its use in test development. An appendix on principles and procedures of formal test construction is offered as optional reading.

Subsequent to NHTSA approval, this operational handbook will be released for distribution and use by licensing and education personnel involved in driving knowledge test construction.

5.0 CONCLUSIONS AND RECOMMENDATION

Completion of this three-year project to develop knowledge testing material has produced several products.

1. A handbook suitable for use by operational agencies in developing Class C vehicle driving knowledge tests.
2. A partially evaluated pool of items relative to motorcycle operation suitable for cautious use now by operational agencies and for continued development by NHTSA.
3. An unevaluated pool of items relative to truck and bus operations suitable for cautious use now by operational agencies and for continued development by NHTSA.

In each of those product instances, the critical consideration is the completeness of the individual pool in reflecting present state-of-knowledge with respect to safe, efficient operation of the several vehicle classes. In that respect, the pools are believed to be very valuable void-fillers -- most tests reviewed in early project stages displayed considerable volume and certainty in dealing with legal and sign material, but concomitantly a lower volume and considerable uncertainty in dealing with what can be recognized now as an evolving, structured body of fundamental knowledge about safe driving principles.

In addition to those primary products, several valuable spin-off products may be identified. The preliminary motorcyclist task analysis, given limited informal distribution, has been used in several ways. The Motorcycle Industry Council Safety and Education Foundation has used that preliminary analysis as foundation for a fuller analysis of motorcyclist tasks. Motorcycle curriculum developers in California and Michigan have used the "Writers' Guide" for guiding their development work.

Initially a "Writers' Guide" and finally the released report by a sub-contractor, the review of tasks associated with truck and bus operation has seen use in several NHTSA-supported efforts.

Finally the Class C pool itself, in its rudimentary developmental form, has already been used in the fashion intended. Some of those handbook pre-publication users and uses include,

- California Department of Motor Vehicles (R.S. Coppin): Item pool used to construct tests for possible use with renewal license applicants with accident and violation records, and to form tests to measure knowledge changes in an experimental evaluation of driver education.
- South Carolina Motor Vehicle Division (J.D. Williams, University of South Carolina): Pool and draft test construction primer were provided for use in overall revision and update of state driver license knowledge tests.
- Iowa Department of Public Instruction (L. R. Tack): The Class C item pool was used in forming tests for measuring knowledge changes attributable to driver education curriculum innovations introduced during Project PRIDE.
- Ann Arbor Public School System (T. L. McDole, HSRI): Items used for before-and-after testing during experimental evaluation of driver education curricula with various mixes of range, on-road and simulator instruction.
- Eastern Michigan University (B. Koepke): Items used to test driving information acquisition in experimental evaluation of program to inject safety information in standard K-9 curriculum subjects.
- Michigan Department of State (D. Shinn): Use of the pool and normative data is planned in update of state licensing knowledge tests and for exploratory use in developing diagnostic tests for use in driver improvement operations.
- Indiana University Institute for Research in Public Safety (J. R. Treat): Items were used to form knowledge tests for use with involvees in follow-up accident causation investigations as part of the IRPS Multidisciplinary Accident Investigation Team work.
- Central Missouri State University (A. G. Hundt, HumRRO): Class C items were used to construct tests for use in measuring knowledge change in the experimental evaluation of the "Safe Performance Curriculum" as an accident countermeasure.

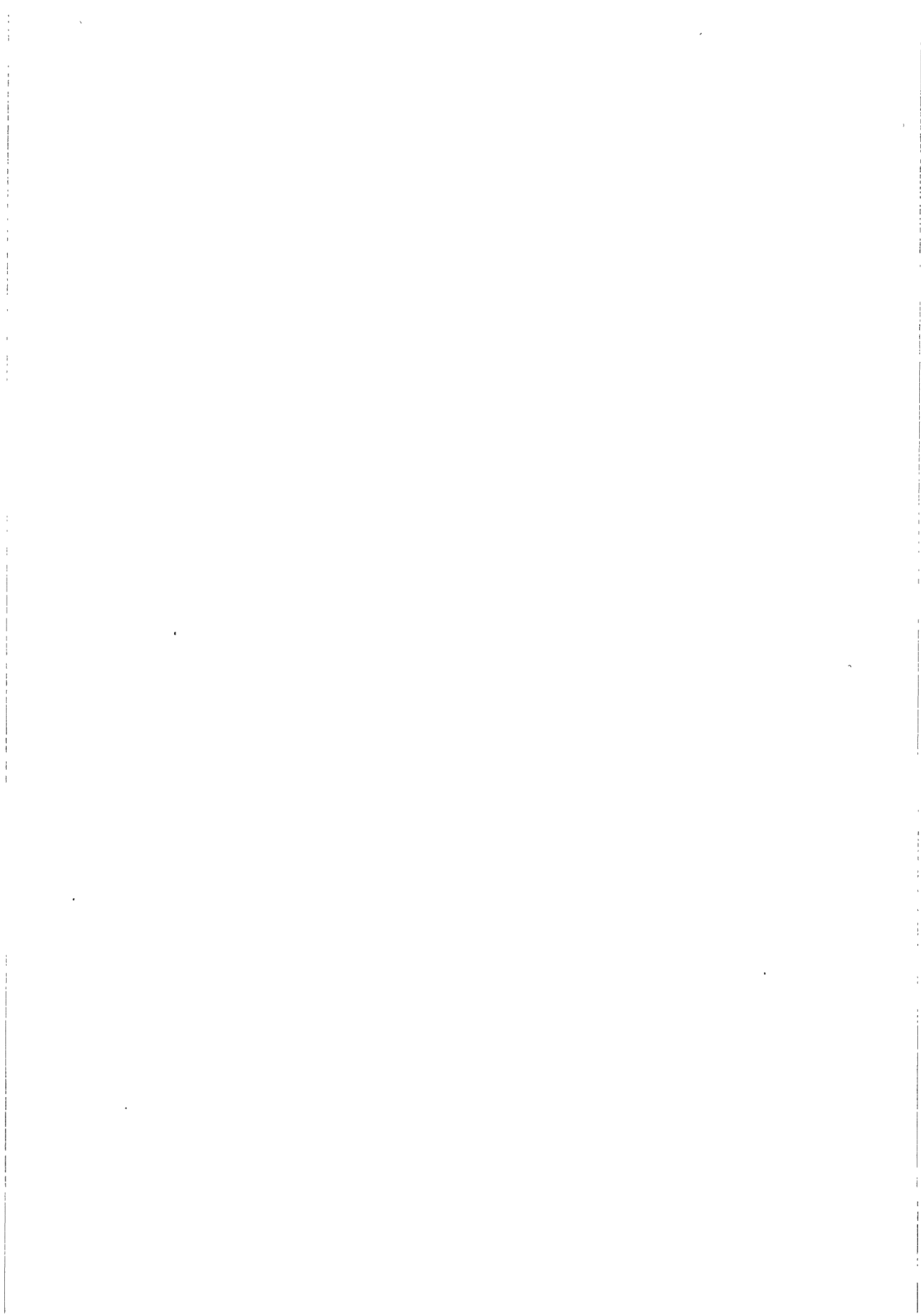
Those and other early uses of the handbook material indicate the acceptability and utility of the handbook products. Based on these conclusions, it is recommended that,

1. NHTSA expedite distribution of the Class C handbook to state licensing agencies and state departments of education for their ad lib use of the handbook material. It is recommended that NHTSA encourage those agencies to use the handbook items in their provided form, to the extent practical, so that fuller data on item performance in diverse areas and applications may be accrued. Concomitantly, it is further recommended that NHTSA develop provisions for a central bank of such item performance data.
2. NHTSA should encourage states to exploit the "complete" nature of the Class C pool as a mechanism for periodic survey of the state's driver knowledge status, with survey results used to assist development of incidental and formal education programs.
3. NHTSA, in review of its program needs, should consider further development of the rudimentary task analysis for motorcycling and for truck/bus operation, both for direct use of those analyses and as foundations for more defensible development of knowledge test material for those vehicle classes than was possible under this project.
4. Finally, NHTSA should consider mechanisms to update periodically the Class C item pool in parallel to developments in the driving state-of-knowledge.

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APPENDIX A

PHASE II ITEM EVALUATORS

Listed in this appendix are those individuals who graciously donated their time and skills to help evaluate items intended for the Class C and the Class M item pools. Details on their participation are given in Section 3.1.2 (Class C item reviewers) and Section 3.2.2 (Class M item reviewers) of the report to which this is an appendix.

(Note that the individual affiliations given were correct as of late 1971.)

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APPENDIX B

CLASS M (MOTORCYCLE) ITEM POOL

This appendix contains the item pool and associated indexes developed to reflect critical aspects of motorcycle operation. Discussion of the development activities leading to this item pool are contained in Sections 2.2.2, 2.3.1 and 3.2 of the report of which this appendix is a part.

In the pages that follow, the item pool proper is preceded by two pool indexes. The first index presents the item serial numbers associated with major topics identified with motorcycle operation. The second index is simply a key-word rotation of the topic index to facilitate entering the topic outline and, then, the pool starting with a given topic relative to motorcycling.

The 282-item pool follows the indexes. Each item, with its identifying serial number, has an asterix that indicates the correct answer alternative to the item. Each item also has four associated data columns. The two columns labeled "Response Distribution" give for each item the percent of the 35-motorcyclist test group that selected each answer alternative, first for the initial "Test" and then for the second try, "Re-test."

The third column is headed by " r_{tt} ", short for test-retest reliability coefficient. This calculated indicator shows the consistency with which the individual motorcyclists selected the same answer alternative on their two trials with the item. The greater the " r_{tt} ", the more persistent were the respondents in sticking to the same answer across the two trials. Conversely, low or negative " r_{tt} " occur when many of the respondents changed their answer from first to second trial. As a general guideline, an " r_{tt} "

greater than .30 suggests an item with good reliability -- its construction elicits the same response on successive tries. However, the validity of the reliability coefficient breaks down when the percent of responses is high for a given answer alternative. Thus, where the response distribution shows 90% or more of the responses on a single answer, the reliability coefficient becomes a very unstable indicator of item quality. Where all respondents selected the correct answer on one or both trials, the reliability coefficient is meaningless and, thus, not shown.

The fourth data column, " r_{it} ", shows the correlation between respondents performance on the item and his score on the total pool "test." A high " r_{it} " occurs when an item is answered correctly by the respondents who got a good total score. A general rule, then, is that items with high " r_{it} " values are good items, i.e., permit the knowledgeable respondent to display his knowledge.

ITEM POOL OUTLINE AND TOPIC INDEX
for
Class M (Motorcycle) Vehicle Driving

--DRIVING TOPIC--

--ITEM SERIAL NUMBERS--

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B. Basic Control Procedures

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C. Basic Maneuvers

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ALPHABETIC INDEX
To
ITEM POOL OUTLINE AND TOPIC INDEX
(Class M Vehicles)

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Directional Control	B5	Sand and Dirt Surfaces	D3
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Night Driving	F5	Obstructions	D4

MOTORCYCLE (CLASS M) ITEM POOL

A. <u>Pre-Operative Procedures</u>		Response Distribution:			
1. <u>Trip Preparation</u>		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
1.	In order to check your stop light you must:			---	-.14
	a) Turn your operating lights on.	3	0		
	b) Turn the engine off.	0	0		
	c) Engage the clutch.	0	0		
	* d) Press the brake pedal or lever.	97	100		
2.	Before mounting your motorcycle you should:			---	---
	a) Move the parking stand to the "park" position.	0	3		
	b) Push the motorcycle to a closed area and park it.	0	0		
	* c) Check for loose parts and tighten them.	100	97		
	d) Reduce the air pressure if carrying a passenger.	0	0		
3.	Before mounting your motorcycle you should:			-	.05 .15
	a) Adjust the mirror.	0	3		
	b) Set the gearshift lever.	0	0		
	c) Return the kickstart lever to storage position.	9	0		
	* d) Visually check the tires.	91	97		
4.	When planning to ride on trails rather than on highways:			.60	-.01
	a) Turn your headlight on high beam.	6	9		
	* b) Check to see if you should change tires.	83	83		
	c) Ask your passenger to sit far back on the seat.	3	0		
	d) Use high gear rather than low gear most of the time.	9	9		
5.	When carrying cargo it is always necessary to:			-.03	.22
	a) Make sure it can move around slightly.	0	0		
	b) Adjust the brake cables and clutch.	0	0		
	* c) Place it as low as possible on the motorcycle.	97	97		
	d) Add air to the tires.	3	3		

A. <u>Pre-Operative Procedures</u>		Response Distribution:			
1. <u>Trip Preparation</u> (continued)		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
6.	You should never ride:			---	---
	a) In a staggered formation.	0	0		
	b) Without a windshield.	0	0		
	* c) Barefoot.	100	100		
	d) As fast as other vehicles.	0	0		
7.	When driving a motorcycle you must always:			---	---
	a) Dress in dark-colored clothes.	0	3		
	* b) Wear a helmet and eye protection.	100	97		
	c) Wear regulation motorcycle boots.	0	0		
	d) Dress in light-weight clothing.	0	0		
8.	To help others see you at night, you should:			.47	-.16
	* a) Wear bright or light-colored clothing.	94	94		
	b) Keep your headlights on high beam.	0	3		
	c) Ride in the center of the roadway.	3	3		
	d) Move back and forth in your lane.	0	0		
9.	After mounting the motorcycle you should:			.25	.28
	a) Move the parking stand to the "park" position.	0	3		
	b) Push the motorcycle out into an open area before starting it.	9	9		
	* c) Adjust the mirror(s) for a clear view of the road.	86	83		
	d) Check the chain and cables for proper tension and lubrication.	6	6		
10.	You should not carry passengers after you have just learned to ride because:			---	---
	* a) The motorcycle will handle differently.	100	94		
	b) More fuel will be used.	0	0		
	c) The added weight will decrease the stopping distance.	0	3		
	d) You must have a year of experience before it is legal.	0	3		
11.	When you have a passenger on your motorcycle, he should:			---	.29
	a) Use the front set of footpegs.	0	0		
	* b) Not interfere with the balance or the controls.	91	100		
	c) Lean the opposite way as you do when making a turn.	6	0		
	d) Know how to operate the motorcycle.	3	0		
12.	A passenger should mount the motorcycle:			-.04	-.01
	a) Before you check and adjust the brake cables.	0	0		
	b) Before you start the engine.	3	6		
	* c) After you start the engine.	97	94		
	d) After the motorcycle has started in motion.	0	0		

A. Pre-Operative Procedures
 1. Trip Preparation
 (continued)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
13.	The tension on the front brake cable should:			.25	.45
	a) Only be checked by a mechanic.	0	3		
*	b) Be checked before mounting the motorcycle.	80	80		
	c) Not be adjusted by hand.	6	0		
	d) Not be as great as on the clutch cable.	14	17		
14.	You should check the condition of the front brake cable:			.52	-.10
*	a) Before starting the engine.	66	60		
	b) After every 500 miles of riding.	29	29		
	c) Once a month.	6	11		
	d) When the brakes are warm.	0	0		
15.	Before starting the engine on a level surface, it is most important to:			.80	.52
*	a) Be sure that the motorcycle is in neutral.	69	77		
	b) Check the brake and signal lights.	20	11		
	c) Check the tires and shock absorbers.	0	6		
	d) Raise the kickstand.	11	6		
2. <u>Starting the Trip</u>					
16.	When you start a "kickstart" motorcycle, you should:			.62	.12
*	a) Turn the folding pedal of the kick-starter lever "out."	89	86		
	b) Find the start of compression of the stroke by pulling up on the lever.	3	9		
	c) Kick down gently on the lever to start the engine.	0	0		
	d) Not touch the spark retard or compression release.	9	6		
17.	After starting your engine you should:			---	---
*	a) Return the kickstart lever and folding pedal to storage position.	100	97		
	b) Close the throttle to prevent stalling.	0	3		
	c) Activate the choke as soon as you start the engine.	0	0		
	d) Keep the throttle all the way open.	0	0		
18.	If after you kick the starter, you do not hear the engine you should:			---	---
	a) Close the fuel valve.	0	0		
	b) Put the motorcycle in gear and engage the clutch.	0	0		
*	c) Check the key and choke for proper position.	100	100		
	d) Not try to kickstart it again.	0	0		

A. <u>Pre-Operative Procedures</u>		Response Distribution:			
2. <u>Starting the Trip</u> (continued)		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
19.	If the carburetor is flooded when starting the engine, it will <u>not</u> help to:			.68	.51
	a) Open the throttle and hold it open.	54	57		
	* b) Kick the starter more slowly.	34	31		
	c) Push the motorcycle while in gear.	6	3		
	d) Close the fuel valve.	6	9		
20.	After starting the engine, you should <u>not</u> :			.61	.43
	a) Check the tension of the clutch cable.	29	23		
	b) Check the angle of the headlights.	14	11		
	* c) Let it idle for a long time.	51	60		
	d) Put the kickstarter back up.	6	3		
21.	The condition of the headlights, taillights, and brake lights should be checked:			.24	.25
	* a) Each time after you have started the engine.	80	77		
	b) At night before the engine is started.	20	20		
	c) Only before long trips when new fuses may be necessary.	0	0		
	d) Once a year as part of the state inspection.	0	3		
22.	If you are not familiar with a motorcycle you should:			.60	.21
	* a) Check the operation of the front and rear brakes.	69	69		
	b) Drive 10-15 mph below the speed limit.	11	17		
	c) Stay to the right side of the right-hand lane.	11	9		
	d) Not use the front brake when stopping.	9	6		
23.	When you ride a motorcycle during the day:			.64	.51
	* a) Turn your headlight on.	80	80		
	b) Use only hand signals instead of signal lights.	17	17		
	c) You need not wear goggles.	0	3		
	d) Increase your following distance over that used at night.	3	0		
24.	A motorcycle may skid or fall over when turning if:			.34	.04
	a) You downshift before you begin to turn.	14	20		
	* b) The kickstand falls down and hits the ground.	60	63		
	c) You slow down slightly while turning.	26	11		
	d) The drive chain is too tight.	0	6		
25.	Before going on a long trip, you need <u>not</u> :			.65	-.03
	a) Check the condition of your tires, cables, and chain.	0	0		
	b) Identify the best routes to your destination.	26	23		
	c) Try to do most of your driving during the day.	31	34		
	* d) Plan to stop every hour for a rest.	43	43		

B. Basic Control Procedures
 1. Shifting Gears

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
26.	When waiting to enter traffic and before shifting from neutral to first gear, you should:			.11	-.06
	a) Keep your feet on the footpegs.	0	0		
	b) Lean the motorcycle to one side.	11	9		
	* c) Hold the motorcycle from rolling with the front brake.	89	86		
	d) Keep the throttle at least halfway open.	0	6		
27.	When starting a motorcycle in motion, you should:			.32	-.06
	a) Keep both feet off the footpegs.	23	17		
	* b) Hold your motorcycle straight up with your foot.	60	74		
	c) Lean slightly to the right.	9	3		
	d) Lean left and right until you gain momentum.	9	6		
28.	When starting a motorcycle moving:			.47	-.17
	a) Put your feet on the footpegs, open the throttle, and release the front brake and clutch.	3	9		
	b) Release the front brake and clutch, put your feet on the footpegs, and open thr throttle.	17	17		
	c) Open the throttle and put your feet on the footpegs, then release the front brake and clutch.	0	3		
	* d) Open the throttle, release thr front brake and clutch, and put your feet on the footpegs.	80	71		
29.	If you are starting into motion with an automatic clutch:			-.05	-.26
	a) Open the throttle almost all the way.	31	37		
	* b) Hold the motorcycle vertical with your braking foot.	49	46		
	c) Start in second gear.	0	0		
	d) Let up on the brake lever quickly.	20	17		
30.	When shifting from first to second gear on a motorcycle with an automatic clutch, you should:			.36	-.01
	a) Open the throttle halfway and shift into second gear.	6	9		
	* b) Close the throttle and toe the lever into second gear.	94	91		
	c) Apply the rear brake and gently toe the lever into second gear.	0	0		
	d) Disengage the clutch and shift into second gear.	0	0		
31.	If you are going up a hill and will be stopping, you should:			.36	-.12
	a) Downshift into second gear after you have come to a stop.	0	3		
	* b) Downshift into first gear just before you come to a stop.	74	80		
	c) Shift into neutral just before you come to a stop.	20	14		
	d) Stay in high gear until you have stopped.	6	3		

B. Basic Control Procedures
 1. Shifting Gears
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

32.	If the gearshift lever is stuck in gear, it usually will <u>not</u> help if you:			.35	-.03
	a) Rock the motorcycle back and forth.	20	20		
	* b) Shut off the engine.	26	29		
	c) Try to spin the gears.	34	37		
	d) "Punch" the lever firmly.	20	14		
33.	To make an emergency downshift:			.49	.08
	a) Hit both brakes hard until you slow down enough to shift into first gear.	11	3		
	b) Shift at any speed but do so very carefully and slowly.	6	6		
	* c) Shift through each gear as the motorcycle slows down.	80	89		
	d) Shift into neutral and then into any gear you wish.	3	3		
2. <u>Lane Usage</u>					
34.	When driving in the right-hand lane on a 4-lane road, you should usually ride:			.93	.47
	a) In the center of the lane.	26	23		
	* b) In the left wheel track.	74	77		
	c) On the line dividing the lanes.	0	0		
	d) In a slight zig-zag pattern.	0	0		
35.	Weaving in and out of traffic is:			---	.00
	a) A good way to make time.	3	0		
	* b) A dangerous maneuver.	94	100		
	c) An advantage of driving a motorcycle.	3	0		
	d) Permitted if proper signals are given.	0	0		
36.	When driving a motorcycle you should <u>not</u> ride in the:			.47	-.08
	a) Left part of the lane when following a car or truck.	0	0		
	b) Same lane and alongside another motorcycle.	3	3		
	c) Right-hand lane unless you are going 5-10 mph slower than the speed limit.	3	3		
	* d) Same lane and alongside a car or truck.	94	94		
37.	When you drive into the left lane of a 4-lane highway to pass another vehicle, you should usually:			.84	.15
	* a) Drive in the right wheel track.	40	49		
	b) Stay in the center of the lane.	31	20		
	c) Drive near the left wheel track.	29	31		
	d) Drive in a zig-zag manner.	0	0		

B. Basic Control Procedures

3. Following

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
38.	Large following distances are more important for motorcycles than for cars because:			.82	.38
	a) Motorcycles cannot stop as quickly.	34	37		
*	b) It is easier to overbrake and lose control.	60	63		
	c) Vision is more restricted.	6	0		
	d) Less attention is required to operate the motorcycle.	0	0		
39.	When driving on wet or icy roads, you should:			---	---
*	a) Increase your following distance.	100	100		
	b) Change speed often in order to ensure traction.	0	0		
	c) Use the clutch as much as possible.	0	0		
	d) Ride closer to the center of the road.	0	0		
40.	Generally your speed should be determined by:			.75	-.10
	a) The speed of the fastest vehicle on the road.	0	0		
*	b) The speed of the vehicle ahead of you.	77	80		
	c) The speed of the vehicle behind you.	0	0		
	d) The power of your engine.	23	20		
41.	If the vehicle in front of you suddenly stops, the safest thing to do is:			.55	.29
	a) Slide your motorcycle to a stop and jump off.	0	0		
*	b) Slow down and take evasive action.	89	83		
	c) Brake hard and try to stay behind the vehicle.	11	17		
	d) Continue at the same speed and try to drive around the vehicle.	0	0		
42.	When the vehicle ahead of you indicates he is going to turn, you should <u>first</u> :			.62	.15
	a) Slow down and steer around him.	29	23		
	b) Stop until he is completely finished.	17	17		
*	c) Look to see if his turn can be made safely.	54	60		
	d) Speed up to pass him as soon as possible.	0	0		
43.	To be prepared for changes in the speed of the vehicle you are following, you should:			.21	-.01
*	a) Watch the vehicles in front of him.	83	94		
	b) Change your speed often in order to get a better view of the lead vehicle.	3	0		
	c) Ride close enough to him to watch his action.	0	0		
	d) Ride close to the left lane line.	14	6		

B. Basic Control Procedures
 4. Carrying Passengers or Cargo

	Response Distribution:		<u>r_{tt}</u>	<u>r_{it}</u>
	<u>Test</u>	<u>Re-test</u>		
44. When carrying packages on a motorcycle, you should:			---	---
* a) Use a carrier or saddlebag.	100	100		
b) Try to strap the package to you.	0	0		
c) Increase air pressure in the tires.	0	0		
d) Place the package as high up as possible.	0	0		
45. Packages or luggage:			.56	.67
a) Should not be carried on a motorcycle.	3	3		
b) Do not affect the balance of the motorcycle.	6	0		
* c) Should be checked from time to time to make sure they are secure.	91	97		
d) Should be attached to the handlebars or fuel tank so you can watch them.	0	0		
46. If you are carrying heavy packages at night and notice that oncoming vehicles are blinking their headlights, you should:			.68	.28
* a) Stop and check the height of your headlights.	86	83		
b) Put your headlight on high beam and continue.	0	0		
c) Move onto the shoulder and continue driving there until you find out what is wrong.	14	14		
d) Check your speed and adjust it if necessary.	0	3		
47. You may carry a passenger on your motorcycle only if:			---	---
a) The passenger has a motorcycle license.	0	0		
b) You have been driving a motorcycle for one season or more.	0	0		
c) You have insurance.	0	0		
* d) Your motorcycle is equipped for carrying a passenger.	100	100		
48. When carrying a passenger you may have to:			.80	.43
* a) Adjust the rear shocks.	91	94		
b) Let air out of the rear tire.	3	3		
c) Use only the front brake to stop safely.	3	3		
d) Start in second gear instead of first.	3	0		
49. It is <u>least</u> important for your passenger to wear a:			---	---
a) Helmet.	0	0		
b) Faceshield or goggles.	0	0		
c) Wind-proof jacket.	0	0		
* d) Heavy scarf.	100	100		
50. Any passenger you carry must:			.60	.44
a) Give handsignals when you stop or turn.	9	3		
b) Use the front footpegs.	6	3		
* c) Straddle the seat.	86	94		
d) Hold onto your shoulders.	0	0		

B. Basic Control Procedures
 4. Carrying Passengers or Cargo
 (continued)

	Response Distribution:		<u>r_{tt}</u>	<u>r_{it}</u>
	<u>Test</u>	<u>Re-test</u>		
51. You should tell your passenger to hold onto:			.88	-.15
a) Your shoulders or arms.	6	3		
* b) Your hips or waist.	86	89		
c) The handlebars.	0	0		
d) The seat behind him.	9	9		
52. You should tell your passenger to:			.46	.41
a) Stay tense and be ready for danger.	0	0		
b) Put his hands in his pockets if they get cold.	3	0		
* c) Get comfortable and signal when ready.	83	86		
d) Use his feet to help balance the motorcycle.	14	14		
53. You should tell your passenger to:			1.00	-.22
a) Get on the motorcycle before you start the engine.	3	3		
b) Hold onto your shoulders while riding.	0	0		
* c) Lean with the motorcycle to help control it.	89	89		
d) Change position often to keep from getting stiff.	9	9		
54. If you have a passenger, you should instruct him to:			.37	.44
a) Hang onto your shoulders or arms.	0	3		
b) Put his feet down when you begin to slow down.	9	11		
* c) Lean forward as you accelerate and backward as you slow down.	89	86		
d) Drag his feet if necessary to help balance the motorcycle.	3	0		
5. <u>Directional Control</u>				
55. The best way to steer a motorcycle is to have:			---	---
a) One hand on the throttle, the other free to operate controls.	0	3		
b) One hand on the left handgrip, the other free to operate controls.	0	0		
* c) One hand on the throttle, the other on the left handgrip.	100	97		
d) One hand on the throttle, the other near the center of the left handlebar.	0	0		
56. For good steering control you should:			.75	.00
* a) Grasp the handlebars firmly.	89	91		
b) Lean heavily into the handlebars.	0	3		
c) Steer mostly by shifting your weight up and down.	9	6		
d) Hold loosely onto the ends of the handgrips.	3	0		

B. Basic Control Procedures
 5. Directional Control
 (Continued)

		Response Distribution:		<u>r_{tt}</u>	<u>r_{it}</u>
		<u>Test</u>	<u>Re-test</u>		
57.	To steer the motorcycle you should:			.60	.33
	a) Shift your weight to the right when making a left turn.	3	0		
	* b) Make small steering corrections by putting pressure on the handlebars.	86	94		
	c) Turn the handlebars more sharply the faster you are going.	3	3		
	d) Hold the handlebars loosely at all times.	9	3		
58.	To maintain the correct position in the right-hand lane, you should generally:			.41	.35
	* a) Look ahead to the left wheel track of the lane.	77	80		
	b) Move to the left when there is oncoming traffic.	3	3		
	c) Drive to the far right when going around a curve.	20	14		
	d) Keep your eyes on the side of the road.	0	3		
59.	When you pass oncoming traffic on a 2-lane road, you should:			.71	.34
	a) Keep your eyes focused straight ahead.	14	17		
	b) Turn on the lights and blow the horn.	9	11		
	* c) Prepare to move to the right side of your lane.	77	71		
	d) Steer in a zig-zag fashion.	0	0		
60.	When there are obstructions on either side of your lane (cars, trees, etc.), you should:			.10	.11
	a) Ride closer to the left side of your lane.	26	14		
	b) Ride closer to the right side of your lane.	0	0		
	* c) Ride closer to the center of your lane.	71	86		
	d) Ride from one side of your lane to the other.	3	0		
61.	When making a turn it is most important to:			---	---
	* a) Look to see if the turn can be made safely.	100	100		
	b) Downshift as you start to turn.	0	0		
	c) Use both the front and the rear brakes.	0	0		
	d) Put your foot down on the inside of the turn.	0	0		
62.	To turn your motorcycle to the right:			---	---
	a) Lean your body but not the motorcycle to the right.	0	3		
	b) Lean more sharply than needed to turn.	0	0		
	* c) Lean your body to the right with the motorcycle.	100	97		
	d) Raise your left foot from the footpeg.	0	0		

B. Basic Control Procedures
 5. Directional Control
 (continued)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
63.	For the best turns the passenger should:			.75	-.18
	a) Lean in the opposite direction of the driver.	3	0		
	* b) Lean in the same direction as the driver.	77	86		
	c) Sit up straight and try not to lean.	11	11		
	d) Lean slightly forward.	9	3		
64.	When you make a turn with your motorcycle:			.62	.13
	a) Extend the leg on the side from which the turn is made.	6	3		
	* b) Adjust pressure on the handlebars as necessary.	86	89		
	c) Try to keep the motorcycle as vertical as possible.	6	9		
	d) Lean forward between the handlebars.	3	0		
65.	When making a sharp turn, you should be ready to:			---	.10
	a) Apply the front brake firmly.	3	0		
	b) Put both feet out to the side.	3	0		
	* c) Put down the foot which is on the inside of the turn.	94	100		
	d) Put down the foot which is on the outside of the turn.	0	0		
66.	When making sharp turns at high speeds:			.75	.27
	* a) Apply brakes before the turn.	77	86		
	b) Do not downshift before the turn.	3	6		
	c) Lean the motorcycle more if you are on a slippery surface.	0	0		
	d) Never speed up while in the turn.	20	9		
67.	When making a turn at slow speeds, you should <u>not</u> :			.38	.36
	* a) Downshift during the turn.	46	54		
	b) Accelerate slightly to maintain traction.	6	6		
	c) Decrease amount of lean before desired heading is attained.	14	20		
	d) Put your foot down on the inside of the turn.	34	20		
68.	To straighten the motorcycle after a turn, you should:			.46	-.01
	a) Take both feet off the footpegs.	0	0		
	b) Lean sharply into the opposite direction.	11	11		
	* c) Adjust pressure on the handlebar.	83	86		
	d) Sit up straight and turn the handlebar sharply.	6	3		
69.	If your motorcycle starts to slide when you are making a slow turn, be ready to:			.34	.31
	a) Apply sharp jabs on the front brake.	3	0		
	b) Shift into a lower gear.	9	0		
	c) Lean forward to put more weight on the front wheel.	9	3		
	* d) Put your foot down on the inside of the turn.	80	97		

B. Basic Control Procedures
 6. Speed Control

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
70.	After placing your motorcycle in gear when starting on a hill, you should:			.30	.29
	a) Keep the motorcycle from rolling with the front brake.	20	17		
	b) Release the rear brake, then the front brake.	6	6		
*	c) Open the throttle and release the clutch slowly.	71	71		
	d) Balance the motorcycle with the rear brake foot.	3	3		
71.	If your motorcycle stalls when going up a hill, you should:			.63	.17
*	a) Hold it from rolling with the front brake.	49	63		
	b) Hold it from rolling with the rear brake.	17	11		
	c) Hold it from rolling with the front and rear brakes.	34	26		
	d) Hold it from rolling with your feet.	0	0		
72.	If your motorcycle stalls when going up a hill, you should:			-.09	.09
	a) Shift into high gear, then press the clutch lever and then kickstart the engine.	0	3		
	b) Close the fuel valve, then start the engine and then use the throttle to increase the engine speed.	0	3		
*	c) Kickstart the engine, then shift into first gear and then use the throttle to increase the engine speed.	91	91		
	d) Kickstart the engine, then use the throttle to increase the engine speed and then shift into second gear.	9	3		
73.	To jump-start the engine on a downgrade, you should:			.82	.26
	a) Shift from neutral to first when you pick up speed.	46	51		
	b) Shift into neutral and let the motorcycle begin to roll.	3	3		
	c) Shift into first gear and let the motorcycle begin to roll.	11	17		
*	d) Shift into second gear and let the motorcycle begin to roll.	37	29		
74.	When jump-starting your motorcycle, you should:			.72	-.01
	a) Keep the motorcycle in high gear.	9	11		
*	b) Open and regulate the throttle until the engine develops power.	83	80		
	c) Close your fuel valve until the engine turns over.	6	6		
	d) Turn your lights on.	0	0		
75.	When starting a motorcycle in motion on snow or ice, you should:			.40	.29
	a) Place the transmission in second gear.	11	17		
*	b) Balance the motorcycle with your feet.	83	83		
	c) Release the clutch quickly.	3	0		
	d) Place all your weight towards the front.	3	0		

B. Basic Control Procedures
 6. Speed Control
 (continued)

	Response Distribution:		<u>r_{tt}</u>	<u>r_{it}</u>
	<u>Test</u>	<u>Re-test</u>		
76. After starting on a slippery road, you should:			.60	.43
* a) Shift to a higher gear when the road surface permits.	86	94		
b) Regulate your speed by using the clutch instead of the throttle.	11	6		
c) Use the front brake to control your speed.	3	0		
d) Lean the motorcycle to the right.	0	0		
77. When driving on a slippery road:			.43	.03
a) Lean the motorcycle more than usual when starting in motion.	0	0		
b) Keep your feet off the footpegs.	3	3		
* c) Use the rear brake to get a feel for the road.	51	46		
d) Use both the front and rear brakes for slowing or stopping.	46	51		
78. When you are driving on the highway:			.36	.01
a) Vary your speed to break the monotony.	0	3		
b) Try not to vary the amount the throttle is opened.	6	6		
* c) Maintain the speed of traffic flow.	94	91		
d) Keep your wrists well above the handgrips.	0	0		
79. You should not ride with your wrists above the handgrips because:			.36	.37
a) You will not be able to steer as well.	26	20		
* b) A jolt could cause you to open the throttle.	20	17		
c) It may cause you to exceed the speed limit.	0	0		
d) It will be difficult to reach the clutch and brake levers.	51	57		
80. When going very slow, you should:			---	-.08
a) Shift into the highest gear and press the clutch lever.	0	0		
b) Close the throttle and shift into neutral.	0	0		
c) Avoid using the front brake.	6	0		
* d) Be ready to put your feet down for balance.	94	100		
81. When moving at a very slow speed on a motorcycle with an automatic clutch, you should:			-.13	.01
a) Place your right hand on the brake lever.	6	9		
b) Keep the throttle closed.	3	3		
* c) Control your speed with the throttle or rear brake.	89	89		
d) Keep both feet on the footpegs.	3	0		

B. Basic Control Procedures
 6. Speed Control
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

82. When slowing down you should:			.26	.02
a) Shift to neutral as soon as possible.	6	3		
* b) Not lean more than the motorcycle.	23	29		
c) Take both feet off the footpegs and hold them near the ground.	11	9		
d) Pump the rear and then the front brake until you stop.	60	60		
7. <u>Braking and Stopping</u>				
83. When braking to a normal stop, you generally should apply:			.79	-.24
* a) The rear brake only.	29	26		
b) The front brake only.	3	0		
c) Both the front and rear brakes at the same time.	69	74		
d) The front brake only and shift to a lower gear.	0	0		
84. When slowing down for a stop, you must:			.55	.29
* a) Use extreme care when applying the front brake.	66	54		
b) Rotate the throttle to the open position.	0	3		
c) Shift to a lower gear before applying the brakes.	23	17		
d) Depress the brake pedal firmly.	11	26		
85. If you are slowing down a little too fast, you should:			-.12	.42
a) Release both brakes at the same time.	6	3		
* b) Release pressure on the front brake and ease up on the rear brake.	86	91		
c) Release the front brake, keeping the same pressure on the rear brake and open the throttle slightly.	3	6		
d) Release the rear brake and pump the front brake.	6	0		
86. When you are carrying a passenger:			.88	.35
* a) You will need more distance to slow down and stop.	86	89		
b) The motorcycle will speed up faster.	0	0		
c) The motorcycle will be more stable at slow speeds.	3	0		
d) You should let him help you balance the motorcycle.	11	11		
87. When downshifting before coming to a stop, you should:			.94	.16
a) Release the clutch between gearshifts.	49	51		
b) Hold the clutch disengaged after reaching first gear.	17	11		
c) Move the shift lever before squeezing the clutch.	0	0		
* d) Shift to neutral before coming to a complete stop.	34	37		

B. Basic Control Procedures
 7. Braking and Stopping
 (continued)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
88.	When your motorcycle is almost stopped:			.43	.03
*	a) Put your gearshift foot down to balance the motorcycle.	69	80		
	b) Press the clutch and open the throttle.	9	0		
	c) Shift into second gear.	0	0		
	d) Use your brake foot to balance the motorcycle.	23	20		
89.	When making a rapid stop you should apply the:			.59	-.03
*	a) Rear brake firmly and then the front brake just short of sliding the front wheel.	40	26		
	b) Rear brake and then the front brake firmly and increase pressure on both.	49	69		
	c) Rear brake firmly then downshift and avoid using the front brake.	6	3		
	d) Rear brake gently then press the clutch lever and apply the front brake.	6	3		
90.	If your rear wheel begins to skid when coming to a stop, you should first:			.60	.27
	a) Signal to the vehicle behind.	11	20		
	b) Increase pressure on the rear brake.	6	0		
*	c) Release the front brake.	54	63		
	d) Shift to lower gear.	29	17		
91.	If your rear wheel begins to skid when making a <u>rapid</u> stop, you should:			.02	.27
	a) Apply more pressure on the front brake and less on the rear brake.	43	43		
	b) Release both brakes and press the clutch lever.	9	23		
	c) Open the throttle, release both brakes and lean left or right.	0	0		
*	d) Balance the motorcycle by steering with the front wheel.	49	34		
92.	If you want to stop after recovering from a rear wheel skid, you should:			.40	.36
	a) Apply the front brake only.	3	3		
*	b) Apply both brakes again.	60	83		
	c) Coast to a stop without the use of brakes.	17	6		
	d) Close the throttle and press the clutch lever.	20	9		
93.	When making a rapid or emergency stop, you should:			.35	.22
	a) Shift your weight forward.	29	14		
	b) Hold the handlebars loosely.	3	6		
*	c) Grasp the fuel tank with your knees.	63	80		
	d) Apply the front brake only.	6	0		
94.	When making an emergency stop on a dry road, you should apply the:			.48	.25
	a) Front brake only.	0	0		
	b) Rear brake only.	9	3		
*	c) Front and rear brakes together.	89	97		
	d) Front and then rear brake.	3	0		

B. Basic Control Procedures
 7. Braking and Stopping
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

95. When making an emergency stop on a slippery road or on loose gravel, you should:			.64	.44
* a) Apply the rear brake only.	40	34		
b) Use the front and rear brakes together.	29	34		
c) Apply the front brake when the rear wheel begins to slide.	3	14		
d) Use the throttle and clutch and avoid using the brake.	29	17		
8. <u>Surveillance and Signals</u>				
96. One of the safety advantages you have when driving a motorcycle is:			.70	-.02
a) You will be thrown clear in an accident.	0	0		
b) Motorcycles are easily seen by other motorists.	0	0		
* c) You have fewer blindspots than in a car.	97	94		
d) Motorcycles can safely drive off the road to avoid accidents.	3	6		
97. When riding you should continually:			---	---
a) Apply the front and rear brake to check them.	0	0		
* b) Check the road conditions far ahead.	100	100		
c) Shift back and forth in your seat.	0	0		
d) Sound your horn when near other vehicles.	0	0		
98. If you can avoid it, you should <u>not</u> ride:			---	---
a) Around highway curves.	0	0		
* b) Over grease or oil spots.	100	97		
c) During hot or humid weather.	0	3		
d) In cities or towns.	0	0		
99. When riding a motorcycle you should:			.84	.23
a) Ask the passenger to give hand signals.	0	6		
b) Ignore vehicles moving in the same direction as you.	0	0		
c) Drive in the center of your lane.	17	17		
* d) Assume that other drivers do not see you.	83	77		
100. The best way to be prepared for emergencies is to:			---	-.04
* a) Assume that others will do the unexpected.	97	100		
b) Avoid heavy traffic and stay on side streets.	0	0		
c) Drive slower than other traffic.	0	0		
d) Keep your hand on the front brake.	0	0		

B. Basic Control Procedures
 8. Surveillance and Signals
 (continued)

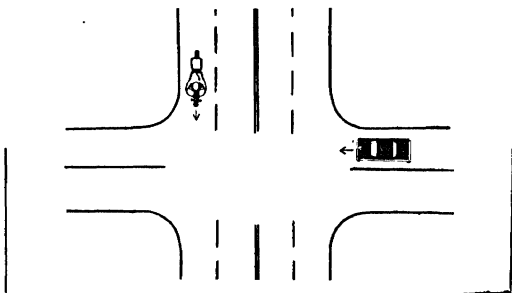
Response
 Distribution:
Test Re-test r_{tt} r_{it}

101.	A safe motorcycle driver will:			.70	.61
	* a) Give the other driver the right-of-way.	94	.97		
	b) Only use the right-hand traffic lane.	0	3		
	c) Not make right turns at busy inter- sections.	3	0		
	d) Change lanes rather than change speeds.	3	0		
102.	After entering a new traffic lane, you should:			.80	.07
	a) Slow down.	0	0		
	* b) Switch off your turn signal.	94	91		
	c) Stay on the far right side of the lane.	6	9		
	d) Put your feet out to stabilize your motorcycle.	0	0		
103.	When in a line of cars at a stop sign or red light, you should:			---	---
	* a) Maintain your position in line.	100	100		
	b) Pull over to the right and pass them.	0	0		
	c) Pull over to the left of the lane and pass them.	0	0		
	d) Drive between the lanes of cars, stop and then continue.	0	0		
104.	When you come to a stop sign or red traffic light, you should stop:			---	.49
	* a) Near the left tire marks in the lane.	97	100		
	b) After you have passed the crosswalk.	0	0		
	c) Only if the car in front of you stops.	3	0		
	d) Between lanes of traffic.	0	0		

C. Basic Maneuvers
 1. Negotiating Intersections

Response
 Distribution:
Test Re-test r_{tt} r_{it}

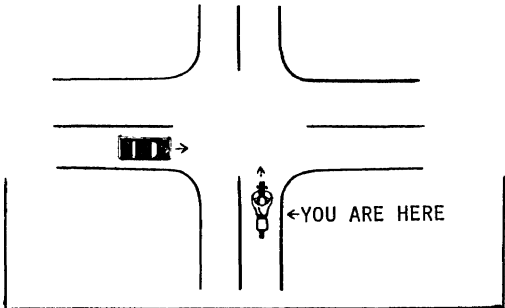
105.	When approaching an intersection it is <u>most</u> important to:			.70	.02
	a) Stay in the right lane.	0	3		
	b) Watch for traffic making right turns.	3	3		
	c) Watch for traffic going straight.	0	0		
	* d) Watch for traffic making left turns.	97	94		
106.	If a vehicle is coming from your right at an intersection it may be <u>unsafe</u> to:			.17	.28
	a) Try to estimate the speed and distance of the vehicle.	0	6		
	b) Prepare to slow down and stop if the vehicle is close.	11	0		
	c) Look ahead of the vehicle to see if you will have to stop.	3	3		
	* d) Continue at the same speed through the intersection.	86	91		
107.	If you are on a main road and coming to an intersection, you should:			---	.05
	* a) Watch for vehicles slowing down or giving other signs of making left turns.	97	100		
	b) Protect yourself by driving between lanes of traffic.	0	0		
	c) Shift to higher gear and coast through the intersection.	0	0		
	d) Move to the far left lane and turn on your lights.	3	0		
108.	When on a main road at an intersection and a vehicle is approaching from the left, you should:			.85	.14
	a) Stop; he always has the right-of-way.	0	0		
	b) Speed up to make sure he knows you're there.	3	3		
	* c) Yield if he does not slow down.	91	89		
	d) Slow down immediately and blow your horn.	6	9		



109.	Before yielding to a vehicle which is turning left in front of you:			.53	.20
	a) Move into the right lane.	6	6		
	b) Move to the left so you can pass when he starts to turn.	9	9		
	* c) Check the vehicles behind you.	83	80		
	d) Signal the vehicle that he should turn.	3	6		

C. Basic Maneuvers
 1. Negotiating Intersections
 (continued)

Response
 Distribution:

	<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
110. If you are going straight through the intersection and see a vehicle to your left:			.77	.11
a) Drive partially into the intersection to warn the other vehicle to slow down.	9	6		
* b) Prepare to yield right-of-way.	86	86		
c) Speed up to get through the intersection before the other vehicle.	6	9		
d) Pull off the road until the vehicle gets through the intersection.	0	0		
				
111. When coming to and driving through an intersection, you should always:			---	---
a) Slow down to 15-20 mph.	0	0		
b) Stay close to the vehicle in front of you.	0	0		
* c) Check the traffic lights and signs.	100	100		
d) Move to the right lane.	0	0		
112. Upon approaching an intersection you need <u>not</u> stop when:			-.05	.01
a) A vehicle suddenly makes a left turn in front of you.	0	0		
b) You are making a left turn and oncoming traffic is approaching.	0	6		
c) A vehicle on your left is signaling for a right turn.	3	3		
* d) Traffic allows complete passage through the intersection.	97	91		
113. If an oncoming vehicle is preparing to turn left at an intersection:			.73	.15
a) Drive to the left to get around it.	6	6		
b) Speed up and continue straight before he completes his turn.	17	14		
c) Stop and let him turn.	26	37		
* d) Lag slightly behind other vehicles going in your direction.	51	43		
114. When making a left turn you should:			.21	.25
a) Rely on your front brake.	6	0		
b) Put your feet down for balance when in the turn.	11	6		
* c) Go fast enough to keep the motorcycle steady.	83	94		
d) Shift gears during the turn.	0	0		

C. Basic Maneuvers
 1. Negotiating Intersections
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

115.	When turning right at an intersection, you should:			.41	.31
	a) Speed up until you complete the turn.	9	9		
*	b) Put your feet down only when needed for support.	80	86		
	c) Go faster than 5 mph.	11	6		
	d) Lean farther than the motorcycle.	0	0		
116.	When you are stopped and waiting to turn left at an intersection and oncoming traffic is close:			.66	.32
	a) Stop on the centerline and wait.	23	17		
	b) Turn your front wheel to the left.	11	14		
*	c) Keep your foot firmly on the brake.	51	46		
	d) Drive past the corner and wait in the intersection.	14	23		

2. Negotiating Curves

117.	Under good conditions, the rider approaching a curve to the right should:			---	---
	a) Lean to the left and brake on the curve.	0	0		
*	b) Reduce speed before the curve and speed up slightly in the curve.	100	100		
	c) Turn the wheels sharply to the right and sit straight up.	0	0		
	d) Speed up before the curve and brake when in the curve.	0	0		
118.	When you are driving through a curve, you should:			-.04	.22
	a) Continue to slow down until you come out of the curve and begin going straight.	3	3		
*	b) Lean your body with the motorcycle and turn the handlebar as needed.	97	94		
	c) Sit far back in the seat.	0	0		
	d) Steer toward the outside of the lane.	0	3		

3. Negotiating Hills

119.	When going up a steep hill, you should:			.36	.03
	a) Stay in high gear and open the throttle all the way.	3	0		
*	b) Shift to a lower gear to maintain your speed.	94	91		
	c) Drive on the extreme right of the lane.	3	9		
	d) Decrease your speed to cool the engine.	0	0		
120.	When you approach the top of a hill, you should <u>not</u> :			.53	.04
	a) Slow down slightly.	0	3		
	b) Stand up on footpegs to see over the top.	31	26		
*	c) Drift toward the center line.	69	71		
	d) Dim your lights.	0	0		

C. Basic Maneuvers
 3. Negotiating Hills
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

121. When going downhill you should <u>not</u> :			.47	.05
a) Maintain a constant speed.	6	6		
b) Close the throttle to prevent speeding up.	11	14		
* c) Keep your rear brake on until you reach the bottom.	69	69		
d) Shift to lower gear if the grade is long.	14	11		

4. Lane Changing

122. The <u>first</u> thing to do before changing lanes is:			.41	.14
a) Signal with your lights and hand.	26	20		
b) Slow down.	0	0		
* c) Check your mirrors and look over your shoulder.	71	77		
d) Move closer to the lane you want to be in.	3	3		
123. When deciding to pass on a 2-lane road, it is <u>most</u> important to consider the:			.70	.16
* a) Time it will take you to speed up and pass.	94	97		
b) Number of vehicles behind you.	0	0		
c) Type of vehicle you are passing.	6	3		
d) Air pressure from larger vehicles like trucks.	0	0		

5. Passing

124. When passing a truck rather than a car, you will have:			1.00	.51
a) To go faster in order to pass.	6	6		
b) A better view of the road ahead.	0	0		
c) To drive closer to the truck in order to pass safely.	0	0		
* d) More control problems because of the air pressure.	94	94		
125. You may need more distance to pass on a 2-lane road because:			.75	.26
a) Motorcycles cannot change lanes as quickly as other vehicles.	9	9		
* b) Other vehicles in your lane may not yield when you try to re-enter the lane.	77	86		
c) Motorcycles can go faster than other vehicles.	3	0		
d) It will take you longer to slow down before you can move back to the right.	9	6		

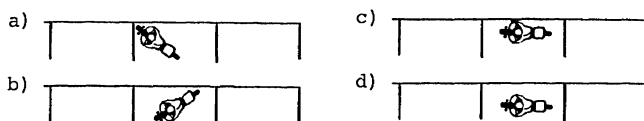
C. Basic Maneuvers
 5. Passing (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

126. When passing another vehicle you should:			.21	-.10
a) Drive alongside the vehicle until you are sure that the driver sees you.	3	3		
b) Move to the far right of the passing lane.	6	6		
* c) Not be in the same lane as the vehicle you are passing.	91	89		
d) Pass between two lanes of moving traffic.	0	3		
127. When passing other vehicles it is safest to pass on the:			.80	-.04
a) Right side.	0	0		
* b) Left side.	94	91		
c) Side away from the sun.	0	0		
d) Side with the least traffic.	6	9		
128. If you are passing a vehicle that starts to drift toward you, blow your horn and:			.66	-.16
a) Speed up to pass.	29	26		
* b) Watch to see if the driver hears you.	29	31		
c) Apply your brakes and pull over to the right.	31	37		
d) Pull into the lane to the left or onto the median.	11	6		
129. When completing a U turn:			.66	.33
a) Put your feet out to get your balance.	9	14		
b) Speed up quickly.	34	34		
c) Turn the front wheel slightly to the left.	3	3		
* d) Shift your weight to the right to straighten the motorcycle.	54	49		

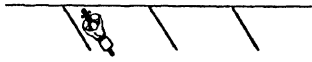



6. Parking

130. You should not park in a space that:			.77	.06
* a) Has a coating of oil or grease.	40	46		
b) Is less than 60 feet from a corner.	3	6		
c) Is within 25 feet of a fire hydrant.	54	46		
d) Has a parking meter.	3	3		
131. When parallel parking your motorcycle, you should:			.94	.06
a) Pull the front wheel against the curb close to the front of the parking space.	0	0		
* b) Back the motorcycle against the curb at an angle in the center of the space.	40	37		
c) Stop the motorcycle with both wheels against the curb at the center of the space.	9	17		
d) Park in the center of the space with both wheels about two feet from the curb.	51	46		



C. Basic Maneuvers
 6. Parking
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

132. When angle parking your motorcycle, it should be positioned as shown in figure:			1.00	.08
a) 	0	0		
b) 	17	17		
* c) 	83	83		
d) 	0	0		
133. After parking on a hill be sure to:			.61	.04
a) Leave the lights on so other vehicles can see the motorcycle.	0	0		
b) Lean the motorcycle against a wall or another vehicle.	0	0		
* c) Turn the motorcycle so the slope does not tip it over.	80	86		
d) Use the parking stand instead of the kick stand.	20	14		
134. When you park your motorcycle on the shoulder of a road:			.53	.35
* a) Put on your turn signals.	89	91		
b) Turn on the light and leave the rear wheel on the road.	0	0		
c) Lean the motorcycle on its side.	6	6		
d) Stand between the motorcycle and the road.	6	3		

D. Road and Weather Conditions
 1. Gravel and Rough Roads

Response
 Distribution:

	<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
135. When approaching loose gravel or dirt, it is best to:			---	---
* a) Slow down.	100	100		
b) Speed up slightly.	0	0		
c) Shift to a higher gear.	0	0		
d) Lean forward.	0	0		
136. When riding or turning on gravel or brick roads, you should:			.41	.18
* a) Use the front brake with caution.	74	89		
b) Speed up slightly before beginning to turn.	3	0		
c) Lean the motorcycle less than your body when turning.	20	11		
d) Have more air pressure in the rear tire.	3	0		
137. If you are driving on a dirt, gravel, or brick road surface:			-.13	.40
a) Pump the brakes in order to stop.	20	29		
* b) Apply the rear brake first then the front brake.	46	51		
c) Keep the rear brake on when driving through a turn.	0	0		
d) Do not lean your body or the motorcycle when turning.	34	20		
138. When riding on gravel or other loose road material, it is most important to <u>avoid</u> :			-.08	.34
a) Using hand signals.	3	0		
b) Changing lanes.	3	3		
c) Downshifting.	3	3		
* d) Making sharp turns.	91	94		
139. In order to keep your balance when turning on a gravel road, you should:			.42	.11
a) Increase your speed before the turn.	6	0		
b) Use the front brake frequently.	6	9		
c) Lean the motorcycle instead of turning the wheel.	34	31		
* d) Maintain or slightly increase your speed when in the turn.	54	60		
140. When driving on a gravel or brick road, you should:			-.06	.01
* a) Increase the distance between you and the other vehicles.	94	94		
b) Use the clutch to control your speed.	6	0		
c) Drive with the throttle all the way open in a lower gear.	0	3		
d) Ride with a slight zig-zag motion.	0	3		

D. Road and Weather Conditions
 1. Gravel and Rough Roads
 (continued)

	Response Distribution:		r_{tt}	r_{it}
	Test	Re-test		
141. When you are riding on a rough surface:			---	---
a) Steer in a zig-zag manner.	0	3		
* b) Slow down.	100	97		
c) Keep your feet off the footpegs.	0	0		
d) Ride in the left lane.	0	0		
142. If you come to bumps in the road, you should:			.51	-.07
* a) Be prepared for more bumps ahead.	69	83		
b) Stop and walk your motorcycle.	3	3		
c) Accelerate as you go over the bumps.	0	3		
d) Hold the handlebars loosely.	29	11		
143. If you see a road sign indicating a bumpy road ahead:			---	---
a) Stand up on the footpegs to get ready for the bumps.	0	3		
b) Pull off the road and turn around.	0	0		
c) Ride on the shoulder until you pass the bumps.	0	0		
* d) Slow down in advance of the bumpy area.	100	97		
144. If you see a pothole ahead, you should <u>first</u> :			-.11	.15
* a) Slow down.	91	89		
b) Swerve to the left or right.	6	11		
c) Stop immediately.	0	0		
d) Put on your turn signals.	3	0		
145. If you are about to drive over a pothole, you should:			.55	.29
a) Swerve sharply to avoid it.	11	6		
b) Lean forward in your seat.	20	23		
* c) Put your weight on the footpegs and open the throttle slightly.	54	66		
d) Put both feet out in case you begin to fall to one side.	14	6		
146. When you are riding on a bumpy road, you should:			-.08	.02
a) Keep the brakes on until you are over the bumps.	0	3		
* b) Place more of your weight on the footpegs.	91	94		
c) Keep both feet down for balance.	9	3		
d) Ride on the shoulder or in the median.	0	0		

D. Road and Weather Conditions
 2. Wet and Icy Road Surfaces

Response
 Distribution:
Test Re-test r_{tt} r_{it}

147.	When driving on a road covered with water, snow, or sand, you should:			---	---
	a) Drive closer to the center line of the road.	0	0		
	b) Follow other vehicles more closely than usual.	0	0		
	c) Use your front brake only.	0	0		
	* d) Drive slower than usual.	100	100		
148.	When you want to slow down on water, ice, snow or sand, you should:			.41	.14
	a) Pump the front brake first and then apply the rear brake.	9	9		
	* b) Pump the rear brake and then apply the front brake.	71	77		
	c) Shift to neutral and not apply the brakes.	3	3		
	d) Apply both brakes firmly at the same time.	17	11		
149.	The most slippery place to ride on a wet road is:			.71	.38
	a) The right wheel track.	3	3		
	* b) The center of the lane.	77	71		
	c) The left wheel track.	3	6		
	d) Near the shoulder or the curb.	17	20		
150.	If you need more traction on wet and slippery roads:			.55	.37
	a) Shift your weight to the front wheel.	9	9		
	* b) Slow down and shift to a lower gear.	83	89		
	c) Stand up on the footpegs.	9	3		
	d) Lean the motorcycle so that the sides of the tires grip the road.	0	0		
151.	When driving on a wet or slippery road, it is best to:			.45	.66
	a) Put more weight on the front wheel.	3	0		
	b) Reduce your tire pressure.	20	11		
	* c) Avoid pavement markings or metal surfaces.	77	89		
	d) Lean the motorcycle more than usual when turning.	0	0		
152.	You should be most careful on wet roads:			.77	.00
	a) Right after a rainstorm.	11	11		
	b) After several days of rain.	3	3		
	* c) When it first starts raining.	86	86		
	d) During a summer rain.	0	0		

D. Road and Weather Conditions
 2. Wet and Icy Road Surfaces
 (continued)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
153.	If you must drive through an oil-soaked area of the road, you should:			-.04	.41
	a) Move forward on your seat.	3	0		
*	b) Slow down and avoid leaning the motorcycle.	94	97		
	c) Lean the motorcycle instead of turning the wheel.	0	3		
	d) Speed up before coming to the area and then close the throttle.	3	0		
154.	When your tires are wet:			---	---
	a) Speed up slightly.	0	0		
*	b) Increase your following distance from other vehicles.	100	100		
	c) Take both feet off the footpegs and keep them just above the water.	0	0		
	d) Open the throttle but be ready to use the brakes.	0	0		
155.	To recover from hydroplaning you should:			.36	-.31
*	a) Close the throttle to slow down.	91	80		
	b) Apply the rear and then the front brake firmly.	0	14		
	c) Steer in a zig-zag motion to keep balance.	0	0		
	d) Maintain your speed and sit back on the motorcycle.	9	6		
156.	After driving through deep water you should:			.27	.00
	a) Downshift and then open the throttle.	6	6		
	b) Not apply the front brake for the next several miles.	3	3		
*	c) Put on both brakes lightly and open the throttle.	91	91		
	d) Ride in a zig-zag pattern to dry the tires.	0	0		
157.	When coming to an intersection covered with ice or snow, you should:			-.03	.22
	a) Press the clutch lever before the intersection and keep it pressed in.	3	3		
*	b) Reduce your speed before getting to the intersection.	97	97		
	c) Turn on your bright lights and blow your horn.	0	0		
	d) Stop and ask your passenger to get off before getting to the intersection.	0	0		
158.	If you cannot get your motorcycle started in motion on snow or ice:			.51	.41
	a) Spin the rear wheel until you get traction.	0	0		
	b) Turn the front wheel to the right.	0	3		
*	c) Shift your weight to the rear wheel and push with your feet.	74	86		
	d) Push the motorcycle in gear and jump on when it starts moving.	23	9		

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
D. <u>Road and Weather Conditions</u>					
2. <u>Wet and Icy Road Surfaces</u>					
(continued)					
159.	If your motorcycle gets stuck in deep snow, you may have to:			.65	.04
	a) Shift to a higher gear and speed up.	0	6		
	b) Bounce on the motorcycle to get more traction.	29	34		
	c) Open the throttle slightly and steer in a zig-zag motion.	9	3		
	* d) Get off and lift the motorcycle out of the drift.	63	57		
160.	When driving through deep snow you should:			.30	.38
	a) Keep the motorcycle in high gear.	6	6		
	* b) Keep moving at a constant speed.	89	94		
	c) Close the throttle and keep the clutch lever pressed in.	3	0		
	d) Press down on the handlebars.	3	0		
161.	When you are trying to get through deep snow:			.68	.32
	a) Shift to a higher gear after entering the snow.	11	17		
	b) Stop and start often to get traction.	3	6		
	* c) Shift your weight to the rear wheel.	77	77		
	d) Don't use your feet for balance.	9	0		
162.	When starting your motorcycle on ice, you should:			-.03	-.13
	a) Release the clutch quickly for better traction.	0	0		
	b) Start in first gear if your wheel spins in second gear.	3	3		
	* c) Keep your feet down and accelerate slowly.	97	97		
	d) Apply more pressure to the front wheel.	0	0		
163.	When you are going slowly over an icy patch on the road:			.25	-.07
	a) Apply the rear brake lightly.	20	14		
	* b) Be ready to put your feet down for balance.	74	83		
	c) Turn the front wheel slightly to one side.	0	3		
	d) Downshift as you are going over the ice.	6	0		
164.	When stopping on ice you should:			.45	.20
	a) Press the clutch and front brake at the same time.	3	3		
	* b) Pump the rear brake.	89	94		
	c) Firmly apply the front brake.	3	3		
	d) Shift to neutral.	6	0		

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
D. <u>Road and Weather Conditions</u>					
3. <u>Sand and Loose Dirt Surfaces</u>					
165.	If you come to an area where sand is covering the road, you should:			-.03	.11
* a)	Slow down before getting to the area.	97	97		
b)	Rest your foot on top of the chain guard.	0	0		
c)	Stop and push the motorcycle through the sand.	3	0		
d)	Lower your body close to the motorcycle.	0	3		
166.	If your motorcycle becomes stuck in sand, you should:			.56	.27
* a)	Slide your weight back onto the rear wheel.	71	77		
b)	Apply great pressure on the handlebars.	9	6		
c)	Not remove your feet from the footpegs.	0	3		
d)	Turn the front wheel to either side.	20	14		
167.	If you are becoming bogged down in sand, you should:			.61	.28
a)	Try to move at an angle rather than straight.	29	29		
* b)	Keep the throttle open to have steering control.	34	23		
c)	Press and release the clutch lever to gain traction.	17	37		
d)	Stand up on the footpegs and lean forward.	20	11		
168.	If you are stuck on the road and a vehicle is rapidly approaching, you should:			.82	.11
a)	Push the motorcycle to the side of the road.	57	60		
b)	Place the motorcycle on its parking stand and turn on the lights.	0	6		
c)	Stand behind the motorcycle and direct other vehicles around.	6	6		
* d)	Leave the motorcycle where it is and get off the road.	37	29		
169.	When driving your motorcycle on a road where there is only a narrow, soft shoulder:			.61	-.03
a)	Keep in the left lane.	20	11		
* b)	Pay more attention to the traffic and road ahead.	80	86		
c)	Speed up to get off the road more quickly.	0	3		
d)	Brake hard when stopping to avoid a loss of traction.	0	0		
170.	In order to slow down safely on the shoulder of the road, you should:			.69	.29
a)	Use pressure on both brakes.	57	57		
b)	Drag your feet on the ground.	0	3		
* c)	Close the throttle gradually.	37	34		
d)	Apply the brakes and lean the motorcycle away from the road.	6	6		

D. Road and Weather Conditions
 3. Sand and Loose Dirt Surfaces
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

171.	To return to the road after accidentally dropping off of the pavement onto the shoulder, you should:			.89	.34
	a) Speed up and turn sharply when getting back onto the road.	9	6		
	* b) Slow down and turn sharply when getting back onto the road.	57	63		
	c) Speed up and gradually cross from the shoulder to the road.	11	6		
	d) Slow down and gradually cross from the shoulder to the road.	23	26		
4. <u>Road Obstructions</u>					
172.	When driving a motorcycle rather than a car, it is more important to:			.55	.02
	a) Know the rules of the road.	6	4		
	b) Keep a safe following distance.	29	26		
	* c) Watch for objects on the road.	66	69		
	d) Adjust the mirrors carefully.	0	0		
173.	After heavy rains you should:			.54	.05
	a) Avoid downshifting if possible.	6	6		
	b) Not use the brakes to slow down.	9	0		
	* c) Watch for large puddles on the road.	83	94		
	d) Lean your body instead of turning the front wheel.	3	0		
174.	If you think there may be stones or other objects in the road, you should:			---	---
	a) Move onto the shoulder and slow down.	0	0		
	b) Drive close behind a larger vehicle for protection.	0	0		
	c) Move close to the shoulder in case you have to stop.	0	0		
	* d) Slow down and prepare to stop or steer around them.	100	100		
175.	If you see an object in the middle of your lane, it is best to:			.55	.13
	a) Move into the lane used by oncoming traffic.	0	0		
	b) Drive onto the shoulder.	0	0		
	* c) Slow down and avoid running over it.	83	89		
	d) Stop and remove it from the road.	17	11		

D. Road and Weather Conditions
 5. Weather Effects on Visibility and Control

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
176.	When you have trouble seeing because of rain, snow, fog, sun, etc., you should:			.70	.21
	a) Follow a larger vehicle more closely.	0	0		
	* b) Be very careful because other vehicles may not see you.	94	97		
	c) Put on your bright lights and move from side to side.	0	0		
	d) Go 10-15 mph slower than the other vehicles.	6	3		
177.	If you have trouble seeing because of fog, rain, or sun, you should drive:			-.04	-.04
	* a) In the lane that keeps you away from other traffic.	94	97		
	b) On the line separating the two lanes so that you can go into either.	0	3		
	c) In a zig-zag pattern in order to be seen.	3	0		
	d) At the posted speed limit.	3	0		
178.	In order to see better when it is raining, you can:			.67	.25
	a) Put on a pair of sunglasses.	25	31		
	b) Drive at a faster speed.	3	0		
	c) Follow close to a larger vehicle.	17	3		
	* d) Look over the top of your windshield.	54	66		
179.	When your vision is reduced by fog or rain, it may help to:			.75	.41
	a) Turn on your high beam headlight.	14	9		
	b) Speed up to gain better traction.	0	0		
	c) Not worry about the pavement warnings.	0	0		
	* d) Stop and clean your eye protection.	86	91		
180.	When driving in extremely cold weather, you should:			.55	.28
	a) Drive faster than usual.	3	3		
	b) Wear dark-colored clothing.	20	11		
	* c) Use a pivoted faceshield.	71	83		
	d) Follow close behind other vehicles.	6	3		
181.	When it is very windy you should:			.61	.09
	a) Hold the handgrips lightly.	0	6		
	* b) Drive at a slower speed.	86	80		
	c) Shift to a higher gear and use less throttle.	3	0		
	d) Stay near the inside of the curves.	11	14		
182.	When you come to a building or hill along the road during a <u>strong</u> cross wind:			.53	.36
	a) Pull up on the handgrip closest to the building or hill and lean backward.	3	0		
	b) Hold the handgrips tightly and speed up slightly.	9	11		
	* c) Be ready to shift your weight to keep your balance.	80	83		
	d) Downshift and apply the rear brake lightly.	9	6		

E. Emergencies
 1. Vehicle Failures

Response
 Distribution:
Test Re-test r_{tt} r_{it}

183.	If the throttle is stuck open and the road is clear you should <u>first</u> :			.58	.20
	a) Apply both brakes and turn off the engine.	51	40		
	b) Run the motorcycle off the road.	6	0		
	c) Shift into neutral.	11	20		
	* d) Try to snap the throttle open and shut.	31	40		
184.	If the throttle is stuck open and there is no traffic on the road ahead:			.47	.01
	a) Quickly flop the motorcycle on its side.	0	0		
	* b) Control your speed with the brakes and clutch.	66	77		
	c) Shift quickly to the lowest gear.	11	9		
	d) Drive immediately off the roadway.	23	14		
185.	The <u>first</u> thing you should do if the throttle sticks in heavy traffic is to:			.34	-.16
	* a) Turn off the engine.	17	20		
	b) Apply both brakes firmly.	11	14		
	c) Pull the clutch lever.	71	63		
	d) Slide the motorcycle to the ground.	0	3		
186.	If your brakes fail, you should:			.36	-.06
	a) Open the throttle.	3	0		
	b) Shift your motorcycle into neutral.	6	20		
	c) Drag your feet to slow you down.	14	11		
	* d) Turn off the engine.	77	69		
187.	If your brakes fail and you must make a panic stop you should:			.60	.14
	* a) Throw the motorcycle into a slide by turning sharply away from the road.	51	49		
	b) Place the motorcycle in lower gear and lift up on the handlebars.	23	26		
	c) Shift into higher gear and use the clutch as a brake.	11	14		
	d) Stand on the footpegs to put weight on the front wheel and then shift to the next lowest gear.	14	11		
188.	If your motorcycle appears to be on fire while you are riding, you should:			---	---
	a) Drive quickly to the nearest fire station.	0	0		
	b) Stop where you are on the road and run for cover.	0	0		
	c) Leave the engine on and drop the motorcycle on its side.	0	0		
	* d) Leave the road, stop the engine, and get off.	100	100		

E. Emergencies
 1. Vehicle Failures (continued)

	Response Distribution:			
	<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
189. If a tire blows out while driving, you should:			.55	.29
* a) Balance the motorcycle by shifting your weight.	74	74		
b) Apply the brakes to stop quickly.	17	9		
c) Use hand signals to warn other drivers.	6	9		
d) Attempt to maintain the same speed.	3	9		
190. If your motorcycle is not operating smoothly, you should:			.80	.03
a) Avoid using the front brake.	0	0		
b) Loosen your grip on the handlebars.	3	0		
c) Shift to a lower gear.	6	6		
* d) Drive off the road as soon as you find a safe place.	91	94		
191. If the drive chain begins slipping or clanking:			.34	.52
a) Hold the handlebars loosely.	0	0		
* b) Disengage the clutch as soon as possible.	80	83		
c) Slow down and jump off the motorcycle.	0	0		
d) Close the throttle and shift to a lower gear.	20	17		
192. If you are running low on fuel:			-.03	.22
a) Increase your speed.	0	3		
* b) Turn the fuel valve to reserve.	97	97		
c) Shift into neutral and coast.	0	0		
d) Stop often in order to save gas.	0	0		
193. The least important thing to carry with you on your motorcycle is:			.53	.26
a) A small tool kit.	3	0		
b) A first aid kit.	3	11		
c) A master link.	9	3		
* d) An extra chain.	86	86		
194. When your motorcycle is disabled on the shoulder of a freeway, do <u>not</u> :			.49	.46
a) Get it completely off the road.	9	3		
* b) Push it along the shoulder to an exit.	80	89		
c) Tie a white cloth to the handlebars.	0	0		
d) Get off the motorcycle and stand back from the road.	11	9		
2. <u>Skidding</u>				
195. You are <u>most</u> likely to skid when riding:			.57	.14
a) Up a hill on a sand or gravel road.	57	51		
* b) On a gravel road with a passenger.	34	37		
c) Around curves and turns at low speeds.	3	3		
d) Down a hill if you downshift.	6	9		

E. Emergencies
 2. Skidding (continued)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
196.	The distance it takes to safely stop a motorcycle depends most on the:			---	-.04
	a) Weight of the driver.	3	0		
	b) Age of the motorcycle.	0	0		
	c) Size of the tires.	0	0		
*	d) Condition of the road.	97	100		
197.	In order to avoid skids you should:			.25	.21
	a) Not drive in high gear.	6	3		
*	b) Enter turns at slow speeds.	86	83		
	c) Ride near the center of the lane.	9	11		
	d) Put oversized tires on the motorcycle.	0	3		
198.	In order to avoid skids on wet or slippery roads, you should:			-.03	.01
	a) Reduce the air pressure in the tires.	3	0		
	b) Put more pressure on the front wheel.	0	3		
	c) Start in third gear rather than first.	0	0		
*	d) Change your speed and direction slowly.	97	97		
199.	You will most likely skid if you:			.46	.02
	a) Speed up slightly when going around a curve.	3	9		
	b) Downshift before applying your brakes.	6	3		
*	c) Make short stops or brake hard.	91	86		
	d) Slow down before riding on a metal grating.	0	3		
200.	If your rear wheel is skidding, you should:			-.06	.26
*	a) Steer in the direction of the skid.	89	97		
	b) Sit very still and not shift your weight.	0	3		
	c) Lean your body more than the motorcycle.	3	0		
	d) Apply the front brake lightly.	9	0		
201.	If your rear wheel begins to skid:			.49	-.06
*	a) Maintain or reduce the power to the rear wheel.	49	46		
	b) Put your feet on the footpegs.	3	0		
	c) Pump the front brake.	6	9		
	d) Hold the front wheel as straight as possible.	43	46		
202.	If your front wheel begins to skid, you should:			-.05	.00
	a) Not apply the rear brake.	0	0		
*	b) Release the front brake.	97	91		
	c) Shift to a lower gear.	3	3		
	d) Press the clutch lever.	0	6		

E. Emergencies
 2. Skidding (continued)

	Response Distribution:		<u>r_{tt}</u>	<u>r_{it}</u>
	<u>Test</u>	<u>Re-test</u>		
203. If your front wheel begins to skid, you should:			.60	.44
a) Shift to neutral and pump the rear brake.	34	34		
b) Sit very still and not shift your weight.	9	6		
* c) Turn into the skid.	46	49		
d) Apply the front brake lightly.	11	11		
204. When in a skid you should use your brakes:			.43	.20
* a) After feeling you have control of the motorcycle.	51	57		
b) Just as the motorcycle starts to skid.	0	0		
c) In a series of quick, hard jabs on a wet road.	0	3		
d) In order to help you regain steering control.	49	40		

F. Driving Situations
 1. Urban Driving

Response
 Distribution:
Test Re-test r_{tt} r_{it}

205.	When driving where there are many people, you should <u>avoid</u> distractions from:			.64	.24
	a) People crossing the street.	6	6		
	b) Other vehicles pulling out or turning in front of you.	3	0		
	* c) Store signs and displays.	91	91		
	d) Traffic signs or signals.	0	3		
206.	When driving on city streets you should:			---	---
	a) Ride between two lanes of traffic.	0	0		
	* b) Maintain an even pace with other traffic.	100	100		
	c) Change lanes if a space opens up.	0	0		
	d) Stay close to the right curb.	0	0		
207.	When riding a motorcycle in the city, you should:			.53	.53
	a) Not pace your speed to the traffic lights.	3	6		
	b) Change your speed every few minutes so as not to stall.	0	0		
	* c) Stay in the lane which offers the best movement and vision.	89	91		
	d) Take advantage of your motorcycle and weave in and out of traffic.	9	3		
208.	A special danger of city rather than country driving is:			---	---
	* a) Vehicles coming out from alleys and parking spaces.	100	94		
	b) Animals crossing the road.	0	0		
	c) High speed traffic.	0	3		
	d) Poor driving conditions such as gravel and sand roads.	0	3		
209.	When in the residential area of a city:			---	---
	a) Try to go at a constant speed of 35 mph.	0	0		
	* b) Watch for pedestrians, especially children.	100	100		
	c) Slow down if you want to drive through a "play street."	0	0		
	d) Do not use your horn.	0	0		

2. Highway and Freeway Driving

210.	When driving on country roads you should be prepared for:			---	.49
	* a) Many unmarked intersections.	97	100		
	b) Few curves or sharp turns.	0	0		
	c) Fast moving farm vehicles.	0	0		
	d) Good road surfaces.	3	0		

F. Driving Situations
 2. Highway and Freeway Driving
 (continued)

	Response Distribution:		r_{tt}	r_{it}
	Test	Re-test		
211. On a mountain road, you should:			.77	.28
* a) Stay just to the right of the center of the lane except when meeting traffic.	63	74		
b) Keep your brakes on when going downhill.	26	20		
c) Ride on the right shoulder, if possible.	9	6		
d) Move from one side of the lane to the other.	3	0		
212. When driving in mountainous terrain:			.46	.07
a) Keep to the far right of your lane.	9	6		
b) Stop every 50 to 60 miles to guard against fatigue.	6	9		
c) Drive as fast as you like.	3	0		
* d) Watch for rock slides and washouts.	83	86		
213. If the freeway entrance ramp to a freeway feeds into the <u>left</u> lane, you should:			.67	-.08
a) Wait until you can cross over to the right lane before entering the main road.	3	3		
b) Slow to a stop before entering and then proceed with extra care.	3	0		
c) Drive along the shoulder until you can safely enter the main road.	11	6		
* d) Make sure that you can travel at the freeway speed limit before entering.	83	91		
214. When entering or leaving a freeway, you should:			.30	.19
a) Stop before merging with other traffic.	0	3		
b) Downshift to second gear and open the throttle all the way.	0	3		
* c) Check for loose material on the ramp.	94	89		
d) Hit the brakes several times to alert the vehicles around you.	6	6		
215. If you are carrying a passenger, you:			.36	.30
* a) Will need to open your throttle more or allow more distance when entering a high speed road.	94	91		
b) Should let your passenger watch out for approaching cars.	6	6		
c) Will need less distance in order to stop because of the extra weight.	0	3		
d) Should drive only in the left-hand lane.	0	0		
216. When on a right-hand entrance to a freeway, you should:			1.00	-.13
* a) Look back over your left shoulder and into the left rearview mirror.	97	97		
b) Only look straight ahead at the road.	0	0		
c) Not speed up until you are on the main road.	3	3		
d) Assume the right-of-way when merging with freeway traffic.	0	0		

F. Driving Situations
 3. Reacting to Other Vehicles

Response
 Distribution:
Test Re-test r_{tt} r_{it}

217.	In order to drive safely in traffic, you should:			---	.02
* a)	Watch vehicles on both sides of you in case you have to change lanes.	97	100		
b)	Drive as close as possible to the vehicles parked on the right.	0	0		
c)	Keep your speed slightly below that of other vehicles.	3	0		
d)	Not carry a passenger.	0	0		
218.	When you ride by parked cars, you should:			.56	.18
a)	Move to the right side of the lane.	0	0		
* b)	Slow down and stay 1/2 to 3/4 of a lane away.	91	97		
c)	Blow your horn or flash your lights.	3	0		
d)	Speed up and drive in the lane farthest away from the parked cars.	6	3		
219.	You should <u>not</u> ride close to parked cars because:			-.03	.49
a)	The right edge of the traffic lane is the "oil slick" area.	0	0		
* b)	People may be getting out of the parked vehicle.	97	97		
c)	The vehicle may have been improperly parked.	0	0		
d)	It is illegal to ride less than 5 feet away from a parked car.	3	3		
220.	When you drive past a line of parked vehicles:			---	---
a)	Speed up slightly if there are no people on the road.	0	0		
b)	Drive close to the right side of the lane.	0	0		
c)	Blow your horn.	0	0		
* d)	Look for vehicles that may be leaving their spaces.	100	100		
221.	If you are being passed you should:			.64	.03
a)	Move to the right.	63	51		
b)	Increase your speed slightly.	0	0		
c)	Signal the other driver when it is safe for him to pass.	17	29		
* d)	Look over your shoulder to check the vehicle that is passing you.	20	20		
222.	When being passed you should move to the right:			.55	.12
* a)	When being crowded by the passing vehicle.	43	63		
b)	Whenever it is possible to do so.	49	37		
c)	Only on undivided roads.	3	0		
d)	Only if you are going below the speed limit.	6	0		

F. Driving Situations
 3. Reacting to Other Vehicles
 (continued)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
223.	When there is a vehicle behind you, you should:			1.00	.17
	a) Move into another lane.	0	0		
*	b) Check to see if it is following too closely.	89	89		
	c) Speed up so that it does not get too close.	0	0		
	d) Move over to the right part of your lane.	11	11		
224.	If someone is following very close behind you, you should:			.37	.31
	a) Speed up in order to lose them.	0	3		
*	b) Slow down gradually and let them pass.	86	89		
	c) Hit the brakes to warn them that they are too close.	3	6		
	d) Continue to drive at the legal speed limit.	9	3		
225.	If a runaway vehicle is coming toward you, you should:			.56	.27
*	a) Pull off onto the right shoulder and drive behind any available protection.	69	83		
	b) Speed up until you come to an exit or side road.	0	0		
	c) Slow down and then jump off your motorcycle.	0	0		
	d) Move into another lane and stop and wait until the other vehicle passes you.	31	17		
226.	When you approach a long line of oncoming vehicles, you should:			.69	-.08
*	a) Move to the right side of your lane.	63	66		
	b) Stay in the left part of the lane.	29	31		
	c) Flash your lights and slow down.	9	3		
	d) Drive in a zig-zag manner to attract attention.	0	0		
227.	If you are about to have a crash on the road:			---	---
	a) Steer toward large, rigid objects near the roadway.	0	0		
*	b) Leave the road at any point rather than risk a head-on collision.	100	97		
	c) Jump off your motorcycle to get clear of the other vehicle.	0	0		
	d) Steer so that you will be hit broadside rather than head-on.	0	3		

F. Driving Situations
 3. Reacting to Other Vehicles
 (continued)

		Response Distribution:		r_{tt}	r_{it}
		<u>Test</u>	<u>Re-test</u>		
228.	After leaving the road to avoid a collision, you should:			.80	.20
	a) Return to the road without stopping if possible.	17	20		
	b) Lean the motorcycle away from the road and apply the rear brake.	6	3		
	c) Start steering sharply toward the road.	6	6		
	* d) Downshift and apply both brakes to stop.	69	71		
229.	When driving with other motorcycles you should <u>not</u> :			.36	.27
	a) Drive more cautiously.	6	3		
	b) Drive at a steady, constant pace.	0	0		
	* c) Talk to other riders or passengers.	91	94		
	d) Drive in the same lane or abreast of another motorcycle.	3	3		
230.	When driving with other motorcycles it is best to drive:			.88	.43
	a) In second or third gear.	0	0		
	* b) In single file in a staggered position.	86	89		
	c) 10-15 mph below the posted speed limit.	11	9		
	d) In the passing lane.	0	0		
231.	When riding with other motorcycles, there should never be:			.56	.00
	a) Two motorcycles side by side.	3	9		
	* b) More than two motorcycles side by side.	97	91		
	c) More than three motorcycles side by side.	0	0		
	d) More than four motorcycles side by side.	0	0		
232.	When following behind another motorcycle you should always:			.56	.25
	a) Drive in the center of the lane.	11	9		
	b) Drive in another lane.	0	0		
	c) Stay in the far left side of the lane.	34	20		
	* d) Stay further behind than if following a car.	54	71		
233.	When driving with other motorcycles you should:			.42	-.32
	a) Drive close to the other motorcycles or vehicles.	0	0		
	b) Stay close to the left side of the right-hand lane.	14	3		
	* c) Set a pace slow enough for the slowest motorcycle.	86	97		
	d) Keep your headlight on high beam.	0	0		

F. Driving Situations
 3. Reacting to Other Vehicles
 (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

234.	When driving with other motorcycles you should <u>not</u> :			---	.49
	a) Drive at a steady speed at or below the posted speed limit.	0	0		
	b) Ride on high speed divided highways.	0	0		
	c) Carry passengers if going more than 100 miles.	3	0		
	* d) Weave in and out of traffic in order to keep up with other motorcycles.	97	100		
4. <u>Reacting to Pedestrians and Animals</u>					
235.	If you are coming to an animal crossing, you should:			---	.28
	a) Keep going at the same speed.	0	0		
	b) Speed up and move to the left.	3	0		
	* c) Slow down and be prepared to stop.	97	100		
	d) Stop and push your motorcycle.	0	0		
236.	If a dog is chasing you, you should:			.93	-.13
	* a) Speed up.	74	77		
	b) Slow down.	17	14		
	c) Attempt to run over the animal.	0	0		
	d) Stop as soon as possible.	9	9		
237.	If you have to change speed or direction because of an animal, you should <u>first</u> :			.53	-.09
	a) Press in the clutch lever.	0	3		
	* b) Check for vehicles behind and around you.	83	80		
	c) Apply both brakes lightly and signal.	17	17		
	d) Take both feet off the footpegs for balance.	0	0		
238.	If there is a small animal in the path of your motorcycle, you should:			1.00	.11
	a) Avoid hitting it at all costs.	6	6		
	b) Hit it, and don't worry about it.	3	3		
	* c) Hit it if it would be unsafe to avoid it.	91	91		
	d) Hit it only if it is smaller than a dog.	0	0		
239.	When coming to a live animal on the road, you should:			.61	-.22
	a) Come to a full stop and wait until the animal is off the road.	14	20		
	b) Drive onto the shoulder.	0	0		
	* c) Slow down until you pass the animal.	86	80		
	d) Downshift and continue at the same speed.	0	0		

		Response Distribution:			
		Test	Re-test	r_{tt}	r_{it}
F. <u>Driving Situations</u>					
4. <u>Reacting to Pedestrians and Animals</u> (continued)					
240.	If it looks like you might hit a pedestrian, you should:			.61	-.19
	a) Slow down, lean to the right and downshift.	0	0		
	b) Apply the rear brake, blow the horn and move to the left.	23	26		
	c) Shift into neutral, blow the horn and check for traffic.	0	0		
	* d) Blow the horn, check for traffic and slow down.	77	74		
5. <u>Night Driving</u>					
241.	When driving at night you should:			.47	.24
	a) Ride in the right wheel track of the lane.	3	0		
	* b) Go slower than during daytime.	94	94		
	c) Not carry a passenger.	0	0		
	d) Keep your bright lights on.	3	6		
242.	When driving at night your top speed should be determined by the:			.08	.06
	a) Posted speed limit.	14	9		
	b) Age and condition of your motorcycle.	6	0		
	c) Speed of the vehicles in front of you.	6	9		
	* d) Distance your headlights light up.	74	83		
243.	At night you should:			.44	.27
	a) Pass vehicles more quickly than during the day.	3	3		
	b) Follow vehicles more closely than during the day.	0	0		
	* c) Allow more time to stop than during the day.	89	89		
	d) Drive closer to the center of the road than during the day.	9	9		
244.	If you are being followed at night by a car with bright lights, you should <u>not</u> :			.61	.31
	* a) Pull over to the right part of the lane.	49	40		
	b) Flick your own headlight from high to low beam.	34	31		
	c) Gradually slow down and let the car pass you.	11	20		
	d) Pull off the road when safe and let the car pass you.	6	9		
245.	When coming to an animal crossing or refuge area at night, you should:			---	.07
	a) Speed up and flash your lights several times.	0	0		
	b) Stop and continue with care.	0	0		
	* c) Slow down and watch for animals near the roadway.	97	100		
	d) Sound your horn and then continue at normal speed.	0	0		

F. Driving Situations
 6. Railroad Crossings, Bridges,
Tunnels, etc.

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
246.	When coming to a railroad crossing without warning signals, you should:			.80	.37
	a) Stop even if you don't see any trains coming.	6	9		
	b) Speed up and look quickly in both directions.	0	0		
	* c) Slow down and look before crossing the tracks.	94	91		
	d) Signal other vehicles to pass you.	0	0		
247.	The best way to cross railroad tracks is to:			.36	.35
	a) Go slow and cross at an angle to the right.	6	6		
	b) Reduce speed and cross at an angle to the left.	0	0		
	c) Speed up slightly and lean forward for balance.	3	0		
	* d) Reduce speed and cross at a right angle, if possible.	91	94		
248.	When crossing railroad tracks at a low speed, you should:			.72	.37
	a) Start across the tracks in third or fourth gear.	17	17		
	* b) Slip the clutch to avoid jerking the motorcycle.	37	46		
	c) Shift into second or first gear when going over the tracks for more speed.	31	37		
	d) Use only the front brakes.	14	0		
249.	If you drop something off your motorcycle while crossing railroad tracks, you should:			1.00	.00
	a) Stop on the tracks and pick it up right away.	0	0		
	b) Circle back if it looks like no train is coming.	6	6		
	* c) Keep going until you can pull off the road and walk back to the tracks.	94	94		
	d) Leave the object where it is, since it's illegal to pick things up from the tracks.	0	0		
250.	As you enter a tunnel you should:			.51	.19
	a) Move closer to the center of the road.	17	20		
	b) Increase your speed a bit.	0	0		
	* c) Remove your sunglasses.	77	77		
	d) Turn off your headlight.	6	3		
251.	In a narrow two-way tunnel (or bridge), you should:			.30	.30
	a) Speed up for better control.	0	0		
	* b) Keep to the right of the center.	94	89		
	c) Wear sunglasses.	0	0		
	d) Ride at the speed limit.	6	11		

F. Driving Situations
 6. Railroad Crossings, Bridges,
Tunnels, etc. (continued)

Response
 Distribution:
Test Re-test r_{tt} r_{it}

252. When driving on a bridge with a rectangular metal grating, it is best to:			.63	.27
a) Pull up on the handlebars.	9	11		
* b) Drive in a gentle zig-zag pattern.	20	29		
c) Keep your rear brake on while crossing.	14	17		
d) Begin to slow down when you are on the grating.	57	43		
253. When coming to a toll booth, you should:			.00	.22
a) Get the change out of your pocket well in advance.	3	0		
b) Get the change out of your pocket only while moving slowly.	0	3		
* c) Get the change out of your pocket only after you have stopped.	97	97		
d) Only use those booths that are used by trucks.	0	0		

G. Driver and Vehicle Condition
 1. Driver Condition

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
254.	To help prevent eye strain while driving, you should:			-.03	.28
	a) Drink coffee before you drive.	0	0		
*	b) Wear a good faceshield or goggles.	97	97		
	c) Wear sunglasses to protect against glare at night.	3	3		
	d) Keep your eyes focused at the middle of the road.	0	0		
255.	To help prevent fatigue you should:			.72	.31
	a) Maintain a safe constant speed.	34	26		
	b) Have a passenger with you on long trips.	9	3		
*	c) Wear good windproof clothing.	51	60		
	d) Grasp the handlebars firmly.	6	9		
256.	If you are tired and cannot stop to sleep, you should:			.88	.12
	a) Drive at a constant speed.	0	0		
	b) Drive as fast as permitted.	0	0		
*	c) Stop and rest at least every hour.	89	86		
	d) Drive as slow as possible.	11	14		
257.	Because of the skill and coordination required to operate a motorcycle, you should not drive:			---	---
	a) In cold weather.	0	0		
	b) In stop and go traffic.	0	0		
	c) On gravel roads.	0	0		
*	d) After drinking.	100	100		
258.	If you normally wear glasses:			.77	.17
	a) Do not use a tinted faceshield.	0	0		
	b) You should not wear them when you drive a motorcycle.	0	3		
	c) You do not need to wear goggles or a faceshield.	14	11		
*	d) Make sure they fit properly with your goggles or faceshield on.	86	86		

2. Vehicle Condition

259.	When you put gas in your tank, you should always:			---	---
	a) Leave the motorcycle in gear.	0	0		
*	b) Avoid overfilling the tank.	100	100		
	c) Leave the engine on.	0	0		
	d) Use the same brand of gasoline.	0	0		
260.	Every time you stop for gas, you should:			.62	.15
*	a) Check the oil level or add oil to the gas tank.	86	89		
	b) Ask a mechanic to check the brake and light system.	6	6		
	c) Shift through all the gears to see if repairs are needed.	3	3		
	d) Oil and tighten the brake and clutch cables.	6	3		

G. Driver and Vehicle Condition 2. <u>Vehicle Condition</u> (continued)		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
261.	You should inspect your wheel rims to see if they need to be straightened:			.53	-.07
	a) Every time you ride.	29	29		
	* b) Every 3,000 miles.	63	57		
	c) Once a year.	6	9		
	d) Only after riding on gravel roads.	3	6		
262.	If you are having problems with your suspension system, you may need to:			-.05	.37
	a) Add air to your front tire.	6	0		
	b) Use oversize tires.	3	3		
	* c) Adjust your rear shocks.	91	97		
	d) Stay in first or second gear.	0	0		
263.	When checking steering and suspension systems, you should check:			.56	-.36
	a) The tension of the brake and clutch cables.	3	0		
	b) Rear and front footpegs.	0	0		
	* c) For bent fork tubes.	97	91		
	d) The drive chain and sprockets.	0	9		
264.	If your stoplight comes on before your brakes begin to grab, you should:			---	-.01
	* a) Adjust the brake linkage and switch.	94	100		
	b) Tighten the clutch cable.	0	0		
	c) Move the rear wheel slightly back.	6	0		
	d) Apply the brakes quickly when stopping.	0	0		
265.	If the front brake lever pulls back against the handgrip without applying the brake, you should:			---	---
	a) Tighten the screws in the lever.	0	3		
	* b) Adjust the brake cable.	100	97		
	c) Loosen the rear brake.	0	0		
	d) Oil the cable and the brake lever on the handgrip.	0	0		
266.	When you check for lubrication on the chain, do <u>not</u> :			-.05	.13
	a) Remove, clean, and oil the chain.	6	3		
	b) Apply oil with spout, spray, or brush oiler.	3	0		
	* c) Leave the motorcycle's engine running.	91	97		
	d) Adjust automatic chain oiler if present.	0	0		
267.	After you have moved the rear wheel to adjust the chain, you should:			---	---
	* a) Tighten the axle and adjust the rear brake.	100	86		
	b) Tighten the axle and adjust the clutch.	0	6		
	c) Adjust the sprockets and connect the brake light.	0	3		
	d) Adjust the rear shocks and tighten the chain adjusters.	0	6		

H. Legal Requirements (Michigan)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
268.	A motor-driven cycle is a 2-wheel vehicle whose engine:			.72	.03
	a) Is larger than 250 cc.	11	11		
*	b) Produces less than 5 brake horsepower.	80	83		
	c) Is mounted over the front wheel.	0	0		
	d) Has 2 or more cylinders.	9	6		
269.	If your headlight cannot reveal people at 200 feet at night, you must not go faster than:			.56	.00
*	a) 25 mph.	9	3		
	b) 35 mph.	37	43		
	c) 45 mph.	34	54		
	d) 55 mph.	17	0		
270.	A person who operates a motorcycle:			---	---
	a) Must wear light or white clothes.	0	0		
	b) Cannot drive on high speed highways.	0	0		
*	c) Has all the rights and duties of other drivers.	100	100		
	d) Must not stop his motorcycle on the shoulder of the road.	0	0		
271.	When carrying a package on a motorcycle, it is illegal to:			---	---
	a) Place it on the tank between your legs.	0	0		
	b) Tie it to the handlebars.	0	3		
	c) Use saddlebags.	0	0		
*	d) Hold it with your hands.	100	97		
272.	Motorcycle drivers:			-.04	-.19
*	a) Are allowed the use of the full width of a lane.	97	94		
	b) Must share a lane with bicycle riders.	0	3		
	c) Must not share a lane with another motorcycle driver.	3	3		
	d) Should share the lane with passenger cars and trucks.	0	0		
273.	When overtaking and passing a vehicle in your lane, pass:			---	---
	a) On the right.	0	0		
	b) On the left in the same lane.	0	0		
*	c) By changing to the left or passing lane.	100	100		
	d) On either side in the same lane.	0	0		
274.	It is illegal for a group of motorcycles to drive:			.67	.24
	a) Through a residential area.	0	0		
	b) In more than one lane of a highway.	17	9		
*	c) More than two abreast in one lane.	83	91		
	d) In single file when there are more than ten motorcycles in the group.	0	0		

H. Legal Requirements (Michigan)
(continued)

		Response Distribution:			
		<u>Test</u>	<u>Re-test</u>	<u>r_{tt}</u>	<u>r_{it}</u>
275.	It is illegal for a motorcycle driver to:			.69	.18
	a) Ride two abreast on an undivided highway.	11	6		
	b) Drive faster than 35 mph at night.	0	0		
*	c) Cling to other vehicles.	89	94		
	d) Drive in the left part of the lane.	0	0		
276.	In order to carry a passenger on your motorcycle, it must be equipped with:			.69	-.10
	a) Chain and exhaust pipe guards.	11	6		
	b) Mechanical directional signals.	0	0		
*	c) Footrests for the passenger.	89	94		
	d) An engine of more than 15-horsepower.	0	0		
277.	It is illegal for motorcycle handlebars to be higher than:			.60	-.03
	a) 12" above the empty seat.	17	11		
*	b) 15" above the empty seat.	51	54		
	c) 18" above the empty seat.	26	31		
	d) 21" above the empty seat.	6	3		
278.	Equipment required by state law does <u>not</u> include:			.30	-.08
	a) A red tail lamp.	0	3		
	b) A license plate lamp.	3	3		
	c) A headlamp.	3	6		
*	d) Turn signals.	94	89		
279.	Motorcycles must be equipped with:			.47	-.10
	a) Parking lights.	6	6		
	b) At least two headlights.	0	0		
*	c) A red reflector on the rear.	94	94		
	d) Emergency flashing lights.	0	0		
280.	High beams on a motorcycle should reveal objects at a distance of not less than:			.55	.37
	a) 100 feet.	6	3		
	b) 150 feet.	29	20		
*	c) 350 feet.	51	63		
	d) 500 feet.	14	14		
281.	If your motor-driven cycle is to be driven at night, it must be:			---	---
*	a) Equipped with a headlight and taillight.	100	100		
	b) Driven faster than 35 mph.	0	0		
	c) Driven in the right lane only.	0	0		
	d) Equipped with turn signals.	0	0		
282.	Motorcycles must be capable of stopping at 20 miles per hour in not more than:			.55	-.17
	a) 20 feet.	14	6		
*	b) 30 feet.	54	49		
	c) 40 feet.	26	40		
	d) 50 feet.	6	6		



APPENDIX C

CLASS A and B (Truck and Bus) ITEM POOL

This appendix contains the 583 "raw" items related to truck and bus operation. See Section 2.2.3 and 3.3 of the parent report for description of pool development and status.

Preceding the pool proper are two indexes intended to help locate items of interest. First is the Outline and Topic Index which shows groups of item serial numbers associated with subjects, arranged in rough operational sequence, related to truck and bus driving. The second index is simply a key-word, alphabetic rotation of the Topic Index to permit entering the Topic Index and, then, the pool starting with a particular subject of interest.

In the pool proper, each complete "raw" item is given, with an asterix indicating the "correct" answer. Some items refer to truck operation only -- those items have "(Class A)" as a part of the item stem.

ITEM POOL OUTLINE AND TOPIC INDEX

for

Class A and Class B Vehicle Driving

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A. Pre-Operative Procedures

1. Vehicle Related

a. Pre-Trip Inspection and Procedures¹

1. Before driving your vehicle it is least important to check the:
 - a) Tires.
 - b) Horn.
 - c) Windshield wipers.
 - *d) Bumpers.
2. Before moving your vehicle it is least important to check the (Class A)²:
 - a) Foot pedal brakes.
 - *b) Speedometer.
 - c) Lights and reflectors.
 - d) Coupling device.
3. Before driving you should inspect your vehicle by:
 - a) Standing on a high platform and looking down on it.
 - b) Listening to the way the engine sounds as you start it.
 - *c) Walking completely around it.
 - d) Crawling underneath it with a flashlight.
4. When walking up to your vehicle before driving you should look:
 - *a) For water or fuel leaks under the vehicle.
 - b) To be certain all doors are closed and the lights are off.
 - c) For loose lug nuts and broken shock absorbers.
 - d) To see if air horns are hooked up and the mirrors are adjusted.
5. Before driving your vehicle it is least important to check the:
 - a) Emergency brake.
 - b) Steering mechanism.
 - c) Mirrors.
 - *d) Truck roof.
6. The most important items you should check before starting the engine are the:
 - a) Driveshaft and universal joint.
 - b) Speedometer.
 - *c) Water and oil levels.
 - d) Windshield wipers and washers.
7. When making a pre-trip check under the hood you need not inspect the:
 - a) Water and crankcase oil levels.
 - b) Fan and compressor belts.
 - c) Transmission fluid level.
 - *d) Clutch linkage.
8. When making a pre-trip inspection under the hood you should:
 - *a) Check and fill the windshield washer.
 - b) Lubricate the fan and compressor belts.
 - c) Bleed radiator if it is over 3/4 full.
 - d) Put several drops of oil on the battery terminals.
9. In order to make a pre-trip check of your lights you should:
 - a) Turn on all your lights and watch your battery gauge.
 - *b) Put on all your lights and walk around to inspect them.
 - c) Switch on the lights in a dark garage and check your mirrors.
 - d) Look out the windshield to see if your headlights are adjusted properly.
10. Before starting on a trip you should clean your:
 - a) Carburetor.
 - b) Radiator and fan.
 - c) Grease fittings and connecting hoses.
 - *d) Mirrors, lights and reflectors.
11. When making a pre-trip check of your lights it is least important to check your:
 - a) Clearance lights.
 - b) Emergency flashers.
 - *c) Map lights.
 - d) Brake lights.
12. When making a pre-trip check of your lights it is least important to check your:
 - a) Low beam headlights.
 - *b) Interior trailer lights.
 - c) High beam headlights.
 - d) Turn signals.
13. In order to check your stop lights you should (Class A):
 - a) Step on the foot pedal brakes and look out the window to the rear.
 - b) Apply the hand valve and check the rear view mirrors.
 - c) Back up to a wall and look for the road reflection.
 - *d) Apply the hand valve and walk around to the rear.
14. When making a pre-trip check of your wheels, you need not inspect the:
 - a) Lugs.
 - b) Studs.
 - c) Hub for grease leaks.
 - *d) Brake cylinder.

¹See also: E.1.d. (Vehicle Inspection), E.2.g. (Required Equipment)
D.2.c. (Routine Service), D.2.d. (Routine Inspection)
D.2.e. (Periodic Inspection) F.4. (Equipment of Vehicle)

²Items applicable only to Class A vehicles.

A. Pre-Operative Procedures

1. Vehicle Related

a. Pre-Trip Inspection and Procedures (continued)

15. You should inspect the door latches, window glass and mirrors:
- *a) Before driving the vehicle.
 - b) Every day, regardless of whether or not you drive.
 - c) Once a week.
 - d) Before your yearly inspection.
16. When making a pre-trip inspection it is least important to check the (Class A):
- *a) Battery.
 - b) Drive line.
 - c) Fuel tank.
 - d) Air hoses and connections.
17. When inspecting a trailer hook-up you need not check the (Class A):
- *a) Electrical circuit breakers.
 - b) Air brake hoses.
 - c) Electrical light cord.
 - d) Hoses and connections.
18. When inspecting a trailer hook-up it is least important to check (Class A):
- a) The fifth wheel jaws.
 - b) For a space between the top of the fifth wheel and the trailer plate.
 - c) The fifth wheel jaw release lever.
 - *d) For grease on the fifth wheel.
19. In a pre-trip check you should inspect the landing gear assembly by (Class A):
- *a) Raising the landing gear to the highest position.
 - b) Moving the tractor-trailer unit forward a few feet.
 - c) Crawling underneath the trailer.
 - d) Detaching the trailer from the tractor.
20. When making a routine pre-trip inspection you should check your:
- a) Drive shaft and universal joints.
 - b) Piston rings and bearings.
 - *c) Mud flaps and spare tire.
 - d) Transmission seals.
21. The least important equipment to have when leaving for a trip is:
- a) A hydraulic jack.
 - b) A tow chain.
 - c) Some spare bulbs.
 - *d) Extra lug nuts.
22. The least important equipment to have when leaving for a trip is:
- a) A fire extinguisher.
 - b) 3 emergency reflectors and warning flags.
 - c) Some spare fuses.
 - *d) A tire inflation conister.
23. Before driving your vehicle it is most important to clean the:
- a) Clearance lights.
 - b) Battery terminals and cables.
 - c) Radiator and fan.
 - *d) Windows and mirrors.
24. When you find defects in your unit:
- a) Ask a mechanic to repair the defects.
 - *b) Report the defects in writing and have them corrected.
 - c) Try to fix the defects yourself.
 - d) Drive with the defects if they do not seem dangerous.
25. When driving doubles, in addition to your usual pre-trip inspection you should check the (Class A):
- *a) Dolly.
 - b) Coupling device.
 - c) Air hose.
 - d) Electrical cord.
26. Before moving doubles, the air valves on the first trailer and dolly should (Class A):
- a) Both be closed.
 - *b) Be opened on the trailer and closed on the dolly.
 - c) Be closed on the trailer and opened on the dolly.
 - d) Both be opened.
27. Before moving doubles, the air valves on the front and rear of the second trailer should (Class A):
- a) Both be closed.
 - b) Be closed on the front and opened at the rear.
 - *c) Be opened at the front and closed at the rear.
 - d) Both be open.
28. When hooking up doubles, the emergency air line at the front of the dolly should be connected to the emergency (Class A):
- a) Line at the rear of the dolly.
 - *b) Gladhand at the rear of the lead trailer.
 - c) Gladhand at the front of the second trailer.
 - d) Gladhand at the rear of the second trailer.

A. Pre-Operative Procedures

1. Vehicle Related

a. Pre-Trip Inspection and Procedures (continued)

29. Before driving doubles you should not:
- a) Check to see that all brakes are operating properly.
 - b) Connect the emergency gladhand on the lead trailer to the emergency line on the dolly.
 - *c) Make sure that the lead trailer is the one with the lightest load.
 - d) Make sure that the spare tire for the dolly is secured.
30. Before driving doubles, the pintle-eye of the dolly should be (Class A):
- a) Open, and unlatched.
 - b) Attached to the dummy couplings.
 - *c) In the pintle-hook of the lead trailer.
 - d) Connected to the safety chains on the lead trailer.
31. Before driving doubles safety chains should be attached from the (Class A):
- a) Tractor to the lead trailer.
 - *b) Lead trailer to the dolly or second trailer.
 - c) Front of the dolly to the rear of the dolly.
 - d) Front of the second trailer to the dolly.
32. When you drive doubles you should carry at least (Class A):
- a) 1 chock-block.
 - *b) 2 chock-blocks.
 - c) 3 chock-blocks.
 - d) 4 chock-blocks.
33. Before driving doubles, the dolly light cords should be (Class A):
- *a) In the sockets on both the front and rear trailers.
 - b) Firmly attached to a dummy cord.
 - c) Plugged into the generator in the cab.
 - d) Attached to each other.

b. After Entering Vehicle¹

34. Before starting the engine it is least important to:
- a) Adjust the seat.
 - b) Adjust the mirrors.
 - c) Look for and secure loose objects.
 - *d) Pump the foot pedal brakes several times.
35. Before starting your engine, you need not check:
- *a) The oil pressure gauge.
 - b) Your visibility and clearances.
 - c) The steering wheel action.
 - d) The speedometer.
36. You should check your clearances:
- a) Only when you are in an unfamiliar place.
 - b) If there is no one else there to direct you.
 - *c) Before and after getting into your vehicle.
 - d) After you have begun to move the vehicle.
37. Before starting the engine you should:
- *a) Apply the hand valve.
 - b) Inspect all the gauges to make sure they are operating.
 - c) Switch on the headlights to high beam.
 - d) Shift into your lowest gear.
38. Before starting your engine you should make sure that:
- a) You place the vehicle in neutral and take your foot off the clutch.
 - *b) All the doors are sealed and locked.
 - c) Your front wheels are pointed toward the road.
 - d) The turn signals are on.

¹See also: B.1.e.2. (Seating Passengers)

A. Pre-Operative Procedures
1. Vehicle Related
c. Starting and Stopping the Engine

39. When ready to start the engine you should:
- a) Put the transmission in first gear and push the clutch in.
 - *b) Have the transmission in neutral and push the clutch in.
 - c) Hold the gas pedal down and release the clutch slowly.
 - d) Keep the transmission in neutral and not use the clutch.

Starting the Gasoline Engine

40. When you start a gasoline engine the choke should usually be:
- a) All the way in.
 - *b) Part way out.
 - c) All the way out.
 - d) Pushed in and out quickly.
41. To start a gasoline engine in cold weather you should:
- a) Pump the gas pedal hard for about 1 minute before starting.
 - *b) Pull the choke all the way out.
 - c) Shift to first gear before turning on the ignition.
 - d) Start rolling downhill before turning on the ignition.
42. When starting a gasoline engine in warm weather you:
- a) Should keep your foot off the gas pedal.
 - *b) Will probably not need to use the choke.
 - c) Need not warm up the engine before moving.
 - d) Should release the starter before the engine starts.
43. To relieve the drag of the transmission on the starting motor, you should:
- *a) Depress the clutch pedal.
 - b) Shift to first gear.
 - c) Pull out the choke.
 - d) Pump the gas pedal.
44. To start a gasoline engine you should:
- a) Open the throttle and activate the starter.
 - b) Let out the clutch as you turn on the ignition.
 - *c) Turn on the ignition and activate the starter.
 - d) Press the starter quickly several times.
45. You should not keep your starter on for more than:
- a) 3 seconds.
 - *b) 10 seconds.
 - c) 30 seconds.
 - d) 60 seconds.
46. If your engine does not start after operating the starter you should:
- a) Keep the starter on until the engine starts.
 - b) Place the vehicle in low gear and try the starter.
 - c) Turn the starter on and off several times and then try again.
 - *d) Wait several seconds and try the starter again.
47. Just after starting your engine you should:
- a) Check the oil and water levels.
 - b) Inspect the condition of the springs and shock absorbers.
 - *c) Watch your gauges to see if they register properly.
 - d) Clean the lights, windshield and windows if necessary.
48. Just after you have started a gasoline engine you should control its speed with the:
- a) Hand Throttle.
 - *b) Foot throttle.
 - c) Clutch.
 - d) Choke.
49. Just after you have started the engine you should run it:
- a) At the maximum recommended rpms for first gear.
 - b) By pumping the throttle.
 - *c) Just fast enough to keep it going.
 - d) At full speed for about 2 minutes.

A. Pre-Operative Procedures

1. Vehicle Related

c. Starting and Stopping the Engine (continued)

Starting the Gasoline Engine (continued)

50. After you have started the engine you should:
- a) Leave the choke all the way out.
 - b) Push the choke halfway in.
 - *c) Push the choke in as far as possible while still allowing the engine to run.
 - d) Push the choke all the way in.
51. Before moving your vehicle, the engine should be:
- a) About 1/4 normal operating temperature.
 - *b) About 1/2 normal operating temperature.
 - c) At normal operating temperature.
 - d) Above normal operating temperature.
52. To warm up an engine so that it will run without close attention you should:
- a) Pump the foot throttle.
 - b) Release the foot and hand throttle.
 - c) Set the hand throttle at slow idle.
 - *d) Set the hand throttle at fast idle.

Starting the Diesel Engine

53. You must push in the "stop" button on a diesel engine before you can:
- a) Stop the engine.
 - b) Slow down.
 - *c) Start the engine.
 - d) Speed up.
54. The "switch-key" must always be turned on to start a diesel engine because it:
- a) Pumps fuel into the engine.
 - b) Warms up the diesel engine.
 - *c) Sends current to the starting motor.
 - d) Closes the release valves in the air reservoir.
55. If your diesel's starting motor does not start your engine after 10 seconds you should:
- a) Keep the starter on until the engine starts.
 - *b) Wait about 1 minute before trying again.
 - c) Release the brakes and try to start when you begin rolling.
 - d) Pump the gas pedal and close the choke all the way.
56. The driver of a diesel engine vehicle should know how to:
- *a) Recharge the air starter reservoir.
 - b) Tune the engine.
 - c) Fix a leak in the brake hoses.
 - d) Change the oil and oil filter.

Stopping the Diesel Engine

57. Before stopping a diesel engine you should:
- *a) Let it return to idling speed.
 - b) Race the engine to clear out any carbon.
 - c) Run the vehicle in low gear for several minutes.
 - d) Run the engine at 1/2 the maximum rpms for 2-3 minutes.
58. A "stop" button on a diesel engine is used to:
- a) Make emergency stops only.
 - *b) Shut off the engine.
 - c) Release built up air pressure.
 - d) Lock the wheels when parked.
59. The "emergency stop" button on a diesel engine should be used:
- a) Whenever you want to shut off your engine.
 - b) To slow down your vehicle on a downgrade.
 - c) Only for quick, short stops.
 - *d) When the engine cannot be stopped by other means.
60. The least effective way to shut off your engine is by:
- a) Turning the key to "off".
 - b) Using the "stop" button.
 - c) Using the "emergency stop" button.
 - *d) Pulling the choke all the way out.

A. Pre-Operative Procedures

1. Vehicle Related

c. Starting and Stopping the Engine (continued)

Stopping the Diesel Engine

61. If the "switch-key" on a diesel engine is not turned off when the engine is stopped the:
- a) Radiator may overheat.
 - b) Engine will "buck".
 - c) Air pressure may become too great.
 - *d) Battery may become discharged.

d. After Starting Engine¹

62. Just after starting the engine, it is best to allow it to warm up by:
- a) Holding the gas pedal down.
 - b) Pumping the gas pedal.
 - *c) Setting the hand throttle at fast idle.
 - d) Driving the vehicle slowly for awhile.
63. When starting your engine you should run it at fast idle until:
- a) The oil pressure is in the normal range.
 - b) It has been running for at least 3 minutes.
 - *c) The engine warms up.
 - d) It no longer needs to be choked.
64. After starting your engine you should:
- *a) Reduce the idle speed as it warms up.
 - b) Increase the idle speed as it warms up.
 - c) Pull the choke out as the engine warms up.
 - d) Keep the engine at a high idle until you begin to drive.
65. After starting your engine you should control its speed with:
- a) The hand throttle only.
 - b) The choke only.
 - c) Both the hand and foot throttles.
 - *d) The choke and hand throttle.
66. The gauge that you should watch most closely when starting your engine is the:
- a) Water gauge.
 - *b) Oil gauge.
 - c) Temperature gauge.
 - d) Battery gauge.
67. You should stop the engine and recheck the oil level if the oil gauge does not register:
- *a) Within 2-3 seconds after starting.
 - b) Within 30-60 seconds after starting.
 - c) After you put the vehicle in gear.
 - d) After you begin to move.
68. Before moving the vehicle you should always make sure that the:
- a) Running lights are turned on.
 - b) Water temperature is at a normal level.
 - c) Engine has idled for at least 5 minutes.
 - *d) Air pressure is at a normal level.
69. The first step in checking your air brakes is to (Class A):
- a) Apply and hold the foot pedal brake.
 - b) Pump the hand valves several times.
 - *c) Place the tractor protection valve in "normal" position.
 - d) Listen for exhausting air inside the tractor cab.
70. Before a vehicle is moved, the air pressure in the brakes should be at least (Class A):
- a) 100 psi.
 - b) 80 psi.
 - *c) 60 psi.
 - d) 40 psi.
71. To check the air brakes you should (Class A):
- *a) Apply and release the trailer brakes and listen for air exhaust from the rear.
 - b) Apply the foot pedal brakes several times while the tractor-trailer unit is in an empty parking lot.
 - c) Walk around the vehicle and listen for air leaks.
 - d) Shut off the engine when the air pressure gauge reaches between 80-100 psi.

¹See also: B.1.d.6. (Hooking Up and Uncoupling)

A. Pre-Operative Procedures

1. Vehicle Related

d. After Starting Engine (continued)

72. To test your brakes place the tractor protection valve in emergency position and see if the (Class A):
- *a) Trailer brakes apply automatically.
 - b) Air pressure drops to a normal level.
 - c) Low air pressure warning device goes on.
 - d) Oil pressure drops below normal.
74. When checking your brakes you should expect the low air pressure warning device to activate when:
- *a) Air pressure falls below 50% of maximum operating pressure.
 - b) Air pressure falls below 25% of maximum operating pressure.
 - c) You apply the tractor protection valve.
 - d) You apply the foot pedal brakes.
76. The tractor protection valve should activate to emergency position when the air pressure drops to (Class A):
- a) 70-90 psi.
 - b) 65-70 psi.
 - c) 45-65 psi.
 - *d) 20-45 psi.
78. After reaching maximum air pressure you can check your brakes for air leaks by:
- a) Pumping the brakes to see if the air pressure drops.
 - *b) Turning off the engine and watching for a pressure drop.
 - c) Decreasing your idle speed to see if the pressure drops.
 - d) Pulling your choke all the way out and watching for a pressure drop.
80. Before driving, check to see that your air pressure can reach a maximum of about:
- a) 60 psi.
 - b) 80 psi.
 - *c) 100 psi.
 - d) 150 psi.
82. Before driving you should:
- a) Back up several feet before shifting into forward.
 - b) Run at a fast idle before shifting into gear.
 - c) Apply both the gas and brake to check your stopping ability.
 - *d) Check that the emergency brakes will hold on a hill.
73. If you hear air being released after applying and releasing the trailer hand valve you should (Class A):
- a) Check to see if carbon monoxide is leaking into the cab.
 - b) Ignore it unless the low air pressure warning device goes on.
 - *c) See if the air brake hoses are properly connected.
 - d) Pump the foot pedal brakes several times before moving the vehicle.
75. You should test the tractor protection valve by (Class A):
- *a) Pumping the foot brake until the protection valve goes to the emergency position.
 - b) Applying the foot pedal brakes while the hand valve is on.
 - c) Applying and releasing the trailer brakes using the hand valve.
 - d) Shutting off the engine when the air pressure gauge reads maximum pressure.
77. If you continue pumping the brakes after the low air pressure warning device activates, the (Class A):
- a) Engine will idle and probably stall.
 - b) Tractor protection valve will activate the trailer brakes.
 - c) Air pressure will build up to a dangerously high level.
 - d) Brake shoes and drums are likely to be damaged.
79. After shutting off your engine you can check your air brakes for leaks by:
- a) Pumping the brakes and watching for a pressure loss.
 - b) Re-starting the engine and making sure the pressure does not drop.
 - c) Applying the brakes and watching for a slow pressure loss of about 10 psi per minute.
 - *d) Applying the brakes and watching for a single pressure loss of about 15 psi.
81. If all the levers are in release position and the trailer brakes do not release (Class A):
- *a) The air lines are probably crossed.
 - b) The tractor protection valve is in the normal position.
 - c) Too much air is in the air system.
 - d) The engine rpm is too high.
83. Before moving your vehicle you should:
- *a) Release the emergency and other brakes.
 - b) Be sure the engine is at normal operating temperature.
 - c) Pull the choke all the way out.
 - d) Shift into a middle range gear.

A. Pre-Operative Procedures

1. Vehicle Related

d. After Starting Engine (continued)

84. Before starting a trip, you should not test the trailer hook-up by (Class A):
- a) Shifting to reverse and "hitting the pin".
 - b) Setting the trailer brake, if so equipped, and driving forward.
 - c) Driving forward slowly if you have no hand valve.
 - *d) Pulling forward with the foot pedal brakes applied.
85. When testing the trailer hook-up by driving forward, you should (Class A):
- a) Use underdrive, if so equipped.
 - b) Release the clutch pedal so that you give the trailer a sharp jerk.
 - *c) Apply the hand control valve, if so equipped.
 - d) Place the transmission in the second lowest gear.
86. When driving a tractor without a trailer, the tractor protection valve should be (Class A):
- a) In the normal position.
 - *b) In the emergency position.
 - c) Kept half way opened.
 - d) Kept in the same position as when towing a trailer.

A. Pre-Operative Procedures
2. Navigation and Trip Planning
a. Planning
1. Prepares Maps and Route Cards

87. If you are not certain of your route you should:

- a) Take someone with you.
- b) Make a test run.
- c) Allow extra time to stop and ask directions at service stations.
- *d) Check standard road maps and special maps for trucks.

88. A best way to plan your route is to:

- *a) Mark strip maps and make notes on cards.
- b) Have several maps beside you for reference.
- c) Learn only 1 section of the route at a time.
- d) Learn where information stations are so you can get directions from 1 station to the next.

2. Obtains Route Approval

89. Once you receive your orders for a trip you should:

- a) Get someone who knows the way to go with you.
- *b) Be sure you know the route.
- c) Call ahead to check the condition of each of your rest and service stops.
- d) Plan to check in at each stop and get directions.

90. If your company is restricted to certain routes, you may take another route if:

- a) You find that it is shorter and just as safe.
- *b) An emergency causes you to change routes.
- c) You are told to do so by another driver.
- d) You must do so to make your schedule.

91. Before leaving for a trip you should check your route because:

- *a) Your company must be authorized to use that route.
- b) The FCC requires you to file a route plan.
- c) There must be rest stops at least every 100 miles.
- d) You can travel only on routes with special speed limits for trucks.

92. If your company has authority to operate on routes which usually prohibit trucks you:

- a) Must pull off the road in order to let passenger cars pass you.
- *b) Must get approval of the route from your dispatcher.
- c) Cannot carry any dangerous or flammable loads on these routes.
- d) Do not need any permission to drive that route.

3. Prepares for Urban Driving

93. In preparing for city driving you should plan a route that will:

- a) Not require you to drive on one way streets.
- b) Keep you exclusively on specially designated truck routes.
- c) Avoid any tunnels or bridges.
- *d) Take you to your destination in the most direct manner.

4. Prepares for Long Trip

94. In preparing for a long trip you should:

- a) Plan to pick up a passenger to break the monotony.
- *b) Estimate where you will have to stop for food and fuel.
- c) Open some maps on the seat beside you.
- d) Take several "stay awake" pills before you start the trip.

95. To be prepared for local conditions it is important to check the weather:

- a) At each place you stop.
- *b) Before making a long trip.
- c) About every 100 miles.
- d) On the radio as you drive.

- A. Pre-Operative Procedures
- 2. Navigation and Trip Planning
 - a. Planning
 - 5. Prepares for Driving on Ice or Snow

96. If you expect to run into any ice or snow on your route you should:

- *a) Take chains and possibly snow tires.
- b) Have someone ride with you.
- c) Plan to follow behind other large vehicles.
- d) Have flashing lights put on your vehicle.

b. Navigation

1. Location and Route Awareness

97. The surest way to keep your bearings while on a long trip is to:

- a) Use a compass.
- *b) Study the route and look for landmarks.
- c) Ask at service stations and check a map.
- d) Look for road signs.

98. When in unfamiliar territory it is important to know where you are because:

- a) You may have to help other motorists find their way.
- b) The law requires that you follow the exact roads decided on when planning the trip.
- *c) It will save you time and you will avoid possible traffic conflicts.
- d) The local police must know where to locate you at all times.

2. Proposed Route Changes

99. If you must change your route due to an emergency you:

- a) Need not report it if it does not change your trip time.
- b) Should report it when you reach your destination.
- *c) Should notify the terminal as soon as possible.
- d) Must first get permission from your dispatcher.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

a. Shifting Gears

1. Standard

100. When starting a truck equipped with 2-speed axles you should:
- *a) Put the selector in a low range position.
 - b) Keep the truck in low gear with the clutch in.
 - c) Pump the accelerator before starting the ignition.
 - d) Release the emergency or parking brake and then step on the clutch.
101. When starting into motion you should release the tractor emergency brake (Class A)¹:
- a) Before you shift to first gear.
 - b) After the clutch is released.
 - *c) Before the trailer brakes are released.
 - d) After the vehicle begins to move.
102. If you do not have a synchromesh transmission you:
- a) Cannot shift while going up a steep hill.
 - b) Will roll back a few feet if you shift before going up a hill.
 - *c) Should use double clutching each time you shift gears.
 - d) Should shift directly from first to third gear when speeding up.
103. To shift gears you should first:
- a) Press in the clutch and accelerate slightly.
 - b) Accelerate slightly and press in the clutch.
 - c) Release the accelerator and press in the clutch.
 - *d) Press in the clutch and release the accelerator.
104. When double clutching you should press in the clutch, release the accelerator and then:
- *a) Shift to neutral.
 - b) Shift to the next gear.
 - c) Apply the foot pedal brake.
 - d) Release the clutch.
105. After you have moved the gearshift lever to the next gear you should:
- a) Hold the clutch in for several seconds.
 - *b) Release the clutch and accelerate at the same time.
 - c) Apply the brakes lightly until the clutch is released.
 - d) Increase the engine speed to the maximum rpms for that gear before releasing the clutch.
106. When double clutching you should shift into neutral and then:
- a) Shift into the next gear.
 - b) Lightly apply the brakes.
 - *c) Release the clutch pedal.
 - d) Accelerate to the maximum rpms for the next gear.
107. When you are just about to shift to a higher gear, you should accelerate just enough to:
- a) Reach the maximum rpms of the higher gear.
 - *b) Overcome any lugging of the engine as you shift.
 - c) Be able to hear the engine racing.
 - d) Maintain the speed at the middle of the lower gear range.
108. Before shifting to a higher gear with a loaded unit, the engine should be close to the:
- a) Middle speed of the lower gear.
 - *b) Maximum speed of the lower gear.
 - c) Middle speed of the higher gear.
 - d) Maximum speed of the higher gear.
109. To speed up from 10 miles per hour to 50 miles per hour, it is best to:
- *a) Shift up through the gears until you have reached 50 mph.
 - b) Shift through the gears by skipping every other gear.
 - c) Accelerate to 50 mph and then shift directly to the necessary gear.
 - d) Accelerate to 50 mph and then shift up through the gears.

2. Downshifting When Necessary²

110. The best way to keep your engine from lugging is to:
- a) Keep your foot on the clutch as much as possible.
 - b) Coast in neutral when on level roads.
 - c) Maintain a constant speed.
 - *d) Anticipate the need to downshift.
111. You should begin downshifting:
- a) Just before you reach the top of the hill.
 - *b) At the top of the hill.
 - c) About half way down the hill.
 - d) Just as you reach the bottom of the hill.

¹Items applicable only to Class A vehicles.

²See also: B.6.d.2. (Downgrades)

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

a. Shifting Gears

2. Downshifting When Necessary (continued)

112. When about to go up a hill you should begin downshifting:
- a) Several hundred yards before the hill.
 - *b) At the start of the hill.
 - c) When the engine starts lugging.
 - d) As you near the middle of the hill.
113. When you shift on an upgrade you should:
- *a) Speed up the engine while in neutral.
 - b) Not double clutch.
 - c) Flash your brake lights to alert the following traffic.
 - d) Slow down to avoid grinding the gears.

3. Difficulty Shifting

114. If the transmission cannot be shifted smoothly due to improper timing in double-clutching you should:
- *a) Speed up the engine and try again.
 - b) Force the transmission into the next gear.
 - c) Slow down to about 20 mph and begin shifting again.
 - d) Continue in the original gear for a few minutes.
115. If you cannot shift the transmission into the next gear after several tries you should:
- a) Continue in whatever gear you are in.
 - *b) Stop in a safe place and start over.
 - c) Shift to neutral and let the vehicle coast for several minutes.
 - d) Pull onto the shoulder and try to downshift.

b. Lane Usage

1. General

116. Before driving through an unfamiliar area you should:
- a) Watch the trucks in front of you and follow what they do.
 - *b) Check the local laws about lane use for trucks.
 - c) Go 10 or 15 mph below the speed limit until you know where you are.
 - d) Move to the left lane so that you can make left turns easily, if necessary.
117. Since trucks normally take up more of the width of a lane than passenger cars do you (Class A):
- a) Should drive partly on the shoulder.
 - b) May not pass other vehicles in heavy traffic.
 - *c) Should make sure that the trailer is tracking properly.
 - d) Should drive in the middle lane of a multi-lane road.

2. Multi-Lane

118. In a multi-lane road you should drive in the:
- *a) Right lane.
 - b) Middle lane.
 - c) Left lane.
 - d) Lane with the least traffic.
119. When in the right lane of a multi-lane highway you should:
- a) Drive at the maximum speed limit.
 - b) Keep your front wheels near the edge of the road.
 - c) Signal vehicles behind you when it is safe to pass.
 - *d) Watch for exit or "right turn only" lane.

3. Special Truck Lanes

See: B.6.d.1. (Upgrades)

c. Following

1. Following Distance

120. To follow at a distance of 1 second for every 10 feet of vehicle length means 1 second for every 10 feet:
- a) That separates 2 vehicles.
 - b) Of the length of the vehicle you are following.
 - *c) Of the length of your vehicle.
 - d) Of the length of both vehicles combined.
121. If your vehicle is 50 feet long you should keep a following distance of at least:
- a) 300 feet at 50 mph.
 - b) 500 feet at any speed.
 - c) 2 seconds at 60 mph.
 - *d) 5 seconds at any speed.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

c. Following

1. Following Distance (continued)

122. It is easier to follow behind a pack of vehicles than to lead the pack because:
- a) Lead vehicles must go faster than following vehicles.
 - *b) Lead vehicles must watch the road ahead more carefully.
 - c) Following vehicles do not have to worry about being passed.
 - d) Following vehicles have a better view of the road.
123. If you are following another truck:
- a) Stay at least 1 vehicle length for every 20 mph of speed behind it.
 - b) Move slightly over the left lane line to be able to see in front of it.
 - *c) Leave room for other vehicles to get in between you and the other truck.
 - d) Follow the other vehicle closer if visibility is bad.

2. Speed Adjustments

124. If you see the vehicle ahead swerve you should:
- a) Try to steer around it.
 - b) Drive quickly onto the shoulder.
 - c) Steer toward the center of the road.
 - *d) Begin to slow down.
125. If you begin to pass and then decide it is not safe, you should:
- *a) Drop back so that other drivers can pass you and return to the right lane.
 - b) Accelerate as much as possible and cut in front of the vehicle you started to pass.
 - c) Move back to the right and signal the lead vehicle to let you pass.
 - d) Brake hard and let that vehicle pass you so you can drop in behind it.
126. You should assume that speed limits for trucks are:
- a) The same as for passenger cars.
 - b) The same as speed limits for busses.
 - c) 10 mph slower than for passenger cars.
 - *d) Different from other vehicles and should be checked.

d. Hauling and Towing Loads

1. General

127. If you are carrying flammables or explosives you:
- a) Cannot cross railroad tracks without police permission.
 - b) Must be followed by a safety vehicle.
 - *c) Must display signs on your vehicle.
 - d) Must keep your headlights on during the day.
128. If you tow a wide load or carry a dangerous load you must:
- a) Drive no faster than 40 mph.
 - *b) Place a special sign on your truck.
 - c) Keep your headlights on during the day.
 - d) Have someone ride with you.
129. A coupling device must not permit a towed vehicle to (Class A):
- a) Be more than 4 feet from the tractor.
 - *b) Swing too much from side to side.
 - c) Follow a different track from the tractor.
 - d) Move up and down more than 6 inches.
130. It is the driver's duty to:
- a) Know the value of his load.
 - b) Know how much each piece of the load weighs.
 - *c) Check and note the condition of his load.
 - d) Drive 5 to 10 mph slower when carrying a load.
131. The rules about vehicle weight and length in each state are determined by the:
- a) Truckers' association.
 - b) Trucking company.
 - c) Federal government.
 - *d) State government.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

d. Hauling and Towing Loads

2. Loading the Vehicle or Trailer

132. Your load must not:
- a) Weigh more than the weight of your empty truck.
 - b) Be left alone overnight unless your truck has a burglar alarm system.
 - *c) Make it difficult to get out of the cab or get to the emergency equipment.
 - d) Be stacked higher than the roof of the cab.
133. No driver may drive a vehicle whose cargo:
- a) Is of an explosive nature.
 - b) Was loaded by someone else.
 - *c) Is not properly balanced or secured.
 - d) Was not weighed before loading.
134. When cargo is being loaded in your truck you should remember that:
- *a) No part of the load may interfere with your driving.
 - b) The heaviest part of the load should not be placed over the axles.
 - c) The cargo should be placed as close to the rear of the truck as possible.
 - d) Each item must be weighed before it is loaded.
135. To prevent tipping due to overloading the rear overhang, you should (Class A):
- a) Place a very heavy object at the extreme front of the truck.
 - *b) Shift the trailer duals all the way back.
 - c) Tighten all coupling devices.
 - d) Lower the landing gear and block the trailer wheels.
136. If your vehicle has been loaded by someone else you:
- a) Are not legally responsible if it is unsafe.
 - b) Are not responsible for the condition of the load at its destination.
 - *c) Should inspect it to see that it is secure and safe.
 - d) Must get a written statement as to the safety of the load.
137. Before loading the truck you should check your estimated gross vehicle weight against the:
- a) Empty weight of the truck.
 - *b) Local weight limits.
 - c) Weight capacities of the roads.
 - d) Torque available in each gear.
138. To assure that your load will not be unbalanced or overweight on the axles you should:
- a) Look at the suspension systems around each axle.
 - *b) Supervise the loading yourself.
 - c) Insist on a map of the placement of each item.
 - d) Have someone else load the truck.
139. You can not use an open flame heater when:
- a) Parked within the city limits.
 - b) Loading or unloading cargo.
 - *c) The vehicle is in motion.
 - d) It can be seen by other vehicles.
140. The center of the payload on a tractor trailer is (Class A):
- a) Just behind the tractor.
 - b) Over the front axle of the trailer.
 - *c) Near the center of the semi-trailer body.
 - d) Over the rear axle of the trailer.
141. The center of the payload in a straight truck is:
- a) Over the rear axle.
 - b) Halfway between the front of the cab and the rear of the truck.
 - *c) Midway between the back of the cab and the tailgate.
 - d) Over the rear axle.
142. In straight trucks you should place the heavy part of the load:
- a) Just behind the cab.
 - b) Near the front axle.
 - c) In the center.
 - *d) Near the rear axle.
143. When loading your truck remember to:
- a) Place most of the weight near the cab.
 - *b) Keep the load low and evenly distributed.
 - c) Carry the more fragile parts of the load in the cab with you.
 - d) Strap down some of the objects that are in the truck.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

d. Hauling and Towing Loads

2. Loading the Vehicle or Trailer (continued)

144. If you are going to load hazardous materials on your vehicle you must:
- a) Contact the fire department before loading.
 - b) Wear fire-proof clothing.
 - *c) Check for special loading precautions.
 - d) Obtain a special permit for the loading.
145. Whenever you load combustable material on your truck it is most important to:
- *a) Refrain from smoking.
 - b) Keep the engine running.
 - c) Have a fire extinguisher nearby.
 - d) Make sure your heater is not running.

3. Securing the Load

146. Loads that must be firmly secured when hauled are those that:
- a) Are designated as dangerous cargo by the federal government.
 - *b) Might shift, fall, or leak on the road.
 - c) Extend over the back or top of the truck.
 - d) The law specifically requires to be tied down.
147. After the truck is loaded you should:
- a) Move the rear axles back.
 - *b) Lock and seal the load.
 - c) Arrange the load so that it is evenly distributed.
 - d) Estimate the weight of the load.

4. Hauling the Load in the Vehicle
(Van Type, Dump, etc. Body)

148. If you make a rapid stop your load will most likely:
- *a) Shift forward.
 - b) Shift to the rear.
 - c) Not shift if tied down.
 - d) Rotate around.
149. Luggage or packages on a commercial bus may not placed:
- a) On overhead racks.
 - b) Under the seats.
 - c) On the seats.
 - *d) In the aisles.

5. Hauling the Load on Top of the Vehicle
(Flat Bed, Stake, etc. Body)

150. If your load is secured by rapping chains or toggle clamps:
- a) You must make sure they are legal in the states you enter.
 - b) Each chain or clamp must be secured by a padlock.
 - *c) Be sure that there are enough of them and that none of them are cracked.
 - d) You must have a tarpaulin covering the load.
151. If your load is covered by a tarpaulin you should:
- a) Stop from time to time and lift it to check the condition of the load.
 - *b) Be sure that it is securely and firmly fastened down.
 - c) Place a heavy object on top of it so it won't flap in the wind.
 - d) Have someone else ride with you to check rear clearance since your view may be obstructed.
152. If your load extends beyond the end of your truck you:
- a) May not drive over 50 mph at night.
 - b) Must stop at all railroad crossings.
 - c) May not drive on interstate highways.
 - *d) Must attach a red flag to the end of the load.

6. Hooking Up and Uncoupling

153. Before coupling a tractor-semitrailer, be sure that the (Class A):
- a) Dolly wheels are raised out of the way.
 - b) Locking-jaws are closed.
 - *c) Fifth wheel is tilted back.
 - d) Trailer wheels are not blocked.
154. You should check to see that the brake hoses and light cords are clear (Class A):
- a) Just before you raise the landing gear.
 - b) After the jaws lock around the kingpin.
 - *c) Before you back the tractor up to the trailer.
 - d) After pulling the trailer several feet forward with the tractor.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

d. Hauling and Towing Loads

6. Hooking Up and Uncoupling (continued)

155. The trailer height should be adjusted so that the kingpin is in line with the (Class A):
- a) Tractor axle.
 - *b) Fifth wheel jaws.
 - c) Pintle-hook.
 - d) Air valves.
156. To be sure the trailer will not move when you couple it to the tractor you should (Class A):
- a) Have it braced against a wall.
 - *b) Block the wheels.
 - c) Lower the landing gear.
 - d) Connect the air hoses before backing under the trailer.
157. You should always attach the air hoses to the trailer before hooking up (Class A):
- *a) So that the trailer brakes will prevent the trailer from moving.
 - b) To avoid losing any air pressure from the tractor brakes.
 - c) So the air hoses will not get caught between the trailer and tractor.
 - d) To be sure that the air compressors are working properly.
158. Just after the jaws have locked around the kingpin you should (Class A):
- *a) Check the air hoses and light cord.
 - b) Place the tractor in forward and move the unit slowly.
 - c) Raise the landing gear.
 - d) Check the trailer height.
159. When the tractor protection valve is placed in normal position, the air pressure should drop about (Class A):
- *a) 10 psi.
 - b) 20 psi.
 - c) 30 psi.
 - d) 40 psi.
160. After checking the air hoses, the air pressure should be brought back up to at least (Class A):
- a) 60 psi.
 - *b) 90 psi.
 - c) 110 psi.
 - d) 130 psi.
161. Just after coupling you should check the connection by (Class A):
- a) Driving at high speeds on an empty road.
 - *b) Pulling the unit slightly forward with the trailer wheels blocked.
 - c) Turn the tractor sharply to the right and then sharply to the left.
 - d) Backing up the tractor while keeping the trailer brakes applied.
162. A hook-up between a tractor and trailer would not be secure if (Class A):
- a) The tractor fifth wheel release lever is in the locked position.
 - *b) A gap exists between the top of the fifth wheel and trailer kingpin plate.
 - c) The tractor fifth wheel jaws appear to be locked around the trailer kingpin.
 - d) A snapping sound is heard when you back the tractor into the trailer.
163. The last thing to do after the semi-trailer unit is properly coupled is to (Class A):
- a) Connect the air lines.
 - b) Build up air pressure.
 - c) Release the fifth wheel coupler.
 - *d) Raise the landing supports.
164. If you are operating with a tow bar you (Class A):
- a) May not travel on certain interstate highways.
 - b) Must stop at every railroad crossing.
 - *c) Must check the various state regulations.
 - d) May not back up within city limits.
165. When hauling doubles the trailer in the first position should always be the one with the (Class A):
- a) Most breakable load.
 - b) Shortest wheel base.
 - c) Lowest clearance.
 - *d) Heaviest load.
166. If the dolly cannot be moved manually to the front of the second trailer you should (Class A):
- a) Place it in the first trailer and move it over.
 - *b) Connect the dolly to the rear of the first trailer and then move it.
 - c) Have the second trailer hauled up to the back of the dolly.
 - d) Hook the dolly to the rear of the tractor.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

d. Hauling and Towing Loads

6. Hooking Up and Uncoupling (continued)

167. When coupling doubles you should line the dolly up to the front of the second trailer opposite the (Class A):
- a) Gladhands.
 - b) Air valves.
 - c) Electrical sockets.
 - *d) Kingpin.
168. After hooking up the dolly to the lead trailer you should first (Class A):
- *a) Secure the dolly support in the raised position.
 - b) Back the dolly up to the second trailer.
 - c) Raise the landing gear on the second trailer.
 - d) Move the dolly forward to test the hook-up and brakes.
169. You can be sure that the dolly is securely locked to the first trailer when the (Class A):
- a) Fifth wheel jaws of the dolly are closed.
 - *b) Pintle-hook of the trailer is latched.
 - c) Kingpin snaps closed.
 - d) Pintle-eye and pintle-hook are directly on line.
170. Before hooking up the second trailer to a unit with spring brakes you should always (Class A):
- a) Block the trailer wheels.
 - b) Charge the brake lines.
 - c) Unhook the dolly from the first trailer.
 - *d) Apply the brakes.
171. The wheels of a second semi-trailer unit must be blocked when coupling (Class A):
- a) If the dolly has no safety chains.
 - *b) If there are no spring brakes.
 - c) After the landing gear is raised.
 - d) After the air lines are fully charged and applied.
172. When you are about to uncouple a semi-trailer unit, the tractor and trailer should be (Class A):
- a) At right angles.
 - b) At a slight angle.
 - *c) In a straight line.
 - d) On a slight incline.
173. If you need to uncouple a semi-trailer unit on soft ground you should (Class A):
- a) Place the tractor at an angle to the trailer.
 - b) Avoid blocking the trailer wheels.
 - c) Pull the tractor out from under the trailer quickly.
 - *d) Lower the landing gear on a plank.
174. Before you uncouple a unit you should check the (Class A):
- a) Kingpin.
 - *b) Surface conditions.
 - c) Fifth wheel jaw.
 - d) Dummy couplings.
175. When uncoupling, you should lower the landing gear just after you (Class A):
- a) Line up the tractor and trailer in a straight line.
 - *b) Block the trailer wheels or set the independent trailer brakes.
 - c) Release the fifth wheel locking device.
 - d) Pull the tractor partially out from under the trailer.
176. Before disengaging the fifth wheel when uncoupling a trailer unit, you should (Class A):
- a) Slowly pull out from under the trailer.
 - b) Pump the brakes until the air pressure falls below 60 psi.
 - *c) Unhook and secure the cables and hoses.
 - d) Raise the landing gear.
177. After releasing the fifth wheel locking device, the tractor should be moved ahead until the (Class A):
- *a) Fifth wheel disengages.
 - b) Tractor is 2 feet ahead of the trailer.
 - c) Trailer pin is clear of the fifth wheel.
 - d) Air line and light cord slack is taken up.
178. Right after pulling the tractor partially out from under the trailer you should first (Class A):
- *a) Apply tractor parking brake and place protection valve in emergency position.
 - b) Release the fifth wheel locking device.
 - c) Lower the landing gear to support the front of the trailer.
 - d) Disconnect the air hoses and electrical cord and connect them to the dummy couplings.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

d. Hauling and Towing Loads

6. Hooking Up and Uncoupling (continued)

179. When the air hoses between tractor and trailer are disconnected (Class A):
- a) Trailer brakes will be released.
 - *b) Trailer brakes will be applied.
 - c) Tractor brakes will be applied.
 - d) Tractor brakes will be released.
180. After disconnecting the air lines and light cord socket from the trailer, you should (Class A):
- a) Remove the air lines and light cord socket from the cab.
 - b) Secure air lines and light cord socket to the trailer.
 - c) Secure air lines and light cord socket to the chassis.
 - *d) Secure air lines and light cord socket to dummy couplings.
181. Just before you drive the tractor completely out from under the trailer you should (Class A):
- a) Place the tractor protection valve in the "normal" position.
 - *b) Check the front and rear trailer wheel blocks.
 - c) Lower the landing gear onto a plank.
 - d) Pump the brakes to reduce the air pressure.
182. The final step in uncoupling a tractor trailer unit is to (Class A):
- a) Disengage the fifth wheel.
 - b) Disconnect and secure the air hoses and electrical cord.
 - *c) Release the emergency brake and drive forward.
 - d) Block the trailer wheels.
183. When uncoupling doubles, you need not block the wheels of the rear trailer if (Class A):
- *a) It is equipped with spring brakes.
 - b) You are on a flat surface.
 - c) It is heavily loaded.
 - d) You set the trailer air brakes
184. To keep dirt and water out of the gladhands after you uncouple a doubles unit you should (Class A):
- *a) Hook them together.
 - b) Remove them.
 - c) Leave the air lines attached to them.
 - d) Maintain a flow of air pressure through them.
185. When uncoupling doubles you should first (Class A):
- a) Release the dolly fifth wheel latch.
 - b) Bleed the dolly air tanks to release them.
 - *c) Close the air shutoffs at the rear of the #1 trailer.
 - d) Slowly pull tractor, #1 trailer and dolly out from under #2 trailer.
186. To release the brakes on the dolly when uncoupling you should (Class A):
- a) Pump the foot pedal brakes.
 - *b) Bleed the dolly air tank.
 - c) Apply the trailer brake.
 - d) Disconnect all the air lines.
187. To uncouple the #2 trailer you should pull the tractor (Class A):
- a) And #1 trailer away from the dolly.
 - b) Away from the #1 trailer, dolly and #2 trailer.
 - c) After you attach it directly to the dolly.
 - *d) #1 trailer and dolly away from the #2 trailer.
188. Before unhooking the dolly from #2 trailer you must always (Class A):
- a) Block the dolly wheels.
 - b) Fasten the gladhands together.
 - *c) Lower the landing gear.
 - d) Bleed the dolly air tank.
189. Before releasing the pintle-hook of the #1 trailer to disconnect the dolly you should (Class A):
- a) Drive the tractor-trailer unit forward.
 - b) Move the #2 trailer a good distance away.
 - c) Block the #1 trailer wheels.
 - *d) Disconnect the brake lines, light cords and safety chains of #1 trailer.
190. If the dolly used for uncoupling doubles does not have spring brakes you should (Class A):
- a) Block the tractor and trailer wheels.
 - *b) Block the dolly wheels.
 - c) Disconnect the brake lines after you have uncoupled the unit.
 - d) Leave the landing gear raised throughout the uncoupling.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

d. Hauling and Towing Loads

6. Hooking Up and Uncoupling (continued)

191. When uncoupling doubles you should not (Class A):

- *a) Leave the dolly attached to the #2 semi-trailer.
- b) Block the dolly wheels.
- c) Hook the gladhands together to keep out dirt.
- d) Bleed dolly air tanks to release brakes.

7. Towing (a) Trailer(s)

192. When towing two trailers you should (Class A):

- a) Always have a flag between the tractor and the trailer.
- b) Put the heavier trailer in the second position.
- c) Get a special permit to tow more than 2 trailers.
- *d) Check special registration requirements if you use a tow bar or saddle mount.

193. When towing a trailer with a ball type hitch you must (Class A):

- a) Also use a tow bar.
- b) Have an eye and pintle attachment.
- c) Put a red flag or lantern on the trailer.
- *d) Use safety chains.

194. When you are using a cable to tow a vehicle (Class A):

- a) You cannot drive on interstate highways.
- b) The cable must be at least 15 feet long.
- *c) You should check the state regulations on towing requirements.
- d) You must stop at all railroad crossings.

195. When towing doubles you should remember to (Class A):

- a) Steer more sharply when you turn.
- *b) Allow more time to pass and go through intersections.
- c) Stop at every railroad crossing.
- d) Drive in one of the middle lanes of a multi-lane road.

196. The pivot points on a doubles unit are the (Class A):

- a) Front wheels, tractor fifth wheel and the dolly.
- *b) Tractor fifth wheel, rear of the #1 trailer and the kingpin of the #2 trailer.
- c) Rear of the #1 trailer, the tractor fifth wheel and the rear of the #2 trailer.
- d) Center of the #1 trailer, the center of the #2 trailer and the center of the tractor.

e. Carrying Passengers

1. Picking Up and Discharging Passengers

197. You may pick up passengers or hitch-hikers:

- *a) Only in emergencies.
- b) Only on interstate roads.
- c) Only when you are driving alone.
- d) At any time if there is enough room in your cab.

198. A person is not permitted to ride with you just because he is:

- a) An employee assigned to the vehicle.
- b) Being transported in an emergency.
- *c) A close friend or relative.
- d) A livestock attendant.

199. If you pick up a passenger in an emergency you need not report:

- a) The name of the person you picked up.
- *b) A description of the person you picked up.
- c) Where you picked him up and why.
- d) Where you took him.

200. The only time that someone else may drive your truck is:

- a) When you are unfamiliar with the area.
- b) If you are very tired.
- c) If he is also a professional driver.
- *d) In emergencies.

B. Basic Knowledge

1. Fundamental Control Information and Maneuvers

e. Carrying Passengers

1. Picking Up and Discharging Passengers (continued)

201. When you stop your school bus to pick up passengers, you should:
- a) Tap your brakes to signal a stop.
 - *b) Activate your stop signal lights.
 - c) Get out of your bus while children are getting off.
 - d) Signal the passengers with a bell and announce the stop.
202. Before slowing down to pick up or discharge passengers the first thing you should do is:
- a) Activate your stop signal lights.
 - b) Announce the stop for your passengers.
 - *c) Make sure that oncoming and following traffic will not present a problem.
 - d) Get change ready that may be needed.
203. When stopping for passengers you should:
- *a) Pull well off the road, if possible.
 - b) Signal other vehicles to pass you.
 - c) Turn at an angle to the curb.
 - d) Signal for a right turn before stopping.
204. Before your passengers get off you should instruct them to:
- a) Cross in front of the bus if possible.
 - *b) Wait until the bus stops completely before getting off.
 - c) Let new passengers get on before they exit.
 - d) Get up and stand near the door several minutes before the stop.

2. Seating Passengers

205. Before you start your bus in motion you should:
- a) Keep the door open to see better.
 - b) Be sure the last passenger on is at the top of the steps.
 - *c) Check to see if all your passengers are seated.
 - d) Count all your change and put it away.
206. On school busses, students are generally not allowed to:
- *a) Stand in the aisles.
 - b) Hold books or packages on their laps.
 - c) Turn around in their seats.
 - d) Open the windows.
207. Passengers in a bus must remain behind the:
- a) Top step.
 - *b) Line on the floor.
 - c) Driver's seat.
 - d) First passenger seat.
208. The responsibility of checking to see that luggage is secure on overhead racks belongs to the:
- a) Bus company.
 - b) Passenger.
 - *c) Bus driver.
 - d) Steward.
209. Before starting into motion after making a stop, you should:
- *a) Wait until the passengers are completely across the road.
 - b) Make sure that those standing in the aisle are not blocking the door.
 - c) Stand up to see if anyone else wants to get off.
 - d) Keep the doors open until the bus is in motion.
210. After making a stop you should check for passengers standing around the bus by:
- *a) Looking in all the mirrors.
 - b) Checking out your left window.
 - c) Getting out and walking around the bus.
 - d) Asking a passenger if it is all clear.

3. Discipline and Control

211. Discipline and control on a bus is the responsibility of the:
- a) Police.
 - b) Bus company officials.
 - c) Passengers.
 - *d) Bus driver.

B. Basic Knowledge
2. Directional Control
a. Steering General¹

212. When turning, the path of the rear of the vehicle compared to the path of the front of the vehicle is:
- *a) Shorter.
 - b) Longer.
 - c) The same.
 - d) Sometimes shorter, sometimes longer.
213. The rear of your vehicle will follow a shorter path if you increase the:
- a) Weight of your load and drive in lower gear.
 - *b) Distance between the front and rear wheels and make sharp turns.
 - c) Engine rpms and make sharp turns.
 - d) Pressure in the rear tires and drive in lower gear.
214. When you go around a right curve you should steer towards the:
- *a) Center of the road.
 - b) Middle of the lane.
 - c) Side of the road.
 - d) Outside of the turn.
215. When you are going around a left turn you should steer towards the:
- a) Center of the road.
 - b) Inside of the turn.
 - *c) Outside of the turn.
 - d) Middle of the lane.

b. Turning²

216. When you want to make a turn do not:
- a) Get in the proper lane well in advance.
 - b) Signal well in advance.
 - c) Check traffic conditions first.
 - *d) Begin to turn just before the way is clear.
217. When you turn do not:
- a) Use more than 1 lane of the road you are turning into.
 - *b) Make a wide or short turn.
 - c) Keep your turn signals on until you have completed the turn.
 - d) Slow down before starting to turn.
218. When turning you should not swing wide on the street from which you are turning because:
- a) You must stay in 1 lane when you turn.
 - b) It is against the law.
 - *c) Other vehicles may cut in.
 - d) The vehicle may turn over.
219. To make a right turn at a city intersection it is best to:
- a) Swing onto the left side of the road and turn directly into the intended lane.
 - *b) Pull straight into the intersection before beginning to turn, then move into the intended lane.
 - c) Move to the right side of your lane and then turn sharply.
 - d) Swing onto the left side of the road after turning and then move over to the right side of the road.
220. You should not begin a left turn at an intersection until:
- a) The light turns yellow so you can be sure oncoming traffic will stop.
 - b) You have enough time to get fully into the intersection.
 - *c) You are sure you have time to complete the turn.
 - d) An oncoming vehicle signals that it is safe to make the turn.
221. Before making a right turn you should not:
- a) Put on your turn signals well in advance.
 - b) Move into or stay in the far right lane.
 - *c) Stay 6 feet or more away from the right curb when turning.
 - d) Slow down by braking or downshifting.
222. When making a right turn you should (Class A):
- a) Keep about 1 vehicle width from the curb.
 - b) Apply the brakes during the turn.
 - *c) Check that the rear wheels do not run over the curb.
 - d) Depress the clutch pedal and keep it down throughout the turn.
223. If more road space is required to complete a turn you should (Class A):
- a) Slow down or come to a complete stop before making the turn.
 - b) Turn on your emergency flashers before beginning to make the turn.
 - c) Let the rear wheels of your trailer ride up on the edge of the curb.
 - *d) Drive the tractor past the center line of the cross road and then turn.

¹See also: B.6.c.2. (Driving Through Curves)
B.6.b.1. (Approaching Intersections)

²See also: B.6.h.3. (Backs Up)
B.6.c.2. (Driving Through Curves)

B. Basic Knowledge
2. Directional Control
b. Turning (continued)

224. When making a right rather than left turn it is more important to look (Class A):
- a) For following traffic in your rear view mirrors.
 - b) Ahead to where you will be turning.
 - c) For slow moving traffic coming from the left.
 - *d) To the right rear of the trailer.
225. When you make a right turn you should steer the tractor back to the right lane (Class A):
- *a) As soon as the rear of the trailer clears the curb.
 - b) As soon as the front of the tractor crosses the center line.
 - c) As soon as the unit is completely out of the intersection.
 - d) Only when the entire unit is in a straight line.
226. Before making a left turn from a multi-lane road you should:
- *a) Drive near the center line.
 - b) Increase your speed slightly before you signal.
 - c) Signal for a turn at least 1/2 mile in advance.
 - d) Blow your horn before starting to turn.
227. When making a left turn you should always (Class A):
- a) Keep the clutch pressed down until you have completed the turn.
 - b) Shift into your lowest gear and slow down to 5 mph or less.
 - *c) Watch the left rear of the trailer to avoid hitting things.
 - d) Apply the trailer brakes as you are turning.
228. When turning left the distance between your vehicle and the center line should be not greater than:
- a) 1 foot.
 - *b) 4 feet.
 - c) 10 feet.
 - d) 12 feet.

B. Basic Knowledge

3. Speed Control

a. Starting on a Hill

229. When starting on an upgrade, you should activate the hand valve or (Class A):
- a) Block the trailer wheels.
 - b) Turn the steering wheel toward the curb.
 - c) Hold the foot pedal brake while pressing the throttle.
 - *d) Set the emergency brake.
230. The correct order of operations when starting on a hill is:
- a) Press accelerator, shift to lowest gear, release the brakes, release the clutch.
 - *b) Shift to the lowest forward gear, press accelerator, release brakes, release the clutch.
 - c) Press accelerator, release the clutch, release brakes, shift to the lowest forward gear.
 - d) Release brakes, press accelerator, shift to lowest forward gear, release the clutch.
231. When starting on an upgrade, after you have begun to move you should:
- *a) Increase engine rpm and shift without lugging.
 - b) Place the transmission in the lowest forward gear.
 - c) Release the hand valve.
 - d) Use the choke to control the engine speed.

b. Starting on Snow or Ice

232. For better traction on slippery streets:
- a) Drive slightly faster than usual.
 - b) Apply greater pressure on the brakes to stop.
 - *c) Start into motion slowly and smoothly.
 - d) Steer in a slight zig-zag pattern.
233. For better traction in snow or ice you should:
- a) Shift gears more often than usual.
 - b) Keep the choke 1/2 way in when driving.
 - c) Drive in the left lane.
 - *d) Start in a higher gear than usual.

c. Accelerating - General¹

234. Before you shift to first gear to start into motion with a semi-trailer unit you should (Class A):
- a) Keep your foot firmly on the brake.
 - *b) Set the trailer brakes.
 - c) Let the clutch out.
 - d) Release the emergency brake.
235. Before moving a trailer that does not have a hand control brake you should:
- a) Block the wheels.
 - b) Be in second gear.
 - *c) Leave the emergency brake set.
 - d) Keep your foot firmly on the foot pedal brake.
236. When starting into motion, as you release the clutch you should:
- *a) Speed up the engine.
 - b) Keep your foot on the brake until the clutch is released.
 - c) Shift to the next highest gear.
 - d) Adjust the choke to keep the engine running smoothly.
237. When starting, as the clutch is being released (Class A):
- a) Release the trailer brakes, then the tractor brakes.
 - *b) Release the tractor brakes, then the trailer brakes.
 - c) Release the tractor and trailer brakes at the same time.
 - d) Be sure the tractor and trailer brakes are still on.
238. When starting into motion, after releasing the clutch pedal you should:
- a) Maintain a slight pressure on the clutch pedal.
 - b) Hold your foot on the clutch pedal but do not depress it.
 - *c) Take your foot off the clutch pedal until you need to shift again.
 - d) Keep a foot on the clutch in order to control your speed.
239. If you have a heavily loaded rig you should:
- a) Gain some speed before crossing railroad tracks.
 - b) Turn the steering wheel sharply when going through curves.
 - *c) Avoid downshifting when possible.
 - d) Coast in neutral going downhill.

¹See also: B.1.a.1. (Shifting Gears)
B.1.a.2. (Downshifting When Necessary)
B.8.b. (Skid Control)

- B. Basic Knowledge
- 3. Speed Control
- c. Accelerating - General (continued)

240. You will cause your engine to lug if you:
- a) Give it too much gas when the clutch is in.
 - b) Slow down without downshifting.
 - c) Hold it in a gear too low for your speed.
 - *d) Accelerate from a slow speed while in a high gear.

d. Speed Control - Normal¹

241. When carrying an unusual load you should:
- a) Speed up and cross railroad tracks quickly.
 - *b) Check to see if there are special speed limits.
 - c) Avoid shifting gears when slowing down or stopping.
 - d) Drive in the middle lane of a multi-lane road.

242. When driving it is best to:

- *a) Maintain an even speed.
- b) Shift gears only when your engine starts to lug.
- c) Coast as much as possible.
- d) Go slightly slower than the vehicles around you.

243. You should know the speed limit where you are driving because:

- a) If you are stopped for any reason you will probably be asked.
- b) Speed limits for trucks are not posted on interstate highways.
- c) You must make a note of the speed limits in your log.
- *d) It may not be posted as often as it is for passenger cars.

244. To control your speed you should use your:

- a) Gears.
- b) Gears and engine braking power.
- c) Gears and throttle.
- *d) Gears, engine braking power, and throttle.

245. The speed at which you travel should be determined by:

- a) The time necessary to get to your destination.
- *b) The road, weather, and traffic conditions.
- c) The speed of the fastest vehicles around you.
- d) Subtracting 10 mph from the posted speed limit for cars.

e. Speed Control - Slow Speed

246. If you drive very slowly you:

- a) Should drive in the middle lane of a multi-lane road.
- b) Will place less strain on your engine.
- c) May not become tired as quickly.
- *d) Are inviting a rear end collision.

f. Coasting in Neutral

247. Coasting in neutral:

- a) Is a good way to save gas.
- *b) Makes control of the truck difficult.
- c) Is recommended for going downhill.
- d) Will prevent skidding on slippery road surfaces.

¹See also: B.1.a. (Shifting Gears)
 B.6.c. (Negotiating Curves)
 B.6.d. (Negotiating Hills)

B. Basic Knowledge

4. Braking and Stopping

a. Technique and Procedures¹

248. On dry road surfaces you should stop by:
- a) Applying increasingly heavy pressure on the brakes until you stop.
 - b) Pumping the brakes until you come to a complete stop.
 - *c) Applying steady pressure on the brakes and then releasing them gradually until you stop.
 - d) Applying the foot pedal brakes first and then the emergency brake after you have slowed down.
249. If you begin braking when some of your wheels are on wet pavement and some are on dry pavement (Class A):
- a) You can stop more quickly than if all wheels are on dry pavement.
 - *b) You may jackknife.
 - c) You will have more control than if you are entirely on wet pavement.
 - d) Your trailer brakes will automatically release.
250. Before you begin to brake you should make sure that:
- *a) All wheels are on the same surface.
 - b) You push the clutch in all the way.
 - c) The air pressure is below 60 psi.
 - d) There are no vehicles to your left.
251. If you pump or fan your air brakes you will:
- *a) Reduce the air pressure.
 - b) Build up air pressure.
 - c) Brake faster on dry roads.
 - d) Cool off the brake linings.
252. You should use the hand valve (Class A):
- a) In heavy city traffic.
 - b) When you go downhill.
 - *c) Only in emergencies.
 - d) Whenever the road surface is slippery.
253. To avoid a sharp jerk just before you stop you should:
- a) Shift to first gear.
 - *b) Ease up on the brake pedal.
 - c) Shift into neutral before stopping.
 - d) Bring the engine up to maximum rpm before braking.
254. When stopping you should depress the clutch pedal:
- a) As soon as you hit the brake.
 - b) After you have slowed to about 10 mph.
 - *c) When the engine has slowed to almost idling speed.
 - d) Only after you have come to a complete stop.
255. To keep your vehicle from moving after you have stopped you should:
- a) Shift to neutral and release the brakes.
 - b) Apply the hand valve and release the foot pedal brake.
 - *c) Maintain firm pressure on the foot pedal brake.
 - d) Use the clutch and first gear and avoid using the brakes.

b. Distances

256. A fully loaded truck:
- *a) Cannot stop as quickly as an empty truck.
 - b) Will slide more quickly than an empty truck.
 - c) Can turn more easily than an empty truck.
 - d) Should stop on the road rather than on the shoulder for emergencies.
257. A truck generally:
- a) Can stop faster than a passenger car.
 - b) Can stop as quickly as a passenger car.
 - *c) Cannot stop as quickly as a passenger car.
 - d) Cannot stop as quickly as a passenger car but can slow down faster.
258. The braking distance of a truck depends mostly on the:
- a) Driver's reaction time and the condition of the brake lining.
 - *b) Speed, load, brake, and road conditions.
 - c) Weight of the load and size of the brakes.
 - d) Gear ratio and number of axles.

¹See also B.4.c. (Emergency [Stopping])
B.6.d.2. (Negotiating Hills, Downgrades)

B. Basic Knowledge

4. Braking and Stopping

c. Emergency¹

259. To make an emergency stop or to stop when road conditions are bad you should (Class A):

- a) Use your semi-trailer hand valve only.
- *b) Apply the semi-trailer hand valve and then the foot pedal brake.
- c) Shift into the lowest gear and apply the foot pedal brake.
- d) Turn off the engine and pump the brakes.

260. If you have to apply the hand valve to control your vehicle you should (Class A):

- *a) Release it and apply the foot pedal brake after you gain control.
- b) Pump the foot pedal brake slowly and shift into your lowest gear.
- c) Shift into neutral and turn off the engine.
- d) Drive with the hand valve on until you can shift into a higher gear.

261. When you are making an emergency stop you should (Class A):

- a) Use the foot pedal brake and then the hand valve.
- b) Release the foot pedal brake and apply the hand valve as you gain control.
- *c) Use the hand and foot brakes alternately to avoid jackknifing.
- d) Shift directly into the lowest forward gear and apply the foot pedal brake.

¹See also: B.1.a.1. (Shifting Gears)
C.4.C. (Reacting to Collisions and Emergencies)

B. Basic Knowledge

5. Driver Perception and Communication

a. Surveillance

1. General

262. If a parked vehicle's wheels are turning or you see exhaust smoke you should expect the:
- a) Driver to leave the vehicle.
 - b) Vehicle to come to a stop.
 - c) Driver to put on his turn signals.
 - *d) Vehicle to start in motion.
263. When driving a truck rather than a car you can:
- a) Go faster around curves.
 - b) Speed up in a shorter distance.
 - *c) See over other cars.
 - d) Stop faster when going downhill.
264. You need to be particularly careful to watch your clearances:
- a) On country roads.
 - b) On multi-lane roads.
 - *c) On bridges and in tunnels and alleys.
 - d) In residential areas.
265. Where clearance is normally adequate you may have difficulty because:
- a) Of poor springs or shock absorbers.
 - *b) Of road repairs, rough roads, snow or ice.
 - c) You are carrying a full load.
 - d) Your tires may expand due to road friction.
266. If you are not sure that a bridge is wide enough for you and another vehicle:
- a) Turn around and take another route.
 - b) Blow your horn and cross before the other vehicles.
 - c) Slow down and drive very close to the right side of the bridge.
 - *d) Stop and allow the other vehicles to cross first.
267. If you come to an underpass where the clearance is 6 inches or less you should:
- a) Turn around and take another route.
 - b) Stop and let some air out of your tires.
 - *c) Slow down to avoid bouncing on a rough road.
 - d) Have someone direct you through the underpass.
268. When you drive in an alley:
- *a) Watch for overhead obstructions like fire escapes and open windows.
 - b) Blow your horn throughout the distance of the alley.
 - c) Try to back in wherever possible.
 - d) Open your door to see around the truck better.
269. The driver of a box rig has serious blind spot (Class A):
- *a) Beyond the back of his trailer for 50-60 feet.
 - b) A third of the way down the trailer on the left side.
 - c) Around his left front fender.
 - d) Just in back of the cab on the left side.
270. The major blind spot on the right side of a box rig is located (Class A):
- a) At the front fender.
 - *b) Between the rearview mirror and a third of the way back on the trailer.
 - c) Just behind the cab for about 2 feet.
 - d) At the rear corner of the trailer.
271. When driving a box rig you may want to weave slightly in order to (Class A):
- a) Make sure that your load is still secure.
 - b) Allow the vehicles behind you a better view of the road.
 - c) Control the effects of wind gusts.
 - *d) See if there is anyone following in your blind spot.
272. When driving combination units, you should (Class A):
- a) Steer more sharply around curves.
 - *b) Not rely on your side mirror when the units are not in a straight line.
 - c) Avoid using your hand valve when making a quick stop.
 - d) Maintain the same speed as the vehicles around you.
273. You should be careful of vehicles moving on the right side of you because:
- *a) The right-side mirror does not give as large a field of view as the left-side mirror.
 - b) Vehicles on your right are generally trying to pass you.
 - c) This is a sign that you are going too fast for conditions.
 - d) Vehicles on the right often swerve into the left lane in front of you.

B. Basic Knowledge

5. Driver Perception and Communication

a. Surveillance

1. General (continued)

274. The field of view of a rearview mirror is:
- *a) More limited than the area that can be seen with the eye.
 - b) Wider than the area that can be seen with the eye.
 - c) In sharper focus than if it were viewed directly with the eye.
 - d) Larger than the view seen with the human eye.
275. Even though convex mirrors make objects look smaller, you can judge how far back a vehicle is by:
- a) Looking in the convex mirror and subtracting 50 feet from that distance.
 - b) Continually looking in the convex mirror to watch the approach of the following vehicle.
 - *c) Checking between the convex and cab mirrors to determine the following distance.
 - d) Looking quickly out the right window after you have determined that there is a vehicle following you.
276. Convex mirrors make objects:
- a) Seem larger and closer than they actually are.
 - *b) Seem smaller and further away than they actually are.
 - c) Appear to be to the right or left of their actual place.
 - d) Appear to be closer to the center of the road than they actually are.
277. Mirrors should be adjusted so that the rear corners of the truck body are visible in the:
- a) Upper outside corners of the mirror.
 - b) Upper inside corners of the mirror.
 - c) Lower outside corners of the mirror.
 - *d) Lower inside corners of the mirror.

2. Traffic

278. An advantage you have when passing other vehicles is that you may be able to:
- *a) See further ahead than a car.
 - b) Accelerate faster than most cars.
 - c) Pull back to the right faster than a car.
 - d) Take turns better than most cars.
279. Since you generally sit higher than passenger car drivers you:
- a) Should signal other drivers when it is safe to pass.
 - b) See things as being closer than they actually are.
 - *c) Are often able to see hazards sooner.
 - d) Have the right-of-way in most situations.

3. Vehicle Interior and Operating Conditions

280. When driving you should:
- *a) Watch the gauges from time to time.
 - b) Use hand rather than electrical signals if the visibility is poor.
 - c) Wait until your engine starts to lug before shifting gears.
 - d) Keep your headlights on high beam during the day.
281. You should pay particular attention to the:
- a) Ammeter and generator gauges.
 - *b) Air pressure and low air warning device.
 - c) Gas gauge and tachometer.
 - d) Odometer and temperature gauges.
282. If the low air pressure warning device goes on you should:
- a) Speed up to rebuild the pressure.
 - b) Slow down until you rebuild the air pressure.
 - c) "Fan" the brakes to rebuild the pressure.
 - *d) Stop in a safe place.

B. Basic Knowledge

5. Driver Perception and Communication

b. Signals and Signaling

283. You should signal for a lane change:

- a) As soon as you decide to change lanes.
- *b) When you see a gap in traffic for the change.
- c) As you are turning your wheels to change lanes.
- d) As your front wheel touches the lane line.

284. You may not use your lights to signal:

- a) A lane change.
- b) That you are coming to a stop.
- *c) Another vehicle to pass you.
- d) An oncoming driver that he does not have his lights on.

B. Basic Knowledge
6. Maneuvers
a. Entering and Leaving Traffic
1. Entering Traffic

285. When a group of trucks pull onto the highway after a stop, they should:
- *a) Pull out one at a time to permit spacing on the highway.
 - b) Clear the parking area as quickly as possible.
 - c) Stay close together so that no other vehicle can break up the convoy.
 - d) Move into the middle lane so as not to block traffic in the right lane.

2. Entering and Leaving Off-Street Areas

See: B.5.a.1. (Surveillance, General)

b. Negotiating Intersections
1. Approaching Intersections¹

286. At an intersection you should always:
- a) Stop and yield to all other traffic.
 - b) Stay in the far right lane.
 - *c) Drive at a slow, safe speed.
 - d) Blow your horn before entering the intersection.
287. When you approach any intersection you should:
- *a) Be ready to stop if necessary.
 - b) Move into the far right lane.
 - c) Blow your horn.
 - d) Yield the right-of-way to all traffic in the area.
288. Even at an intersection controlled by traffic lights you should most carefully check for:
- a) Oncoming truck traffic.
 - b) Traffic behind you.
 - *c) Cross traffic.
 - d) Traffic in your lane a block ahead.
289. Meanings of traffic control devices such as signs, signals, and road markings:
- a) Are uniform in all states.
 - b) Are set by federal regulations and standards.
 - *c) Should be checked for each area in which you drive.
 - d) Need not be obeyed by interstate truck drivers.
290. Since trucks are often very long it is sometimes necessary to:
- *a) Swing wide when you make a turn.
 - b) Speed up when you cross an intersection.
 - c) Drive on the shoulder of a crowded freeway.
 - d) Stop in the middle of an intersection before turning.
291. When you approach a green traffic light you should:
- a) Slow down almost to a stop to check for cross traffic.
 - *b) Be alert and prepared to make a smooth stop.
 - c) Continue at your regular speed.
 - d) Speed up to clear the intersection before the light changes.
292. Rolling slowly up to traffic lights so you will not have to stop is:
- a) Illegal within town or city limits.
 - b) A good idea in heavy city traffic.
 - c) Harder on the engine than frequent stopping and starting.
 - *d) All right only if it will not interfere with other traffic.

¹See also: B.6.c.2. (Driving Through Curves)

B. Basic Knowledge
6. Maneuvers
b. Negotiating Intersections
2. Traversing Intersections

293. After you have stopped at an intersection you should:
- a) Blow the horn before entering the intersection if there is other traffic present.
 - *b) Continue as soon as you have looked to the right and left.
 - c) Give the right-of-way to pedestrians and approaching traffic.
 - d) Signal oncoming traffic that it is safe to turn in front of you.
294. When you have the legal right-of-way at an intersection:
- a) Always give it to the other driver.
 - b) Signal the other driver to see if he wants to go first.
 - *c) Yield if the other driver looks like he may not yield.
 - d) Always take it so as not to confuse the other drivers.
295. When about to cross an intersection it is important that you remember that:
- *a) It will take longer for a truck to cross than a shorter vehicle.
 - b) All other traffic must yield to trucks at intersections.
 - c) It is against the law for trucks to stop in intersections.
 - d) You must yield to all non-commercial traffic at the intersection.

c. Negotiating Curves
1. Approaching Curves¹

296. To avoid shifting your load you should:
- a) Drive no faster than 25 mph.
 - b) Stay to the inside of all curves.
 - *c) Know what your load is and judge its center of gravity.
 - d) Stay in one gear as long as possible before shifting.
297. To drive safely through a curve you should slow down:
- *a) Before you enter the curve.
 - b) As you near the center of the curve.
 - c) As you begin to drive out of the curve.
 - d) Only when you reach the straightaway after the curve.
298. When driving through a curve it is most important to drive:
- a) At the posted speed limit.
 - *b) Slow enough to be able to stop in the distance you can see ahead.
 - c) At the speed of the vehicles around you.
 - d) According to your ability and skill in controlling the vehicle.

2. Driving Through Curves²

299. You should know the amount of overhang in your load because (Class A):
- *a) It will affect the amount of swing of the rear of the trailer when turning.
 - b) You must report it at highway weigh stations.
 - c) You must get a special permit to carry a load that overhangs.
 - d) You will have to decrease your tire pressure if the overhang is large.
300. If your tandems are moved forward (Class A):
- a) It will be more difficult to maneuver the truck.
 - *b) The back of the trailer will swing wider on curves.
 - c) Turns and curves can be taken at higher speeds.
 - d) There is less overhang on the trailer.

¹See also: B.2. (Directional Control)

²See also: B.2.b. (Turning)

B. Basic Knowledge

6. Maneuvers

c. Negotiating Curves

2. Driving Through Curves (continued)

301. When going around a curve in a rig you should:
- a) Cut across lanes so you won't have to steer so sharply.
 - b) Brake as needed after you enter the curve.
 - *c) Be ready to correct for the wind factor.
 - d) Let the steering wheel slip through your hands when coming out of the turn.
302. When going around a curve you should:
- a) Cut across lanes to prevent fishtailing.
 - b) Drive partly on the shoulder to allow room for opposing traffic.
 - *c) Stay near the center of your lane.
 - d) Keep your foot on the brake and pump it gently.
303. When you drive doubles around a curve you should (Class A):
- a) Steer more sharply than usual.
 - *b) Avoid braking while in the curve.
 - c) Move around the extreme outside of the curve.
 - d) Increase your speed as soon as you enter the curve.

3. Leaving Curves

See: B.3. (Speed Control)

d. Negotiating Hills

1. Upgrades

304. When going uphill you should:
- a) Drive partly on the shoulder.
 - b) Drive slightly faster than the legal limit.
 - *c) Drive in the far right lane.
 - d) Not allow anyone to pass you.
305. Before starting up a hill you should:
- a) Shift to a higher gear.
 - *b) Let others pass you.
 - c) Move towards the center of the road for better visibility.
 - d) Select a gear that will permit you to make the hill without shifting.
306. If you are behind a slow-moving vehicle when going uphill you should:
- a) Attempt to pass the lead vehicle as quickly as possible.
 - *b) Leave enough space to allow cars to pass and pull in.
 - c) Follow as closely as possible to discourage unsafe passing.
 - d) Signal the vehicles behind you when it is safe to pass.
307. When driving up a long hill on a 2-lane road, you should:
- a) Not let other vehicles pass you if it is a no passing area.
 - b) Stay near the center line so that you have better visibility.
 - c) Leave only a small gap between your vehicle and the vehicle ahead to save space.
 - *d) Pull off the road where it is safe to allow following vehicles to pass.
308. If there is a truck lane on a hill you should:
- a) Leave it open to allow following vehicles to pass you.
 - b) Only use the truck lane if you are going more than 10 mph slower than the legal limit.
 - *c) Always use it so that other vehicles can pass you.
 - d) Use it to pass slow-moving trucks.

B. Basic Knowledge
6. Maneuvers
d. Negotiating Hills
2. Downgrades¹

309. When going down a steep hill:
- a) Apply heavy pressure on the brakes.
 - b) Shift into your lowest gear.
 - *c) Use the same gear as you would going up the hill.
 - d) Do not let your truck attain a speed greater than 40 mph.
310. When going downhill you should try to control your speed by using your (Class A):
- *a) Gears.
 - b) Foot pedal brakes.
 - c) Emergency brake.
 - d) Accelerator.
311. When going downhill it is important that you:
- a) Keep your foot on the accelerator.
 - b) Fan the brakes.
 - c) Stay close to the right shoulder.
 - *d) Avoid excessive use of the brakes.
312. When you use your brakes to slow down when going downhill you should:
- *a) Brake below your desired speed and then release the brakes.
 - b) Hold your foot lightly on the brakes all the way down the hill.
 - c) Pump the brakes all the way down the hill.
 - d) Shift into the next higher gear and then firmly apply the brakes.
313. If you do not keep your semi unit straight when going downhill you (Class A):
- a) Will have better control of your speed.
 - b) May snap the landing gear.
 - *c) Can slide or jackknife.
 - d) Will be able to see better.
314. You should speed up while going downhill if:
- a) There is a curve or turn at the bottom.
 - *b) You will begin going up another hill at the bottom.
 - c) Vehicles are passing you on the hill.
 - d) You are beginning to lose air pressure due to braking.

e. Lane Changing
1. Prepares to Change

315. Before changing lanes it is most important to check the:
- a) Traffic directly behind you.
 - b) Traffic directly in front of you.
 - c) Right front window.
 - *d) Blindspots around your vehicle.

2. Completes Change

316. When you change lanes:
- a) You need not signal.
 - *b) Change only one lane at a time.
 - c) Cut sharply into the new lane.
 - d) You should be driving at the speed limit.
317. When you change lanes with a doubles unit you should (Class A):
- a) Pump the brakes to keep the #2 trailer in line.
 - b) Speed up to the legal limit.
 - *c) Steer very gradually.
 - d) Use the clutch to control your speed.

f. Passing
1. Prepares to Pass

318. You should pass only when:
- a) The vehicle ahead signals you to pass.
 - b) There are at least 2 lanes in the same direction.
 - *c) The lead vehicle is going much slower than you are.
 - d) You are sure there are no vehicles behind you.

¹See also: B.1.a.2. (Downshifting When Necessary)

B. Basic Knowledge

6. Maneuvers

f. Passing

2. Changes Lanes

See: B.6.e. (Lane Changing)

3. Passes Vehicle

319. When you pass another truck driver you should:

- a) Wave and pass the sign.
- *b) Realize he may not hear your horn.
- c) Not move back into the right lane for 200 feet.
- d) Allow 1 vehicle width between you and him.

320. When you want to pass at night you might signal the vehicle ahead by:

- a) Activating your clearance lights.
- b) Holding your left arm out straight.
- c) Turning on your emergency flashers.
- *d) Flicking your headlights from high to low beam.

321. When passing you:

- *a) Should remember that large vehicles require more room to complete a pass.
- b) Need not use your turn signal if you have already signaled with your lights or horn.
- c) Have the right-of-way over smaller oncoming vehicles in the passing lane.
- d) Should not return to the right lane until you receive a signal from the driver you passed.

322. If you wish to pass a vehicle on a 2-lane road and cannot see the road ahead:

- a) Pull to the left for a better view.
- b) Move very close to it and then pass quickly.
- *c) Stay in your lane until you have a better view ahead.
- d) Pass on the shoulder if necessary.

323. When you are passing you should:

- a) Ride with your left wheels on the edge of the road.
- b) Go over the speed limit.
- c) Signal others not to pass you.
- *d) Pass only one vehicle at a time.

4. Returns to Driving Lane¹

324. After passing you should return to the right lane:

- a) No less than 200 feet in front of the vehicle you passed.
- *b) As soon as possible, without interfering with other traffic.
- c) As soon as you pass the lead vehicle's front fender.
- d) Any time that it is convenient for you to do so.

g. Turnabouts

1. U-turns

325. You should avoid making U-turns because:

- a) It is against the law.
- *b) Roads wide enough to permit U-turns are usually crowded with high speed traffic.
- c) You will not be able to see if there is any traffic coming towards you.
- d) Trucks often tip over when making U-turns.

¹See also: B.6.e. (Lane Changing)

B. Basic Knowledge

6. Maneuvers

g. Turnabouts

2. Y-turns

326. If you are driving a combination vehicle you should not (Class A):
- a) Pass other vehicles on 2-lane roads.
 - b) Drive in residential areas.
 - c) Make right turns at crowded intersections.
 - *d) Make Y-turns.
327. It is most easy to make a Y-turn if you are driving a:
- a) Combination vehicle.
 - b) Doubles rig.
 - *c) Panel truck.
 - d) Passenger car with a trailer.

3. Other Turnabouts

328. The best way to reverse your direction in a large truck is to:
- a) Make a U-turn.
 - b) Make a Y-turn.
 - c) Back up.
 - *d) Drive around the block.

h. Backing Up

1. Avoids Unless Essential

329. Unless absolutely necessary, truck drivers should avoid:
- a) Turning at crowded intersections.
 - b) Driving on 2-lane roads.
 - c) Passing other vehicles.
 - *d) Backing-up.
330. The most difficult and dangerous vehicle to back up is a (Class A):
- *a) Doubles.
 - b) Large moving van.
 - c) Panel truck.
 - d) Tractor-trailer unit.

2. Prepares to Back Up¹

331. Before backing up you should always:
- a) Rev up the engine.
 - *b) Check for anything that might be in the way.
 - c) Ask someone to direct you from outside.
 - d) Blow your horn to warn others that might be behind you.
332. When backing a large truck you should:
- a) Depend only on your rear view mirror.
 - b) Turn on your emergency flashers and back up very slowly.
 - *c) Have someone guide you.
 - d) Look straight ahead so you can back up straight.

333. When you are backing a semi-trailer unit you should always use your (Class A):
- a) Hand valve.
 - b) Back up lights.
 - c) Horn.
 - *d) Rear view mirrors.
334. When possible you should always try to back up:
- a) Straight.
 - *b) To the left.
 - c) To the right.
 - d) In a zig-zag pattern.

3. Backs Up

335. To back to the left in a straight truck, you should turn the steering wheel to the:
- a) Right, then left.
 - b) Left, then right.
 - *c) Left.
 - d) Right.
336. To back a tractor-semitrailer to the left you should first turn the steering wheel to the (Class A):
- a) Right, then straight ahead.
 - b) Left, then right.
 - c) Left.
 - *d) Right.

¹See also: B.5.a.1. (Surveillance, General)

- B. Basic Knowledge
- 6. Maneuvers
- h. Backing Up
- 3. Backs Up (continued)

337. To line up the tractor with the trailer when backing up (Class A):

- *a) Turn the wheel in the direction the rear of your trailer is heading.
- b) Turn the wheel in the opposite direction that the rear of your trailer is heading.
- c) Let the steering wheel go and move in reverse until the unit is in a straight line.
- d) Turn the steering wheel in a zig-zag manner until the tractor and trailer are lined up.

4. In Off-Street Areas

See: B.6.j. (Driving in Off-Street Areas)

i. Parking

1. General

338. You should avoid parking your truck:

- a) On streets having only 1 lane in each direction.
- b) In a parallel space on a two way street.
- c) On the shoulder of a road.
- *d) On a steep grade.

340. Before you pull into a parking space you should:

- a) Blow your horn.
- *b) Check its condition.
- c) Place your vehicle in neutral.
- d) Allow your engine to slow to idling speed.

342. When parking your vehicle do not (Class A):

- a) Leave the transmission in reverse gear.
- b) Block the wheels.
- *c) Use the tractor hand valve.
- d) Set the hand brake.

344. You should not park:

- *a) Anywhere where you will interfere with traffic.
- b) On the shoulder of a road.
- c) In a city parking lot.
- d) On a one way business street.

339. To park safely on a steep grade you should always (Class A):

- a) Use the hand valve.
- b) Use the tractor protection valve.
- c) Place the transmission in the highest gear.
- *d) Block the wheels.

341. To secure your vehicle when you are parked you should not (Class A):

- a) Block the wheels.
- *b) Use the hand valve.
- c) Use the emergency brake in place of the tractor protection valve.
- d) Place the transmission in the lowest forward gear with the brake on.

343. When parking your vehicle you should not (Class A):

- *a) Use the tractor protection valve in place of the emergency brake.
- b) Place the transmission in the lowest forward gear or reverse.
- c) Block all the wheels if you plan to leave the vehicle alone.
- d) Leave your parking lights on at night.

345. If you have to park your vehicle on a road because of an emergency, you should:

- a) Stay inside your vehicle.
- b) Avoid using the emergency brake.
- *c) Pull as far to the right as possible.
- d) Place the transmission in neutral.

B. Basic Knowledge

6. Maneuvers

i. Parking

1. General (continued)

346. When parking your vehicle you should (Class A):
- a) Leave your headlights on.
 - b) Park no closer than 10 feet from the vehicle in front.
 - c) Wait 5 minutes before shutting off your engine.
 - *d) Place the transmission in the lowest gear or reverse.
347. When parking on an upgrade, you should:
- *a) Turn the front wheels away from curb.
 - b) Turn the front wheels toward the curb.
 - c) Put the gearshift in neutral.
 - d) Put the gearshift in high.
348. When parking a vehicle equipped with a two-speed axle:
- a) Wheel blocks must be used.
 - b) The front wheels must be turned toward the curb.
 - *c) The axle should be in low range.
 - d) You need not use the hand brake.
349. If you park on a steep hill you must (Class A):
- a) Have someone watch your vehicle while you are gone.
 - b) Park at an angle to the curb.
 - *c) Block all the wheels.
 - d) Use the hand valve.

2. Secures Vehicle

350. You should never leave your vehicle parked without:
- a) Blocking all of the wheels.
 - b) Turning off all of the lights.
 - c) Placing it in neutral.
 - *d) Making sure it cannot be moved.
351. When you park and leave your vehicle you should always:
- a) Leave a note stating where you can be found.
 - b) Turn on the emergency flashers.
 - c) Block all of the wheels.
 - *d) Lock the doors.

3. Disabled Vehicle

See: B.6.i.4. (Parking at Edge of Roadway)
B.6.a. (Entering and Leaving Traffic)

4. At Edge of Roadway

352. When you park your disabled vehicle on the shoulder of the road you should:
- a) Place the transmission in neutral.
 - *b) Turn on your 4-way flashers.
 - c) Stay inside it until someone comes to help.
 - d) Leave the engine running while you go for help.

5. For Loading and Unloading

353. If you will be parking for several minutes and your semi unit extends into the street (Class A):
- a) Uncouple the trailer and park the tractor nearby.
 - *b) Jackknife the unit.
 - c) Park the trailer at an angle to the loading platform.
 - d) Place a warning sign in front of the tractor.
354. When parking a truck or trailer at a platform, it is most important to watch for (Class A):
- a) Jackknifing.
 - *b) A roll-away.
 - c) Ruptured air hoses.
 - d) Poor springs or shocks.

B. Basic Knowledge

6. Maneuvers

j. Driving in Off-street Areas (Parking Lots, Loading Areas, Delivery Areas, etc.)¹

355. When driving a truck you should avoid:
- *a) Backing into traffic.
 - b) Turning at a busy intersection.
 - c) Driving behind other trucks.
 - d) Passing on a 2-lane road.
356. If you turn sharply on a downgrade while driving doubles, the #2 trailer (Class A):
- *a) May overturn.
 - b) Will stay closer to the inside of the turn than the #1 trailer.
 - c) Can easily break from the #1 trailer.
 - d) Will begin to drag since its brakes will automatically apply.
357. If you drive over a curb you should (Class A):
- a) Make sure that the wheels on both sides go over at the same time.
 - b) Apply the brakes as you start going over.
 - *c) Watch that the landing gear or dolly stiff legs do not snag.
 - d) Downshift as you are going over the curb.

¹See also: B.5.a.1. (Surveillance, General)

B. Basic Knowledge

7. Road and Weather Conditions

a. Road Surface and Obstructions

1. Surface Type

358. If you find yourself driving on soft, muddy ground, the best thing to do is:

- a) Stop and try to start out in low gear.
- b) Slow down.
- *c) Keep going and downshift, if necessary.
- d) Stop the truck and back out of the area.

2. Surface Irregularities

359. If you see that the road is bumpy ahead you should:

- a) Drive on the shoulder if it is smoother.
- *b) Slow down.
- c) Continue at an even speed.
- d) Speed up slightly.

360. There have been severe weather conditions along the route you plan to take you should:

- a) Have someone ride with you.
- *b) Check and see if you are permitted to drive.
- c) Allow for a traveling speed of less than 20 mph.
- d) Plan on stopping every 50 miles for a rest.

3. Road Cover

361. On a slippery road surface you should:

- a) Speed up to gain momentum.
- b) Maintain usual driving speed, but not make sudden stops.
- c) Slow down and brake harder than usual to stop.
- *d) Drive at a slow, steady pace.

b. Weather Conditions

1. Visibility

362. When driving conditions become very dangerous due to fog, snow, or rain you should:

- *a) Pull off the road and call the terminal.
- b) Turn on your emergency flasher and continue at a slower speed.
- c) Slow down to around 20 mph and keep your vehicle moving.
- d) Continue at regular speed, but use extra caution and increase your following distance.

363. Where your visibility is limited you should:

- a) Follow other vehicles more closely than usual.
- b) Drive in the passing lane so you will not run off the road.
- c) Use your high beam headlights.
- *d) Slow down so you can stop in a short distance if you need to.

2. Temperature

364. A tire would most likely catch on fire if you are driving:

- *a) At high speed on a hot day.
- b) In the city with many stops and starts.
- c) On a winding, bumpy road.
- d) In rainy weather on a slippery road.

365. When you are driving on very hot days you should be especially watchful for:

- a) Swaying.
- b) Oil leaks.
- c) Brake failure.
- *d) Tire fires.

B. Basic Knowledge
7. Road and Weather Conditions
b. Weather Conditions
3. Wind

366. If you will be towing a large load, like a mobile home, in windy weather you should (Class A):
- a) Have someone travel with you.
 - *b) Check to see if you are permitted to drive.
 - c) Have a front and rear escort.
 - d) Attach double safety chains to the coupler.
367. If you are driving in windy weather and you approach a pedestrian or motorcycle you should:
- a) Steer close to him to protect him from the wind for a moment.
 - b) Speed up to get by him quickly.
 - *c) Steer away from him as much as possible.
 - d) Slow down quickly so the wind current from your vehicle will not affect him.
368. When you approach large oncoming vehicles in very windy weather you should:
- a) Brake hard.
 - *b) Move to the right.
 - c) Hold your steering wheel loosely.
 - d) Downshift.
369. When driving in windy weather you should be most careful when you:
- *a) Pass large buildings.
 - b) Are on straightaways.
 - c) Are near open intersections.
 - d) Go downhill.
370. When you are driving a semi unit in a steady, uninterrupted wind, you should (Class A):
- a) Drive no faster than 20 mph.
 - b) Drive partially on the shoulder.
 - c) Hold the steering wheel loosely.
 - *d) Expect the trailer to be out of line with the tractor.
371. If you are driving a rig in windy weather you should (Class A):
- a) Slow down to 15 mph around curves.
 - *b) Try to keep the trailer from drifting.
 - c) Steer away from the direction of the wind.
 - d) Avoid passing under any condition.
372. Wind makes driving especially dangerous with (Class A):
- a) Long, straight trucks.
 - *b) Doubles.
 - c) Short, wide loads.
 - d) Flat bed trailers.
373. Steering a semi rig around a curve on a windy day is difficult because (Class A):
- a) You have no control over the tracking of the trailer.
 - *b) The wind direction changes when you go around the curve.
 - c) The wind tends to go under the trailer and lift it up.
 - d) The trailer tends to move in the opposite direction that you are steering around a curve.

B. Basic Knowledge
8. Emergency Situations and Maneuvers
a. Vehicle Emergencies
1. On-road: Critical

Fire Prevention

374. To help prevent a fire in your vehicle you should:
- a) Store fusees and pot torches on the floor of the cab.
 - *b) Put cigarette ashes in the ash tray.
 - c) Let air out of your tires if they get hot.
 - d) Vary your speed every few minutes.
375. You should not smoke (Class A):
- *a) In the cargo space of a trailer.
 - b) When the truck is in motion.
 - c) When driving within city limits.
 - d) At weigh stations.
376. To help prevent a fire in your vehicle you should:
- *a) Not smoke in the sleeper berth.
 - b) Store the fusees and pot torches on the floor of the truck.
 - c) Keep your window open at all times.
 - d) Hose down your tires every 100 miles.
377. To prevent the brakes from overheating you should:
- *a) Release them completely when starting into motion.
 - b) Keep firm, steady pressure on the brake on downgrades.
 - c) Use the emergency brake to help in stopping.
 - d) Make quick stops rather than long, gradual ones.

Prevention of Tire Fires

378. To help prevent tire fires you should:
- a) Use your foot pedal brakes whenever possible.
 - b) Drive slower if your tires begin to smoke.
 - c) Avoid quick stops at all times.
 - *d) Check for proper inflation before every trip and replace the valve caps.
379. You should check your tires for proper inflation:
- *a) Every 100 miles.
 - b) Every day.
 - c) Once a week.
 - d) Once a month.
380. If one of your tires becomes hot on the road you should:
- a) Leave your vehicle and go for help.
 - b) Throw water on it from the radiator.
 - c) Remove it and place it on the spare tire rack to cool.
 - *d) Remove it and roll it a safe distance away for cooling.
381. If one of your tires is soft you should:
- a) Drive quickly to the nearest service station.
 - b) Drive slowly to the nearest service station.
 - c) Continue, but report it when you reach your destination.
 - *d) Stop in a safe place and change it.
382. You should not leave your vehicle alone with a hot tire because:
- a) The hot tires may damage the road where it is parked.
 - *b) It may burst into flames.
 - c) The heat may cause the brakes to fail.
 - d) It may lose pressure and cause your truck to roll over.

Fire-fighting - General

383. If you see or smell smoke around your vehicle when driving you should:
- *a) Stop immediately in a safe place and investigate.
 - b) Drive quickly to the nearest service station.
 - c) Continue as usual and keep an eye on the rear view mirrors.
 - d) Slow down and keep checking the rear for flames.
384. To spot smoke coming from your rear brakes or tires you should:
- a) Watch for signals from other drivers.
 - *b) Look in your rear view mirror often.
 - c) Stop every few miles and walk around to look.
 - d) Keep your eye on the generator light.

B. Basic Knowledge
8. Emergency Situations and Maneuvers
a. Vehicle Emergencies
1. On-road: Critical (continued)

Fire-fighting - General (continued)

385. Vehicle fires should be put out by:
- *a) Cooling, smothering or removing fuel from the fire.
 - b) Heating, fanning, or drowning the fire.
 - c) Letting them burn themselves out.
 - d) Professional firemen only.
386. Before using a fire extinguisher you should:
- a) Get instructions from a fire official.
 - b) Make sure that fire is serious enough to use the fire extinguisher.
 - *c) Read the instructions on the label.
 - d) Turn it upside down or shake it up.
387. A fire extinguisher:
- *a) Is quickly used up.
 - b) Serves to cool a fire.
 - c) Should be aimed at the top of the flames.
 - d) Should not be used on tire fires.
388. When fighting a truck fire you should:
- a) Aim the extinguisher at the top of the flame and work down to the base.
 - *b) Sweep the extinguisher back and forth at the base of flames.
 - c) Face into the wind if possible.
 - d) Set the brakes and leave the engine running.
389. When fighting a fire in windy weather you should face:
- a) Toward the fire.
 - *b) With your back to the wind.
 - c) Away from the fire.
 - d) Across the wind.
390. If flammable liquid is on fire in your vehicle, you should:
- a) Put it out with water.
 - b) Begin at the edge of the flame and work towards the center.
 - *c) Play a stream on the container of the liquid.
 - d) Fight it facing into the wind if possible.
391. When fighting a fire in your vehicle you should:
- a) Try to face into the wind.
 - b) Move as close to the fire as possible.
 - *c) Avoid breathing smoke and fumes if possible.
 - d) Expose the smoking area to the air by opening the hood or doors.
392. If you have a fire in your vehicle, you should not:
- a) Call the fire department.
 - b) Drive to a source of water.
 - c) Try to move off the road.
 - *d) Face into the wind while fighting it.
393. If you have an engine fire you should:
- *a) Direct the extinguisher through the slots in the hood.
 - b) Open the hood wide so you can spray every part of the engine.
 - c) Leave the vehicle immediately and go for help.
 - d) Use water to fight it if it is available.
394. If a fire in your engine occurs:
- a) Avoid opening the hood.
 - *b) Open the hood as little as possible.
 - c) Open the hood all the way to put out the fire completely.
 - d) Fight the fire from the center to edge of blaze.
395. If you are driving a combination unit and fire occurs, you should (Class A):
- a) Park the vehicle well off the road and leave the scene immediately.
 - b) Use the same procedure as in fighting a fire in a single unit.
 - *c) Separate the power unit from the trailer so the fuel is removed from the fire.
 - d) Leave the unit in neutral and set the trailer brake valve.
396. If you have an electrical fire in your vehicle you should:
- *a) Unhook the battery cables.
 - b) Use water to put it out.
 - c) Open the hood all the way.
 - d) Try to restart the engine.

B. Basic Knowledge
8. Emergency Situations and Maneuvers
a. Vehicle Emergencies
1. On-road: Critical (continued)

Fire-fighting - General (continued)

397. If flammable liquid is burning in your vehicle you should:
- *a) Cut it off at its source, if possible.
 - b) Play a heavy stream of water on it immediately.
 - c) Run a good distance away from your vehicle.
 - d) Throw dirt on it.
398. If flammable liquid is afire in your vehicle you should:
- a) Start by putting out the fire in the spilled liquid.
 - b) Avoid letting water or foam fall directly on its container.
 - *c) Avoid using water to put it out.
 - d) Stop fighting the fire as soon as you feel you have it under control.
399. Right after putting out a fire in your vehicle you should:
- a) Leave the vehicle and report it to the fire or police department.
 - *b) Scrape away and get rid of the burned material.
 - c) Wait for the fire department to come to make sure it is completely out.
 - d) Get back on the road as quickly as possible so you will not hold up traffic.
400. You should report a fire in your vehicle:
- a) If it might have burned some of the electrical system.
 - b) If any part of the load is damaged.
 - c) If you called the fire department to help put it out.
 - *d) Regardless of its cause or size.
401. Your fire extinguisher should be inspected and recharged:
- a) Every time you leave on a trip.
 - *b) Every time you use it.
 - c) Whenever it runs out.
 - d) Only if it appears to be leaking.
402. It is best to use water on:
- a) Electrical fires.
 - b) Gasoline fires.
 - c) Oil fires.
 - *d) Tire fires.

Tire Fires

403. With a tire fire you should:
- a) Use the fire extinguisher continually until all the flames are out.
 - *b) Use the fire extinguisher for short periods to control the flames.
 - c) Avoid using water since the steam created will increase pressure inside the tire.
 - d) Leave the tire on the vehicle unless the fire begins to spread.
404. To control the flames on a burning tire you should:
- a) Park the vehicle and let the tire cool off.
 - *b) Shovel dirt or snow on it.
 - c) Leave it on the vehicle and drive slowly.
 - d) Stamp it with your feet.
405. If your tire begins to smoke:
- a) Do not try to remove it.
 - *b) The tube and flap are probably on fire.
 - c) Continue driving but at a slower pace.
 - d) Avoid putting water on it.

Cargo Fires

406. The best way to detect a cargo fire is to:
- *a) Check for smoke around the van doors.
 - b) Watch your generator gauge.
 - c) Listen for crackling sounds from the rear.
 - d) Watch for signals from other drivers.
407. If you find that your load is on fire while driving you should try to:
- a) Open the van doors as soon as possible.
 - *b) Drive quickly to a source of water.
 - c) Stop and leave the vehicle immediately.
 - d) Slow down and drive very carefully to the nearest service station.

B. Basic Knowledge
8. Emergency Situations and Maneuvers
a. Vehicle Emergencies
1. On-road: Critical (continued)

Cargo Fires (continued)

408. If you have a cargo fire, you should go to a water supply, open the van doors, and:
- a) Play a heavy stream of water on the cargo.
 - b) Try to stamp out the fire with your feet before using water.
 - *c) Remove as much cargo as possible.
 - d) Move a good distance from the vehicle.
409. One of the most important reasons to know what is in your load is that you:
- a) Must tell the inspector at the weigh station.
 - *b) Can tell the fire department in case of a cargo fire.
 - c) Will be able to drive faster if it is not very fragile.
 - d) May need help when unloading your cargo.

Loss of Air Pressure

410. If your air pressure warning device goes on while you are driving you should (Class A):
- a) Pump the brakes to restore the pressure.
 - b) Place the tractor protection valve in the "emergency" position.
 - c) Shift to neutral and coast until the air pressure builds up.
 - *d) Stop before the trailer brakes apply themselves.
411. In the event of a breakaway, the tractor protection valve will (Class A):
- a) Stop the tractor.
 - b) Stop the entire unit.
 - *c) Apply the trailer brakes.
 - d) Apply the brakes on the rear axle.
412. After you drive through deep water you should:
- *a) Dry off your brakes.
 - b) Check your steering.
 - c) Check under the hood to make sure the engine is not wet.
 - d) Allow your engine to idle for a few minutes.
413. Driving through deep water will most likely affect you:
- a) Steering mechanism.
 - *b) Braking system.
 - c) Lighting system.
 - d) Engine.
414. If your trailer brakes lock because of a broken air line you can release them by (Class A):
- a) Disconnecting the air hoses and pulling the trailer forward slowly.
 - b) Removing the rear wheels and loosening the brake shoes.
 - c) Increasing the air in tractor air tank.
 - *d) Draining the trailer air tank.
415. If your vehicle is stalled, wrecked or upset you should:
- a) Avoid leaving your vehicle under any condition.
 - b) Start the emergency flashers and leave the scene quickly.
 - *c) Stay with your vehicle unless your personal safety is in danger.
 - d) Wait until someone can stay with your vehicle so you can go for help.

2. On-road: Non-critical

See: C.4.c. (Reacting to Collisions and Emergencies)

3. Emergency Downshift

See: B.1.a.2. (Downshifting When Necessary)

4. Emergency Stop

See: B.4.a. ([Stopping] Techniques and Procedures)
B.8.b. (Skid Control)

5. Seeks Emergency Assistance for Disabled Vehicle

See: C.4.c. (Reacting to Collisions and Emergencies)
B.6.i. (Parking)

- B. Basic Knowledge
- 8. Emergency Situations and Maneuvers
- b. Skid Control

416. The chief cause of skidding is:

- a) Snow and ice on the road.
- b) Brakes improperly adjusted.
- c) Smooth tires.
- *d) Driving too fast for conditions.

c. On-road Emergencies

See: C.4. (Reacting to Traffic)

C. Driving Situations

1. Urban Driving

a. General

417. When you drive in the city you should:

- *a) Use only assigned routes.
- b) Drive close to vehicles parked on the right side of the road.
- c) Use engine braking for slowing and stopping.
- d) Keep your speed at or below 20 mph.

b. Commercial Areas

418. Before parking in a commercial area of a city you should:

- a) Put on your clearance lights.
- b) Speed up slightly before signaling.
- *c) Check the parking regulations.
- d) Set up reflectors or lights to warn other traffic.

c. Residential Areas

419. When entering a residential area you should:

- a) Speed up slightly to cut the engine noise.
- b) Stay in the higher gear as long as possible.
- c) Come to a stop and check the condition of the roads.
- *d) Check for signs prohibiting truck traffic.

420. Engine braking should not be used in cities because it:

- a) Will not slow you down.
- b) May lock your rear wheels.
- *c) Is too noisy.
- d) Will cause the truck to swerve.

421. You should keep exhaust noise down in residential areas, school zones, and hospital zones by:

- a) Coasting as much as possible.
- b) Staying in one gear rather than shifting.
- *c) Slow and even use of the accelerator pedal.
- d) Keeping one foot on the brake and one on the gas.

d. Narrow Streets and Alleys

422. When you enter a narrow street or alley you should:

- *a) Check all clearances and possible hazards.
- b) Blow your horn and flash your lights.
- c) Shift to neutral gear and keep your foot on the brake.
- d) Stay near the left side of the street or alley.

423. You should drive at a very low speed when you are:

- a) On a gently curving country road.
- b) Entering a freeway from an on-ramp.
- *c) On a narrow street or alley.
- d) On a two way undivided highway.

C. Driving Situations

2. Highway Driving

a. General Highway Driving

424. Since trucks generally have a lower speed limit than passenger cars on highways you should:
- a) Not worry about vehicles approaching at high speeds from the rear.
 - b) Drive in the middle lane to allow other vehicles to pass you on either side.
 - c) Avoid using highways whenever it is possible.
 - *d) Stay in the far right lane except to pass or exit.
- 425: Since you are usually required to drive slower than passenger cars you should:
- *a) Watch for vehicles approaching quickly from the rear.
 - b) Use your 4-way flashers when driving at night.
 - c) Pull off the road every few miles to let other vehicles pass.
 - d) Not use the passing lane.
426. When driving on a highway you should usually drive in the:
- a) Far left lane.
 - b) Middle lane.
 - *c) Far right lane.
 - d) Lane that has the least traffic.
427. When driving on a highway you may move to the left of the road:
- a) Any time there is less traffic on the left.
 - b) To make a U-turn.
 - c) For a better view of the road ahead.
 - *d) To exit or pass.
428. When you pass large trucks coming from the opposite direction you should:
- a) Blow your horn or flash your lights.
 - b) Steer to the center of the road.
 - c) Apply your brakes to maintain control.
 - *d) Be prepared for a change in wind pressure.
429. When driving a semi unit, if you are passed by¹ a large truck you should (Class A)¹:
- a) Drive on the shoulder to allow extra room.
 - *b) Be ready to correct for a swing of your trailer.
 - c) Slow down as much as possible until the other vehicle passes you.
 - d) Shift into a higher gear until he passes you.

b. Rural Highways

430. When you pull onto the shoulder of a country highway you:
- a) Need not slow down as quickly as you would on a freeway.
 - *b) Should expect it to be soft and narrow.
 - c) Begin to slow down before you put on your turn signals.
 - d) Slow down to 5-10 mph before pulling off the road.
431. When you pull onto the shoulder of a highway you should avoid:
- a) Signaling.
 - b) Slowing down first.
 - *c) Stirring up dust.
 - d) Holding the steering wheel tightly.

c. Mountainous Terrain

See: B.6.d. (Negotiating Hills)

¹Items applicable only to Class A vehicles

C. Driving Situations

3. Freeway Driving

a. On-ramps

432. On an entrance to a freeway you should:
- a) Allow faster moving vehicles to pass you.
 - *b) Remember that the heavier your load the more time you need to speed up.
 - c) Come to a full stop before entering the freeway.
 - d) Keep your eyes on the freeway traffic to find a gap, all the way down the on-ramp.

b. Entering Main Roadway

433. If you are on a short entrance to a freeway and you have a heavy load:
- a) Allow faster moving traffic to pass you on the ramp.
 - b) Stop before entering the main road to get a good view of the traffic.
 - c) Increase speed all the way down the ramp and enter quickly after blowing your horn.
 - *d) Wait for larger gaps in the traffic before entering the main road.

c. Moving with Traffic

See: B.1.b. (Lane Usage)

d. Off-ramps

434. Freeway exits:

- *a) Are generally safer than entrances because truck braking is better than acceleration.
- b) Are less difficult to handle if they are in the form of a steep upgrade.
- c) Should be entered at a speed no greater than the exit speed limit.
- d) Are designed to carry safely vehicles going 10 mph over the posted speed limit.

435. When you approach a freeway exit that is a steep hill you should be careful:

- *a) Not to slow down too much when entering it.
- b) To shift to a higher gear just as you leave the freeway.
- c) To enter the off-ramp at a speed slower than its speed limit.
- d) To move quickly onto the shoulder so that all following traffic can pass.

C. Driving Situations

4. Reacting to Traffic - General-On Road Emergencies

a. Reacting to Other Vehicles

436. You should:
- a) Stop before entering an alley or parking lot.
 - b) Signal following drivers when it is safe to pass.
 - *c) Avoid using the size of your vehicle to get the right-of-way.
 - d) Not use exits on the left side of a freeway.
437. When being passed by another vehicle you should:
- *a) Keep well to the right.
 - b) Increase your speed.
 - c) Flash your bright lights.
 - d) Shift to a lower gear.
438. If a driver tries to pass you in a no-passing zone, you should:
- a) Speed up in order to stop him from passing.
 - b) Move to the left so he cannot pass.
 - c) Move onto the shoulder to allow him to pass.
 - *d) Be alert and ready to avoid an accident.
439. You should not signal other drivers when it is safe to pass because:
- a) The other driver must learn to be able to judge that for himself.
 - b) You may end up being trapped behind a long line of cars.
 - *c) You may be held legally responsible if there is an accident.
 - d) You cannot judge any better than the vehicle behind you whether it is safe to pass.
440. When you are being passed you should:
- *a) Not communicate with the passing driver.
 - b) Slow down as much as possible.
 - c) Move to the right edge of the road.
 - d) Hold your steering wheel loosely.
441. After you have been passed you should not:
- *a) Signal the passing vehicle when it is safe to pull back in.
 - b) Resume your normal speed.
 - c) Drive in the center of your lane.
 - d) Allow a safe gap between you and the vehicle ahead.
442. After you have been passed at night you should be sure that:
- a) The passing vehicle is not breaking the speed limit.
 - *b) Your lights are not on high beam.
 - c) You are driving at the legal speed limit.
 - d) You signal the passing driver when it is safe to pull back into your lane.

b. Reacting to Pedestrians

443. If you approach an intersection in which there are pedestrians and other vehicles:
- a) Slow down only when you do not have the right-of-way.
 - b) Blow your horn to warn them you are coming.
 - c) Speed up to clear the area quickly.
 - *d) Slow down and yield the right-of-way.
444. If you see a person near the road ahead you should:
- a) Move quickly into the passing lane.
 - *b) Slow down and be prepared to stop.
 - c) Come to a complete stop until you can find out what is happening.
 - d) Speed up to clear the area quickly.
445. If you see an animal near the road ahead it is best to:
- a) Continue at normal speed.
 - *b) Slow down and try to avoid hitting it.
 - c) Move onto the shoulder or stop on the road.
 - d) Stay in your lane even if you will hit the animal.

C. Driving Situations

4. Reacting to Traffic - General On Road Emergencies

c. Reacting to Collisions and Emergencies

446. If you are in danger of hitting another vehicle head on you should:
- a) Steer sharply to the left around the vehicle.
 - *b) Move to the right and try to stop.
 - c) Slow down staying in the middle of your lane.
 - d) Continue at the same speed and try to steer around him.
447. You are most likely to lose steering control when:
- a) Turning at low speeds.
 - b) Your engine is not at maximum rpms.
 - c) You have driven through deep water.
 - *d) A front tire blows out.
448. If one of the rear tires blows out:
- a) You will probably lose steering control.
 - *b) It may catch on fire.
 - c) You will not be able to stop without great difficulty.
 - d) You may not even notice it at first.
449. If a tire becomes flat on a tractor-trailer unit (Class A):
- a) It may not be noticeable for awhile.
 - b) The trailer can easily tip over on its side.
 - *c) The rig is likely to slide or skid.
 - d) The tire will probably burst into flames within seconds.
450. If you see that one of your tires is flat you should:
- *a) Stop as soon as possible and change it.
 - b) Drive slowly to the nearest service station.
 - c) Pull onto the shoulder and continue slowly to an exit or service station.
 - d) Wait at least 1/2 hour until the tire has cooled before changing it.
451. If your vehicle has been damaged by an accident:
- *a) It must be inspected before it is driven again.
 - b) It must have a complete overhaul before it is driven again.
 - c) You should check to see if there is any serious damage before you drive it.
 - d) If possible continue driving it until you reach your destination.
452. If your vehicle has been damaged by an accident or is in an unsafe condition:
- a) Drive it quickly to the nearest service station.
 - *b) Do not continue to drive until repairs have been made.
 - c) Report the trouble but continue driving if you can do so.
 - d) Continue driving on the shoulder of the road.
453. If you have a breakdown on the road you should:
- a) Walk to the nearest telephone.
 - b) Leave the keys in the truck.
 - c) Ask someone to stay with your vehicle while you go to call for help.
 - *d) Ask someone to make the call for you.
454. You may allow someone else to drive your truck if:
- a) You are not able to drive it.
 - *b) They are authorized.
 - c) You feel they have the ability to drive it.
 - d) Only if you are in the truck with them.
455. If you stop to help another driver you should always:
- a) Call the terminal and tell them where you are.
 - b) Get the other driver's name and license number.
 - *c) Park where you will not interfere with traffic.
 - d) Stop in front of the other vehicle.

C. Driving Situations

5. Night Driving

456. You need not:

- a) Keep your lights clean and unhidden by your load.
- b) Know all lighting regulations.
- c) Adjust your speed to the range of your headlights.
- *d) Change your fuses at least once a month.

C. Driving Situations

6. Railroad Crossings and Weigh Stations

a. Railroad Crossings

457. When coming to a railroad crossing you should assume that:
- a) You have the right-of-way.
 - *b) A train is coming.
 - c) You will not need to stop.
 - d) The signals would be on if there was a train nearby.
458. If you come to a railroad crossing where the signal is not on you should:
- a) Speed up slightly and cross.
 - b) Continue at normal speed and cross.
 - *c) Slow down and check for trains before crossing.
 - d) Come to a full stop and look both ways before crossing.
459. Before you cross an unsignalized railroad track you should:
- a) Come to a full stop.
 - *b) Be sure you have time to get all the way across.
 - c) Speed up a bit so you will be sure not to stall.
 - d) Keep one foot on the clutch in case you need to shift while on the track.
460. If you see a long train coming toward you at a railroad crossing you should:
- a) Cross if you think you can do so quickly.
 - b) Blow your horn and cross at a moderate speed.
 - *c) Stop and wait unless you are sure you can cross in plenty of time.
 - d) Turn around and continue by another route.
461. When you approach a railroad crossing in a long line of slow-moving traffic you should:
- *a) Be sure you will not be trapped on the tracks before crossing.
 - b) Attempt to pass when the vehicle ahead has slowed down to cross the tracks.
 - c) Be prepared to shift gears while you are on the tracks.
 - d) Stay close to the vehicle in front of you.
462. You may have to stop at a railroad crossing if:
- a) There is no gate at the crossing.
 - *b) You are carrying certain cargo.
 - c) There is more than 1 track.
 - d) Your truck has more than 3 axles.
463. When you are the first to stop at a railroad crossing you should not:
- a) Signal the drivers behind you.
 - b) Pull over to the right.
 - c) Downshift into neutral or your lowest gear.
 - *d) Move as close to the tracks as possible.
464. When you are crossing railroad tracks you should not:
- *a) Shift gears.
 - b) Drive slowly.
 - c) Look to the right and left.
 - d) Maintain a constant speed.
465. If you come to a railroad crossing where there is a double set of tracks you should:
- *a) Check to be sure you can get all the way across before crossing.
 - b) Stop halfway across and check for trains from the other direction before continuing.
 - c) Come to a full stop and check both ways before starting to cross.
 - d) Look both ways and speed up to cross the tracks quickly.
466. Railroad crossings on streets in cities:
- *a) Are just as dangerous as rural grade crossings.
 - b) Do not require that you slow down unless the signal is on.
 - c) Require that you slow down unless the signal is on.
 - d) Are all required to have gates and signals.

b. Weigh Stations

467. Trucks must stop at all open weigh stations on a main road:
- a) So that their load can be inspected.
 - *b) To make sure they are not over the legal weight limit.
 - c) In order to check the safety equipment.
 - d) So that the driver's license and registration can be checked.
468. You will probably not be required to stop at weigh stations if you are driving a:
- a) Large empty van.
 - b) Truck with dual tires on the rear axle.
 - c) Truck loaded to capacity axle weight.
 - *d) Flat bed truck that is empty.

C. Driving Situations

6. Railroad Crossings and Weigh Stations

b. Weigh Stations (continued)

469. The Department of Commerce or Department of Agriculture can stop you at any time to:

- a) Give you a test.
- *b) Check your load.
- c) Give you a driving test.
- d) Inspect your vehicle for safety equipment.

D. Vehicle and Driver

1. Physical and Emotional Conditions

a. Temporary (Fatigue, Carbon Monoxide, etc.)

470. When you are driving you need not:
- a) Always be aware of changing traffic conditions.
 - b) Perform routine duties without taking your eyes from the road.
 - c) Check the panel gauges from time to time while driving.
 - *d) Yield the right-of-way to people crossing in the middle of the block.
471. You should always:
- a) Park with your front wheels facing away from the curb.
 - b) Yield the right-of-way at all times.
 - *c) Remain courteous at all times.
 - d) Come to a complete stop before turning left at an intersection.
472. If you become very tired on the road you should:
- a) Turn on the radio and open the windows.
 - b) Take some stay-awake pills.
 - c) Continue driving at a slower speed.
 - *d) Pull off to rest, and call the terminal.
473. Rules covering the amount of time you must rest should be followed:
- a) Only when you will be crossing state lines.
 - b) Until you become an experienced driver.
 - c) Unless there is someone else with you.
 - *d) At all times.
474. As a professional driver, you should:
- *a) Get plenty of rest on your off-hours.
 - b) Not drink on your off-hours.
 - c) Take courses to keep up with new road rules.
 - d) Be available at any time for driving.
475. If you get tired and think it might be carbon monoxide you should:
- a) Close the windows.
 - *b) Stop your truck.
 - c) Turn on a fan or the heater.
 - d) Open the floor vents and slow down.
476. Reaction time is least affected by:
- a) The age of the person.
 - b) How fatigued the person is.
 - *c) The type of food eaten.
 - d) The amount of alcohol consumed.

b. Alcohol

477. You may drink alcoholic beverages:
- a) Just before you report to work.
 - b) On the job if it is kept to a minimum.
 - c) If you need it to stay alert while driving.
 - *d) Only after you have completed your trip.

c. Drugs

478. You may take a drug:
- a) Just before you report to work, but not on the job.
 - b) On the job if it is not strong enough to affect your judgement.
 - c) On the job if you take coffee or another stimulant to stay awake.
 - *d) Only after you have completed your trip.

d. Vision

479. If you need glasses to meet the vision requirements for the job, you must wear them:
- *a) At all times when driving.
 - b) When driving at night.
 - c) Only if you feel you need to.
 - d) Unless you have someone with you when driving.

D. Vehicle and Driver

1. Physical and Emotional Conditions

f. Illness

480. If you become sick when on the road it is best to:

- a) Drive unless you are seriously ill.
- *b) Stop driving and call the company.
- c) Take some medicine and continue driving, if possible.
- d) Continue driving after getting some sleep.

D. Vehicle and Driver
2. Vehicle Care and Servicing
a. Fuel Stop Service¹

481. When refueling your truck you should not:
a) Turn off the engine.
b) Avoid smoking.
*c) Leave a small space between the nozzle and fuelpipe.
d) Watch other people to prevent possible causes of a fire.
482. Reserve fuel can be carried (Class A)²:
a) In the cab.
b) Under the berth.
*c) In properly mounted fuel tanks.
d) On the roof of the trailer.

b. Roadside Service

See: B.8.a.1. (On-road: Critical)

c. Routine Service

483. When draining the air pressure reservoir tanks you should drain (Class A):
a) Both tractor and trailer tanks once a week.
*b) Both tractor and trailer tanks every day.
c) The tractor tanks every day and the trailer tank once a week.
d) The tractor tank once a week and the trailer tank every day.
484. You should bleed your air tanks in the winter because:
a) Air pressure decreases in the cold weather.
*b) Water may freeze in the tanks and lines.
c) The air may leak out.
d) You need less air when the temperature is cold.
485. You should check the tractor protection valve (Class A):
*a) Every day.
b) Once a week.
c) Once a month.
d) Just before the yearly inspection.
486. You can fix dragging or slack brakes by:
a) Building up additional air pressure.
*b) Adjusting the slack adjuster.
c) Lubricating the brake pedal linkage.
d) Draining the air reservoirs.
487. When making a routine check of your vehicle you should:
a) Make sure that your tires have more than 3/8 inch of tread.
*b) Check the tire pressure and lubricate your vehicle.
c) Change the air filter and the oil before each trip.
d) Lubricate all the engine belts.

d. Routine Inspection

488. A vehicle inspection should be performed by the driver:
*a) Before each trip.
b) When instructed to do so.
c) Once a week.
d) Once a month.

e. Periodic Inspection³

489. You should check under the hood periodically for the condition of the:
*a) Spark plug wires and the governor.
b) Piston rings and cylinder walls.
c) Valve guide stems.
d) Battery plates and radiator core.
490. You can be fairly sure that your vehicle is not in good working order if:
a) It takes the engine longer than 60 seconds to warm up.
*b) There are signs of oil leaks around the engine.
c) You have to use the starter more than once to start the engine.
d) The pressure drops 5 to 15 lbs. when you first apply the brakes.

¹See also: B.8.a.1. (On-road: Critical [Fire Prevention])

²Items applicable only to Class A vehicles.

³See also: A.1. (Pre-operative Procedures - Vehicle Related)

- D. Vehicle and Driver
- 2. Vehicle Care and Servicing
- e. Periodic Inspection (continued)

491. You should look under the front of your unit for:

- a) Clogged fuel nozzles.
- b) Worn or bent cam shaft bearings.
- *c) Irregularities in the steering mechanism.
- d) A loose head gasket.

E. Driver Responsibilities

1. Driver Responsibilities to the Laws

a. Driver Licensing

492. Besides company rules you must also know:
- *a) The laws in the towns, cities, and states in which you will drive.
 - b) How to make repairs on any part of your vehicle.
 - c) The location and phone numbers of each terminal used by your company.
 - d) The principles by which your vehicle operates.
493. If your license has been revoked or suspended, you:
- a) May drive only for business purposes.
 - *b) Should notify your employer immediately.
 - c) Should have someone with you when you drive.
 - d) May never drive a commercial vehicle again.

b. Vehicle Registration

See: F.1. (Vehicle Registration and Title)

c. Insurance

494. You should be careful to lock all the doors on your vehicle because:
- a) You will have to pay for the cargo if it is stolen.
 - *b) Cargo on a commercial vehicle is usually not insured.
 - c) You will be legally responsible if the cargo is stolen.
 - d) If either the vehicle or cargo is stolen, you will lose your license.

d. Vehicle Inspection¹

495. The person responsible for seeing that a commercial vehicle is in good running condition is the:
- a) Company mechanic.
 - b) State Motor Vehicle Department.
 - *c) Driver.
 - d) Department of Commerce.

e. Driver Log and Hours of Service

496. Most drivers of commercial vehicles are required by law to:
- a) Pack their own loads.
 - b) Make all but major repairs on their vehicle.
 - *c) Keep an up-to-date log that is subject to inspection.
 - d) Know the weight of each item in their loads.
497. When you sign your logbook you:
- a) Are exempt from any errors on your logsheet.
 - b) Must also get a witness to sign it.
 - c) May use your nickname rather than your legal name.
 - *d) Are certifying that all entries are true and correct.
498. The freight bills for your load should be kept:
- a) At the terminal.
 - b) At your home.
 - *c) With you in your vehicle.
 - d) At your point of destination.

¹See also: F.5. (Inspection of Vehicles)

E. Driver Responsibilities

1. Driver Responsibilities to the Laws

f. Cargo Regulations

499. When you are carrying cargo that you do not usually carry, you should:
- *a) Check the regulations or restrictions for that cargo.
 - b) Stay outside the city limits except for emergencies.
 - c) Stop at a local police station and ask for advice.
 - d) Stop at every intersection to check for cross traffic.
500. If you are carrying dangerous materials in your load you should:
- a) Not drive faster than 45 mph.
 - b) Stop at every intersection.
 - c) Cross railroad tracks quickly.
 - *d) Avoid jolts and sudden stops.
501. When you are carrying dangerous materials in your load you should avoid:
- a) Driving in the city.
 - *b) Parking in a crowded area.
 - c) Making right-angle turns at intersections.
 - d) Driving faster than 20 mph.
502. If you are carrying dangerous materials and are involved in an accident you should:
- a) Stay in the truck until the police arrive.
 - b) Start unloading the cargo right away.
 - *c) Keep everyone except rescue workers at a safe distance.
 - d) Put on the emergency brakes and leave the engine running.

g. Required Equipment¹

503. You may not drive your vehicle if:
- a) You have driven another truck that same day.
 - b) There is someone else in the vehicle with you.
 - *c) The emergency equipment is not in good working order.
 - d) You have not loaded it yourself.

¹See also: F.4. (Equipment of Vehicles)

E. Driver Responsibilities

2. Post-Accident Responsibilities

a. Notifies Police

504. If you are involved in an accident and cannot find a telephone nearby, you should:
- *a) Give a note to a motorist to take to the police.
 - b) Continue on your way and file a written report as soon as possible.
 - c) Hitch-hike to the nearest phone or police station.
 - d) Wait with your vehicle until a police car comes by.
505. You may not leave the scene of your accident until you:
- *a) Are told to do so by the police or a company official.
 - b) Have signed statements from all of the witnesses.
 - c) Are able to take your vehicle with you.
 - d) Have determined who was at fault.

b. Warns Other Traffic

506. The first thing you should do after helping the injured at an accident is:
- a) Call the police.
 - b) Get information from the other driver.
 - c) Check for damage.
 - *d) Set out emergency warning devices.
507. If after you have an accident you see fuel on the road you should:
- a) If possible drive your vehicle to the nearest police or fire department and report it.
 - *b) Direct traffic and have someone call the fire department.
 - c) Try to remove the fuel from the road.
 - d) Park your vehicle over the fuel to keep other traffic from driving through it.

c. Reports Accident

508. When reporting an accident to your terminal you should:
- a) Give the facts to anyone who answers the phone.
 - b) Not go into detail about injury and damage.
 - *c) Give all the details and get the name of the person you talk to.
 - d) Wait until you get assurance that someone will be out to look at it.

F. Vehicle Code - Laws and Regulations

1. Vehicle Registration and Title (See Chapter 3)¹

509. An out-of-state vehicle does not have to be registered in the State if it is (See Section 402):
- a) Used for transporting persons for hire.
 - b) Regularly operated in carrying on business within the State.
 - c) Used primarily for transporting property.
 - *d) A farm tractor or wagon.
510. If your tractor is registered in this state you (See Section 402.1):
- a) Do not have to stop at weigh stations.
 - *b) Do not have to register the trailers you tow.
 - c) Can travel at the speed limit posted for cars.
 - d) Can ride on roads closed to commercial traffic.
511. Fleet vehicles (See Section 402.1g):
- a) Must be registered by state residents only.
 - b) Must be registered individually.
 - *c) May be registered proportionally regardless.
 - d) Must be registered within one jurisdiction only.
512. If you lease a vehicle which has been properly registered you (See Section 402.1i):
- a) Must obtain a special registration.
 - b) Are not subject to any previous agreement.
 - *c) Are entitled to the privileges of the lessor.
 - d) Do not have to obey any of the exemptions imposed on the owner.
513. Reciprocity benefits (See Section 402.1(1)):
- a) Belong only to the lessor.
 - b) Cannot be cancelled.
 - *c) Can be suspended if any of the conditions of the agreement are violated.
 - d) Do not depend on the motor vehicle laws of the state.
514. Drivers of proportionally registered vehicles (See Section 402.1q):
- a) Do not need individual registration cards.
 - b) Cannot drive in a state in which their vehicle is not registered.
 - *c) Must carry the registration card at all times.
 - d) Are required to obtain additional registration to operate within the State.
515. Proportional registration of fleet vehicles (See Section 402.1r):
- *a) Cannot be in a single jurisdiction.
 - b) Cannot be cancelled or suspended.
 - c) Must be in at least three jurisdictions.
 - d) Requires a driving test in each jurisdiction.
516. If an owner purchases additional vehicles after proportionally registering his fleet he must (See Section 402.1s):
- a) Wait until registration must be renewed before adding additional vehicles to his fleet.
 - b) Obtain a single registration in this state for each of the new vehicles.
 - *c) Register the new vehicles by applying the mileage percentage used in the original application.
 - d) Register the new vehicles as a separate fleet.
517. If an owner wishes to withdraw a vehicle from a proportionally registered fleet he (See Section 402.1t):
- a) Should destroy the registration card and other identification.
 - b) Will forfeit the fee for the remainder of the registration year.
 - c) May use the registration card and plate for another vehicle.
 - *d) Must notify the department on the proper forms.
518. Mileage data on a new fleet for proportional registration is determined by (See Section 402.1v):
- a) The state average.
 - *b) Estimates of the owner approved by the Department.
 - c) The owner.
 - d) The Department.

¹Chapter and Section numbers refer to the Uniform Vehicle Code (1968 Revised Edition)

F. Vehicle Code - Laws and Regulations

1. Vehicle Registration and Title (See Chapter 3) (continued)

519. Fleet registration (See Section 402.lv):
- a) Cannot be cancelled.
 - *b) Can be denied if similar registration privileges do not exist in the owner's state.
 - c) Can be obtained only by a resident of the state.
 - d) Cannot be given to a fleet of less than 5 trucks and/or a fleet that drives less than 100,000 miles per year.
520. The information on an application used to obtain proportional registration (See Section 402.lw):
- a) Must be kept by the owner only during the period of registration.
 - b) Is confidential and does not have to be given to the Department after registration is obtained.
 - c) Must be kept by the Department after registration expires.
 - *c) Must be kept by the owner for four years after registration expires.
521. To register a specially constructed or reconstructed vehicle you must (See Section 404):
- a) Get a special application.
 - b) Follow same procedure as for other vehicles.
 - *c) State that fact on application.
 - d) Apply to a special Department.
522. If you want to register a vehicle engaged in interstate operations in this State you (See Section 404):
- *a) Must submit any out-of-state registrations for inspection.
 - b) Should get a registration certificate from each state.
 - c) Need only follow the rules and regulations of the first state in which the vehicle was registered.
 - d) Cannot have your vehicle registered in more than one state.

F. Vehicle Code - Laws and Regulations

2. Drivers' Licenses (See Chapter 6)¹

523. In order to drive a school bus you must be at least (See Section 104):
- a) 18 years old and have 2 years of driving experience.
 - *b) 21 years old and have 1 year of driving experience.
 - c) 23 years old and have 1 year of driving experience.
 - d) 25 years old regardless of experience.
524. In order to operate a motor vehicle transporting persons for compensation you must be at least (See Section 104):
- a) 18 years old and have 2 years of driving experience.
 - *b) 21 years old and have 1 year of driving experience.
 - c) 23 years old and have 1 year of driving experience.
 - d) 25 years old regardless of experience.

¹Chapter and Section numbers refer to the Uniform Vehicle Code (1968 Revised Edition)

F. Vehicle Code - Laws and Regulations

3. Rules of the Road, Special Stops (See Chapter 11)¹

525. A vehicle not required to stop at all railroad crossings is a (See Section 703a):
- a) Taxi cab carrying passengers.
 - *b) Vehicle towing doubles trailers.
 - c) School bus carrying children.
 - d) Vehicle carrying flammable material.
526. When approaching a railroad crossing a school bus driver must stop within (See Section 703a):
- *a) 50 feet but not less than 15 feet from nearest rail.
 - b) 30 feet but not less than 15 feet from nearest rail.
 - c) 50 feet but not less than 5 feet from nearest rail.
 - d) 30 feet but not less than 5 feet from nearest rail.
527. If you have stopped for a railroad crossing and are now driving across you must (See Section 703a):
- a) Go as fast as you can.
 - b) Blow your horn before starting to move.
 - c) Stay in the right hand lane.
 - *d) Not shift gears when on the tracks.
528. When you come to a railroad crossing and you have passengers in your bus you should (See Section 703b):
- a) Slow down before crossing.
 - *b) Continue across if directed to by a police officer.
 - c) Move as far to the right as possible and come to a complete stop.
 - d) Stop between each set of tracks before continuing across.
529. If you come to a railroad crossing in a business area while carrying explosives you must (See Section 703c):
- a) Come to a complete stop before crossing.
 - b) Cross only if there is a police officer directing traffic across.
 - *c) Stop before crossing only if a signal is flashing.
 - d) Speed up and cross quickly.
530. To move a vehicle with a top speed of less than 10 mph across railroad tracks you must (See Section 704a,b):
- *a) First notify the railroad.
 - b) Have someone direct you across the tracks.
 - c) First get a train schedule to be sure the tracks will be clear.
 - d) Place the vehicle in the highest gear and move across the tracks.
531. You must stop at all railroad crossings if you are driving (See Section 704c):
- a) An ambulance.
 - b) A school bus with no passengers.
 - *c) A vehicle that cannot move over 10 mph.
 - d) A semi-tractor trailer.
532. When driving a vehicle that has a top speed of 10 miles per hour you must (See Section 704d):
- *a) Not cross a railroad track if the warning lights are on.
 - b) Drive in the left lane of a 4-lane road.
 - c) Only drive on the shoulder of the road.
 - d) Come to a complete stop at every intersection before crossing.
533. School busses are not required to have (See Section 706b):
- a) Two front signal lamps.
 - b) Two rear signal lamps.
 - c) Signs with "School Bus" on the front and rear.
 - *d) A siren, exhaust whistle, or bell.
534. If a school bus is being operated for purposes other than transporting children (See Section 706c):
- a) All regulations must still be followed.
 - *b) Markings indicating "school bus" must be covered.
 - c) Driver must get a special permit.
 - d) It must be done after school hours.

¹Chapter and Section numbers refer to the Uniform Vehicle Code (1968 Revised Edition)

F. Vehicle Code - Laws and Regulations

4. Equipment of Vehicles (See Chapter 12)¹

a. Lamps and Other Lighting Equipment

535. Any trailer which is being towed must be equipped with (See Section 204):
- a) A red flashing light.
 - b) 2 side lights.
 - *c) 2 red tail lights.
 - d) 1 red reflector.
536. Every trailer must be equipped with workable (See Section 206):
- *a) Turn signals and stop lights.
 - b) Stop lights and parking lights.
 - c) Turn signals and rear fog lights.
 - d) Parking lights and rear fog lights.
537. Busses and trucks at least 80 inches in width are not required to have (See Section 208):
- a) 2 front clearance lights, one on each side.
 - b) 2 side marker lights, one near the front, the other the rear.
 - c) 2 side reflectors, one near the front, the other the rear.
 - *d) 2 front reflectors, one on each side.
538. Front clearance lights, identification lights and reflectors should be (See Section 209):
- a) Red.
 - *b) Amber.
 - c) White.
 - d) Yellow.
539. Reflectors should be mounted at a height not less than (See Section 210):
- *a) 24" nor more than 60".
 - b) 12" nor more than 48".
 - c) 30" nor more than 64".
 - d) 20" nor more than 45".
540. Clearance lights shall, as far as practicable, (See Section 210):
- a) Be larger than 6 inches in diameter.
 - *b) Indicate the extreme height and width of the vehicle.
 - c) Flash a red on and off signal visible at 1000 feet.
 - d) Not be used on vehicles only driven in a single state.
541. At night with a headlight on it each reflector must be visible between (See Section 211):
- a) 300 and 700 feet from the vehicle.
 - b) 200 and 600 feet from the vehicle.
 - *c) 100 and 600 feet from the vehicle.
 - d) 100 and 500 feet from the vehicle.
542. At night when motor vehicles are operated in combination (See Section 212):
- a) Clearance lamps on the front do not need to be lighted.
 - b) Lights on the rear of the last vehicle do not need to be lighted.
 - c) All lights on all vehicles must be lighted.
 - *d) Lights which cannot be seen do not need to be lighted.
543. If a load extends 4 or more feet to the rear when driving at night you (See Section 213):
- a) Must have 2 red flags on the end of the load.
 - *b) Must have 2 red lamps at the end of the load.
 - c) Require a special permit to drive your vehicle.
 - d) Cannot exceed the minimum speed limit for passenger cars.
544. Road machinery, farm tractors and implements of husbandry are required to have (See Section 216):
- *a) At least 1 white light visible from at least 1000 feet to the front.
 - b) 1 red light visible from each side of the vehicle for at least 600 feet.
 - c) 2 red lights visible from 1000 feet to the front.
 - d) 2 white lights visible from at least 600 feet from the rear.
545. Two alternately flashing red lights are not required on a (See Section 218):
- a) School bus.
 - b) Ambulance.
 - *c) Police car.
 - d) Rescue squad car.
546. All authorized emergency vehicles are not required to have (See Section 218):
- a) Sirens.
 - b) Whistles.
 - c) Bells.
 - *d) Spot lights.

¹Chapter and Section numbers refer to the Uniform Vehicle Code (1968 Revised Edition)

F. Vehicle Code - Laws and Regulations

4. Equipment of Vehicles (See Chapter 12)

a. Lamps and Other Lighting Equipment (continued)

547. Any vehicle may be equipped with (See Section 220):
- *a) Lights used to warn others that the vehicle may present a hazard.
 - b) Flashing red lights on the top of the vehicle to be used only when required.
 - c) Red fog lights in the front of the vehicle.
 - d) Reflectors instead of rear lights.
549. A commercial truck may not display (See Section 227):
- a) A spot light or a flashing light.
 - b) Amber lights in the back.
 - c) White lights in the back.
 - *d) Red lights in the front.
551. When installing new lighting on your vehicle it must be (See Section 230):
- a) The same as the equipment it is replacing.
 - b) Checked by the Department.
 - c) More powerful than the equipment it is replacing.
 - *d) Adjusted to meet the standards set for state equipment.
548. The identification lights on a vehicle at least 80 inches wide may not exceed (See Section 221):
- a) 1 amber light in front and 2 red lights in back.
 - b) 2 amber lights in front and 2 red lights in back.
 - c) 3 amber lights in front and 2 red lights in back.
 - *d) 3 amber lights in front and 3 red lights in back.
550. Regulations concerning the lights on school busses can be made by the (See Section 228):
- a) Local police department.
 - b) Federal government only.
 - *c) Commission of motor vehicles.
 - d) Owner of the school bus.

b. Brakes

552. Except for trailers under 300 lbs. and truck-tractors having 3 or more axles all vehicles must (See Section 301c):
- a) Have disc brakes on the front.
 - b) Be equipped with air brakes.
 - *c) Have brakes on all their wheels.
 - d) Be able to stop in 30 feet when going 20 mph.
553. Every trailer equipped with air brakes and trailers over 3000 lbs must have brakes that will (See Section 301d):
- *a) Apply automatically upon breakaway from the towing vehicle.
 - b) Apply only when manually engaged and will remain for 12 hours.
 - c) Stop the vehicle in a straight line in 30 feet at 20 mph.
 - d) Apply automatically when there is a pressure drop and remain on for 5 minutes or less.
554. It is a law that if your trailer brakes away you must still be able to (See Section 301e):
- a) Control the speed of the trailer through the use of your air brakes.
 - b) Keep control of the tractor by downshifting.
 - c) Assure that no damage is done to the road or other vehicles as a result of your load.
 - *d) Stop the tractor with your foot pedal brakes.
555. Every vehicle equipped with air or vacuum brakes must have (See Section 301g):
- a) An extra air tank for emergency use.
 - *b) 2 means of emergency brake application.
 - c) A sign stating that the vehicle has air brakes.
 - d) Periodic check-ups every 6 months.

F. Vehicle Code - Laws and Regulations

4. Equipment of Vehicles (See Chapter 12)

b. Brakes

556. By law every vehicle equipped with brakes shall have (See Section 301h):
- *a) 1 control that can operate all service brakes.
 - b) Separate controls for the trailer and tractor brakes and no joint controls.
 - c) Periodic brake inspections every 10,000 miles.
 - d) Interior lights indicating which brakes are on.
557. Every vehicle with air or vacuum brakes shall have a (See Section 301i):
- a) Device that will warn other drivers of a leak in the brake system.
 - *b) Check valve to prevent the total loss of pressure or vacuum.
 - c) Set of mechanical brakes similar to the emergency brake in passenger vehicles.
 - d) Record emergency vacuum or pressure tank not connected with the regular brake system.
558. Every vehicle using air or vacuum brakes must have a (See Section 301j):
- *a) Warning device which can alert the driver to pressure or vacuum loss.
 - b) Device that will warn other drivers of a leak in the brake system.
 - c) Sign clearly indicating that the vehicle is equipped with such brakes.
 - d) Special permit to drive on city streets.
559. The stopping distance for single unit vehicles weighing less than 10,000 lbs is (See Section 302):
- *a) 30 feet at 20 mph.
 - b) 40 feet at 20 mph.
 - c) 50 feet at 20 mph.
 - d) 60 feet at 20 mph.
560. The stopping distance for a single unit vehicle weighing more than 10,000 lbs is (See Section 302):
- a) 30 feet at 20 mph.
 - *b) 40 feet at 20 mph.
 - c) 50 feet at 20 mph.
 - d) 60 feet at 20 mph.
561. The stopping distance for a 2 axle tractor towing less than a 3000 lb trailer is (See Section 302):
- a) 30 feet at 20 mph.
 - *b) 40 feet at 20 mph.
 - c) 50 feet at 20 mph.
 - d) 60 feet at 20 mph.
562. The stopping distance for busses not having a manufacturer's gross weight rating is (See Section 302):
- a) 30 feet at 20 mph.
 - *b) 40 feet at 20 mph.
 - c) 50 feet at 20 mph.
 - d) 60 feet at 20 mph.
563. The stopping distance for all combinations of vehicles in driveaway-towaway operations is (See Section 302):
- a) 30 feet at 20 mph.
 - *b) 40 feet at 20 mph.
 - c) 50 feet at 20 mph.
 - d) 60 feet at 20 mph.
564. The stopping distance for all vehicles towing trailers over 3,000 lbs is (See Section 302):
- a) 30 feet at 20 mph.
 - b) 40 feet at 20 mph.
 - *c) 50 feet at 20 mph.
 - d) 60 feet at 20 mph.

c. Other Equipment

565. Night emergency equipment for all commercial vehicles transporting non-flammables does not include (See Section 407):
- a) 3 red flares and fuses.
 - b) 3 red electric lanterns.
 - *c) 2 red flags.
 - d) 3 red emergency reflectors.
566. Hazard warning lights should be displayed by vehicles 80 inches wide or 30 feet long when the (See Section 408):
- a) Vehicle is parked at the curb in a city or town.
 - b) Vehicle is stopped at the curb to receive or discharge passengers.
 - c) Vehicle is stopped to avoid conflict with other traffic.
 - *d) Vehicle is stopped on the shoulder of a road.

F. Vehicle Code - Laws and Regulations

4. Equipment of Vehicles (See Chapter 12)

c. Other Equipment (continued)

567. When disabled at night on a straight road you must place (See Section 408b):
- a) Warning devices 500 feet behind and 100 feet in front on the traffic side of the vehicle.
 - b) 2 lamps 100 feet behind, 1 in the center and 1 on the traffic side and 1 lamp 50 feet in front of the vehicle in the center of the lane.
 - *c) Warning devices 100 feet behind and 100 feet in front both in the center of the lane, and 1 at least 10 feet in front or back near the traffic side of the vehicle.
 - d) 3 lamps behind the vehicle, 1 at 50 feet, 1 at 100 feet, and 1 at 500 feet, extending to the traffic side of the vehicle.
568. When disabled on a divided highway at night you must place (See Section 408d):
- a) Warning devices 500 feet behind and 100 feet in front on the traffic side of the vehicle.
 - b) 2 lamps 100 feet behind, 1 in the center and 1 on the traffic side and 1 lamp 50 feet in front of the vehicle in the center of the lane.
 - *c) 2 lamps behind the vehicle 1 at 200 feet and 1 at 100 feet in the center of the lane and 1 lamp 10 feet in back near the traffic side of the vehicle.
 - d) 2 lamps behind the vehicle 1 at 50 feet, 1 at 100 feet and 1 at 500 feet, extending to the traffic side of the vehicle.
569. If your vehicle is carrying explosives or flammable liquids or gases and becomes disabled you should (See Section 408e):
- a) Display flares or fuses on the road.
 - *b) Use electric lanterns or reflectors.
 - c) Pull over to the left side of the road.
 - d) Call the police or fire department before you put warning devices on the road.
570. You need not use reflectors, lamps, or fuses around a disabled vehicle if (See Section 408f):
- a) You are entirely on the shoulder of the road.
 - b) Only 1 lane of a 6 or more lane highway is blocked.
 - c) It is 1/2 hour or more before sunset.
 - *d) Persons and vehicles can be seen from 1000 feet away.
571. At times when visibility around a disabled vehicle makes lighted warning lamps unnecessary you should (See Section 408g):
- a) Not put any warning devices down if the vehicle is all on the shoulder.
 - *b) Place 1 red flag 100 feet in front and 1 red flag 100 feet behind on a two way road.
 - c) Place 1 red flag 100 feet in front and 1 red flag 200 feet behind on a one way road.
 - d) Only use warning devices when 50% or more of the vehicle is on the shoulder.
572. If your vehicle is parked on the shoulder of the road you must by law (See Section 408a):
- *a) Place warning devices on the shoulder near the edge of the road.
 - b) Leave your operating lights on.
 - c) Set the brakes, block the wheels and turn the front wheels away from the road.
 - d) Notify the local authorities if you will be parked for more than 1 hour.
573. Vehicles transporting hazardous materials must be equipped with (See Section 409):
- a) Sirens.
 - b) Flashing lights.
 - *c) A fire extinguisher.
 - d) 2-way radios.

F. Vehicle Code - Laws and Regulations

5. Inspection of Vehicles (See Chapter 13)¹

574. The responsibility that a vehicle is in safe condition and good working order belongs to the (See Section 101):
- a) Police.
 - *b) Operator.
 - c) Passengers.
 - d) Department of Public Safety.

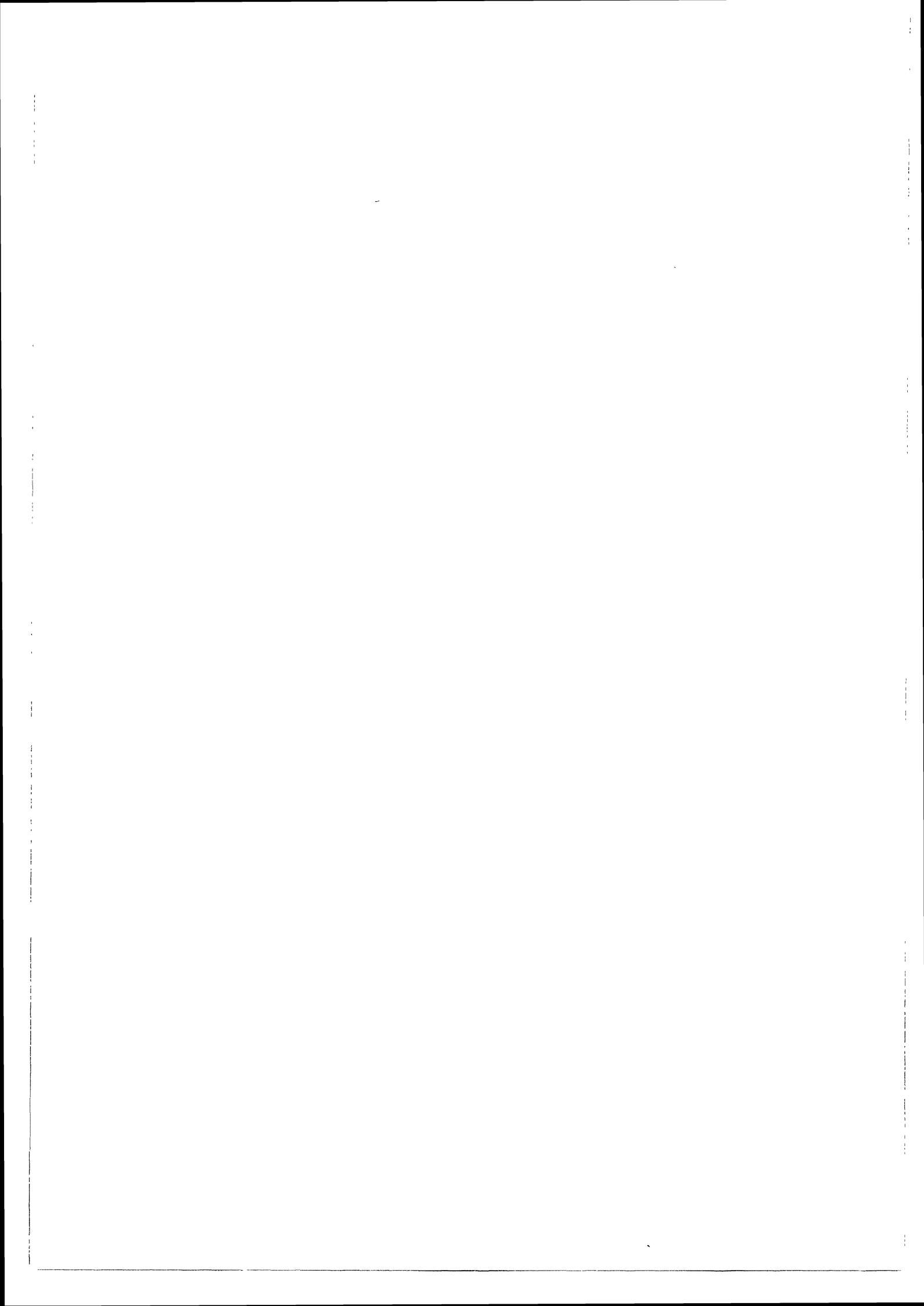
6. Size, Weight and Load (See Chapter 14)¹

575. The responsibility of meeting vehicle size and weight requirements belongs to the (See Section 101):
- a) Weigh stations' personnel.
 - *b) Operator and owner.
 - c) Police.
 - d) Department of Highway Safety.
576. The load on a vehicle or combination vehicle should not extend more than (See Section 105):
- a) 1 foot in front and 2 feet behind the vehicle.
 - *b) 3 feet in front and 2 feet behind the vehicle.
 - c) 2 feet in front and 1 foot behind the vehicle.
 - d) 6 feet in front and 3 feet behind the vehicle.
577. The most weight and axle can carry is (See Section 101):
- a) 15,000 lbs.
 - *b) 18,000 lbs.
 - c) 20,000 lbs.
 - d) 23,000 lbs.
578. Distance in feet between the first and last axles of a vehicle or combination determines (See Section 109):
- a) Single-axle load limit.
 - *b) Gross weight of vehicles and loads.
 - c) Special load limits.
 - d) Weight limit on loads.
579. If an officer determines that the weight of your vehicle is unlawful you (See Section 111):
- a) Will be arrested.
 - b) Will be fined.
 - *c) Must reduce the weight before continuing.
 - d) Must get a special permit to continue.
580. You can operate a vehicle that exceeds the size or weight limits if (See Section 112):
- a) You have no driving violations on your record.
 - b) The company says it is all right to do so.
 - *c) You have a written permit from the Department.
 - d) Your route is all interstate highways.

7. Respective Powers of State and Local Authorities
(See Chapter 15)¹

581. Local authorities may restrict the weight of vehicles on certain highways for (See Section 113):
- a) An indefinite period.
 - *b) 90 days.
 - c) 6 months.
 - d) 1 year.
582. Any school district employee who breaks one of the bus regulations will be (See Section 110b):
- a) Fined not more than \$500 for a first offense.
 - *b) Subject to removal from his job.
 - c) Suspended from service for 6 months.
 - d) Warned for a first offense and fined for additional offenses.
583. School bus regulations adopted by the (state board of education) and the (motor vehicle commissioner) must be obeyed (See Section 110a):
- a) Only during school hours or other scheduled times.
 - b) By only those people assigned to the busses as drivers.
 - *c) By all people working for the school district.
 - d) Only by those bus drivers that were working when the regulations were made.

¹Chapter and Section numbers refer to the Uniform Vehicle Code (1968 Revised Edition)



APPENDIX D

CLASS C SPECIAL TEST SET (STS)

This appendix contains three items related to the 246-item Special Test Set, use of which is described in Section 4.0 of the parent report.

The full "Item Pool Outline and Topic Index" identified with the 1,313-item Class C pool is reproduced here to show the topics of the full pool from which the STS items were drawn. That information is given as parenthetical notations adjacent to topic entries on the pool outline that starts on the next page.

Following that outline, the full text of each of the items used in the STS is given.

Finally, extensive response distribution data is provided in the tables that conclude this appendix. For each item, response distributions are presented for 45 characteristics of the driver groups sampled with the STS. Section 4.0 describes those sampling operations and presents summary analysis of the data contained in this appendix.

ITEM POOL OUTLINE AND TOPIC INDEX

for
Class C Vehicle Driving

--DRIVING TOPIC--

--ITEM SERIAL NUMBERS--

A. Pre-Operative Procedures

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- b. After entering the vehicle 6-13
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- c. Starting and stopping the engine 14-17
- d. After starting the engine 18-19 (1)*

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- a. Planning
 - 1) Prepares for long trip 20-23
 - 2) Prepares for driving on ice or snow 24
- b. Navigation and Proposed Route Changes 25

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1. Fundamental Control Information and Maneuvers

- a. Shifting gears
 - 1) Automatic 26
 - 2) Downshifting when necessary 27
 - 3) Emergency downshift 28
- b. Lane usage
 - 1) General 29-30 (1)
 - 2) Multi-lane 31-32 (1)
- c. Following
 - 1) Following distance 33-41 (2)
 - 2) Speed adjustments 42-56 (5)
- d. Hauling and towing loads
 - 1) General 57
 - 2) Loading the vehicle or trailer 58-61
 - 3) Hauling the load in the vehicle 62
 - 4) Towing a trailer(s) 63-73 (3)
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2. Directional Control

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(See also: Backing up)

3. Speed Control

- a. Starting on snow or ice 93-96 (1)
- b. Accelerating, general 97
(See also: Skid control)

* This number (and subsequent numbers in parentheses) shows the number of items from the indicated "driving topic" that were used in the Special Test Set of items.

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b.	Distances	121-122
c.	Emergency (See also: Shifting gears, and Emergency Situations)	123-125 (1)
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3)	Traffic controls	140-144 (1)
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e. Lane changing		
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2)	Completes change	255-256 (1)
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2)	Changes lanes (See also: Lane changing)	295
3)	Passes vehicle	296-304 (2)
4)	Returns to driving lane (See also: Lane changing)	305-307 (1)

* This number (and subsequent numbers in parentheses) shows the number of items from the indicated "driving topic" that were used in the Special Test Set of items.

B. Basic Knowledge			
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3) Securing the vehicle	327-331		
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3) Arrests skid	442-448	(2)	
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* This number (and subsequent numbers in parentheses) shows the number of items from the indicated "driving topic" that were used in the Special Test Set of items.

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c. Reacting to collisions and emergencies	616-618	(1)
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* This number (and subsequent numbers in parentheses) shows the number of items from the indicated "driving topic" that were used in the Special Test Set of items.

D. Vehicle and Driver

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F. Vehicle Code--Laws and Regulations

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4. Financial Responsibility	803-817	(1)
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* This number (and subsequent numbers in parentheses) shows the number of items from the indicated "driving topic" that were used in the Special Test Set of items.

F. Vehicle Code-- Laws and Regulations (continued)

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* This number (and subsequent numbers in parentheses) shows the number of items from the indicated "driving topic" that were used in the Special Test Set of items.

SPECIAL TEST SET ITEMS

DRIVING PRINCIPLES

19. When driving at night rather than during the day it is more important to:
- * a) Check your lights and signals.
 - b) Have the right amount of air in your tires.
 - c) Obey the traffic rules and laws.
 - d) Keep an eye on the rearview mirror(s).
30. If there are no painted lines on the road you:
- a) May drive anywhere on your side of the road.
 - * b) Should drive as if there were lines.
 - c) Should drive wherever traffic is moving the fastest.
 - d) May drive in the center of the road.
31. You should drive in the right lane of a 6-lane highway when:
- * a) Driving slower than the traffic in the other lanes.
 - b) You are preparing to exit on the left.
 - c) When you see traffic entering the highway from the right.
 - d) You want to pass other vehicles on the highway.
33. When driving you should stay at least:
- a) 1/2 of a second behind the vehicle in front of you.
 - b) 3/4 of a second behind the vehicle in front of you.
 - c) 1 second behind the vehicle in front of you.
 - * d) 2 seconds behind the vehicle in front of you.
35. The most important reason for passing a truck traveling at 45 miles per hour in a 55 miles per hour zone is:
- * a) To improve your ability to see.
 - b) To advance your position in traffic.
 - c) To reduce your travel time.
 - d) To avoid exhaust fumes.
43. If the vehicle just ahead of you slows down, you should:
- a) Quickly change lanes and pass.
 - * b) Slow down.
 - c) Pull alongside and see what the trouble is.
 - d) Drive onto the shoulder and stop.
44. The first thing to do if the vehicle in front signals or puts on its brakes is:
- a) Change lanes.
 - b) Pass him.
 - * c) Slow down.
 - d) Move slightly to the left.
45. If the vehicle in front of you slows down you should not:
- a) Give a hand signal.
 - b) Take your foot off the gas pedal.
 - c) Tap the brake lightly to warn drivers behind you.
 - * d) Signal other drivers to pass.
46. If the vehicle in front of you stops you should:
- a) Speed up and pass the stopped vehicle.
 - * b) Apply your brakes and be prepared to stop.
 - c) Sound your horn to get him to move again.
 - d) Put your car in neutral to slow down.
47. When the vehicle in front of you is turning, you should:
- a) Follow as close as possible.
 - b) Change lanes and quickly pass the turning vehicle.
 - c) Increase your speed slightly.
 - * d) See if the turn can be safely made.
64. When you are pulling a trailer it is most important to:
- a) Drive at least 15 mph below the speed limit.
 - b) Use your headlights during the day.
 - c) Use both your foot and parking brake in order to stop.
 - * d) Increase your following distance.
65. If you are towing a trailer and want to pass another vehicle you should not:
- a) Check to see if there is room to pass.
 - b) Make a wider swing around the vehicle than usual.
 - c) Check to see that you will not block traffic behind you.
 - * d) Turn sharply when you are changing lanes.
71. When you slow down or stop with a trailer:
- a) Allow less room to stop because of the extra weight.
 - * b) Apply the brake off and on, gradually.
 - c) Turn on your 4-way flashers.
 - d) Steer in a slight zig-zag manner.
79. To stay in the correct position in a lane:
- a) Watch the road 20 to 30 feet in front of your vehicle.
 - b) Keep looking at the right side of the road.
 - c) Constantly move your eyes in a wide circle.
 - * d) Focus well ahead to the middle of your lane.
80. When driving on an undivided road you should:
- a) Cross the double yellow lines to pass slow-moving vehicles.
 - b) Drive with your parking lights on.
 - c) Drive 5 to 10 mph below the speed limit.
 - * d) Keep to the right in the presence of oncoming vehicles.

81. If you know that you will soon be making a turn you should:
- * a) Look well ahead to locate the turning point.
 - b) Blow the horn several hundred feet before the turn.
 - c) Flash your bright lights to warn other traffic.
 - d) Speed up so as to avoid making other vehicles wait.
82. Before making a turn you should:
- a) Use hand signals first and then mechanical signals.
 - * b) Look to see if other vehicles will be in the way.
 - c) Stop before the turn to inspect the area.
 - d) Move slightly to the left when turning right and slightly to the right when turning left.
96. To avoid spinning the tires on a slippery surface you should:
- a) Alternately use the brake and gas.
 - * b) Increase speed slowly.
 - c) Shift from drive to neutral.
 - d) Start in second gear with fast but steady power.
100. When driving it is most important to frequently check your:
- a) Oil pressure.
 - b) Engine temperature.
 - c) Battery indicator.
 - * d) Speedometer.
101. If there is a change in the legal speed limit you should first:
- a) Quickly slow down.
 - b) Slow down and proceed cautiously.
 - c) Look in your rearview mirror.
 - * d) Check your speedometer.
102. When you leave a highway you should check your speed frequently because you may be:
- * a) Driving too fast.
 - b) Suffering from highway hypnosis.
 - c) Applying your brakes too hard.
 - d) Suffering vision loss due to carbon monoxide.
103. When slowing down you should not:
- * a) Coast with the gearshift in the neutral position.
 - b) Release pressure from the gas pedal.
 - c) Shift to a lower gear.
 - d) Remove your hand from the wheel to signal following vehicles.
114. When you stop in traffic going uphill you should:
- a) Put your parking brake on.
 - b) Put the vehicle in neutral and put on your brakes.
 - c) Use your 4-way flashers to show that you are stopped.
 - * d) Allow more room between you and the vehicle in front of you.
115. To avoid being pushed into the vehicle in front of you when stopped, you should:
- a) Turn your wheels toward the curb.
 - * b) Leave room between you and the vehicle in front.
 - c) Put your parking brakes on and leave them on until you are ready to move.
 - d) Keep flashing your brake lights so that the other vehicle will see you.
123. In an emergency stop you should not:
- a) Grasp the steering wheel firmly.
 - b) Apply brakes as soon as possible.
 - * c) Turn off the engine.
 - d) Signal the vehicles behind you.
127. When driving you should be alert to things:
- * a) All around you.
 - b) To the front of you.
 - c) To the sides of you.
 - d) To the rear of you.
133. When driving you should:
- a) Rest your eyes by slowing blinking them from time to time.
 - * b) Avoid looking at any one thing for more than a few seconds.
 - c) Look straight ahead to the center of the road and avoid looking to the side.
 - d) Spend as much time looking at your mirrors as you do looking in front of you.
135. In order to avoid being hit in the rear by another vehicle, you should:
- a) Drive faster than the other traffic.
 - * b) Check your rearview mirrors often.
 - c) Keep parking lights on at all times.
 - d) Signal several blocks before turning.
136. When driving on a multi-lane road you should:
- * a) Watch vehicles in the lanes next to you.
 - b) Move in and out of traffic to travel faster.
 - c) Signal after you start moving into a new lane.
 - d) Use hand signals to show that you are changing lanes.
144. When driving at night in a city you should:
- a) Use your parking lights since head-lights may "blind" pedestrians.
 - b) Follow closer in order to see better.
 - * c) Watch the traffic lights for several blocks ahead of you.
 - d) Drive faster since there are fewer hazards at night.
152. To turn on the right turn signal, you:
- a) Press the lever down.
 - b) Push the lever in.
 - c) Pull the lever out.
 - * d) Lift the lever up.

159. If you are about to drive away from the curb, you should:
- a) Sound your horn and go ahead.
 - b) Signal and pull into the street.
 - * c) Signal, yield right-of-way and pull into the street.
 - d) Signal, wait for the first vehicle to pass and pull into the street.
167. When you want to make a right turn into a driveway you should:
- * a) Avoid stopping on the road.
 - b) Swing to the left before making the turn.
 - c) Signal after you begin to turn.
 - d) Signal the traffic behind you to pass.
170. After you have turned into a driveway or parking lot:
- * a) Continue at a slow speed and avoid stopping while still on the road.
 - b) Stop as soon as you are completely off the road.
 - c) Speed up so you will not block vehicles turning in behind you.
 - d) Stop when the front of your vehicle is about to enter the driveway or lot.
173. If you are backing to the right out of a driveway, you should:
- a) Check only the traffic coming from the left.
 - b) Start forward quickly once you are in the traffic lane.
 - c) Cause traffic to stop by slowly backing out of the driveway.
 - * d) Back into the lane nearest the curb.
179. For turning, you should signal:
- a) Just before the turn so you will not cause confusion.
 - b) After you begin to slow down.
 - c) Only if there are vehicles behind you.
 - * d) At least 100 feet before the intersection.
187. If you come to an intersection that is hard to see around because of trees or buildings:
- a) Proceed as if there was a yield sign at the intersection.
 - b) Stop near the center of the intersection and then continue when it is safe.
 - c) Slow down and blow your horn to warn drivers who cannot see you.
 - * d) Stop at the intersection and edge forward slowly.
200. Stopping within an intersection is permitted only:
- a) To obtain information from a policeman.
 - * b) Where traffic requires.
 - c) To look at street or directional signs.
 - d) When the light turns red.
201. Cross traffic should be checked before entering an intersection:
- a) When traffic has been heavy.
 - b) Only when you have a stop sign.
 - c) Where there is a traffic light.
 - * d) At all times.
203. If an oncoming vehicle has started to turn left in front of you:
- a) Speed up to get by him before he makes the turn.
 - * b) Slow down and allow him to turn in front of you.
 - c) Steer to your right to get around him.
 - d) Steer to your left to get around him and allow him to turn.
206. If a vehicle approaches you quickly from the right while you are crossing an intersection:
- a) Stop in the path of the vehicle.
 - b) Put your vehicle in reverse and back up.
 - * c) Speed up to get out of the way.
 - d) Blow the horn and continue at the same speed.
207. Before turning at an intersection, you should:
- a) Tap your brakes 3 or 4 times.
 - b) Maintain your normal speed.
 - c) Come to a complete stop.
 - * d) Check cross traffic.
213. When turning left at an intersection:
- a) You have the right-of-way over oncoming traffic.
 - b) You should blow your horn and proceed with caution.
 - * c) Check cross traffic from both directions.
 - d) Pull halfway into the intersection and edge into cross traffic.
215. In making a left turn, you should not:
- * a) Pull halfway into the intersection and edge into cross traffic.
 - b) Signal before you arrive at the intersection.
 - c) Slow down to a stop if traffic is heavy.
 - d) Stay in one lane while turning.
217. If you want to turn left at an intersection and there is oncoming traffic, do not:
- a) Proceed to the center of the intersection.
 - * b) Move to the left of the center lane.
 - c) Keep your wheels pointed straight ahead.
 - d) Keep your foot firmly on the brake.
231. If a speed limit is not posted before a curve:
- a) Continue at the same speed.
 - b) Assume that it is better to take this curve at a higher speed.
 - c) Slow down to 35 to 40 mph.
 - * d) Judge how sharp the curve is and change your speed accordingly.

241. When nearing the top of a hill on a narrow road:
- * a) Keep far to the right.
 - b) Speed up
 - c) Avoid blowing your horn.
 - d) Get ready to pass any slow vehicles in front of you.
242. When about to go down a hill you should first:
- a) Shift to a lower gear.
 - b) Begin to apply your brakes.
 - * c) Judge how long and steep the hill is.
 - d) Move over to the far right lane.
243. Before going down a long, steep hill:
- a) Shift into neutral.
 - b) Turn on your headlights or blow your horn.
 - c) Tighten your seat belt and sit well back on your seat.
 - * d) Test your brakes and shift into a lower gear.
253. You can check your blind spot before changing lanes by:
- a) Looking at the left side mirror.
 - b) Looking at the right side mirror.
 - c) Looking into the rearview mirror.
 - * d) Turning around and looking out the window.
255. After moving into a new lane you should drive near the:
- a) Left side of the lane.
 - * b) Center of the lane.
 - c) Right side of the lane.
 - d) Shoulder or median.
257. Passing results in:
- * a) Many fatal accidents per year.
 - b) Many accidents but few deaths per year.
 - c) Relatively few serious accidents per year.
 - d) Relatively few problems of any type.
269. Before beginning to pass you should:
- a) Drive up close behind the lead vehicle.
 - * b) Judge the speed of the lead vehicle.
 - c) Slow down so you will have more room to pass.
 - d) Blow the horn and put on your bright lights.
270. When passing another vehicle you can tell how fast it is going by:
- a) Looking at your speedometer.
 - b) Looking at the side of the road.
 - c) Seeing how fast you are getting closer to the other vehicle.
 - * d) Checking your speedometer and the speed with which you are approaching the other vehicle.
273. The ability of your vehicle to speed up in order to pass is most affected by:
- a) The amount of gas in your tank.
 - b) Your skill as a driver.
 - c) Whether the road surface is concrete or asphalt.
 - * d) Heavy loads such as trailers, cargo, or passengers.
287. If you pass a vehicle that is weaving you should:
- * a) Leave at least 1/2 a lane between the side of your vehicle and his.
 - b) Pass as slow as possible.
 - c) Keep blowing the horn and keep your bright lights on.
 - d) Pull in front of him to make him slow down.
289. The faster the vehicle in front of you is going, the:
- a) Less time you need to pass.
 - * b) More distance you need to pass.
 - c) Closer you should be before starting to pass.
 - d) Further to the left you should be when passing.
294. When about to pass you should generally:
- a) Move up very close to the lead vehicle, then change lanes.
 - b) Drop back and change lanes far behind the lead vehicle.
 - * c) Maintain usual following distance until you change lanes.
 - d) Move up close to the lead vehicle and drop back to warn him you are about to pass.
300. When passing another vehicle you should:
- a) Return to the right lane as soon as you clear its front bumper.
 - b) Drive as close beside the vehicle as possible.
 - * c) Not go over the speed limit unless necessary.
 - d) Flash your brake lights several times before turning to the right lane.
303. If you can see far ahead you may:
- a) Drive above the speed limit.
 - * b) Pass several vehicles at once.
 - c) Go as slow as you want.
 - d) Drive on the shoulder of the road.
305. When passing a vehicle you should return to the right side of the road when:
- a) You are 50 feet in front of the passed vehicle.
 - b) The other driver signals you to do so.
 - c) You have cleared the front bumper by a vehicle length.
 - * d) You can see both its headlights in your rearview mirror.
313. If you should miss your exit on a freeway, you should not:
- a) Proceed to the next exit where you can re-enter the freeway and return to your proper exit.
 - * b) Back up on the road or on the shoulder.
 - c) Continue on the freeway and find an alternate route.
 - d) Resume normal speed until you approach the next exit.

317. The correct order of operations when backing up is:
- Look to the rear, make sure vehicle is stopped, shift into reverse.
 - * Make sure vehicle is stopped, look to the rear, shift into reverse.
 - Shift into reverse, make sure vehicle is stopped, look to the rear.
 - Look to the rear, shift into reverse, make sure vehicle is stopped.
319. When backing up it is usually best to:
- Open the left front door and look back.
 - Steer with one hand, while looking into the rearview mirror.
 - * Steer with one hand, while looking out the rear window.
 - Steer with both hands, while looking out the left front window.
321. When backing up, you should:
- Allow less distance to stop than if going forward.
 - Pump the gas pedal to gain speed.
 - * Avoid making quick steering changes.
 - Speed up slightly when turning.
324. If you park along the right hand curb facing uphill you should:
- Keep the front wheels straight.
 - Turn the front wheels to the right.
 - * Turn the front wheels to the left.
 - Keep the back wheels away from the curb.
325. It is most important to turn the front wheels toward the curb:
- When parking facing downhill.
 - When parking facing uphill.
 - When parking on level pavement.
 - At all times.
344. When driving in parking lots:
- You may cut across empty spaces if no vehicles are coming.
 - You do not have to signal when turning.
 - Use the speed limit that is posted on the road outside the parking lot.
 - * Watch out for vehicles going into or coming out of parking spaces.
345. When in a parking lot you should:
- Leave your engine on if you will only be gone for a moment.
 - Only use hand signals when turning.
 - Keep all your windows closed to block out the noise.
 - * Expect people and vehicles to cut in front of you.
349. On a bumpy road you should drive:
- Faster than usual.
 - Nearer the left part of your lane.
 - On the shoulder.
 - * With special care.
350. If you see bumps and holes in the road ahead:
- Maintain a steady rate of speed.
 - Speed up when going near the bumps.
 - * Slow down and expect more ahead.
 - Stop and drive slowly around the bumps.
351. If you see a sign warning of poor road conditions ahead:
- * Slow down before you get to the problem area.
 - Brake quickly and stop.
 - Pull off the road and check the area on foot.
 - Move toward the center of the road and continue at the same speed.
354. When driving on a slippery road you should:
- Hit your brakes harder to stop.
 - * Not make quick turns.
 - Change speeds often.
 - Slow down and stop at every intersection.
357. If you are driving and it starts to rain:
- * Be careful since rain and road oil may create a slippery surface.
 - You need not slow down unless it begins to rain hard.
 - Speed up if you are near your destination so you will not be caught in the heavy rain.
 - Pull over to the side of the road and stop until the rain stops.
362. If deep water covers the road ahead you should:
- Shift into neutral as you enter the area.
 - Speed up and go through the water.
 - * Steer your vehicle around the area, if possible.
 - Turn off your engine and coast through the water.
363. If you must drive through deep water on the road, drive:
- * Slowly in low gear.
 - Slowly in high gear.
 - Quickly in low gear.
 - Quickly in high gear.
366. If you get water in your right front brake and try to stop, your vehicle will:
- * Pull to the left.
 - Pull to the right.
 - Stop straight.
 - Not slow down.
367. If your brakes are not holding because they are wet, you should:
- Continue driving and they will dry off.
 - * Keep one foot on the gas and one lightly on the brake until dry.
 - Stop on the side of the road and wait for them to dry.
 - Not use your brakes until they are dry.

372. When driving on snow or ice do not:
- a) Look at other vehicles to see if they are skidding.
 - * b) Wait until you reach the intersection before slowing down.
 - c) Watch out for vehicles coming out of side streets.
 - d) Look out for children playing near the street.
375. If your vehicle is stuck in deep snow do not:
- * a) Sit inside with the windows closed and the engine running.
 - b) Remove snow from around the tail pipe area.
 - c) Rock the vehicle back and forth.
 - d) Put rags or boards under the rear wheels.
376. When stopping in snow you should not:
- a) Brake earlier than usual.
 - b) Allow more room to stop than usual.
 - c) Try to stop on bare pavement or loose snow.
 - * d) Try to stop on an upgrade.
388. If you come to a sand or snow drift on the road it is best to:
- a) Speed up and drive through it.
 - * b) Drive around it if possible.
 - c) Decrease your speed and go through it.
 - d) Shift to a lower gear and drive through it.
389. If you cannot avoid driving through a sand or snow drift in the road you should:
- a) Speed up before entering it.
 - b) Drive in a zig-zag pattern through it.
 - c) Shift to a higher gear before entering it.
 - * d) Try to keep your vehicle in motion.
390. If you become stuck in sand, mud, or snow:
- a) Turn your wheels to the right and then left.
 - b) Place boards in front of your front wheels.
 - c) Press your gas pedal all the way down.
 - * d) Rock your vehicle back and forth.
392. If 1 or 2 of your wheels drop off the edge of the pavement:
- a) Hold the steering wheel loosely.
 - * b) Ease back onto the road after slowing down.
 - c) Slow down quickly by braking hard.
 - d) Increase your speed and drive back on the road.
395. Before driving from the shoulder onto the road you should always:
- a) Decrease your speed.
 - b) Blow your horn.
 - c) Apply the brake when your front wheels are on the road.
 - * d) Check the road for traffic.
397. If you see a sign or any other indication that there may be objects on the road ahead:
- a) Spend more time looking in your mirrors.
 - b) Turn on your headlights.
 - * c) Slow down.
 - d) Watch the side of the road.
399. You should not drive over a fire hose on the road:
- a) Under any circumstances.
 - b) If it is being used.
 - * c) Unless instructed to by a fire department official.
 - d) Unless traffic is heavy in both directions.
401. If bad weather makes it hard for you to see you should:
- a) Speed up to get off the road quickly.
 - * b) Increase your following distance.
 - c) Drive in the lane closest to oncoming traffic.
 - d) Turn your lights on high beam.
404. When clearing the windshield of frost or ice in extremely cold weather you should avoid using:
- * a) Your windshield washer even with anti-freeze.
 - b) The heater.
 - c) The defroster.
 - d) A plastic or rubber scraper on the windshield.
406. When it is very foggy during the day or night you should:
- a) Put on your high beam lights.
 - * b) Slow down.
 - c) Follow closer to other vehicles.
 - d) Not look at lane markings.
407. When driving through fog at night, you should use your:
- a) High beam headlights.
 - b) Parking lights.
 - * c) Low beam headlights.
 - d) 4-way flashers.
408. When driving in heavy fog during the day you should use:
- a) High beam headlights.
 - * b) Low beam headlights.
 - c) Parking lights.
 - d) No lights.
410. When glare from the sun makes it hard to see you should:
- a) Avoid using the visor since it will cut down your vision.
 - * b) Put on your sunglasses.
 - c) Look far ahead on the road.
 - d) Keep your eyes wide open.

428. If the engine stalls and the power steering fails as you are driving, you should:
- Hold the steering wheel loosely.
 - Turn the steering wheel very gradually.
 - * Try to restart the engine.
 - Avoid using the brakes.
434. If a tire begins going flat while you are driving you should:
- Speed up in order to get to a service station quickly.
 - * Look for a safe place to pull off the road.
 - Come to a quick stop and then pull off the road.
 - Stop where you are and signal other traffic to go around you.
436. To help prevent skids, you should:
- Drive through curves at a high speed.
 - Slow down quickly on slippery surfaces.
 - * Be alert for slippery road conditions.
 - Aim for rough spots in the road.
441. It does not necessarily mean you are skidding if:
- You apply the brakes and do not slow down.
 - Your speedometer reading is suddenly different than your actual speed.
 - Your vehicle is moving in a different direction than you are facing.
 - * You begin to speed up when going downhill.
446. If the rear of your vehicle is skidding to the left you should:
- Move the steering wheel back and forth in a zig-zag pattern.
 - * Turn the top of your steering wheel to the left.
 - Hold your steering wheel from moving until out of the skid.
 - Turn the top of your steering wheel to the right.
448. When you are coming out of a skid you should begin to straighten your wheels:
- As soon as your speed drops below 10 mph.
 - After you have come to a complete stop.
 - When you are several yards from where you started to skid.
 - * Just before heading in the desired direction.
464. The most difficult thing to predict is the movement of:
- Motorcycles.
 - * Pedestrians.
 - Cars.
 - Busses.
470. Because there is often slow-moving traffic on country highways you should:
- Stay in the left lane and drive at the speed limit.
 - * Be ready to adjust your speed to the speed of traffic.
 - Pass slower vehicles on turns if they are slowing down.
 - Generally drive 10 to 15 mph under the speed limit in order to be safe.
471. When driving through mountains you should:
- Speed up going over hills.
 - Use the shoulder to pass slow-moving vehicles.
 - * Stay close to the right edge of the road to be away from oncoming traffic.
 - Put the vehicle in neutral and coast down hills in order to save gas.
472. When driving in the mountains:
- Stay in the center of your lane.
 - Drive slower so you can watch the scenery.
 - Put your bright lights on when going around a curve at night.
 - * Look for speed limit and warning signs.
480. If you are on a freeway entrance and notice that there is no traffic on the freeway:
- Stop before entering the freeway.
 - Slow down before entering the freeway.
 - * Continue smoothly onto the freeway.
 - Drive several miles above the legal limit before entering the freeway.
490. As you approach a freeway on an entrance you should:
- Keep checking traffic ahead on the entrance and behind on the freeway.
 - Not take your eyes off the vehicle ahead of you on the entrance.
 - Begin to pick up speed and pass other vehicles on the entrance if necessary.
 - Drive around the vehicle in front of you if it is taking too long to enter the freeway.
496. When entering a freeway from an entrance with an acceleration lane, you should:
- Stop to check for traffic at the end of the entrance.
 - Enter the freeway at top speed and slow down to the speed limit afterward.
 - * Use the acceleration lane to get up to the speed of the freeway traffic.
 - Use the shoulder to gain speed before you enter.
509. The least important thing to consider when selecting your speed on a freeway is the:
- Weather and light conditions
 - Amount of traffic and its speed.
 - Posted speed limit
 - * Distance you have to travel.

515. When driving in heavy afternoon city traffic on a freeway you should:
- a) Try not to use your mirrors, and look at the traffic ahead instead.
 - * b) Drive with more care since many accidents occur at this time.
 - c) Leave your doors unlocked and remove your seat belts.
 - d) Act quickly so that you only keep a small space between you and the vehicle in front.
516. When approaching valleys and tops of hills on freeways you should:
- a) Speed up to move traffic along.
 - * b) Drive cautiously because you cannot see as far.
 - c) Pass slower-moving vehicles.
 - d) Stay far over to the left so as to avoid the shoulder.
521. If you exit at the wrong place on a freeway you should:
- a) Back up onto the main freeway and continue when safe.
 - b) Turn your vehicle around, stay on the shoulder and drive back down the exit ramp.
 - c) Park your vehicle on the shoulder and walk back to get a closer look at the signs.
 - * d) Continue until you are off the exit ramp and look for a way to re-enter the freeway.
524. If you see that your exit is on the left side of the road:
- * a) Move smoothly into the left lane well before the exit.
 - b) Move into the left lane and increase your speed to passing speed.
 - c) Stay in the middle lane and move over when next to your exit.
 - d) Stay in the right lane until you are going slow enough to exit.
526. If your freeway exit has a deceleration lane you should:
- a) Slow down as much as possible on the main road before entering the deceleration lane.
 - b) Drive alongside and pull in front of slower moving traffic in the deceleration lane.
 - * c) Move into the deceleration lane as soon as possible.
 - d) Keep your speed constant once you enter the deceleration lane.
527. If your exit is on the left of the freeway, begin to slow down in the:
- a) Right lane.
 - b) Middle lane if there is one.
 - c) Left lane.
 - * d) Deceleration lane.
528. When exiting from a freeway where there is a deceleration lane you should:
- a) Begin slowing down before entering the deceleration lane.
 - b) Drive at a constant speed on the deceleration lane.
 - c) Stay as close as possible to the vehicle ahead of you after entering the deceleration lane.
 - * d) Judge how much you will have to slow down by the length and curve of the exit.
542. When driving near parked vehicles you should not:
- a) Drive far enough from parked vehicles to avoid hitting any doors that might suddenly open.
 - * b) Drive close to the vehicle in front to prevent children from running out between the vehicles.
 - c) Look for parked vehicles with exhaust smoke coming from them or back-up or brake lights on.
 - d) Look for parked vehicles with turn signals on or drivers giving hand signals.
566. When there is oncoming traffic you should:
- a) Move closer to the center line.
 - * b) Move as far to the right as possible.
 - c) Slow down until it has passed.
 - d) Pass at your own risk.
571. If an oncoming vehicle is forced across the center line because of potholes or road repair:
- * a) Slow down and move to the right, if possible.
 - b) Speed up and get out of the way fast.
 - c) Turn to the left to get around the oncoming vehicle.
 - d) Blow your horn and continue at normal speed.
573. If an oncoming vehicle crosses the center line and drives into your lane you should:
- a) Speed up and drive onto the shoulder.
 - b) Stop as quickly as you can.
 - c) Drive into his lane if it is empty.
 - * d) Slow down and steer to the right.
579. If you must leave the road at high speeds, you should:
- a) Head toward oncoming moving objects.
 - b) Drop to the floor.
 - c) Apply the brakes as hard as possible.
 - * d) Steer away from large, rigid objects.
584. If, after leaving the road, it is necessary to return to the road without stopping:
- a) Shift to neutral and keep your foot on the brake.
 - b) Speed up to get back on the road quickly.
 - * c) Gradually steer back towards the road.
 - d) Hold the steering wheel loosely.

590. Before leaving the road to avoid a head-on crash you should slow down by:
- * a) Pumping the brakes.
 - b) Applying constant pressure on the brakes.
 - c) Turning off the engine.
 - d) Shifting into neutral.
599. If you cannot stop in time before hitting another vehicle, it is best to:
- a) Gradually slow down and then hit the other vehicle.
 - b) Blow the horn and continue at normal speed.
 - * c) Try to steer around the vehicle and avoid braking hard.
 - d) Remove your foot from the gas and put on the brake as hard as possible.
609. When driving by children playing or walking near the edge of the road, you should:
- a) Speed up to get by them quickly.
 - b) Blow your horn and continue at the same speed.
 - c) Drive close to the children so they will see you.
 - * d) Be ready to make a quick safe stop.
616. When approaching a traffic accident or fire you should:
- a) Stop and offer your help to the police.
 - b) Turn on your emergency flashers before you drive by.
 - c) Drive closer than usual to the vehicle in front of you.
 - * d) Slow down and watch for people near the scene.
621. At night you should drive slow enough to be able to stop within:
- a) 5 car lengths.
 - * b) The distance lighted by your headlights.
 - c) The time it takes for a light to change from yellow to red.
 - d) 10 seconds from the time you hit the brake.
624. When driving at night:
- a) Follow more closely than during the daytime.
 - b) Keep your high beams on if traffic is light.
 - * c) Look beyond your headlights for vehicles and people.
 - d) Turn on your inside light to rest your eyes.
627. If you pass pedestrians near the road at night you should:
- a) Turn off your headlights if there are lights on the street.
 - b) Use your high beam headlights if there are no oncoming vehicles.
 - c) Only use your parking lights.
 - * d) Keep your headlights on low beam.
631. You need not dim your bright lights when:
- a) Approaching oncoming vehicles.
 - * b) Slowing down for a turn.
 - c) Following or passing another vehicle.
 - d) Driving past pedestrians near the road.
635. After passing an oncoming vehicle that had its bright lights on you should:
- * a) Continue at a slower speed for a short time.
 - b) Continue at your normal speed.
 - c) Speed up slightly.
 - d) Turn on your inside lights.
639. When driving at dusk or dawn on a dark day:
- a) Turn on your parking lights.
 - b) Keep your sunglasses on to cut down headlight glare.
 - c) Turn on your lights on high beam.
 - * d) Turn on your lights on low beam.
641. In order to see better when passing an oncoming vehicle with its bright lights on:
- * a) Close one eye as the vehicle gets close.
 - b) Keep your headlights on high beam.
 - c) Look directly into the oncoming lights.
 - d) Move as close to the oncoming vehicle as possible.
642. When approaching a railroad crossing that does not have a signal on it:
- a) Stop and look both ways before crossing.
 - b) Continue across at normal speed.
 - c) Blow the horn while driving over the tracks.
 - * d) Slow down and look both ways.
646. If the signal at a railroad crossing does not indicate that a train is coming you should:
- a) Speed up and cross the tracks quickly.
 - b) Continue at the same speed and check for a train before crossing.
 - * c) Slow down and look both ways.
 - d) Come to a complete stop before continuing across.
657. When meeting a vehicle with glaring headlights you should:
- a) Watch the center line of the road.
 - * b) Avoid looking at its headlights.
 - c) Turn on your bright lights.
 - d) Shield your eyes with hand and sun visor.
659. If you get sleepy while driving it is best to:
- a) Take anti-sleep pills.
 - b) Stop for a cup of coffee.
 - c) Stop and exercise until you wake up.
 - * d) Rest or change drivers if possible.

661. To reduce the effects of exhaust fumes you should:
- * a) Keep at least 1 window opened.
 - b) Drive with the defroster fan on.
 - c) Turn the heater off when it is humid.
 - d) Use high-octane gas.
673. Having 1 or 2 drinks before driving:
- a) Improves your driving ability.
 - b) Has little or no effect on your driving ability.
 - * c) Will affect your reactions and judgment.
 - d) Is illegal.
678. Before taking any drugs and then driving it is most important to:
- a) Plan to have some other person with you.
 - * b) Know what the effects of the drug are.
 - c) Have some food in your stomach.
 - d) Plan on stopping every few hours.
682. If you take medicine and then drink alcohol:
- a) The alcohol will have less effect than if taken alone.
 - b) The medicine will not benefit you.
 - c) Nothing will happen if you only have 1 or 2 drinks.
 - * d) The effects can make you unfit to drive.
687. The colors on traffic signals, from top to bottom, are:
- a) Green, yellow, red.
 - * b) Red, yellow, green.
 - c) Yellow, green, red.
 - d) Red, green, yellow.
689. As you get older, your night vision usually:
- a) Gets better.
 - b) Stays the same.
 - * c) Gets worse.
 - d) Becomes harder to check.
690. You should have your eyes checked periodically because:
- a) Driving causes a lot of eye strain.
 - b) You should change your glasses at least once every 2 years.
 - c) New highway signs require better vision.
 - * d) Your vision may fail without your knowing it.
691. If you often have trouble seeing things when driving you should:
- a) Get more rest before driving.
 - * b) Go to an eye doctor.
 - c) Not drive alone.
 - d) Squint your eyes when driving.
694. If you are taking medicine for a cold you should:
- * a) Know the effects of the medicine before you drive.
 - b) Not drive with anyone else in the vehicle.
 - c) Not drive at night or just after taking the medicine.
 - d) Only drive if it is an emergency.
705. If your tires are badly worn you should:
- * a) Replace them.
 - b) Rotate them
 - c) Let out some air.
 - d) Put in new inner tubes.
710. You should have the steering and suspension systems checked:
- a) Each time you drive.
 - b) About once a week.
 - * c) About once every 2-3 months.
 - d) Just before an inspection period.
718. If you are involved in an accident you should:
- a) Keep your lights on.
 - b) Keep your engine running.
 - c) Drive on if the damage looks minor.
 - * d) Try to move the vehicle out of traffic.
721. To help a seriously injured person after an accident you should:
- a) Try to reset any broken bones and then call for help.
 - b) Rush him to the hospital.
 - * c) Cover him and try to control any bleeding.
 - d) Move him to a warm place.
- — — — —
- ### LAWS AND REGULATIONS
724. To register a vehicle, the owner must. (Section 3-101b)
- a) Have a driver's license.
 - * b) Have a certificate of title or an application for title.
 - c) Have taken driver education.
 - d) Destroy any registration cards from another state.
726. To get a certificate of title you need not: (Section 3-110)
- a) Pay the required fee in full.
 - b) Be the owner of the vehicle.
 - c) Truthfully answer all the questions the Department requests.
 - * d) Have a valid license from this State.
730. It is illegal to: (Section 3-401)
- a) Drive a motor vehicle registered in another state.
 - b) Keep your registration in your vehicle.
 - * c) Drive or permit someone else to drive a non-registered vehicle.
 - d) Give your registration to another when he is using your vehicle.
732. A vehicle generally does not have to be registered in this State if it is: (Section 3-402.1-b)
- a) Regularly used for the commercial transportation of property.
 - * b) Used for personal transportation by a non-resident.
 - c) Frequently used for business within this State.
 - d) Used for transporting persons for a fee.

744. It is unlikely that your registration will be suspended or revoked if: (Section 3-704)
- a) It was fraudulently or erroneously issued.
 - * b) You are traveling out of state for a temporary period of time.
 - c) Your license plates are used on a vehicle other than the one for which they are issued.
 - d) Your vehicle is mechanically unsafe for use.
745. It is unlikely that your registration will be suspended or revoked if: (Section 3-704)
- a) The vehicle has been junked.
 - b) The required fee has not been paid.
 - * c) You lend your vehicle to another licensed driver.
 - d) You knowingly supplied false information when applying for it.
746. It is legal to use someone else's vehicle: (Section 4-102)
- * a) Only with the owner's consent.
 - b) If you are a friend of the owner.
 - c) Without the owner's consent in an emergency.
 - d) If you have used the vehicle before.
756. It is illegal to: (Section 4-110-1)
- * a) Forge or alter a certificate of title with intent to commit fraud.
 - b) Unknowingly borrow a registration card which has been altered.
 - c) Borrow someone else's vehicle with his consent and become involved in an accident.
 - d) Forget to take the title for your vehicle when driving.
774. If your driver's license is lost or destroyed, you are required to: (Section 6-114)
- a) Wait until you receive your renewal license.
 - b) Apply for a new license.
 - * c) Apply for a duplicate license.
 - d) Notify the police.
780. If your driving privilege is suspended in another state in which you are not a resident: (Section 6-202c)
- a) You must report this to the state in which you live.
 - b) You may not operate your vehicle in the state in which you live.
 - * c) The Department will send a copy of the record to the state in which you live.
 - d) You can appeal the ruling in your home state.
788. Your driver's license is not likely to be suspended for: (Section 6-206a-3,4,5)
- a) Habitual reckless driving.
 - b) Being found incompetent to drive a motor vehicle.
 - c) Permitting an unlawful use of your license.
 - * d) Not carrying your driver's license with you.
795. If your license has been canceled, suspended, or revoked, you must: (Section 6-210b)
- a) Destroy your license.
 - b) Turn your license over to a policeman.
 - * c) Return your license to the Department.
 - d) Keep your license until you may legally drive again.
796. If your license has been suspended or revoked in this State you may: (Section 6-211)
- a) Drive in this State only if you have a license from another state.
 - b) Not drive in this State, but may drive in other states.
 - * c) Not drive in this State with another license or permit.
 - d) Drive only in the presence of another licensed driver.
798. It is legal to: (Section 6-301-2,4,5)
- a) Lend your driver's license to someone else.
 - b) Refuse to turn over your license to the Department.
 - * c) Lend your registration to someone using your vehicle.
 - d) Use a false name when applying for a license.
800. A person under 18 without a license or permit may: (Section 6-304)
- a) Drive if there is an adult in the vehicle.
 - b) Drive if there is a licensed person in the vehicle.
 - c) Drive if he has permission from his parents.
 - * d) Not drive on a public road under any condition.
801. A person without a license or permit may: (Section 6-305)
- a) Drive only in an emergency.
 - b) Drive when with a licensed driver.
 - c) Only drive on country roads.
 - * d) Not drive under any conditions.
816. If your license or registration has been suspended or your insurance has been canceled: (Section 7-402a)
- a) Continue to drive until you receive a second notice from the Department.
 - b) You may drive, but there must always be someone in the vehicle with you.
 - c) You should still use your license as a form of identification.
 - * d) Your license or registration must be sent back to the Department immediately.
820. If you are involved in an accident resulting in injury or death you should: (Section 10-102a)
- a) Go to the nearest police station.
 - * b) Stop immediately and remain at the scene.
 - c) Stop and give your name and address, then leave.
 - d) Continue if it was not your fault.

831. An order or direction given by a police officer directing traffic: (Section 11-103)
- a) May be disregarded if you are in a hurry.
 - * b) Must be obeyed.
 - c) May be ignored in an emergency.
 - d) Should not be obeyed if it is in conflict with a traffic signal.
834. The driver of an emergency vehicle may: (Section 11-106a)
- * a) Ignore certain traffic laws when responding to an alarm.
 - b) Take the right-of-way when returning from an emergency.
 - c) Endanger the lives of pedestrians to reach his destination.
 - d) Violate traffic signals any time his vehicle is on the road.
835. The driver of an authorized emergency vehicle may not: (Section 11-106a)
- a) Exceed speed limits.
 - b) Proceed past a red light without stopping.
 - c) Park or stand regardless of possible prohibitions.
 - * d) Disregard the safety of others.
840. An emergency vehicle may ignore some traffic laws when responding to an alarm only if: (Section 11-106c)
- a) Traffic is heavy.
 - * b) Its emergency lights and sirens are on.
 - c) A special permit is issued before the alarm.
 - d) The vehicle is being operated in a city or town.
842. It is legal to: (Section 11-205a)
- * a) Put up signs on private property that give useful information and cannot be mistaken for official signs.
 - b) Display unauthorized signs on the highway which are imitations of official signs.
 - c) Put commercial advertising on an official sign.
 - d) Remove official signs from the highway.
843. It is against the law to: (Section 11-205b)
- * a) Put commercial advertising on a traffic sign.
 - b) Obey a police officer instead of a traffic signal.
 - c) Use your horn within the city limits.
 - d) Stop at a railroad crossing that does not have a flashing signal.
853. When passing a vehicle going in the opposite direction you must: (Section 11-302)
- a) Decrease your speed by at least 10 mph.
 - b) Blow your horn.
 - * c) Stay to the right.
 - d) Drive onto the shoulder to provide more room.
861. When passing on a 2-lane road it is illegal to: (Section 11-305)
- a) Drive in a lane used for oncoming traffic.
 - b) Signal the vehicle you are going to pass by blowing your horn.
 - * c) Stay in a lane used for oncoming traffic after it is safe to use the right lane.
 - d) Pass 2 or more vehicles at once.
869. When driving on a one way road: (Section 11-308b)
- a) Keep to the right at all times.
 - b) Keep to the left at all times.
 - c) Avoid changing lanes between intersections.
 - * d) Drive only in the direction indicated by traffic-control devices.
870. When entering a traffic circle you should always: (Section 11-308c)
- a) Stop before entering the circle.
 - * b) Go to the right when entering the circle.
 - c) Speed up to go faster than the other traffic.
 - d) Drive to the center of the circle.
877. When deciding how far away you should be from the vehicle ahead it is most important to consider: (Section 11-310a)
- * a) The vehicle's speed, traffic density, and road conditions.
 - b) The age of your vehicle, number of lanes on the road, and traffic density.
 - c) The number of lanes on the road, horse power of your vehicle, and vehicle's speed.
 - d) Road conditions, age of your vehicle, and horse power of your vehicle.
880. To enter and exit from a controlled access highway you must: (Section 11-312)
- a) Be going at least as fast as the traffic on the highway.
 - b) Signal for the entrance or exit at least 1/2 mile in advance.
 - c) Blow the horn before entering and flash your taillights before exiting.
 - * d) Only use the entrances and exits provided.
894. When possible, pedestrians walking along the road should walk: (Section 11-506b)
- * a) On the left side facing traffic.
 - b) On the right side with traffic.
 - c) On the edge of the road rather than on the shoulder.
 - d) On the side with the least traffic.

899. When making a left turn you should drive: (Section 11-601b)
- Wherever the traffic is lightest unless a special left turn lane is available.
 - Several miles above the speed limit so you will not hold up traffic behind you.
 - * In the left-most lane used for traffic going in your direction.
 - Close to the right-hand side of the road.
901. When turning at an intersection you must: (Section 11-601c)
- Slow down to 10 mph before starting to turn.
 - Come to a stop if there are any pedestrians on the road.
 - * Follow the directions given by the traffic-control devices.
 - Signal at least 2 blocks before you turn.
912. You must stop at a railroad crossing when: (Section 11-701a)
- A train is stopped less than 200 feet from the crossing.
 - The crossing does not have a gate or signal on it.
 - There is more than 1 set of tracks at the crossing.
 - * The crossing signal is on or a train is close and approaching.
919. If a school bus is stopped on the other side of a divided highway you should: (Section 11-706d)
- Stop and wait for the bus to continue.
 - Blow the horn and continue.
 - Move to the lane farthest from the bus.
 - * Continue with caution.
920. You should always travel: (Section 11-801)
- At the speed limit.
 - 5-10 mph below the speed limit.
 - At the speed of the vehicles in front of you.
 - * At a safe and reasonable speed.
922. Under normal conditions the top speed limit for driving in a business district is: (Section 11-801.1-1)
- 15 mph.
 - * 20 mph. (Iowa and Cape May)
 - * 25 mph. (Michigan)
 - * 30 mph. (UVC)
926. Minimum speed limits are: (Section 11-804b)
- 15 mph lower than the maximum posted speed limits.
 - Not legal and need not be observed.
 - * The slowest you should drive except when necessary for safety.
 - Speed limits between the daytime and nighttime legal speed.
932. A person who drives in a manner that is likely to injure persons or property is guilty of: (Section 11-901a)
- Drunken driving.
 - Driving without a license.
 - A felony.
 - * Reckless driving.
937. It is illegal to: (Section 11-902.1)
- Take medication at the direction of a doctor before driving.
 - Have an alcoholic drink before driving.
 - * Take a non-prescribed narcotic drug before driving.
 - Drive when drowsy.
952. You may generally stop, stand, or park: (Section 11-1003a)
- On the road side of a parked vehicle.
 - * 20 feet or more from an intersection.
 - 15 feet or more from a traffic-control sign or signal located at the side of the road.
 - Within a crosswalk on a one way street.
954. It is generally legal to park your vehicle: (Section 11-1003a)
- With 1 wheel on the sidewalk.
 - * Near a mail box.
 - Within an intersection.
 - On a crosswalk.
958. When parked on a one way street it is illegal to: (Section 11-1004b)
- Have your wheels more than 6 inches from the curb.
 - Leave your parking lights on.
 - * Park facing in the opposite direction of traffic.
 - Be closer than 2 feet from a driveway.
961. It is legal to back up: (Section 11-1102a)
- On the shoulder of a controlled access highway.
 - Anywhere signs do not prohibit backing up.
 - * Only when it is safe and will not interfere with other traffic.
 - Only when entering a parking space or coming out of a driveway.
972. When driving on a public road it is illegal to: (Section 11-1111a)
- Keep your headlights on during the day.
 - * Drop bottles or cans out of the vehicle.
 - Pass another vehicle in a school zone.
 - Pull off the road to make repairs.

976. In most situations bicycle riders: (Section 11-1202)
- a) Have the right-of-way over all other vehicles.
 - b) May not travel on a heavily traveled road.
 - * c) Are subject to the same rules as motor vehicles.
 - d) Must ride against the flow of traffic so they can see and be seen.
987. You must turn your headlights on: (Section 12-201)
- a) After 7 p.m. and keep them on until 7 a.m.
 - b) At night when the road does not have any street lights.
 - * c) 1/2 hour after sunset and during other times when visibility is bad.
 - d) When the sun or bright lights create a glare.
994. Your parking lights should be turned on when you are: (Section 12-214c)
- a) Driving in the early morning.
 - b) Driving in a parking lot at night.
 - * c) Parked at the side of the road at night.
 - d) Stopped in traffic in a tunnel.
997. Stop and turn signal lights: (Section 12-219a,b)
- a) Are not required on foreign cars sold in America.
 - b) Must be yellow in color.
 - c) Need not be used if no one is behind you.
 - * d) Must be bright enough to be seen for at least 100 feet. (UVC - 300 feet)
1007. When you drive at night you must have at least: (Section 12-226a)
- a) 1 headlight and both parking lights on.
 - b) 2 headlights on with both being on the same side of the vehicle.
 - * c) 2 headlights on, 1 on each side of the vehicle.
 - d) 2 headlights on, 1 on each side of the vehicle, and both parking lights on.
1011. By law the brakes on every vehicle (other than a motorcycle) must: (Section 12-301a,b)
- a) Stop the vehicle within not less than 30 feet at a speed of 30 mph on a dry and level road surface.
 - b) Not lock under any conditions.
 - * c) Consist of a good foot brake and an "emergency" or "parking" brake.
 - d) Consist of a good "parking" brake that is capable of stopping the vehicle within legal limits.
1015. Sirens and whistles on non-emergency vehicles are: (Section 12-401b)
- a) Required.
 - b) Encouraged.
 - c) Discouraged.
 - * d) Prohibited.
1016. Every motor vehicle must be equipped with: (Section 12-402a)
- * a) A muffler.
 - b) 4-ply tires.
 - c) A rear window defroster.
 - d) A trunk light.
1017. Your vehicle's engine must be: (Section 12-402b)
- a) Overhauled every 50,000 miles in order to meet the new air pollution standards.
 - * b) Equipped and adjusted to prevent excessive fumes or smoke.
 - c) Adjusted to burn fuels that are free of lead.
 - d) The engine that was originally in the vehicle.
1020. Windshield wipers in good working condition are: (Section 12-404b,c)
- * a) Required equipment on all motor vehicles.
 - b) Required only on commercial motor vehicles.
 - c) Required equipment on only American-made vehicles.
 - d) Not required, but strongly suggested.
1027. The responsibility that a vehicle is in safe condition belongs to the: (Section 13-101)
- a) Police
 - * b) Driver.
 - c) Passengers.
 - d) Department of (State).
1028. A police officer may stop and inspect your vehicle if: (Section 13-102a)
- a) He has obtained a special permit from the Department.
 - * b) He believes your vehicle is unsafe or not properly equipped.
 - c) You have an out-of-state license plate.
 - d) It is during the month your vehicle is due for inspection.
1042. If you damage the highway when illegally operating someone else's vehicle with the owner's permission: (Section 14-114a)
- * a) You and the owner are both held responsible.
 - b) The highway department is held responsible.
 - c) The owner is the only one held responsible.
 - d) You are the only one held responsible.
- — — — —
- SIGNS AND SIGNALS**
1069. The following are examples of signs with green backgrounds:
- a) No Right Turn, Pass With Care, Speed Limit.
 - * b) Next Exit 12 Miles, Exit, Thru Traffic.
 - c) Rest Area, Parking Area, Roadside Table.
 - d) Stop, Do Not Enter, No Parking.

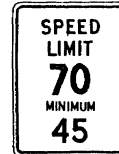
1081. You are most likely to see this sign:

- * a) On short freeway entrances.
- b) At all busy intersections.
- c) When entering a side street from a main road.
- d) When turning left on a one-way street.



1087. This sign means:

- * a) Do not drive faster than 70 mph nor slower than 45 mph.
- b) Drive no faster than 70 mph during the day and 45 mph or slower at night.
- c) All cars should drive at 70 mph and trucks at 45 mph.
- d) Drive at least 70 mph for regular driving and under 45 mph for emergencies.



1085. When you see this sign you should:

- a) Drive between 70 mph and 60 mph if you are driving a truck.
- b) Not drive slower than 60 mph unless you are driving a truck.
- * c) Not drive faster than 70 mph if you are driving a car.
- d) Not drive faster than 70 mph during the day and 60 mph at night.



1099. When you see this sign, you should:

- * a) Keep to the right when driving below the normal speed of traffic.
- b) Not drive in the right lane if you are driving near the speed limit.
- c) Take the next right exit if you will be driving slower than other traffic.
- d) Stay in the right lane if you are driving a truck.



1086. When you see this sign you should:

- a) Drive between 50 mph and 65 mph if you are driving a truck.
- b) Not drive slower than 65 mph unless you are driving a truck.
- * c) Not drive faster than 50 mph if you are driving a truck.
- d) Not drive faster than 65 mph during the day and 50 mph at night.



1126. This sign means:

- a) Do not drive on the right shoulder of the highway.
- b) Commercial vehicles may not stop on the median.
- * c) You must not stop or drive on the median.
- d) Stopping on the median is permitted for only a short time.



1139. This sign means:

- * a) Slow down to 35 mph and prepare to enter a curve.
- b) Exit ahead, exit speed 35 mph.
- c) Construction area, slow down to 35 mph and use the right lane only.
- d) Vehicles turning right must reduce speed to 35 mph.



1142. This sign means:

- a) Barricade ahead, prepare to detour.
- * b) Slow down and prepare to turn to the right and then to the left.
- c) Road widens ahead, prepare to change lanes.
- d) Road closed ahead, prepare to turn right.



1143. This sign means:

- a) Barricade ahead, prepare to detour.
- b) Road widens ahead, prepare to change lanes.
- * c) Prepare to go right and then left.
- d) Road closed ahead, prepare to turn right.



1148. You should expect this sign on a:

- a) Highway entrance.
- b) Bridge
- c) Traffic circle.
- * d) County road or highway.



1150. You should expect this sign on a:

- a) Bridge or in a tunnel.
- * b) Country road or highway.
- c) Traffic circle.
- d) Highway entrance or exit.



1155. This sign means:

- a) Prepare to merge with traffic ahead.
- b) Slow down, side road ahead.
- c) Prepare to detour.
- * d) Slow down and prepare to turn right or left.



1164. This sign means:

- a) Barricade ahead, prepare to detour.
- b) Slow down, pavement ends.
- * c) Right lane ends, prepare to merge.
- d) Construction ahead, caution, no shoulder.



1175. You would most likely see this sign:

- a) On a bridge.
- b) At a school crossing.
- c) At a city intersection.
- * d) On a divided road.



1178. You would most likely see this sign:

- * a) At the end of a divided highway.
- b) At the end of a construction zone.
- c) On a freeway exit.
- d) On a traffic circle.



1200. This sign means:

- a) Divided road ahead, keep right.
- * b) Obstruction ahead, move to the right or left.
- c) Road ends ahead, detour.
- d) Prepare to merge with the traffic ahead.



1183. You are most likely to see this sign:

- a) In a restricted area.
- b) On a bridge or tunnel.
- c) In a parking lot or service area.
- * d) On a country road.



1205. This sign means you should:

- * a) Slow down to 30 mph on this exit.
- b) Go no faster than 30 mph before leaving the main road.
- c) Reduce your speed to 30 mph even if you are not going to exit.
- d) Expect to go 30 mph after exiting.



1185. You should expect this sign:

- * a) On a country road or a city street.
- b) In a tunnel.
- c) On a freeway or divided highway.
- d) At a crosswalk.



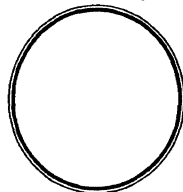
1206. This sign means:

- a) Play street, no vehicles permitted to enter.
- b) Construction ahead, detour.
- * c) The street has no outlet, no through traffic.
- d) Pavement ends ahead, slow down.



1193. The shape of this sign indicates:

- a) Stop.
- b) School crossing.
- c) Yield.
- * d) Railroad crossing.



1208. When you see this sign you should:

- a) Avoid blowing your horn, quiet zone.
- * b) Reduce speed and watch for persons stepping from between parked cars.
- c) Avoid driving in this area unless you are attending church services.
- d) Not park in this area.



1210. This sign means:

- * a) Watch for cross traffic ahead.
- b) Stop sign or signal ahead.
- c) No through traffic; prepare to turn.
- d) Prepare to change routes.



1214. This sign means bridge:

- a) Narrows, keep right.
- * b) Over water may open for boats.
- c) Closed to vehicle traffic.
- d) Over roadway; caution, low clearance.



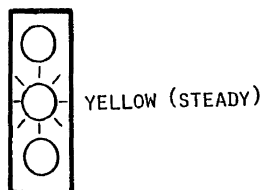
1218. This sign used in times of national emergency means:

- a) You should drive about 5 mph above the speed limit.
- b) Slow drivers should not use this road.
- * c) You should drive at a fast but safe speed.
- d) Trucks and busses should not use this road.



1227. This traffic signal means:

- a) Slow down and continue with caution through the intersection.
- b) Speed up and continue through the intersection before the light changes to red.
- * c) Stop before entering the intersection if you can safely do so.
- d) Stop immediately; do not continue through the intersection.



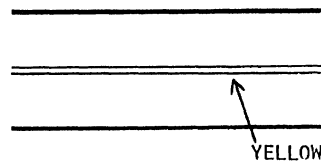
1239. This signal means:

- a) Pedestrians are not allowed to cross at this intersection.
- b) Stop and look both ways before crossing.
- c) Pedestrians must yield to turning vehicles when crossing.
- * d) Pedestrians have the right-of-way.



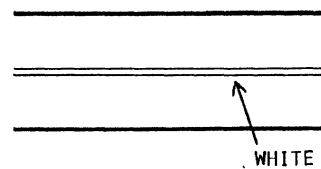
1248. You should expect a double center line:

- a) On a divided highway.
- * b) On a winding 2-lane road.
- c) On a "Pass With Care" road.
- d) On a one-way street.



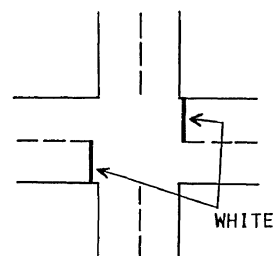
1253. These lane lines mean:

- a) Lane changing permitted for all vehicles.
- b) Trucks may not change lanes; other vehicles are permitted to do so with care.
- * c) Changing lanes is not allowed.
- d) Changing lanes is permitted if done with care.



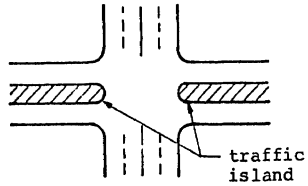
1262. This pavement marking means.

- a) Pedestrian crosswalk; caution.
- b) One Way; do not enter.
- * c) Stop here for light or stop sign.
- d) No turns at this intersection.



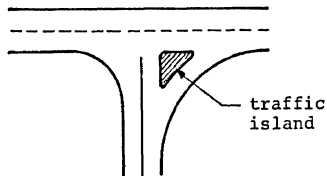
1272. These yellow pavement markings are used:

- a) In place of a yield sign.
- b) For bus stops only.
- c) For no parking zones.
- * d) To separate opposing traffic.



1275. This island is used:

- a) To separate opposing lanes of traffic.
- b) For pedestrians crossing the road.
- c) For making U-turns.
- * d) To direct vehicles into the proper lane.



1278. You should expect this sign:

- a) On the entrance ramp of a highway.
- * b) When entering a road construction area.
- c) At the entrance to a dead-end street.
- d) When entering a tunnel.



1283. When you see this sign you should:

- a) Stop and wait for the flagman to wave you on.
- * b) Slow down and be prepared to stop.
- c) Prepare to detour ahead.
- d) Expect trucks to stay in the right lane



1286. This sign means:

- a) Obstruction ahead; road narrows.
- * b) Heavy road equipment ahead; drive with caution.
- c) No trucks or commercial traffic permitted.
- d) Construction work; use the shoulder.



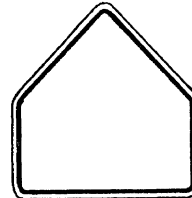
1297. This sign found on top of another vehicle is used where it is necessary to:

- * a) Lead vehicles through a construction area.
- b) Guide vehicles during civil defense emergencies.
- c) Warn people that the driver is a learner.
- d) Restrict the area to classified personnel.



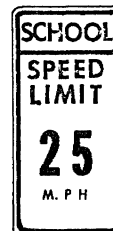
1304. The message on this sign might be:

- a) Yield.
- b) Stop.
- * c) School crossing.
- d) No U-Turn.



1309. This sign means:

- a) School busses must not exceed this speed limit.
- b) Any vehicles transporting children to school must not exceed this speed limit.
- c) This speed limit should be observed only when children are seen walking.
- * d) Vehicles must not exceed this speed limit.



RESPONSE DISTRIBUTION DATA
FOR
SPECIAL TEST SET (STS)
OF
CLASS C ITEM POOL

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA CAPE MAY	Sex		Age				Driver Ed.			Location					Age						
				All	Male	Fe- male	<18	18- 19	20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34	
																								1
5-30	19	(a)	88	83	77	81	74	81	79	70	53	69	80	88	63	66	75	83	79	75	90	96	95	85
		b	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		c	7	12	18	16	20	15	17	18	44	23	16	8	32	27	19	14	16	25	9	4	5	11
		d	5	1	4	3	4	4	5	6	0	8	4	4	6	4	4	3	3	0	1	0	0	4
4-16	30	a	3	4	3	2	5	1	8	8	6	7	2	3	7	2	5	1	6	3	0	0	0	0
		(b)	90	92	93	94	93	95	91	89	89	86	94	97	89	91	91	98	92	93	100	100	100	100
		c	5	2	1	0	2	1	0	0	6	7	1	0	3	6	1	0	2	0	0	0	0	0
		d	2	2	2	4	1	3	2	3	0	0	3	0	0	2	4	1	0	3	0	0	0	0
1-2 2-10 3-10 4-10	31	(a)	74	89	86	88	84	91	75	75	75	83	90	92	75	69	87	90	88	92	97	96	97	99
		b	7	7	4	3	4	2	7	6	5	2	3	2	4	7	3	3	4	2	1	1	2	0
		c	3	1	2	3	2	1	4	3	7	6	1	2	5	4	2	1	3	1	1	1	1	0
		d	14	3	8	6	9	5	14	15	10	8	6	4	13	19	8	4	5	6	1	2	1	0
2-30	33	a	1	2	3	3	3	2	7	0	8	0	2	4	7	7	3	0	5	0	0	0	0	0
		b	6	5	6	5	7	5	11	14	4	0	7	4	4	11	7	3	7	0	2	0	4	0
		c	10	11	9	10	8	8	7	6	12	14	9	4	10	7	5	12	10	23	7	6	4	10
		(d)	80	82	81	81	81	84	74	72	77	86	82	89	78	75	83	85	77	77	90	88	91	90
3-27	35	(a)	85	70	78	79	78	83	74	55	76	71	83	90	59	58	75	85	80	88	79	90	73	72
		b	7	13	15	14	14	12	13	25	20	17	12	7	24	27	16	11	13	9	12	5	12	22
		c	7	6	2	2	2	1	4	5	0	0	1	0	3	2	2	1	2	0	2	0	4	0
		d	1	11	6	5	7	3	9	16	4	13	4	3	14	12	7	3	5	3	8	5	12	6
6-14	43	a	7	3	5	4	6	5	5	7	5	4	5	3	6	6	5	6	2	8	5	7	7	0
		(b)	92	95	94	95	94	95	93	91	95	96	95	97	92	92	95	93	98	92	95	93	93	100
		c	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		d	0	0	0	0	0	0	0	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0
7-30	44	a	9	2	2	1	3	2	0	4	3	8	1	0	4	4	3	2	0	0	0	0	0	0
		b	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		(c)	84	93	95	97	93	95	100	88	97	92	95	97	95	87	95	95	98	96	97	100	97	93
		d	3	3	1	1	2	1	0	4	0	0	2	0	1	6	0	2	0	4	3	0	3	7
4-38	45	a	6	11	16	16	15	15	25	14	14	7	14	15	20	18	14	19	14	7	3	10	0	0
		b	7	3	6	4	7	4	6	14	11	0	5	6	7	4	5	5	12	3	3	0	0	8
		c	12	8	21	21	20	16	22	30	33	36	18	24	28	38	19	17	14	21	9	5	5	17
		(d)	74	78	57	57	57	65	46	43	42	57	62	55	44	40	59	59	61	69	82	84	91	71

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	ALL	Sex		Age										Location					Age					Group	
			Male	Fe- male	20-	25-	35-	45-	55-	>64	1	2	3	4	5	ALL	<20	20-	25-	>34	1	2				
					24	34	44	54	64									24	34							
19	a	79	80	79	93	86	85	81	76	64	68	78	77	81	82	80	81	89	82	74	69	78	82			
	b	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0			
	c	18	19	17	6	12	13	18	21	32	18	16	20	17	17	17	19	11	18	26	31	22	19			
	d	1	1	1	0	1	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0			
30	a	4	4	3	1	3	4	2	5	4	6	7	6	2	2	1	2	2	2	6	0	6	2			
	b	94	94	96	99	96	95	95	93	91	90	87	93	96	98	98	93	94	97	83	100	88	95			
	c	1	1	1	0	1	0	2	1	2	1	1	1	2	0	1	1	2	0	3	0	3	1			
	d	1	1	0	0	1	0	1	1	2	1	5	0	0	0	0	2	2	0	9	0	3	2			
31	a	95	95	95	98	96	97	96	95	92	89	89	96	96	95	95	95	96	95	95	95	93	95			
	b	2	2	2	1	1	1	1	3	3	4	3	1	2	2	1	1	2	2	0	2	2	1			
	c	1	1	1	0	1	1	1	1	2	2	2	1	1	1	2	1	0	1	2	2	1	1			
	d	2	1	2	1	2	1	2	2	1	2	3	2	1	1	1	2	2	3	3	1	5	2			
33	a	1	1	1	0	1	1	1	1	1	0	2	0	1	2	0	0	0	0	0	0	0	0			
	b	2	2	1	0	3	1	0	2	3	2	4	2	1	0	1	0	0	0	0	0	0	0			
	c	7	8	6	5	12	10	7	4	5	4	11	7	8	7	4	8	3	10	10	6	11	7			
	d	90	88	91	95	85	87	92	92	88	92	81	90	90	91	94	92	97	90	90	94	89	93			
35	a	77	80	74	94	81	75	77	75	75	78	73	78	76	80	81	87	88	88	81	91	75	88			
	b	15	12	18	5	11	17	18	17	15	11	16	14	15	16	7	11	12	8	17	9	25	10			
	c	3	3	3	1	3	3	1	2	4	3	4	2	4	0	1	1	0	2	3	0	0	1			
	d	5	4	5	0	5	5	3	5	4	6	5	4	4	4	10	1	0	2	0	0	0	1			
43	a	1	1	2	0	2	0	1	2	3	2	1	1	0	3	1	2	0	2	3	10	0	3			
	b	98	98	98	100	99	99	99	97	97	97	96	99	99	96	99	95	98	98	91	70	100	93			
	c	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2	2	0	3	10	0	3			
	d	1	1	0	0	0	0	1	1	0	1	2	0	0	0	0	1	0	0	3	10	0	2			
44	a	1	1	1	0	0	1	1	2	0	2	1	0	1	0	0	2	2	3	0	0	5	2			
	b	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0			
	c	98	97	98	99	99	99	99	97	96	93	95	97	97	100	98	97	98	95	100	100	95	98			
	d	1	1	1	1	1	0	1	2	1	4	3	1	1	0	1	0	0	0	0	0	0	0			
45	a	7	6	9	16	12	5	8	5	5	9	7	7	8	9	1	10	11	9	9	17	16	9			
	b	4	3	5	5	1	3	4	3	3	7	5	4	4	3	2	5	4	5	6	6	6	5			
	c	20	20	19	10	14	13	16	23	32	36	27	21	17	17	21	23	23	23	14	33	16	4			
	d	67	68	66	69	72	78	70	65	56	37	52	66	69	70	76	62	62	61	71	39	63	61			

Michigan Original Test-Item No.	Pool No.	Foils	IOWA	CAPE MAY	MICHIGAN ORIGINAL (No Previous License) APPLICANTS															MICHIGAN TRANSFER APPLICANTS					
					All	Sex		Age					Driver Ed.			Location					All	Age			
						Male	Fe-male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5		<25	25-34	>34	
1-35	46	a	8	4	1	2	1	1	0	0	9	0	0	3	2	0	1	2	0	4	0	0	0	0	
		b	86	92	97	96	97	98	94	96	85	95	99	97	91	95	96	96	100	96	98	96	97	100	
		c	3	1	1	1	1	0	2	5	0	0	0	0	2	2	2	0	0	0	0	0	0	0	
		d	2	3	1	1	2	0	4	0	6	5	1	0	4	3	1	2	0	0	2	4	3	0	
6-12	47	a	1	0	2	0	3	2	0	2	0	9	1	7	4	4	2	1	0	0	0	0	0	0	
		b	47	32	44	40	46	45	40	50	29	30	47	43	37	46	41	42	52	48	35	43	30	33	
		c	8	10	7	4	9	5	10	5	10	17	4	13	13	12	9	3	2	12	1	4	0	0	
		d	44	58	47	55	41	48	50	42	62	35	48	33	45	35	48	54	46	40	64	54	70	67	
7-19	64	a	20	28	42	34	48	36	58	54	47	75	37	41	60	74	45	36	26	31	32	41	27	29	
		b	1	6	4	6	3	3	5	10	7	0	3	12	8	4	5	5	3	0	3	4	3	0	
		c	2	2	6	3	8	5	3	10	10	0	6	0	6	2	6	5	12	4	1	0	0	7	
		d	77	63	47	57	40	56	35	24	33	25	54	47	25	19	44	53	50	65	64	56	70	64	
2-12	65	a	3	7	9	9	8	5	19	14	23	14	5	7	16	11	10	5	10	8	5	6	4	5	
		b	15	10	13	14	13	12	13	8	15	17	15	4	12	7	13	12	17	31	13	6	9	20	
		c	0	7	7	7	6	5	4	8	12	17	17	5	4	14	7	4	10	8	0	8	6	13	5
		d	82	77	71	70	73	78	65	67	50	52	75	86	58	75	73	71	65	62	74	82	74	70	
4-6	71	a	9	7	10	10	10	8	12	11	14	7	0	3	15	14	12	6	10	3	8	10	14	7	
		b	84	78	76	81	72	84	68	70	53	43	81	85	62	62	76	86	65	90	82	84	73	85	
		c	7	9	13	9	16	7	17	16	33	50	9	12	23	22	11	8	24	7	11	5	14	7	
		d	0	5	1	0	2	0	3	3	0	0	1	0	0	2	1	0	2	0	0	0	0	0	
7-3	79	a	11	22	20	19	21	14	23	34	40	33	16	19	34	28	22	16	19	15	31	33	33	21	
		b	5	14	9	4	12	6	15	16	10	17	8	6	15	13	8	10	7	8	5	0	9	7	
		c	16	25	12	12	12	14	15	4	3	0	15	3	6	11	10	14	14	15	8	15	0	14	
		d	68	40	58	65	53	65	48	44	40	50	61	69	44	47	59	59	60	62	55	52	55	57	
5-39	80	a	1	2	1	1	1	1	5	0	0	0	1	0	3	2	1	0	2	4	0	0	0	0	
		b	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		c	8	6	6	5	6	5	10	12	3	0	5	8	7	4	7	4	3	7	1	0	5	0	
		d	90	89	93	93	93	94	86	88	94	100	95	92	89	91	92	96	95	89	97	100	95	96	
2-39	81	a	92	87	94	93	94	98	87	86	86	86	97	100	88	88	94	95	95	92	92	88	96	95	
		b	0	2	1	0	0	0	2	0	0	0	0	0	1	0	1	1	0	0	2	6	0	0	
		c	2	5	3	2	3	1	4	8	8	7	1	0	5	5	2	2	2	4	5	6	4	5	
		d	5	5	3	4	2	2	7	6	0	7	2	0	5	5	2	3	3	4	2	0	0	0	

D-30

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	All	Sex		Age							Location					Age			Group		
			Male	Fe-male	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2
46	a	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	b	98	98	98	98	98	98	91	96	99	99	97	97	97	97	97	100	92	100	100	96	97
	c	0	0	0	1	0	1	1	1	0	0	0	0	0	0	3	0	2	0	0	4	1
	d	1	1	1	0	1	4	1	1	1	0	1	2	1	2	2	0	6	0	0	0	2
47	a	2	2	3	3	1	3	3	2	2	2	1	2	2	2	0	0	6	0	0	3	1
	b	13	10	15	14	7	7	13	13	13	12	14	8	8	25	22	27	30	32	32	23	
	c	2	2	2	2	1	1	4	2	2	0	3	2	2	5	7	4	3	0	16	2	
	d	83	86	80	80	90	88	80	82	82	85	82	86	86	69	68	74	64	70	48	74	
64	a	32	25	39	36	39	37	46	31	31	27	32	28	28	28	31	23	25	50	46	25	
	b	8	7	9	6	11	10	10	9	8	5	5	9	9	12	13	10	17	0	9	12	
	c	5	3	7	8	9	10	5	5	4	4	5	7	7	3	2	5	0	0	0	3	
	d	53	63	43	49	37	31	36	53	53	59	54	55	55	56	51	61	58	50	46	58	
65	a	19	23	16	17	38	47	32	20	15	19	18	18	17	17	6	19	21	25	4	20	
	b	9	8	11	12	11	5	8	8	11	10	8	8	10	10	15	10	5	13	7	11	
	c	5	5	5	5	5	15	2	6	6	5	5	5	5	12	15	10	8	19	15	11	
	d	65	62	68	64	45	29	57	65	67	67	67	67	60	60	62	59	67	44	70	58	
71	a	7	6	7	6	6	6	14	6	6	6	7	7	7	6	11	25	17	28	19	20	
	b	75	80	69	75	67	54	59	77	79	71	74	74	69	85	63	71	44	66	66	70	
	c	16	11	21	17	21	28	22	16	12	20	19	19	12	4	13	11	28	16	16	11	
	d	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
79	a	30	26	34	32	37	25	34	31	30	27	25	25	28	29	25	28	43	41	41	26	
	b	7	5	8	4	5	9	10	6	5	6	10	10	7	11	5	3	14	9	9	7	
	c	9	8	9	7	5	3	9	7	9	9	12	12	14	16	16	11	7	23	23	13	
	d	54	59	49	57	53	58	44	56	55	58	53	53	49	44	51	56	36	27	52	52	
80	a	0	0	1	0	0	1	0	0	0	0	1	1	2	0	2	5	0	0	0	2	
	b	1	1	1	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	
	c	3	4	3	5	3	9	8	3	2	2	2	2	3	4	2	3	6	4	3	3	
	d	95	95	95	95	96	88	90	95	95	97	95	96	96	94	96	96	92	88	96	94	
81	a	95	96	95	97	93	89	90	96	97	94	95	95	97	94	97	100	94	100	100	96	
	b	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	c	3	3	3	3	6	7	7	2	2	2	4	5	1	3	0	0	0	0	0	1	
	d	1	1	1	0	1	0	0	3	0	0	2	0	0	1	0	2	6	6	0	2	

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA		CAPE MAY		Sex		Age			Driver Ed.		Location					Age			
			All	Male	Fe- male	<18	18-		25-		High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25-34	>34
							19	20-	24	34												
3-6	82	a	22	23	21	26	25	28	21	22	13	26	29	20	15	23	44	21	20	19	28	
		(b)	58	58	59	51	34	48	63	61	81	44	46	60	65	59	41	65	75	65	50	
		c	13	11	14	9	30	16	17	11	6	20	17	11	15	8	9	8	0	12	11	
		d	7	7	6	9	11	4	0	7	0	7	8	8	4	8	6	6	5	4	11	
3-20	96	a	25	17	31	25	25	24	29	25	26	26	46	26	20	18	19	9	10	8	11	
		(b)	63	76	52	60	48	56	63	66	68	51	42	55	72	77	69	80	90	77	72	
		c	6	2	10	8	21	16	4	3	6	15	10	7	6	2	3	4	0	0	17	
		d	6	5	6	6	5	4	0	6	0	4	2	10	2	3	9	6	0	15	0	
6-10	100	a	5	5	5	8	7	6	13	3	3	13	12	4	4	4	4	0	0	0	0	
		b	3	3	4	0	2	14	0	3	3	4	4	5	2	0	0	1	4	0	0	
		c	1	0	1	0	2	0	0	1	0	1	2	1	0	2	0	0	0	0	0	
		(d)	90	90	90	92	88	81	83	93	93	80	79	89	94	94	96	99	96	100	100	
5-9	101	a	3	2	4	2	3	6	15	3	0	4	4	3	2	5	4	10	4	0	22	
		b	36	29	40	48	49	69	39	29	36	60	43	41	31	29	25	36	32	43	33	
		c	9	11	7	2	15	0	0	9	20	4	2	6	12	14	11	12	16	14	7	
		(d)	52	55	49	43	33	22	46	58	44	32	50	49	53	50	61	41	48	43	33	
4-25	102	(a)	83	81	85	88	89	86	57	81	85	86	78	84	84	84	79	82	74	73	96	
		b	17	18	13	9	11	6	29	17	15	10	14	14	16	16	17	15	21	27	0	
		c	1	0	1	2	0	3	7	1	0	1	4	1	0	0	3	2	5	0	0	
		d	1	0	0	0	0	3	7	0	0	2	2	1	0	0	0	0	0	0	0	
1-9	103	(a)	55	60	52	46	30	33	21	62	50	38	39	52	60	65	75	72	64	72	79	
		b	12	10	14	14	30	30	26	9	13	23	28	13	8	7	4	6	4	3	16	
		c	5	6	4	4	5	3	5	5	7	5	3	6	4	4	7	1	4	0	0	
		d	26	24	28	36	34	27	42	23	30	32	28	27	29	23	14	21	28	25	5	
1-25	114	a	28	30	26	24	7	27	37	29	40	22	25	30	26	34	11	7	12	6	5	
		b	14	9	18	16	32	18	5	13	17	15	16	17	12	11	14	7	0	11	11	
		c	9	8	9	16	18	12	21	6	7	20	15	6	12	5	7	10	12	6	16	
		(d)	49	52	45	40	43	42	37	51	37	43	43	47	50	46	68	74	72	78	68	
6-22	115	a	13	15	11	12	10	10	4	15	7	8	8	10	11	21	32	4	0	0	11	
		(b)	64	64	65	60	60	67	61	67	60	63	54	66	72	64	40	80	86	87	67	
		c	6	14	13	17	12	14	17	8	27	17	23	14	7	4	12	5	7	0	7	
		d	11	10	12	12	19	10	17	10	7	13	15	10	10	12	16	12	7	13	15	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group				
		All	Male	Fe- male	20-		25-		35-		45-		55-		1	2	3	4	5	All	<20	20-		>34	1	2
					24	34	34	44	44	54	54	64	24	24								24	34			
82	a	24	28	20	30	21	25	25	21	26	21	26	21	23	25	25	21	22	26	26	20	31	30	42	25	
	b	64	61	66	58	60	61	64	69	67	59	67	59	60	61	64	71	66	55	51	51	64	57	33	57	
	c	10	9	10	13	17	11	7	6	7	15	7	15	12	11	8	6	12	13	19	18	6	4	25	12	
	d	2	2	2	0	1	3	3	3	1	2	1	2	5	2	2	2	0	0	5	5	8	0	9	0	6
96	a	11	10	12	6	13	9	9	14	10	19	10	19	25	12	8	7	6	7	2	4	8	17	0	7	
	b	81	85	78	90	81	86	83	81	78	64	81	78	59	82	85	84	91	85	91	86	86	74	83	86	
	c	4	1	7	5	3	3	2	3	7	6	3	7	7	4	3	6	1	3	2	6	3	0	17	2	
	d	3	3	3	0	1	2	5	2	2	3	7	3	4	2	3	3	1	4	5	4	4	0	9	0	4
100	a	2	2	1	0	1	0	1	1	2	9	1	2	1	3	1	1	0	0	0	0	0	0	0	0	
	b	1	1	1	0	1	1	1	1	0	3	1	0	2	0	1	0	2	1	0	0	0	20	0	2	
	c	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	d	96	95	97	100	99	99	97	96	94	80	94	80	94	95	97	97	97	99	100	100	100	80	100	98	98
101	a	6	5	7	3	2	2	6	8	8	19	8	8	9	4	5	8	6	4	0	4	8	6	4	4	
	b	45	46	43	43	48	38	47	41	52	47	52	47	54	47	42	41	40	42	38	39	41	63	39	42	
	c	4	4	3	5	3	5	2	4	4	2	4	4	3	5	2	3	4	6	9	6	5	0	4	6	
	d	45	44	46	48	48	55	44	45	35	28	32	35	32	44	50	48	50	47	53	49	44	31	52	46	
102	a	88	88	88	84	86	91	89	86	90	86	90	86	86	90	86	87	85	86	85	88	89	78	78	88	
	b	10	10	11	16	13	8	10	12	7	8	10	8	10	8	11	12	14	10	15	9	6	6	19	8	
	c	1	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0	0	2	0	2	3	6	3	2	
	d	1	1	0	0	1	0	0	1	3	2	3	2	3	0	1	0	0	0	0	0	0	0	0	0	
103	a	47	53	41	44	43	52	52	51	45	27	36	36	36	46	52	47	54	43	39	37	54	42	27	46	
	b	13	15	11	8	8	6	14	13	19	35	25	25	25	13	12	8	11	12	13	12	8	21	19	11	
	c	4	4	5	1	2	4	5	6	5	6	4	4	4	5	3	4	8	6	10	3	6	5	12	5	
	d	34	26	41	47	47	37	28	30	25	27	33	33	33	34	32	39	27	38	36	47	31	32	42	37	
114	a	15	16	13	12	10	16	11	19	16	14	20	20	16	16	11	17	13	15	18	17	10	11	19	14	
	b	14	10	19	13	11	8	19	19	16	20	16	16	16	18	12	9	12	4	3	5	0	16	0	5	
	c	11	12	10	5	6	7	10	12	19	21	15	15	15	8	8	14	19	13	13	8	17	21	12	14	
	d	60	61	59	71	73	69	61	50	48	40	47	47	47	58	68	60	54	68	67	70	73	53	69	68	
115	a	9	9	8	12	11	8	10	7	9	9	12	12	12	8	10	5	9	13	20	6	9	10	16	12	
	b	73	71	74	74	76	80	72	71	67	53	65	65	65	71	78	78	61	68	67	74	64	70	71	68	
	c	8	9	7	10	8	6	8	9	10	12	9	10	9	10	4	7	17	8	7	8	12	0	10	7	
	d	10	9	10	4	4	6	9	12	14	22	11	11	11	10	8	8	13	11	7	12	15	20	3	13	

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA/CAPE MAY

Michigan Original Test-Item No.

Michigan Original Test-Item No.	Pool No.	Foil	IOWA/CAPE MAY	Sex		Age				Driver Ed.		Location					Age						
				All	Male	Fe-male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34
2-40	123	a b c d	9 11 72 9	11 17 61 11	10 14 62 13	12 20 60 8	9 17 65 9	24 15 54 7	6 11 72 11	12 35 35 15	10 14 48 28	14 14 57 14	11 11 59 12	7 15 64 13	14 18 59 8	10 20 60 10	8 27 62 4	8 12 77 3	6 6 82 6	9 17 70 4	5 10 85 0		
1-6	127	a b c d	93 2 4 1	96 4 0 1	95 3 0 0	98 1 0 0	96 4 0 0	93 5 0 2	85 15 0 0	90 11 0 0	91 9 0 0	97 0 0 0	92 7 0 2	96 4 0 0	98 1 0 0	93 5 0 2	100 0 0 0	100 0 0 0	100 0 0 0	100 0 0 0	100 0 0 0		
4-27	133	a b c d	2 77 5 16	7 60 7 26	6 66 6 22	7 56 7 29	3 74 4 18	12 48 6 34	8 35 16 41	14 19 17 47	21 29 14 36	3 70 4 24	14 46 7 33	6 62 8 23	4 65 3 29	4 55 10 31	7 72 7 10	12 57 6 25	5 74 5 16	14 55 0 32	17 46 13 25		
7-39	135	a b c d	0 80 6 13	0 78 1 21	0 79 1 21	0 77 1 21	0 80 1 19	0 70 0 30	2 68 0 30	0 77 0 20	0 92 0 8	0 75 0 25	0 81 0 19	1 74 1 25	0 78 1 20	0 86 0 14	0 77 4 19	0 73 0 27	0 67 0 33	0 76 0 24	0 79 0 21		
5-21	136	a b c d	66 6 15 13	71 4 14 11	61 1 20 17	61 0 18 20	66 1 16 16	50 0 31 19	61 0 15 24	44 0 31 22	46 0 23 31	56 0 12 28	48 0 22 29	54 0 20 25	68 0 17 15	69 2 19 10	64 0 21 14	69 0 9 22	80 0 12 8	71 0 5 24	59 0 7 33		
5-13	144	a b c d	5 5 90 0	9 10 77 4	13 8 79 0	14 11 74 0	12 6 83 0	14 12 74 0	18 33 49 0	19 25 50 0	23 0 69 0	12 8 80 0	20 18 56 0	23 18 57 0	12 11 76 0	11 7 81 0	18 4 79 0	10 4 85 0	16 0 84 0	0 5 91 0	15 7 78 0		
3-28	152	a b c d	3 3 0 95	11 4 4 80	4 0 1 92	14 1 0 82	4 0 0 95	15 0 2 77	25 2 2 66	32 4 0 64	8 4 4 79	6 0 0 100	12 2 0 85	10 1 2 84	6 0 1 92	13 0 0 85	9 0 0 84	14 0 0 86	10 0 0 90	8 0 0 92	28 0 0 72		
3-36	159	a b c d	1 4 93 2	2 11 81 4	0 6 91 3	0 4 89 4	0 4 94 1	0 6 87 4	0 11 75 14	0 12 84 0	0 0 88 8	0 4 90 1	0 9 77 6	0 4 92 10	0 5 92 2	0 5 90 3	0 6 91 10	0 0 94 3	0 0 100 0	0 0 96 0	0 0 83 11		

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age														Location					Age					Group	
		All	Male	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2								
123	a	9	8	7	13	8	10	8	12	10	7	9	11	10	8	3	5	3	0	7	3								
	b	13	13	17	11	8	14	19	19	19	14	13	12	12	12	11	9	15	6	19	9								
	c	64	64	68	72	74	67	68	46	44	57	65	65	67	64	67	66	72	63	59	69								
	d	13	15	8	4	10	13	10	21	21	21	11	12	11	16	17	17	10	31	15	17								
127	a	93	92	97	96	96	95	93	91	79	85	94	94	92	96	97	100	94	90	92	97								
	b	6	7	2	4	4	5	6	7	12	11	4	5	8	3	3	0	4	11	4	3								
	c	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	4	0								
	d	0	0	0	0	0	0	1	0	1	2	0	0	0	1	0	0	0	0	0	0								
133	a	16	15	4	7	12	13	19	36	28	17	18	17	11	16	7	4	6	22	3	8								
	b	47	50	66	55	58	46	45	24	26	38	50	46	50	47	51	60	48	33	59	49								
	c	9	11	3	6	6	8	11	12	16	14	8	8	9	10	10	9	8	17	6	11								
	d	27	22	26	32	23	32	23	28	26	29	22	28	30	26	30	28	36	29	17	31	30							
135	a	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0								
	b	69	67	76	71	71	73	72	53	66	66	67	70	72	75	59	60	57	61	57	59								
	c	1	1	0	2	1	0	1	2	1	2	1	1	1	0	1	0	0	7	0	1								
	d	28	30	23	26	28	25	27	44	26	29	31	28	26	24	39	38	41	39	29	41	38							
136	a	62	64	70	66	67	62	64	53	44	57	60	67	62	55	65	62	73	56	70	64								
	b	1	1	0	0	1	1	1	1	0	0	0	1	1	1	0	0	0	0	0	0								
	c	13	13	10	12	8	14	14	18	22	9	15	10	15	17	22	30	20	15	25	22								
	d	24	21	20	21	25	23	22	24	25	33	23	21	21	25	12	9	8	21	19	4	14							
144	a	9	9	6	8	6	9*	10	10	18	11	9	10	9	8	5	2	4	6	4	5								
	b	5	5	9	7	3	5	7	5	5	4	5	6	5	5	7	4	6	8	13	7								
	c	83	85	85	84	90	85	81	81	70	78	84	83	84	85	88	92	88	85	81	91	87							
	d	0	0	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0							
152	a	20	16	10	7	12	21	25	37	36	23	19	18	22	22	13	12	12	9	8	13								
	b	1	1	0	3	1	1	1	0	3	2	1	1	0	1	0	0	0	0	0	0								
	c	1	1	1	1	1	0	1	0	1	1	1	0	0	1	0	0	0	0	0	0								
	d	78	82	89	89	87	78	72	63	57	73	78	81	77	76	87	88	88	91	92	87								
159	a	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
	b	2	1	2	0	1	1	2	1	7	3	2	1	2	1	4	2	8	4	8	4								
	c	92	92	99	95	96	92	93	88	77	87	90	95	93	94	91	93	90	91	83	91								
	d	6	5	1	3	3	5	5	9	13	7	7	4	5	5	3	0	2	0	0	3								

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	IOWA CAPE MAY	Pool No.	Foil	Sex		Age			Driver Ed.		Location					Age							
				All	Fe-male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34	
																							Male
6-9		167		48	57	41	59	30	29	29	22	58	30	22	21	43	60	54	72	69	71	80	56
				8	6	10	8	13	5	5	4	7	20	6	6	11	10	2	0	0	0	0	0
				6	4	7	5	5	7	14	9	5	7	8	4	8	4	6	4	0	0	0	0
				38	32	42	28	52	57	52	65	30	43	63	69	38	26	39	24	31	29	20	44
7-29		170		81	82	80	84	65	68	90	83	84	84	72	64	78	86	91	89	83	82	88	71
				7	7	6	4	13	18	3	0	6	9	11	17	8	5	0	4	7	7	6	7
				7	7	7	6	8	8	7	0	7	3	6	6	7	8	3	8	5	7	3	7
				5	4	5	4	13	5	0	17	3	0	9	13	6	1	5	0	5	4	3	14
3-30		173		4	5	4	2	6	18	4	0	3	0	7	10	1	2	7	13	2	0	4	0
				20	21	18	22	15	14	16	17	23	19	12	6	23	21	20	19	20	20	15	28
				4	4	4	2	6	9	12	4	2	3	11	10	6	1	3	0	3	0	4	6
				71	70	72	73	72	57	68	71	72	74	65	69	69	75	71	69	76	80	77	67
2-8		179		8	6	9	5	15	14	8	7	6	4	12	12	7	4	0	19	5	12	0	5
				4	3	4	4	6	6	0	0	4	0	5	7	3	2	12	8	3	0	4	5
				0	0	0	0	2	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0
				88	89	87	90	78	81	92	93	90	96	82	80	89	93	86	69	92	88	96	90
4-17		187		27	28	26	27	25	32	33	29	24	36	32	27	27	28	29	17	35	26	36	42
				5	3	7	2	6	14	6	21	4	3	10	14	4	4	4	0	8	0	5	17
				6	6	5	4	6	8	17	14	4	0	11	11	5	4	10	0	8	10	5	8
				62	62	61	67	62	46	44	36	67	61	47	46	63	64	57	83	49	63	55	33
1-38		200		8	8	8	8	12	7	6	11	8	3	9	8	7	6	14	7	5	8	6	0
				68	70	67	65	62	48	49	47	75	57	53	54	73	72	63	68	84	76	83	95
				4	4	3	3	2	7	0	0	3	10	5	2	4	5	2	4	7	12	6	5
				19	18	02	12	22	39	39	37	15	27	32	33	17	16	21	14	7	12	6	5
7-24		201		1	1	1	0	8	0	0	8	1	0	2	4	1	0	2	0	1	0	0	7
				1	1	1	0	0	6	7	0	0	0	6	6	0	1	2	0	0	0	0	0
				1	1	1	0	3	2	0	0	1	0	0	0	1	1	0	0	0	0	0	0
				96	97	96	99	88	92	90	92	98	100	89	87	98	97	97	100	99	100	100	93
5-40		203		1	2	1	2	2	0	0	0	1	4	0	2	1	1	2	0	1	0	5	0
				88	87	89	90	79	85	84	92	90	92	81	77	91	91	86	82	92	96	91	89
				7	7	5	4	14	9	6	0	5	4	12	14	4	5	7	7	5	4	5	7
				11	4	4	2	5	6	6	8	3	0	6	4	4	1	3	11	0	0	0	0

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group					
		Male	Female	20-24		25-34		35-44		45-54		55-64		>64		1	2	3	4	5	All	<20	20-24	25-34	>34	1	2
				All	<20	24	25	34	44	54	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
167	a	50	47	68	61	48	33	32	33	33	32	33	24	43	59	61	59	60	77	49	58	20	68	58	20	68	
	b	2	3	5	1	1	3	3	2	2	3	2	3	3	2	1	1	1	1	2	2	0	0	0	0	0	2
	c	4	3	1	4	6	5	2	5	5	2	5	2	4	3	4	4	2	2	2	4	0	0	0	0	0	3
	d	44	46	26	35	44	59	63	57	57	63	57	70	49	35	34	36	36	36	20	45	42	70	32	42	70	37
170	a	87	87	89	91	92	87	80	74	80	74	77	77	86	89	91	87	83	82	79	92	86	73	85	73	85	
	b	7	6	5	4	5	6	11	17	11	17	14	14	6	4	5	8	10	13	8	6	14	33	8	14	33	
	c	3	3	1	3	0	2	5	4	4	5	4	4	3	3	2	1	3	0	8	0	0	0	5	0	0	3
	d	4	4	5	3	3	4	3	4	4	3	4	5	4	3	3	2	2	4	4	5	3	0	0	0	0	5
173	a	3	4	0	3	2	2	5	5	5	5	4	2	2	3	3	4	2	0	2	6	0	0	0	0	0	2
	b	15	12	14	14	15	20	14	18	14	18	13	15	15	15	20	12	13	7	12	17	17	0	0	14	17	
	c	2	3	0	2	1	2	3	2	2	3	2	7	2	1	0	0	0	0	0	6	3	4	8	3	4	8
	d	79	82	86	82	81	75	76	73	73	73	73	73	80	80	76	84	81	93	78	75	75	74	83	81	74	83
179	a	7	8	4	6	6	6	11	13	11	13	16	6	6	5	4	4	5	6	3	5	13	15	3	5	13	
	b	7	7	5	2	4	11	9	10	9	10	8	5	4	10	9	9	4	0	3	8	6	4	4	4	6	
	c	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	d	85	84	91	90	90	83	77	73	73	73	74	86	86	88	84	87	91	94	93	87	81	82	82	81	82	
187	a	36	33	33	42	39	33	30	31	30	31	27	36	42	29	34	34	31	26	39	34	11	31	31	31	31	
	b	6	4	3	5	2	8	11	8	8	10	10	6	4	7	1	1	7	6	2	11	17	9	9	6	6	
	c	3	4	1	5	4	1	2	5	5	5	7	3	3	4	1	1	4	9	2	0	6	6	6	3	3	
	d	55	52	62	49	56	58	55	51	51	51	56	54	49	59	64	64	57	60	55	54	54	67	53	53	58	
200	a	3	2	3	0	3	3	2	9	2	9	2	3	3	1	5	3	7	10	5	4	11	12	6	6		
	b	76	73	81	82	77	78	70	50	50	50	74	78	79	74	68	73	73	69	72	83	58	50	77	77		
	c	2	1	1	2	1	2	2	3	3	3	3	1	1	1	1	1	2	3	5	0	0	8	1	1		
	d	18	14	15	15	19	15	25	33	33	33	19	17	17	20	23	18	18	18	18	13	13	26	31	15		
201	a	0	1	0	0	0	0	1	2	1	2	1	0	0	0	2	2	2	0	3	0	7	5	2	2		
	b	1	2	0	2	1	1	1	3	2	3	2	1	1	1	1	1	2	0	3	0	7	0	2	2		
	c	2	2	0	1	3	1	4	5	6	6	6	2	2	0	1	1	1	0	0	3	0	0	1	1		
	d	96	95	100	97	96	98	93	88	90	93	90	96	97	98	95	96	100	93	93	97	86	95	96	96		
203	a	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
	b	94	96	93	96	96	94	90	88	90	90	95	95	96	93	94	93	92	94	94	95	88	91	93	93		
	c	3	3	3	2	3	3	5	8	7	7	7	3	3	3	4	2	2	2	4	0	0	0	0	2		
	d	2	1	3	4	1	2	4	3	1	3	1	2	1	1	1	1	1	0	0	0	5	0	0	2		

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	IOWA CAPE MAY	Pool No.	Foil	Sex		Age				Driver Ed.		Location					Age							
				All	Fe-male	<18	18-		20-		25-34	High Sch.	Com-mer.	None	1	2				All	<25	25->34		
							19	24	24	34						3	4	5	34					
2-38		206	a b c d	5 6 54 35	2 4 66 27	7 8 42 43	2 5 59 34	15 6 52 28	6 3 47 44	8 12 39 39	0 4 28 69	4 5 54 43	4 0 48 35	7 8 41 36	14 7 41 36	5 7 53 35	2 2 61 40	5 4 50 46	0 4 50 46	2 5 64 30	6 6 53 35	0 9 57 35	34	
6-33		207	a b c d	3 2 18 77	3 2 16 79	2 2 20 76	4 0 9 87	3 2 33 62	0 5 24 71	0 10 43 48	0 4 39 57	3 1 7 86	3 0 46 90	3 6 31 60	0 6 46 46	2 1 20 78	4 0 14 81	0 2 15 83	12 4 8 76	2 1 14 82	4 0 18 79	0 3 10 87	0 0 15 82	4
3-38		213	a b c d	3 2 79 17	4 4 78 14	2 0 79 18	2 1 80 17	4 4 76 15	7 5 75 14	4 0 72 24	0 0 83 13	2 1 80 17	2 3 76 13	2 4 75 17	2 2 81 14	2 2 76 22	5 0 80 12	3 0 81 16	0 0 81 16	0 0 96 4	0 0 100 0	0 0 96 0	0 0 89 4	0
1-31 2-31 3-31 4-31		215	a b c d	75 9 10 6	74 10 8 7	75 8 11 6	80 5 9 6	66 16 10 7	68 14 10 7	67 14 11 7	65 18 10 5	79 6 9 6	64 18 11 6	64 16 11 8	64 16 11 8	77 9 9 5	78 6 8 7	72 10 10 8	74 5 15 6	88 7 3 2	85 8 6 2	93 5 2 2	84	
7-10		217	a b c d	27 48 16 9	20 61 14 5	31 48 16 5	24 59 13 4	33 33 23 13	28 42 20 8	40 43 17 0	17 75 8 0	24 53 13 3	30 38 20 11	30 36 21 13	26 59 12 3	29 61 19 3	16 69 10 5	31 39 19 12	26 63 58 6	29 61 8 0	26 63 11 0	33 58 6 0	21 71 7 0	
1-22 2-22 3-22 4-23		231	a b c d	5 0 5 89	4 0 17 79	4 0 22 74	4 0 11 85	5 1 26 69	4 0 29 66	6 0 30 63	8 0 29 61	4 0 13 83	6 0 30 62	5 0 26 69	4 0 17 79	5 0 14 81	4 0 14 80	3 0 14 83	3 0 14 83	5 0 11 0	3 0 13 83	4 0 9 87	8 0 10 81	0
7-11		241	a b c d	92 3 1 3	94 2 2 2	94 2 2 1	95 1 1 1	95 3 0 3	88 2 4 4	93 3 3 0	92 0 8 0	96 1 1 2	89 4 5 2	87 4 2 2	95 2 2 1	96 1 2 3	95 0 2 1	89 0 4 4	96 0 0 3	96 0 1 0	100 0 0 0	91 0 3 6	100	
1-13		242	a b c d	24 36 41 0	39 29 27 4	29 41 26 3	37 28 30 4	34 40 24 2	32 41 21 7	21 61 12 6	21 74 0 0	35 32 30 3	30 48 16 4	36 57 3 4	42 29 22 6	24 38 37 1	25 37 35 2	43 14 36 7	24 32 40 5	20 40 28 12	28 28 44 0	28 32 44 0	21 32 42 5	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group							
		All	Male	Fe- male	20-24		25-34		35-44		45-54		55-64		>64		1	2	3	4	5	All	<20	20-24		25-34	>34	1	2
					<20	20-24	25-34	35-44	45-54	55-64	>64	20-24	25-34	20-24	25-34														
206	a	4	5	4	7	6	3	5	1	7	9	7	3	6	1	6	3	3	2	5	5	6	5	8	0	7	6		
	b	7	8	6	11	9	7	6	5	7	13	7	6	10	7	10	6	5	4	4	5	0	7	8	6	0	7		
	c	48	52	45	51	45	49	47	58	46	31	41	47	49	41	49	47	51	53	55	74	74	44	54	63	70	52		
	d	38	34	42	32	39	41	41	33	38	43	40	42	34	40	34	42	40	40	40	32	18	42	28	31	22	34		
207	a	3	3	3	1	1	2	4	4	5	4	2	2	2	4	2	2	2	4	3	0	4	6	10	0	4			
	b	1	1	1	1	1	0	1	1	0	0	1	1	1	0	1	1	0	2	0	0	0	0	0	0	0	0		
	c	27	26	28	27	22	22	29	25	33	32	40	25	25	40	25	25	25	22	14	10	20	9	20	10	15			
	d	69	70	68	71	71	76	66	70	60	60	54	71	70	73	70	73	70	70	82	90	90	76	82	70	87	81		
213	a	1	2	1	4	1	1	1	1	1	0	3	1	1	1	1	0	1	1	19	9	20	17	35	25	1			
	b	1	1	1	0	2	0	1	0	1	2	1	1	1	1	1	0	0	1	1	0	0	3	0	0	1			
	c	89	90	89	92	91	87	92	88	88	80	87	88	88	87	88	91	91	91	73	81	71	78	52	67	89			
	d	8	7	10	5	8	8	11	8	9	13	8	10	8	8	10	8	7	6	7	7	9	8	3	9	8	9		
215	a	77	76	79	90	89	88	83	74	61	45	66	77	77	81	80	80	79	76	76	80	74	79	65	66	78			
	b	12	15	9	4	5	6	9	14	24	30	20	13	13	10	10	10	10	13	13	11	14	11	19	17	13			
	c	5	4	6	3	3	3	4	5	7	9	5	4	4	4	6	4	6	6	6	4	6	5	11	9	5			
	d	4	3	5	3	2	3	4	5	6	7	5	4	4	4	4	4	4	4	5	5	6	4	5	8	5			
217	a	19	19	19	11	22	17	21	18	20	23	21	17	17	19	18	19	25	22	22	24	18	25	29	32	21			
	b	69	68	70	84	69	76	67	68	61	51	60	72	72	72	65	65	63	53	53	51	53	56	57	55	53			
	c	8	8	8	4	8	4	8	7	12	13	9	6	6	7	11	6	6	11	11	13	13	8	0	5	12			
	d	3	4	3	1	1	2	4	4	5	9	6	3	3	2	5	2	4	4	12	9	15	11	14	9	13			
231	a	5	4	5	3	5	6	6	5	5	3	3	5	5	5	4	6	6	4	4	4	4	3	5	2	4			
	b	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0			
	c	18	15	21	13	15	16	18	19	21	26	23	16	16	17	18	23	23	13	13	11	13	13	18	14	12			
	d	76	79	73	84	81	78	77	75	72	68	72	78	78	76	77	71	71	83	83	85	83	83	75	82	83			
241	a	98	99	98	98	99	100	99	98	98	98	96	99	98	98	98	100	100	98	98	98	97	100	100	100	98			
	b	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	c	1	0	1	0	1	0	1	0	1	0	0	0	1	1	1	0	0	1	1	0	2	0	0	0	1			
	d	0	0	1	0	0	0	1	1	1	1	2	0	0	0	0	0	0	0	1	2	2	0	0	0	2			
242	a	18	21	15	14	19	13	18	22	19	26	24	19	16	17	16	16	16	18	18	13	13	27	16	15	18			
	b	38	30	46	44	40	40	38	36	39	29	41	38	38	38	29	29	29	43	43	44	43	42	47	46	43			
	c	31	36	47	38	32	39	33	32	32	24	22	30	35	32	38	38	38	33	33	39	35	25	37	19	36			
	d	11	11	11	4	9	9	11	8	8	18	11	12	9	12	14	14	14	5	5	5	7	6	0	19	3			

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA CAPE
MAY

Michigan Original Test-Item No.	Pool No.	Foil	Sex		Age			Driver Ed.			Location					Age						
			All	Male	Fe- male	<18	18-		20-	25-	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34
							19	24														
3-7	243	a	8	4	11	5	13	11	12	8	5	6	16	15	9	5	7	0	6	0	4	17
		b	1	0	0	0	0	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0
		c	2	2	2	1	4	5	4	4	0	0	7	4	2	2	2	0	2	0	0	6
		d	90	94	86	94	81	84	84	83	94	94	76	81	88	93	92	100	91	95	96	78
6-2	253	a	28	26	29	24	35	31	29	35	30	17	30	31	21	22	54	44	39	43	37	37
		b	3	5	2	2	7	7	5	9	3	7	5	8	5	1	0	4	5	7	0	7
		c	21	17	24	9	32	41	62	44	12	13	50	44	22	12	17	12	20	29	17	15
		d	47	51	44	65	27	17	5	4	54	63	12	15	51	66	29	40	35	21	43	41
2-6	255	a	5	6	4	4	4	6	4	14	4	7	4	9	3	5	5	4	3	6	0	5
		b	62	65	60	68	50	64	42	41	66	75	55	45	70	62	55	62	69	53	78	75
		c	28	24	31	22	44	25	46	45	23	18	40	41	25	25	28	31	26	35	22	20
		d	5	4	4	6	0	6	8	0	6	0	0	2	2	7	10	4	0	0	0	0
2-9	257	a	64	71	58	67	56	72	65	48	67	68	55	61	63	67	68	62	85	88	83	85
		b	8	10	7	8	9	8	12	10	8	7	10	12	8	8	8	4	0	0	0	0
		c	13	7	19	14	11	6	15	21	12	11	17	11	14	14	7	23	8	12	4	10
		d	13	12	13	11	22	14	8	17	11	14	16	14	13	9	17	12	7	0	13	5
6-19	269	a	7	8	5	8	7	5	5	4	7	7	6	2	9	4	4	16	14	14	13	15
		b	76	72	78	78	73	67	76	74	78	77	67	65	72	85	75	80	78	71	80	82
		c	11	13	9	10	12	17	10	17	10	10	15	27	9	7	14	4	1	0	0	4
		d	6	6	6	5	8	12	5	4	6	7	10	4	9	4	8	0	6	14	3	0
2-34	270	a	13	11	16	10	15	14	12	38	10	25	19	14	15	10	15	12	10	12	4	15
		b	1	0	2	0	0	8	0	0	1	0	2	5	1	0	0	0	0	0	0	0
		c	8	10	6	10	4	3	8	0	8	7	6	5	7	10	5	12	5	6	4	5
		d	77	79	75	80	80	72	77	62	80	68	71	71	77	79	80	77	84	82	91	75
5-14	273	a	2	2	2	1	0	6	6	0	1	0	7	4	3	0	2	0	1	0	0	4
		b	37	28	43	34	29	55	41	69	33	32	47	50	35	32	40	39	27	24	19	30
		c	9	9	10	6	19	15	19	0	7	12	12	14	11	8	9	0	4	4	5	4
		d	52	61	45	58	52	24	31	31	58	56	33	32	50	60	50	61	68	72	76	63
4-19	287	a	82	86	79	88	72	84	58	79	86	91	67	74	80	86	86	90	68	63	68	71
		b	14	11	16	9	23	11	28	14	11	6	23	20	14	14	8	10	18	16	27	13
		c	3	3	4	2	2	3	14	7	2	3	6	6	5	1	2	0	12	16	5	17
		d	1	0	1	0	2	3	0	0	0	0	2	0	1	0	4	0	0	0	0	0

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age											Location				Age			Group	
		Male	Female	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2	
243	a	3	0	1	3	2	4	3	4	5	5	3	3	1	3	3	0	8	0	0	8	2	
	b	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	2	3	0	0	1	
	c	1	1	1	3	0	1	4	4	4	4	1	1	0	2	1	0	2	0	0	0	1	
	(d)	95	98	91	96	95	93	95	88	88	89	96	94	95	97	95	100	88	97	100	92	96	
253	a	36	34	33	26	37	39	41	38	35	32	30	38	47	48	26	12	27	52	30	10	31	
	b	7	9	7	7	7	10	6	3	4	5	8	8	3	5	12	12	14	9	10	0	15	
	c	27	24	29	12	25	30	27	39	46	37	28	24	23	22	15	13	12	12	50	19	14	
	(d)	28	31	26	56	31	21	22	13	6	23	31	29	26	23	45	62	47	24	10	68	40	
255	a	6	7	5	3	3	3	7	6	11	8	5	4	6	10	3	0	2	5	6	4	3	
	(b)	69	69	68	77	75	73	62	60	51	53	72	72	70	63	79	85	83	74	63	82	79	
	c	23	21	24	10	13	19	28	33	34	35	20	21	22	24	16	12	14	15	31	15	16	
	d	2	2	3	4	2	2	1	1	1	3	2	2	1	3	3	3	2	5	0	0	3	
257	(a)	73	78	69	71	73	71	74	77	69	67	73	76	73	78	85	82	83	85	94	82	85	
	b	6	4	8	5	7	5	8	6	10	10	6	7	6	1	1	0	3	0	0	0	2	
	c	7	5	9	8	4	7	4	7	3	9	8	5	8	3	5	6	5	5	0	11	3	
	d	11	9	12	13	10	14	9	8	8	7	10	11	10	15	9	12	9	8	6	7	9	
269	a	5	4	7	6	7	5	8	5	4	6	5	7	5	2	4	7	2	0	10	7	3	
	(b)	78	79	78	82	80	81	74	78	60	74	78	77	83	82	74	73	65	88	70	65	76	
	c	10	10	9	3	5	8	14	12	31	15	11	8	7	8	9	8	10	9	10	10	9	
	d	6	8	4	9	8	6	4	3	3	2	6	8	4	8	12	8	22	3	10	16	11	
270	a	19	19	19	13	18	15	16	33	31	2	17	22	21	18	20	24	22	15	13	30	17	
	b	1	1	1	0	0	1	1	1	1	10	1	0	0	1	1	0	0	3	0	4	0	
	c	5	6	5	5	3	5	5	7	10	0	4	6	7	9	5	6	9	0	0	11	3	
	(d)	74	73	74	85	78	78	76	58	53	74	77	71	70	72	74	71	68	82	88	56	79	
273	a	1	1	1	0	0	1	0	0	3	2	0	1	0	1	3	2	4	3	0	9	2	
	b	42	36	48	31	30	44	45	59	58	47	41	40	42	44	33	30	28	41	44	39	32	
	c	5	5	5	6	3	2	7	7	6	5	5	6	4	5	9	13	6	10	0	17	7	
	(d)	52	58	46	65	66	53	47	32	27	43	53	53	52	49	56	55	63	46	56	35	59	
287	(a)	70	68	73	69	73	73	76	55	52	59	72	69	73	72	68	70	69	74	50	69	68	
	b	22	23	21	22	18	20	17	35	37	28	22	22	18	20	21	23	20	17	28	25	21	
	c	6	7	4	6	6	6	6	7	6	9	5	6	6	4	8	6	8	6	17	6	8	
	d	1	1	1	3	1	1	1	1	0	2	1	2	2	2	1	0	2	0	6	0	2	

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	MICHIGAN ORIGINAL (No Previous License) APPLICANTS															MICHIGAN TRANSFER APPLICANTS				
					All	Sex		Age					Driver Ed.			Location					All	Age		
						Male	Fe-male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5		<25	25-34	>34
7-9	289	a	1	9	5	3	6	3	13	8	3	8	3	3	11	13	6	4	2	0	0	0	0	
		ⓑ	93	74	69	80	60	74	50	64	50	92	73	75	54	47	65	79	79	65	85	82	82	100
		c	4	13	18	8	26	17	23	18	33	0	17	19	22	19	23	11	16	23	8	7	12	0
		d	2	4	7	8	6	5	15	8	10	0	6	3	10	19	6	4	3	12	7	11	6	0
3-3	294	a	16	20	11	14	9	15	4	7	4	0	14	6	4	4	13	11	8	22	8	0	0	28
		b	4	4	6	5	8	4	8	11	8	13	6	3	10	10	3	8	7	9	2	0	4	0
		Ⓒ	78	72	77	76	78	76	77	71	88	79	77	90	72	73	79	78	79	63	83	85	92	67
		d	2	4	6	5	6	4	11	11	0	8	4	0	14	12	5	3	7	6	8	15	4	6
3-14	300	a	20	14	39	30	47	40	38	36	52	29	41	32	34	38	41	37	33	47	26	20	23	33
		b	1	8	2	3	1	3	2	0	0	0	2	6	0	2	2	4	0	0	0	0	0	0
		Ⓒ	71	68	44	53	36	48	45	32	20	38	46	55	33	33	42	50	48	41	64	75	73	39
		d	7	10	14	14	15	9	15	27	28	29	11	6	30	25	14	9	20	9	11	5	4	28
4-8	303	a	7	10	8	10	6	7	5	11	17	14	7	6	12	13	9	4	4	10	2	0	0	4
		ⓑ	87	66	71	66	74	74	62	60	69	64	75	67	60	51	68	81	73	79	83	79	82	88
		c	1	16	9	14	5	10	14	8	0	7	12	9	4	11	8	10	12	10	5	10	0	4
		d	2	8	10	7	12	6	14	22	14	14	5	18	21	24	12	4	8	0	5	5	9	0
1-14	305	a	6	20	18	17	18	14	26	21	18	42	14	20	32	28	21	11	16	11	26	20	22	42
		b	1	8	1	0	1	0	0	5	3	0	0	3	0	3	1	0	0	0	1	4	0	0
		c	14	19	17	14	20	14	30	23	12	16	16	10	20	25	21	10	12	21	15	16	19	5
		Ⓓ	78	53	64	68	60	71	44	52	67	37	69	67	48	44	56	79	72	68	57	56	58	53
6-30	313	a	5	9	6	8	4	4	5	7	5	13	4	7	9	10	5	4	8	0	4	7	3	0
		ⓑ	93	77	83	83	83	91	75	79	57	52	91	83	60	60	81	88	90	100	88	86	90	89
		c	2	6	2	3	1	1	5	2	5	0	2	0	4	2	2	2	0	0	1	4	0	0
		d	0	7	10	7	12	4	13	12	33	35	3	10	27	25	12	5	2	0	7	4	7	11
5-28	317	a	15	15	12	11	14	13	12	12	13	15	13	8	10	9	13	13	12	14	5	12	0	0
		ⓑ	50	59	64	63	64	62	71	79	53	62	65	52	73	64	65	56	71	75	81	80	90	82
		c	30	17	19	21	17	21	17	3	16	23	19	24	12	18	17	26	12	11	6	4	5	4
		d	5	10	5	4	4	4	0	6	13	0	3	12	6	9	4	4	5	0	8	4	5	15
5-22	319	a	1	3	2	2	2	1	2	6	0	15	1	0	1	4	1	1	3	0	4	0	14	0
		b	5	10	7	3	10	3	14	21	13	15	5	0	15	16	6	4	7	7	4	0	0	11
		Ⓒ	89	74	82	88	77	92	71	61	44	54	89	92	60	73	80	84	85	93	73	76	81	59
		d	4	12	9	7	11	4	12	12	38	15	5	8	22	7	12	10	5	0	18	24	5	26

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MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age						Location					Age			Group					
		Male	Fe-male	All	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2
289	a	2	1	3	1	1	1	1	3	2	6	1	1	0	0	3	2	5	0	0	0	9	2
	b	85	81	85	90	86	86	81	81	72	75	84	88	89	88	80	78	79	81	93	77	81	
	c	10	7	10	9	11	8	12	15	15	13	11	9	7	8	11	16	10	14	0	9	12	
	d	3	2	1	1	2	4	4	7	7	4	4	2	3	2	5	4	7	3	7	5	5	
294	a	9	5	8	11	7	7	8	11	8	8	8	12	14	5	0	8	0	0	13	8	4	
	b	6	5	3	4	2	7	11	11	14	3	6	6	2	3	0	0	2	6	4	0	0	3
	c	79	83	81	82	85	78	71	70	71	71	79	83	78	80	87	95	80	92	78	92	86	
	d	6	6	8	3	4	8	11	9	9	7	9	3	4	3	5	5	8	3	4	0	0	6
300	a	31	23	37	32	36	36	24	16	36	32	31	29	26	16	9	16	14	30	17	16		
	b	1	1	0	1	1	1	3	1	2	1	1	2	0	0	0	0	0	0	0	0	0	0
	c	45	54	47	53	46	39	35	18	36	45	48	40	53	68	79	65	67	52	67	68		
	d	22	21	16	14	16	24	37	57	24	22	20	28	19	17	17	12	18	19	17	17	17	
303	a	5	5	2	3	4	5	8	13	9	4	4	5	7	8	6	9	6	11	6	6	8	
	b	78	77	81	81	82	82	67	60	62	80	81	79	81	68	57	70	77	67	67	56	71	
	c	13	15	13	12	13	9	19	17	20	12	13	12	12	13	26	8	8	11	22	11		
	d	2	2	3	3	1	2	0	2	3	2	1	2	0	8	6	8	11	6	6	16	6	
305	a	35	37	19	27	42	39	50	50	37	37	30	37	37	28	21	23	33	47	23	29		
	b	1	2	0	1	2	0	2	1	2	1	1	3	1	2	3	0	6	0	0	0	3	
	c	16	10	21	18	17	16	11	3	14	18	16	11	12	10	13	12	4	4	11	19	8	
	d	48	50	60	55	39	43	37	42	44	44	52	50	49	59	64	63	56	42	42	58	59	
313	a	9	10	4	7	9	6	17	20	12	9	7	9	11	6	3	10	3	10	7	6		
	b	77	75	89	86	79	82	64	35	66	76	81	77	77	83	90	78	82	70	84	83		
	c	3	3	2	1	1	3	7	6	5	2	2	3	4	1	0	2	0	0	0	0	1	
	d	10	10	6	6	11	9	10	35	15	11	9	9	8	11	7	10	15	20	10	10	11	
317	a	15	14	10	8	14	21	28	28	15	16	11	22	13	14	9	22	13	13	17	14		
	b	72	73	80	81	73	69	52	46	67	70	79	68	70	69	68	67	69	81	57	72		
	c	6	6	7	7	8	4	5	7	6	6	5	4	4	9	21	2	8	0	26	6		
	d	5	6	3	3	5	5	10	14	14	6	6	4	5	4	7	2	10	10	6	0	9	
319	a	9	10	3	6	9	12	14	20	9	9	9	12	10	7	2	6	8	25	4	8		
	b	10	8	7	7	12	12	17	15	16	11	8	7	12	5	0	8	8	6	4	5		
	c	57	62	78	71	56	68	35	23	59	53	59	58	59	77	83	78	74	63	65	79		
	d	22	19	12	16	22	8	30	35	14	26	21	23	20	11	15	8	10	6	26	8		

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	IOWA CAPE MAY	Foil	Sex		Age			Driver Ed.			Location					Age				
			All	Fe-male	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34
2-23		a	29	28	26	32	54	52	26	25	34	39	29	28	25	27	18	12	20	
		b	1	2	1	2	4	3	1	0	2	4	1	2	0	0	0	0	0	
		c	61	60	64	57	39	41	64	64	59	55	62	57	67	62	80	88	80	
		d	8	9	10	9	4	0	9	11	4	2	7	13	8	12	2	0	0	
1-30		a	7	9	4	12	6	11	6	3	13	18	8	3	4	7	4	8	0	
		b	60	62	62	56	64	53	58	67	61	54	58	60	68	61	44	56	32	
		c	31	27	34	26	27	16	34	27	20	25	30	34	28	32	51	32	68	
		d	2	1	1	6	3	5	1	3	4	3	2	2	0	0	1	4	0	
4-21		a	52	42	58	40	33	43	58	46	36	38	52	57	49	59	71	58	79	
		b	18	22	20	15	14	14	18	27	17	18	17	22	16	21	11	5	17	
		c	4	4	2	6	6	0	3	0	7	6	6	1	2	0	2	5	0	
		d	26	31	20	39	27	36	21	27	37	38	23	21	33	21	17	32	4	
7-37		a	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4	0	
		b	0	0	0	3	0	0	0	0	0	0	1	0	0	0	1	0	0	
		c	4	3	2	8	6	0	2	12	4	13	2	4	0	4	3	0	0	
		d	95	95	98	90	87	100	97	88	92	85	96	96	100	96	95	96	100	
1-39		a	1	0	0	2	3	0	0	3	2	2	1	1	0	0	1	0	0	
		b	5	6	2	16	9	11	3	0	14	2	7	5	4	0	6	4	5	
		c	2	2	0	6	5	11	1	3	6	2	2	3	2	0	1	0	0	
		d	92	92	97	76	84	79	95	93	77	93	89	91	95	100	90	92	95	
7-8		a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		b	3	5	3	10	0	0	3	3	1	2	5	3	0	8	3	4	0	
		c	1	2	1	5	0	0	1	0	1	2	1	0	3	4	0	0	0	
		d	96	94	96	85	100	100	96	97	98	96	95	97	97	89	97	96	100	
6-20		a	7	8	5	13	5	0	6	7	10	8	6	6	10	8	6	10	4	
		b	0	0	0	2	0	0	0	3	0	2	0	0	0	0	0	0	0	
		c	81	79	83	75	74	91	82	83	77	73	82	83	83	76	85	75	89	
		d	12	13	12	10	14	9	11	7	13	17	12	11	8	16	8	10	7	
2-3		a	97	96	98	96	97	100	98	100	98	98	98	98	92	100	98	100	100	
		b	1	0	0	0	4	0	0	0	0	0	1	0	2	0	0	0	0	
		c	0	0	0	0	4	0	0	0	1	0	0	0	2	0	0	0	0	
		d	2	3	2	4	3	0	2	0	1	2	2	2	5	0	2	0	0	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group					
		All	Male	Fe-male	20-24		25-34		35-44		45-54		55-64		>64		1	2	3	4	5	All	20-24		25-34	1	2
					<20	20-24	25-34	35-44	45-54	55-64	>64	20-24	25-34														
321	a	32	32	33	20	24	25	30	41	45	50	47	34	28	29	26	25	9	29	31	31	30	24				
	b	1	1	1	0	1	1	1	1	0	0	1	1	1	0	0	3	6	3	0	6	0	4				
	c	65	66	63	80	74	72	68	54	51	48	50	63	70	68	71	72	85	68	69	63	70	72				
	d	1	0	2	0	2	2	1	2	2	0	2	1	1	1	2	0	0	0	0	0	0	0	0			
324	a	9	5	13	3	11	8	9	9	14	14	10	9	9	5	2	8	21	5	2	5	19	6				
	b	50	45	55	58	51	52	50	48	44	44	50	51	51	52	42	36	52	38	32	32	58	39				
	c	40	49	30	39	38	39	40	40	41	38	39	39	38	43	49	44	43	58	58	58	23	54				
	d	1	0	1	0	0	1	0	0	0	1	2	0	0	0	1	1	0	0	2	2	0	0	1			
325	a	66	69	63	59	65	69	72	63	61	59	65	70	64	65	57	61	66	61	66	39	63	61				
	b	4	3	5	7	4	4	4	3	4	6	4	5	4	4	4	4	13	0	0	6	9	3				
	c	1	1	2	0	2	0	1	2	1	4	4	2	0	0	0	2	0	3	3	6	0	3				
	d	27	26	29	33	29	26	22	30	32	27	26	22	30	30	38	30	21	34	29	39	28	30				
344	a	2	2	1	2	1	1	1	2	2	3	3	1	2	2	1	1	0	2	0	0	0	1				
	b	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	c	5	6	4	5	3	2	6	5	9	9	6	6	4	3	4	1	0	2	0	0	0	1				
	d	92	91	93	90	94	96	93	92	88	79	89	92	92	95	94	98	98	97	100	100	100	98				
345	a	1	1	1	1	1	0	1	2	1	1	2	1	1	0	0	1	3	0	0	5	4	1				
	b	8	6	10	5	4	6	5	10	14	14	11	8	9	8	5	6	3	5	10	5	8	6				
	c	2	2	2	2	3	1	1	2	5	3	2	2	2	0	3	2	0	2	4	5	0	3				
	d	87	90	84	92	91	93	92	82	78	72	82	86	86	91	88	90	95	93	85	79	89	90				
349	a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	b	0	1	0	0	1	1	0	0	1	0	1	0	0	0	1	1	2	0	0	0	0	1				
	c	0	0	1	0	2	0	0	0	0	0	1	0	1	0	0	1	0	2	0	0	0	1				
	d	99	99	99	100	97	99	100	100	98	100	98	99	99	100	99	99	98	98	100	100	100	100	99			
350	a	4	4	4	8	10	4	3	2	1	0	3	5	3	1	1	2	2	0	6	0	0	3				
	b	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0				
	c	88	90	86	86	82	89	89	88	94	88	82	90	90	86	87	88	92	88	85	80	90	88				
	d	8	6	9	6	8	7	9	9	5	11	12	6	6	8	12	10	7	12	9	20	10	10				
351	a	99	99	99	100	100	100	99	98	99	94	98	99	99	99	100	99	100	98	100	100	100	99				
	b	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0				
	c	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	2	0	0	0	1				
	d	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

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Michigan Original Test- Item No.	Pool No.	Foil	IOWA	CAPE MAY	MICHIGAN ORIGINAL (No Previous License) APPLICANTS																	MICHIGAN TRANSFER APPLICANTS			
			All	Male	Sex		Age					Driver Ed.			Location					All	Age				
					Female	<18	18- 19	20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	<25		25- 34	>34			
3-19	354	a	4	8	2	0	3	1	4	0	4	4	1	3	2	0	3	1	2	0	2	0	0	6	
		(b)	58	62	52	55	49	57	49	30	48	33	55	58	40	35	54	55	51	53	71	75	85	56	
		c	7	6	6	8	4	8	4	5	0	0	6	6	2	12	4	6	8	0	3	0	4	6	
		d	31	23	41	37	44	34	43	66	48	58	39	32	54	52	38	38	39	47	24	25	12	33	
4-22	357	(a)	89	85	98	97	98	98	95	97	100	93	98	97	97	96	96	99	98	100	100	100	100	100	
		b	6	7	1	1	1	1	2	0	0	0	1	3	0	0	1	1	2	0	0	0	0	0	
		c	1	4	0	0	0	0	0	0	0	7	0	0	1	2	0	0	0	0	0	0	0	0	
		d	4	3	1	0	1	0	2	3	0	0	1	0	1	2	1	0	0	0	0	0	0	0	
1-23	362	a	7	7	7	5	8	3	12	14	18	11	4	7	14	8	8	5	7	4	4	4	6	0	
		b	5	7	1	2	1	0	2	7	3	0	1	0	4	0	1	3	2	0	0	0	0	0	
		(c)	84	81	88	90	86	94	78	75	79	63	92	90	72	88	86	87	91	93	95	92	94	100	
		d	2	4	4	3	4	2	8	5	0	16	3	3	8	3	5	4	0	4	1	4	0	0	
7-20	363	(a)	76	74	80	82	78	80	75	86	80	83	80	78	79	79	78	85	78	77	93	93	97	86	
		b	12	10	15	14	16	15	15	10	20	8	15	19	15	15	19	10	10	19	5	4	3	14	
		c	8	13	4	4	5	4	8	4	0	8	5	0	5	6	4	4	7	4	1	4	0	0	
		d	4	3	1	0	1	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	
6-21	366	(a)	59	64	57	68	48	60	58	52	48	44	57	60	54	48	56	61	58	68	59	64	43	70	
		b	40	25	21	20	23	21	17	26	19	35	20	17	28	17	22	21	25	20	32	25	47	22	
		c	0	5	4	3	5	3	7	5	10	0	3	7	6	6	6	2	2	0	1	0	3	0	
		d	1	5	16	9	22	16	17	17	19	17	17	17	10	25	16	15	14	12	8	10	7	7	
7-40	367	a	11	9	5	6	4	5	3	4	3	0	5	0	5	2	4	4	7	10	3	0	3	7	
		(b)	65	57	57	62	54	66	48	48	13	33	63	56	38	30	54	67	67	62	37	48	55	57	
		c	22	30	28	24	30	24	30	32	47	50	25	41	31	23	36	23	22	12	37	48	30	36	
		d	2	4	9	7	11	5	18	12	33	17	6	3	22	38	6	5	3	8	5	4	9	0	
1-15	372	a	8	16	15	15	15	13	12	18	24	26	12	27	22	21	16	16	11	0	10	8	8	16	
		(b)	77	65	77	75	79	82	72	75	58	58	82	73	66	69	77	78	75	96	88	88	89	84	
		c	11	11	6	6	6	3	12	7	12	11	4	0	9	7	5	5	11	0	2	4	3	0	
		d	4	7	2	4	1	2	4	0	6	5	2	0	4	3	2	1	4	4	0	0	0	0	
1-20	375	(a)	81	70	78	75	80	83	58	80	76	63	82	70	70	69	77	76	83	96	90	84	97	84	
		b	1	11	2	3	1	2	6	0	0	5	1	3	4	0	3	2	2	0	4	8	0	5	
		c	8	14	11	11	10	9	16	9	12	21	10	10	15	16	12	8	11	4	2	4	0	5	
		d	10	5	9	9	8	6	20	9	12	11	7	13	11	12	7	13	5	0	4	4	3	5	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS												
		All	Sex		Age								Location					All	Age				Group	
			Male	Fe-male	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5		<20	20-24	25-34	>34	1	2	
354	a	1	1	0	0	0	1	1	0	0	1	1	1	0	0	1	1	0	2	0	0	0	0	1
	(b)	54	60	49	60	59	59	54	60	43	35	42	52	56	62	60	53	58	47	56	52	33	55	
	c	3	3	3	0	4	1	4	4	3	1	4	3	3	3	3	3	5	2	0	4	0	3	
	d	41	36	47	40	37	39	41	35	53	57	50	44	40	36	34	42	35	49	44	39	58	41	
357	(a)	97	96	98	95	100	99	99	96	95	87	93	96	98	100	96	96	100	97	94	83	100	95	
	b	1	1	1	1	0	1	1	2	1	2	0	1	1	0	3	2	0	2	3	11	0	3	
	c	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
	d	2	2	1	4	0	0	1	2	4	5	4	2	1	0	1	0	0	0	0	0	0	0	
362	a	6	4	8	6	5	5	3	6	11	14	10	6	6	6	3	2	5	0	0	5	4	1	
	b	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	
	(c)	90	92	87	93	91	91	94	90	85	82	80	91	90	90	96	95	92	97	96	95	96	95	
	d	1	1	2	1	1	2	0	1	1	0	5	1	0	1	0	2	3	2	4	0	0	3	
363	(a)	89	92	85	87	87	90	88	92	87	91	89	86	90	92	87	83	71	89	86	93	82	84	
	b	9	7	12	11	10	8	11	7	10	7	9	11	8	6	12	15	27	10	14	7	14	16	
	c	1	1	2	1	2	2	0	1	2	0	1	2	1	2	0	1	0	2	0	0	5	0	
	c	1	1	1	1	1	0	1	0	0	1	0	0	1	1	1	1	2	0	0	0	0	1	
366	(a)	55	62	48	81	64	59	54	52	42	46	48	57	61	48	48	74	75	76	76	60	80	73	
	b	33	32	35	12	27	33	37	32	44	35	38	28	30	43	43	19	17	16	21	40	10	22	
	c	4	3	5	3	3	4	2	3	3	10	4	4	3	3	3	2	2	4	0	0	3	2	
	d	7	3	12	3	7	4	7	13	10	6	8	10	6	5	6	5	7	4	3	0	7	4	
367	a	2	1	4	2	4	1	2	2	3	2	1	1	3	2	8	3	7	2	0	0	9	2	
	(b)	48	61	37	59	58	51	44	49	40	45	36	49	53	45	52	58	51	61	64	57	50	62	
	c	38	32	45	35	33	41	40	37	40	35	44	39	34	42	34	33	29	33	33	43	36	32	
	d	11	7	14	2	6	7	13	11	15	18	17	9	10	12	6	5	9	3	3	0	5	5	
372	a	10	11	10	7	6	9	7	13	18	14	15	13	8	7	8	13	13	10	13	21	15	12	
	(b)	73	70	76	79	83	83	80	71	60	35	59	70	78	77	76	74	72	75	75	68	62	76	
	c	9	8	10	13	8	6	8	8	12	15	14	9	8	9	8	7	10	8	4	0	15	5	
	d	6	9	2	1	2	2	4	6	9	23	9	6	4	5	6	7	5	7	6	11	8	6	
375	(a)	83	82	84	76	83	90	89	84	78	67	65	82	87	88	88	72	56	73	83	68	46	76	
	b	3	4	2	3	3	1	1	4	7	5	5	2	2	4	4	10	13	10	4	16	8	10	
	c	9	8	10	17	11	7	5	8	9	14	19	10	7	6	5	7	10	5	8	5	15	6	
	d	4	4	4	4	3	3	5	4	5	6	10	5	2	2	1	11	21	12	4	11	31	8	

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Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	MICHIGAN ORIGINAL (No Previous License) APPLICANTS															MICHIGAN TRANSFER APPLICANTS					
					Sex			Age					Driver Ed.			Location					Age				
					All	Male	Female	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34	
5-17	376	a	2	12	8	12	4	6	12	15	3	15	6	8	14	20	4	8	9	7	6	0	5	15	
		b	10	10	29	31	28	25	38	42	41	31	27	32	37	32	31	26	28	29	27	20	24	33	
		c	13	19	12	14	10	13	5	12	16	15	10	16	12	7	12	11	12	21	13	24	0	15	
		(d)	72	60	51	43	57	56	45	30	34	39	57	44	36	39	52	55	52	43	53	56	71	33	
3-18	388	a	6	4	1	1	1	1	2	2	0	0	1	0	1	2	1	0	0	3	0	0	0	0	
		(b)	78	62	67	68	66	73	59	50	60	54	69	81	57	50	63	72	74	72	65	100	46	61	
		c	7	13	19	16	21	14	26	32	24	29	17	10	26	29	20	20	15	3	11	0	15	17	
		d	8	21	13	15	12	13	13	14	16	17	13	10	15	19	16	7	12	22	24	0	39	22	
2-15	389	a	4	5	2	3	2	2	2	6	0	0	2	0	4	7	1	2	5	0	5	6	9	0	
		b	6	9	4	3	4	3	2	6	8	3	3	7	1	9	3	2	5	0	2	0	4	0	
		c	12	7	10	10	10	10	9	8	15	10	10	7	8	9	7	13	10	15	15	18	17	10	
		(d)	77	77	83	84	83	84	85	81	77	86	83	86	86	75	87	82	80	85	79	77	70	90	
4-18	390	a	8	4	6	3	8	2	14	16	17	0	3	3	16	18	7	2	2	0	11	16	9	8	
		b	6	10	13	7	18	8	14	32	17	53	9	3	26	20	14	7	18	7	12	0	27	8	
		c	0	6	1	0	2	0	3	3	3	7	0	0	6	6	2	0	0	0	0	0	0	0	0
		(d)	84	79	78	88	70	90	68	46	56	50	87	94	49	51	77	89	80	93	77	84	64	83	
5-20	392	a	4	5	5	4	5	2	10	15	9	0	3	4	12	7	5	3	5	0	3	0	0	4	
		(b)	86	73	82	81	83	84	81	70	84	62	85	80	75	75	77	89	85	89	92	100	90	93	
		c	1	9	2	1	2	1	0	6	3	15	0	4	6	7	2	1	0	0	0	0	0	0	0
		d	10	11	10	13	8	12	10	6	3	8	11	12	6	11	13	6	9	11	4	0	10	4	
6-24	395	a	5	15	8	10	6	8	10	7	0	9	8	10	6	6	6	7	4	28	7	7	3	11	
		b	1	5	1	0	0	0	0	2	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0
		c	5	7	1	0	2	0	2	2	5	4	0	0	4	2	1	1	0	0	0	0	0	0	0
		(d)	89	73	90	88	91	92	87	86	91	87	91	90	86	83	91	92	92	72	92	93	97	85	
6-3	397	a	0	7	1	0	1	0	2	0	5	0	1	0	1	0	0	3	0	0	0	0	0	0	
		b	4	7	1	2	1	0	5	2	0	0	1	0	1	2	2	0	0	0	0	0	0	0	0
		(c)	93	76	95	97	93	97	90	93	86	91	96	97	90	92	95	96	96	92	99	96	100	100	
		d	4	9	3	1	4	2	3	5	10	4	2	3	6	6	3	0	4	8	1	4	0	0	0
2-16	399	a	28	28	36	33	37	33	33	39	42	45	34	50	41	38	36	37	33	27	16	18	9	20	
		b	8	8	7	7	7	9	7	6	4	3	7	4	7	4	9	8	2	8	12	12	13	10	
		(c)	61	60	54	58	49	57	56	44	46	41	56	43	46	48	53	50	63	62	72	70	78	70	
		d	2	4	4	1	5	2	2	8	8	10	3	4	5	9	2	4	0	4	0	0	0	0	0

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	Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS												
			All	Sex		Age								Location					All	Age				Group	
				Male	Fe-male	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	<20		20-24	25-34	>34	1	2	
	376	a	9	8	9	1	6	6	13	9	13	7	13	7	10	7	9	11	4	12	23	0	13	11	
		b	36	41	31	25	26	26	32	43	55	55	46	34	36	33	41	39	32	33	46	63	35	49	
		c	7	8	5	11	11	9	7	3	3	6	4	7	7	9	4	9	15	10	3	6	13	9	
		(d)	46	40	53	63	56	59	46	43	27	25	34	50	45	49	44	39	49	45	26	25	39	39	
	388	a	0	0	0	2	0	0	1	1	1	0	1	0	0	1	1	1	0	0	0	4	0	1	
		(b)	69	68	71	72	69	72	70	68	66	63	76	71	68	67	62	72	72	74	69	70	58	73	
		c	12	14	11	10	23	15	14	8	8	10	11	11	15	12	10	19	21	25	22	0	33	18	
		d	17	18	17	16	9	12	15	23	24	25	10	17	16	20	26	7	7	2	8	17	8	7	
	389	a	1	1	1	0	1	1	1	2	3	2	0	2	1	0	3	0	0	0	0	0	0	0	
		b	2	1	3	4	2	4	1	1	1	0	2	3	1	3	0	0	0	0	0	0	0	0	
		c	7	6	9	5	3	7	9	9	11	6	10	7	6	8	9	6	3	7	3	19	4	7	
		(d)	89	92	87	92	94	89	89	88	85	91	88	88	91	88	88	94	97	93	97	81	96	93	
	390	a	3	3	4	4	2	5	1	4	4	4	8	4	2	0	3	7	4	6	9	17	9	7	
		b	6	3	9	6	9	5	5	3	5	9	9	6	6	4	0	2	4	3	0	0	6	2	
		c	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	
		(d)	90	94	87	90	88	90	93	92	90	85	81	88	91	95	97	89	92	89	89	83	84	90	
	392	a	4	2	5	3	5	2	5	4	5	2	7	5	3	2	1	1	0	2	0	0	4	0	
		(b)	91	92	90	90	91	96	91	88	89	84	83	88	93	95	98	93	94	92	90	100	91	93	
		c	3	3	2	1	1	1	2	5	2	8	5	3	2	2	0	3	2	6	3	0	4	3	
		d	2	2	2	6	3	1	1	2	2	3	2	3	1	1	1	3	2	0	8	0	0	3	
	395	a	7	7	7	9	4	8	6	4	10	12	7	4	7	12	11	4	3	4	6	0	0	5	
		b	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3	0	0	1	
		c	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	2	2	0	10	0	3	
		(d)	93	93	93	91	96	92	95	95	90	85	91	96	93	87	89	93	95	94	88	90	100	91	
	397	a	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
		b	1	1	0	0	1	1	0	0	1	2	2	1	0	1	0	1	0	2	0	0	0	1	
		(c)	98	98	99	100	99	99	99	100	98	93	96	98	99	98	97	97	97	98	98	97	90	100	97
		d	0	1	0	0	0	0	1	0	0	2	0	0	0	0	1	2	2	0	3	10	0	3	
	399	a	19	17	20	16	15	16	17	23	24	20	32	21	11	16	23	22	21	19	26	25	30	20	
		b	6	4	8	7	9	6	5	6	4	3	5	6	6	7	2	7	9	7	5	6	11	6	
		(c)	73	76	70	76	75	76	75	68	69	73	60	69	82	76	73	69	68	71	69	63	56	72	
		d	2	2	2	1	1	2	4	1	3	1	2	3	1	2	1	3	3	3	0	6	4	3	

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MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA CAPE MAY

Michigan Original Test-Item No.

Michigan Original Test-Item No.	Pool No.	Foil	IOWA		CAPE MAY		Sex	Age			Driver Ed.			Location					Age				
			All	Male	Fe-male	<18		18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34
4-30	401	a	2	2	2	2	3	0	0	0	0	0	3	1	0	3	0	2	0	5	0		
		b	57	67	48	67	40	38	39	29	36	33	58	65	33	51	72	77	79	64	88		
		c	3	3	3	4	2	3	3	0	3	0	3	4	0	4	0	2	0	0	4		
		d	38	28	46	27	54	60	58	64	58	66	35	30	66	45	24	20	21	32	8		
3-26	404	a	72	74	70	78	64	55	56	67	77	52	71	76	59	85	69	80	81	83			
		b	15	15	15	13	19	21	28	8	14	21	17	13	20	8	13	4	15	0	0		
		c	4	4	4	2	2	14	0	17	3	6	2	4	9	3	9	6	0	4	1		
		d	9	8	10	7	15	11	16	8	10	21	9	6	11	3	9	9	5	15	6		
1-28	406	a	24	19	27	16	32	46	33	42	27	19	23	17	38	14	14	12	12	14	11		
		b	75	80	71	83	64	55	64	58	70	81	75	82	61	84	82	88	88	86	90		
		c	1	0	1	0	2	0	3	0	0	0	2	0	0	0	0	0	0	0	0		
		d	1	1	0	1	2	0	0	0	3	0	0	1	1	2	4	0	0	0	0		
2-29	407	a	36	36	36	29	54	39	46	52	39	30	36	32	48	28	23	20	12	26	15		
		b	1	1	1	1	2	0	4	0	0	1	1	2	2	3	0	0	0	0	0		
		c	62	61	61	68	41	61	50	45	61	67	62	63	48	67	77	80	88	74	85		
		d	2	2	2	1	4	0	0	3	2	2	1	3	1	2	0	0	0	0	0		
5-16	408	a	20	17	22	15	33	46	22	8	17	12	17	18	26	22	25	10	0	10	19		
		b	74	76	72	81	52	42	63	85	84	79	54	55	56	69	75	81	88	81	74		
		c	5	4	4	2	12	6	9	8	4	3	4	4	11	5	0	8	12	5	7		
		d	2	3	1	1	2	6	3	0	0	1	2	1	6	3	0	1	0	5	0		
7-27	410	a	6	7	5	3	18	14	7	0	0	6	4	5	10	5	8	4	4	6	0		
		b	63	60	65	69	35	52	57	67	66	66	66	68	55	55	52	73	74	76	64		
		c	24	26	23	23	30	26	33	17	31	23	24	19	22	33	27	12	15	6	21		
		d	7	7	6	4	15	8	3	17	5	3	5	7	12	7	4	11	7	12	14		
6-27	428	a	4	2	5	3	3	0	10	9	4	4	2	6	6	4	4	5	7	7	0		
		b	31	37	27	32	33	33	19	22	23	32	32	31	32	33	40	49	39	47	63		
		c	48	43	52	51	38	45	38	57	50	50	48	51	40	50	36	38	36	43	33		
		d	17	17	16	14	23	17	33	13	14	14	17	11	18	14	20	8	18	3	4		
5-26	434	a	1	1	0	0	2	0	3	0	0	0	1	0	1	0	0	0	0	0	0		
		b	92	93	92	94	91	94	75	92	96	94	92	97	85	95	89	97	96	100	96		
		c	2	3	2	2	0	0	3	8	3	3	3	0	3	2	11	0	0	0	0		
		d	5	3	6	3	7	6	16	0	4	4	4	3	10	3	0	3	4	0	4		

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group			
		All	Male	Fe- male	20-		25-		35-		45-		55-		1	2	3	4	5	All	20-		>34	1	2
					24	25	34	35	44	45	54	55	24	25											
401	a	2	3	2	1	1	1	1	3	4	7	2	3	2	1	0	0	0	2	4	0	3	0	0	2
	b	62	71	55	72	66	72	66	59	46	42	43	62	62	73	68	63	63	72	52	74	56	69	61	61
	c	5	4	5	3	3	3	5	6	5	5	10	4	4	3	4	7	7	6	11	3	6	13	6	6
	d	30	22	37	24	30	24	30	33	40	40	42	29	30	23	28	26	26	17	36	17	33	19	28	28
404	a	81	83	79	86	84	87	81	75	56	67	80	86	83	82	76	76	63	82	81	78	67	76	76	
	b	7	6	9	10	6	7	8	8	7	7	12	7	6	7	8	12	12	26	8	3	9	8	12	
	c	3	3	4	0	3	2	4	4	11	11	6	3	2	4	6	6	6	7	6	8	0	17	5	
	d	7	7	6	4	5	3	3	6	11	19	11	8	5	5	4	7	7	5	4	8	13	8	7	
406	a	20	14	27	15	24	20	21	21	27	30	22	17	17	19	16	16	13	17	21	11	11	31	14	
	b	78	84	73	85	75	80	79	75	68	67	76	83	82	80	83	85	85	83	79	84	69	85	85	
	c	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	
	d	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	5	0	1	
407	a	23	14	33	21	22	20	28	23	28	39	29	19	12	12	32	35	31	31	31	38	41	31	31	
	b	1	1	2	2	1	0	2	0	4	2	2	1	1	0	0	0	0	0	0	0	0	0	0	
	c	73	83	63	74	76	78	68	75	65	52	67	78	86	88	65	62	66	67	67	63	59	66	66	
	d	2	2	1	3	2	2	2	1	1	1	3	2	2	0	1	1	0	2	2	3	0	0	2	
408	a	16	15	17	14	16	14	14	16	29	27	20	9	11	11	12	17	8	13	13	13	26	10	10	
	b	72	75	70	69	72	69	77	80	63	58	65	79	80	87	73	66	78	74	74	75	61	75	75	
	c	10	8	12	16	9	15	8	3	5	11	13	10	6	2	14	17	14	13	13	6	13	14	14	
	d	1	1	1	1	1	2	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	
410	a	3	4	3	3	1	2	4	3	8	6	3	3	3	2	3	0	3	6	6	0	0	3	3	
	b	75	73	77	61	83	77	75	67	63	63	76	76	78	74	64	64	54	54	75	79	64	64	64	
	c	12	12	12	26	8	9	10	3	3	10	13	11	11	14	24	36	25	25	14	14	32	23	23	
	d	9	9	8	9	7	10	11	18	18	19	7	9	8	6	8	0	16	16	6	7	5	9	9	
428	a															1	0	0	3	0	0	0	1	1	
	b															40	45	43	36	10	10	45	39	39	
	c															53	47	53	58	80	80	45	55	55	
	d															6	8	4	3	10	10	10	5	5	
434	a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	b	96	95	96	98	99	98	96	89	85	96	96	96	96	92	95	96	94	94	97	94	91	96	96	
	c	1	2	1	1	2	3	1	1	3	3	1	1	1	3	2	2	2	2	2	0	6	4	2	
	d	2	2	2	0	1	2	1	3	6	0	2	2	2	3	1	2	2	0	0	3	0	4	1	

(No data available for this group)

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	IOWA CAPE MAY	Sex	Age					Driver Ed.			Location					Age						
				All	Fe-		18-19	20-24		25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34
					Male	Female		18-	20-														
1-8	436	0	1	0	2	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0		
		10	10	7	16	9	15	11	7	13	7	13	8	5	12	0	2	4	3	0	0		
		90	89	91	92	84	82	79	90	80	90	84	89	89	86	100	97	96	97	100	0		
		0	2	2	4	2	0	11	2	4	3	2	1	4	2	0	0	0	0	0	0		
4-40	441	19	24	31	24	27	17	43	23	27	27	38	22	26	20	17	17	16	14	8	8		
		10	18	13	16	14	19	43	17	24	17	16	17	14	26	21	9	10	9	0	0		
		12	8	7	8	8	14	7	8	6	11	14	8	7	8	3	6	5	5	29	29		
		59	49	47	52	51	44	7	53	42	44	31	52	52	47	59	68	68	73	63	63		
3-8	446	0	2	1	1	7	4	4	1	0	7	4	2	2	3	0	2	0	0	6	6		
		88	74	79	82	43	64	63	80	74	52	52	75	79	74	75	82	80	89	72	72		
		1	5	4	3	14	16	21	5	3	18	19	6	6	3	3	6	5	4	11	11		
		11	18	16	14	34	16	13	14	23	22	23	17	13	20	22	9	15	8	6	6		
5-38	448	10	15	16	15	9	13	23	16	8	15	16	18	13	17	7	15	8	5	26	26		
		10	19	14	13	46	38	39	17	8	30	41	21	14	9	21	23	24	24	22	22		
		11	10	11	10	9	6	0	10	12	8	2	10	13	12	4	3	0	5	4	4		
		69	72	58	60	33	38	39	56	72	44	39	50	59	60	64	56	68	67	41	41		
6-18	464	17	12	9	8	17	0	17	8	10	15	10	12	13	4	8	11	4	10	19	19		
		70	85	81	84	71	91	70	86	83	74	73	78	83	96	92	81	82	87	74	74		
		8	8	4	5	7	5	13	3	7	8	8	7	4	0	0	7	10	3	7	7		
		5	3	2	2	5	5	0	2	0	1	8	2	0	0	0	1	4	0	0	0		
4-20	470	11	10	11	8	19	19	7	8	12	18	29	9	6	6	3	0	0	0	0	0		
		71	80	74	80	70	58	79	79	73	61	56	75	78	80	86	78	74	86	75	75		
		7	3	2	0	0	6	0	0	0	3	0	2	1	0	0	2	0	0	4	4		
		12	12	14	11	11	17	14	13	15	18	14	14	14	14	10	20	26	14	21	21		
4-2	471	7	11	10	14	3	11	7	12	18	5	9	11	14	10	7	3	0	9	0	0		
		7	6	2	2	3	3	0	1	3	2	4	2	0	4	0	3	0	5	4	4		
		80	86	85	83	92	95	86	85	79	87	86	85	86	80	90	94	100	86	96	96		
		7	2	2	1	3	0	7	1	0	5	2	2	1	6	3	0	0	0	0	0		
5-18	472	9	16	15	18	21	3	23	17	12	14	16	14	16	21	21	18	20	24	11	11		
		1	3	1	2	3	9	0	1	0	6	2	3	0	0	0	3	4	0	4	4		
		3	10	6	4	0	3	0	6	4	0	2	5	2	10	7	4	4	0	7	7		
		80	81	77	76	76	84	77	76	84	81	80	78	81	69	71	76	72	76	78	78		

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS												
		All	Sex		Age								Location					All	Age				Group	
			Male	Fe-male	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	<20		20-24	25-34	>34	1	2	
436	a	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	b	3	4	2	1	1	1	3	5	5	8	4	4	2	4	1	4	0	2	8	5	4	4	
	ⓐ	96	95	97	98	99	99	97	93	93	89	91	95	98	95	99	93	97	98	85	90	96	93	
	d	0	1	0	1	0	0	0	0	0	1	2	0	0	0	0	1	0	0	2	0	0	1	
441	a	28	29	27	27	16	21	26	39	34	44	36	29	27	29	18	21	21	22	9	39	28	19	
	b	10	8	11	7	10	12	9	8	12	8	16	9	9	9	8	12	4	14	20	11	13	12	
	c	6	5	6	1	3	7	7	4	9	8	10	6	6	4	3	7	9	5	9	6	6	7	
	ⓐ	55	55	54	71	70	60	58	46	42	34	33	55	56	58	71	59	66	58	63	39	53	61	
446	a	2	2	3	0	1	2	4	2	1	7	4	3	2	3	0	1	0	0	3	0	0	1	
	ⓑ	62	68	57	71	72	65	65	57	56	50	48	63	62	69	70	73	67	80	72	70	58	74	
	c	10	2	11	5	6	6	8	13	15	21	17	10	7	10	9	6	2	8	6	9	17	5	
	d	24	20	28	23	21	25	21	27	27	19	30	23	28	17	19	20	28	12	19	22	25	19	
448	a	20	16	25	21	15	18	18	18	27	32	19	21	16	24	23	14	17	12	15	6	22	12	
	b	18	14	21	31	23	17	16	15	16	13	19	20	16	15	13	17	13	14	21	31	17	17	
	c	9	9	10	9	8	5	12	13	11	11	12	9	10	10	1	5	6	8	3	0	0	6	
	ⓐ	51	59	43	39	53	58	53	53	45	40	44	48	56	49	63	61	64	67	56	44	69	61	
464	a	14	11	17	10	9	10	14	15	19	23	14	14	14	15	15	15	17	16	12	0	13	15	
	ⓑ	77	82	71	85	82	83	77	75	71	65	66	79	78	77	78	78	70	82	82	100	71	80	
	c	6	4	8	5	6	5	6	8	7	5	11	5	5	7	4	5	8	2	3	0	13	3	
	d	2	2	2	0	3	1	3	2	1	2	5	2	2	1	1	1	2	0	3	0	3	1	
470	a	8	7	9	9	12	10	4	7	6	11	12	11	6	6	1	8	4	9	9	11	6	8	
	ⓑ	72	73	70	74	78	79	81	67	63	46	59	70	78	72	76	76	79	78	86	44	81	75	
	c	1	1	0	0	0	0	0	1	1	2	2	0	0	0	0	1	2	2	0	0	0	2	
	d	19	18	20	17	10	10	16	24	30	38	25	18	15	22	23	13	15	9	3	39	13	13	
471	a	4	3	4	3	6	5	2	6	1	1	4	3	3	6	6	4	6	5	0	6	6	4	
	b	1	1	1	0	2	2	0	1	0	1	2	1	1	0	0	2	2	2	6	0	3	2	
	ⓐ	95	96	94	98	91	93	96	93	97	97	91	95	96	93	94	93	92	94	94	94	91	94	
	d	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
472	a	17	19	16	25	13	12	15	22	22	21	17	17	18	19	13	10	15	12	5	0	22	8	
	b	1	2	1	0	0	1	1	0	2	3	2	1	0	0	0	1	0	2	0	6	0	2	
	c	3	1	4	1	1	2	2	3	2	3	4	3	3	2	1	6	13	2	5	0	9	5	
	ⓐ	78	78	78	74	85	85	81	74	72	63	73	79	78	77	84	83	72	84	90	94	70	85	

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MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA
CAPE
MAY

Michigan
Original
Test-
Item No. Pool
No. Foil

Michigan Original Test- Item No. Pool No. Foil	IOWA CAPE MAY	Sex	Age			Driver Ed.			Location					Age								
			All	Fe- male		<18	18- 19	20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34
				Male	Female																	
3-23 480	1 8 87 3	7 20 68 4	3 9 87 1	4 10 88 1	1 6 93 0	5 18 75 2	0 8 80 8	8 25 67 0	2 7 90 0	0 0 100 0	6 18 71 4	2 19 77 2	4 8 84 2	1 5 94 0	3 10 85 0	0 13 88 0	0 9 88 2	0 5 95 0	0 8 85 4	0 17 83 0		
4-37 490	92 1 4 3	80 10 7 4	89 5 6 1	87 4 5 0	92 2 5 0	76 16 8 0	85 8 3 3	71 14 7 0	91 6 3 0	91 3 5 0	84 6 7 1	82 11 7 0	87 4 7 1	93 3 4 0	88 6 6 0	97 0 3 0	95 3 2 0	95 5 0 0	100 0 0 0	92 4 4 0		
2-20 496	3 5 90 1	4 4 87 4	4 4 4 4	0 3 93 4	1 4 94 1	3 3 86 8	12 4 77 8	17 7 66 10	2 4 89 2	4 4 89 4	4 4 84 6	5 11 79 7	5 4 88 3	3 4 89 3	3 0 95 2	4 0 92 4	2 2 92 3	6 6 82 6	0 0 91 4	0 0 100 0		
6-38 509	6 6 3 85	5 5 4 86	5 6 5 83	7 6 4 81	5 6 2 88	7 2 10 19	5 9 13 17	9 10 10 61	4 7 3 89	7 7 7 80	7 10 10 69	6 2 19 73	6 5 5 84	5 7 2 86	4 12 4 81	4 8 0 88	0 7 0 93	4 10 0 89	6 3 0 97	0 3 0 97		
7-6 515	4 87 1 6	4 87 2 6	2 95 0 4	2 94 0 3	1 95 0 4	0 3 0 4	3 0 0 3	0 100 0 0	2 97 0 4	0 97 0 3	0 95 0 2	6 85 0 8	2 95 0 3	2 97 0 1	2 95 0 5	0 92 0 8	4 93 0 3	4 93 0 4	4 91 0 3	6 100 0 3		
5-35 516	0 93 4 3	2 85 8 5	1 96 0 2	2 94 1 2	1 97 0 1	3 88 0 3	0 91 0 0	0 92 0 8	1 100 0 1	0 97 0 98	0 89 0 4	0 89 0 9	1 92 1 2	1 97 0 1	2 98 0 0	0 100 0 0	0 96 0 1	0 100 0 0	0 100 0 0	0 89 0 4		
1-3 521	3 6 1 90	5 3 4 89	1 2 1 97	0 2 0 95	0 1 0 98	0 0 0 100	3 3 0 91	0 5 0 95	0 3 1 98	3 3 0 90	1 2 1 94	2 0 0 98	0 1 1 97	1 2 2 96	0 2 0 97	0 4 0 96	0 3 1 96	0 4 0 96	0 3 0 94	0 3 3 94	0 0 100 100	
3-16 524	75 6 8 11	84 7 4 5	94 1 5 3	89 2 5 1	94 1 3 0	83 2 4 8	88 0 8 4	92 0 4 4	92 1 4 2	94 0 3 4	85 2 7 6	81 4 10 4	90 1 5 2	93 1 4 2	92 0 2 5	94 3 0 3	88 2 9 2	100 0 0 0	81 4 15 0	83 0 11 0		

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group				
		All	Fe- male	20-		25-		35-		45-		55-		1	2	3	4	5	All	<20	20-		25-	>34	1	2
				24	34	34	44	44	54	54	64	24	34													
480	a	2	3	2	0	1	2	3	5	11	3	2	2	2	4	4	1	1	0	0	0	0	4	0	1	
	b	13	12	13	4	9	14	22	23	23	14	13	13	11	11	11	11	11	7	10	11	17	17	10		
	c	83	83	84	95	94	83	73	61	61	78	84	84	84	84	84	85	85	88	88	89	70	67	87		
	d	1	1	1	1	0	1	0	0	0	1	1	0	1	0	1	1	1	0	2	0	4	0	0	1	
490	a	92	92	92	99	95	96	87	84	84	87	91	92	92	92	90	90	92	92	91	91	72	91	89		
	b	5	5	5	0	2	4	7	9	9	7	5	5	3	6	7	7	7	3	3	9	28	3	8		
	c	2	2	3	1	3	0	2	4	4	4	2	2	1	1	2	2	2	6	2	0	0	6	2		
	d	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	2	0	0	0	1		
496	a	9	7	11	0	2	7	20	26	26	15	12	5	8	6	1	1	1	0	2	3	0	7	0		
	b	3	2	3	2	1	3	4	3	3	3	2	2	3	3	2	2	2	0	2	3	6	4	2		
	c	86	89	84	98	94	89	72	68	76	76	92	88	88	88	94	94	100	93	90	90	94	89	95		
	d	2	2	2	0	3	0	1	1	1	6	2	0	1	1	2	2	0	3	3	3	0	0	3		
509	a	5	7	2	4	3	3	7	15	7	7	3	4	6	4	3	3	5	2	2	3	0	0	4		
	b	5	5	5	7	3	7	5	5	8	8	6	4	3	4	6	4	5	5	10	3	0	7	6		
	c	9	10	7	7	6	8	15	13	18	18	9	6	8	8	9	9	7	2	2	18	20	13	7		
	d	81	77	86	83	89	82	73	61	66	66	81	85	83	80	82	82	83	86	86	76	80	81	83		
515	a	4	5	3	1	2	4	5	8	6	6	6	3	3	3	2	2	2	3	3	0	0	0	2		
	b	95	93	96	99	95	95	94	89	91	91	93	97	97	95	97	97	96	97	100	100	100	96	98		
	c	0	0	0	0	0	1	1	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0		
	d	0	0	0	0	0	1	1	0	1	1	0	0	0	1	1	1	1	2	0	0	0	5	0		
516	a	1	1	1	0	2	3	2	0	0	3	1	1	1	0	1	1	0	0	0	3	0	0	1		
	b	96	96	97	100	97	95	96	90	93	93	97	97	95	99	97	97	98	100	92	92	94	96	97		
	c	2	1	2	0	1	2	1	5	2	2	1	2	2	1	1	1	0	0	0	3	0	0	1		
	d	1	1	1	0	1	0	2	3	2	2	1	0	1	0	0	0	0	0	0	0	0	0	0		
521	a	2	2	2	0	2	2	3	2	2	2	2	1	2	3	0	0	0	0	0	0	0	0	0		
	b	2	2	1	1	3	2	4	0	0	2	2	2	2	4	4	4	3	3	3	4	5	8	3		
	c	1	2	0	0	0	1	1	5	2	2	1	0	0	1	0	0	0	0	0	0	0	0	0		
	d	94	92	95	99	96	96	88	81	90	90	94	96	93	89	96	96	95	97	96	96	95	92	96		
524	a	90	89	91	96	91	87	88	80	84	84	94	89	91	84	95	95	95	98	89	89	96	92	95		
	b	1	1	1	0	1	1	2	1	2	2	1	1	1	0	1	0	0	0	0	3	4	0	1		
	c	6	5	6	5	6	7	7	8	7	7	4	7	5	9	3	3	2	2	8	8	0	0	4		
	d	2	3	1	0	3	1	4	4	4	4	1	2	3	6	1	2	2	0	0	0	0	8	0		

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA CAPE MAY

Michigan Original Test-Item No. Pool No.

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	Sex		Age				Driver Ed.			Location					Age						
					All	Male	Fe-male	<18	18-		20-		25-34	High Sch.	Com-mer.	None	1	2			All	<25	25-34	>34	
									19	20	21	22						23	24	25					26
5-36	526	a	13	16	18	16	19	13	31	30	31	31	13	8	36	30	24	10	14	14	14	14	12	19	11
		b	15	7	3	2	3	1	7	3	3	15	1	0	3	4	4	1	0	0	0	0	0	0	4
		c	66	67	59	61	58	69	41	46	25	39	68	72	33	32	53	75	64	64	76	80	76	74	74
		d	4	8	19	18	20	17	19	18	38	15	17	20	26	34	19	12	22	21	8	8	5	7	7
1-37	527	a	7	4	4	3	4	1	6	7	12	5	2	3	8	10	1	3	4	4	2	0	3	5	5
		b	7	7	5	6	4	3	6	2	18	11	3	7	9	5	5	4	5	7	0	0	0	0	0
		c	11	30	33	29	36	23	46	61	49	53	28	27	53	48	34	24	35	25	42	48	47	26	26
		d	75	59	58	62	55	72	42	25	21	26	67	63	28	36	60	66	56	64	56	52	50	68	68
6-8	528	a	15	26	35	35	36	23	65	45	48	74	26	37	60	58	36	33	29	12	42	46	43	37	37
		b	11	10	11	12	11	10	12	12	29	4	11	10	13	8	13	11	12	8	9	18	3	7	7
		c	7	4	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
		d	65	60	52	52	53	66	23	41	24	22	63	50	24	33	50	55	60	80	48	36	53	56	56
1-29	542	a	10	19	14	13	15	6	26	25	30	42	10	7	32	26	11	15	11	7	15	16	17	11	11
		b	83	59	72	72	72	82	60	57	49	32	79	70	46	59	74	71	74	86	82	80	81	84	84
		c	6	11	7	8	7	6	6	9	15	11	7	3	10	10	8	3	12	4	1	0	3	0	0
		d	1	11	6	7	6	6	8	5	6	16	4	17	10	3	6	9	4	4	1	4	0	0	0
2-37	566	a	1	5	7	3	9	5	7	17	8	3	6	4	10	12	6	7	3	4	2	0	0	5	5
		b	88	80	76	82	71	80	74	69	50	76	79	86	70	62	79	81	72	73	88	88	87	95	95
		c	7	9	12	11	12	9	15	8	35	14	10	7	17	18	10	8	17	8	10	12	13	0	0
		d	4	6	5	3	6	6	0	6	4	3	6	4	1	2	5	3	8	15	0	0	0	0	0
7-36	571	a	92	84	92	93	92	94	85	90	97	83	95	91	86	81	90	96	98	100	97	96	100	93	93
		b	1	6	3	3	3	3	3	6	0	8	2	6	5	6	5	1	0	0	1	0	0	7	7
		c	3	6	3	3	3	3	3	2	3	0	3	3	2	6	4	3	2	0	0	0	0	0	0
		d	4	4	1	1	1	0	10	0	0	8	0	0	5	4	2	0	0	0	1	4	0	0	0
5-4	573	a	7	7	4	2	4	4	2	3	0	8	4	4	4	4	3	2	3	14	4	8	5	0	0
		b	4	7	7	7	6	4	12	15	13	0	4	0	14	11	8	5	3	0	12	0	14	22	22
		c	10	11	4	4	4	3	10	9	6	0	3	4	10	2	4	5	5	0	1	0	0	0	0
		d	79	74	85	86	84	88	76	73	78	85	89	92	70	80	83	87	88	86	82	88	81	78	78
6-23	579	a	3	4	3	3	4	1	3	10	10	4	2	0	9	8	3	3	4	0	0	0	0	0	0
		b	4	6	1	0	2	0	2	0	5	4	1	0	3	4	0	2	0	0	0	0	0	0	0
		c	6	9	9	10	9	8	5	19	14	17	7	20	14	10	9	10	12	0	8	7	7	11	11
		d	88	81	85	87	84	90	88	69	71	74	89	80	73	73	87	85	85	100	91	93	90	89	89

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group					
		Male	Fe- male	20-24		25-34		35-44		45-54		55-64		>64		1	2	3	4	5	All	<20	20-24	25-34	>34	1	2
				All	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2				
526	a	19	18	13	15	13	17	20	21	34	31	19	14	15	20	24	17	20	33	31	30	22					
	b	3	3	0	2	3	3	2	4	2	3	3	2	3	1	6	6	4	8	6	9	5					
	c	65	63	80	71	75	68	63	55	34	52	64	71	66	65	61	70	63	51	50	48	63					
	d	12	14	6	11	8	11	15	16	24	10	12	12	15	13	7	6	8	8	6	13	6					
527	a	2	3	0	1	2	3	3	1	4	4	1	3	1	3	3	0	5	2	5	0	4					
	b	5	5	2	3	3	5	7	5	9	4	1	5	7	6	1	5	0	0	0	4	1					
	c	50	50	30	37	43	49	58	69	56	61	49	50	41	53	56	51	55	52	79	62	55					
	d	42	41	68	56	52	44	32	23	27	27	45	42	50	36	39	44	38	46	16	35	40					
528	a	50	49	33	36	44	58	52	57	66	55	52	42	52	55	49	48	41	55	70	48	49					
	b	10	14	5	10	11	10	13	9	7	9	9	10	13	9	12	2	20	21	0	0	15					
	c	1	1	1	0	1	1	2	1	3	1	0	1	1	3	1	0	0	0	10	0	1					
	d	38	41	61	53	44	31	32	31	21	33	38	45	34	33	39	50	39	24	20	52	36					
542	a	27	34	15	22	30	33	33	36	38	40	29	24	25	23	21	18	20	21	32	23	21					
	b	57	51	63	74	76	66	49	42	37	44	56	58	61	66	69	72	68	67	68	54	71					
	c	6	5	8	6	5	5	3	6	8	5	5	6	6	6	2	3	3	2	0	4	2					
	d	9	9	3	3	7	9	14	13	10	8	8	11	7	4	6	5	7	8	0	15	4					
566	a	3	3	1	3	3	3	3	4	2	7	2	1	4	2	7	3	10	5	6	15	5					
	b	79	81	77	82	74	75	82	74	75	68	79	84	77	78	74	85	61	87	63	78	73					
	c	13	13	12	10	14	11	20	20	20	18	12	10	15	17	14	6	24	3	25	7	16					
	d	5	3	7	8	4	3	1	1	1	4	6	4	3	2	4	3	3	5	6	0	5					
571	a	98	98	99	98	97	98	98	97	95	96	98	99	97	99	98	98	97	100	100	100	98					
	b	0	1	0	0	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0					
	c	1	1	1	1	1	1	1	1	1	2	1	0	1	1	1	1	1	0	0	0	1					
	d	1	0	1	0	1	0	0	1	1	1	1	0	0	0	0	1	0	2	0	0	0					
573	a	4	4	1	2	5	7	7	6	7	2	3	5	7	6	1	2	0	3	0	0	2					
	b	8	8	5	4	7	11	8	8	17	14	7	7	9	6	7	6	4	8	13	13	5					
	c	3	3	4	3	2	1	4	4	5	8	3	2	1	2	1	0	4	0	0	0	2					
	d	84	84	90	89	90	87	76	80	66	72	86	85	82	86	90	92	88	90	88	87	90					
579	a	1	1	1	1	1	1	1	1	0	2	1	1	0	0	1	0	0	0	0	0	1					
	b	0	1	0	0	0	0	1	0	2	0	0	1	0	0	1	2	0	3	0	0	2					
	c	11	11	12	9	7	10	8	10	15	8	12	12	12	10	13	12	14	9	20	7	14					
	d	87	88	88	92	88	91	88	83	69	88	86	86	87	90	85	87	84	85	80	90	84					

MICHIGAN TRANSFER APPLICANTS

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

IOWA CAPE MAY

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA		MICHIGAN ORIGINAL (No Previous License) APPLICANTS										MICHIGAN TRANSFER APPLICANTS								
			CAPE	MAY	Sex		Age			Driver Ed.		Location					All	Age					
					All	Male	Fe- male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1		2	3	4	5	<25	25-34
3-29	584	a	4	4	5	3	6	2	2	14	8	17	2	0	14	12	7	1	2	0	3	0	11
		b	22	12	20	19	20	26	16	28	4	4	21	13	16	21	19	15	25	28	12	10	17
		c	74	80	75	76	74	72	68	64	79	77	84	69	69	67	73	84	74	72	85	90	92
		d	0	3	1	1	0	0	2	0	0	0	0	3	1	0	1	0	0	0	0	0	0
7-26	590	a	65	56	67	67	68	75	70	63	58	71	59	56	62	64	64	75	69	62	65	67	64
		b	19	33	28	30	26	15	36	23	33	25	38	34	30	30	30	22	28	39	29	26	30
		c	7	7	1	1	2	0	0	3	0	2	0	1	0	0	2	2	2	0	1	0	3
		d	7	3	3	1	4	1	4	10	8	2	0	9	8	4	4	1	2	0	4	7	3
4-3	599	a	6	6	5	6	4	3	11	14	21	4	0	7	9	5	3	6	0	2	0	0	5
		b	1	3	1	2	1	2	0	3	7	1	0	2	2	2	2	1	0	0	3	0	0
		c	90	68	75	72	77	82	60	61	43	80	76	62	67	76	76	78	71	83	58	74	50
		d	3	23	19	20	18	15	30	22	29	15	24	29	22	17	18	24	17	17	35	21	46
1-19	609	a	1	5	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0
		b	8	2	4	5	3	4	9	3	16	3	7	8	3	4	4	4	9	0	4	0	8
		c	3	4	1	0	1	0	0	0	5	0	0	1	0	1	1	1	0	0	0	0	0
		d	88	88	95	94	96	96	91	97	79	97	90	91	97	96	96	94	91	100	96	100	92
3-17	616	a	6	12	14	12	15	12	21	12	17	14	10	16	10	13	13	12	25	16	15	5	23
		b	4	8	6	6	5	6	5	8	4	5	3	8	10	2	2	8	5	6	4	0	8
		c	1	6	4	3	4	3	5	8	4	3	10	4	6	6	6	2	0	0	0	0	0
		d	86	73	76	79	75	79	71	72	75	79	77	72	73	78	77	77	71	78	80	95	69
5-6	621	a	15	15	16	13	19	12	24	19	54	13	8	27	27	17	17	14	12	11	20	12	24
		b	81	71	69	76	64	79	42	50	31	77	80	42	43	70	74	74	72	79	69	72	71
		c	0	7	7	6	7	3	12	13	15	3	0	18	14	6	1	14	4	4	4	4	5
		d	4	6	8	6	10	6	14	19	0	6	4	12	16	6	10	2	7	6	6	12	0
7-13	624	a	1	4	6	6	6	5	4	10	17	3	19	9	11	8	4	0	0	8	1	0	3
		b	21	18	23	20	25	13	20	23	17	26	3	20	21	17	17	26	28	35	19	22	18
		c	75	77	70	73	68	69	72	67	67	69	78	70	68	73	69	71	58	80	78	78	79
		d	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-4	627	a	1	4	0	0	0	0	0	4	0	0	0	1	0	1	0	0	0	0	0	0	0
		b	30	45	47	44	49	47	48	56	33	46	55	50	48	43	43	50	53	38	44	35	46
		c	0	4	1	2	0	1	0	0	0	0	3	0	0	1	1	1	0	3	0	0	0
		d	69	47	52	54	50	52	53	40	63	54	42	48	50	56	49	48	59	56	65	65	54

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Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS											
		Sex		Age						Location					Age				Group				
		All	Male	Female	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2
584	a	3	3	2	0	2	1	2	2	4	11	4	4	1	2	2	3	2	6	0	0	17	1
	b	7	7	7	9	10	6	7	6	5	3	13	8	6	4	6	8	2	10	11	9	8	8
	Ⓒ	89	89	90	91	87	91	90	89	90	86	78	88	92	93	92	89	95	84	89	97	75	90
	d	1	1	1	0	1	1	1	1	1	0	2	1	0	0	0	1	0	0	0	4	0	1
590	Ⓐ	71	69	72	80	77	76	72	68	63	49	71	69	72	71	68	67	62	66	72	71	77	65
	b	23	26	20	15	14	20	24	23	28	44	22	24	22	20	27	32	36	33	28	29	18	34
	c	4	3	4	4	7	2	2	6	3	3	5	3	3	6	0	0	0	0	0	0	0	0
	d	2	1	3	1	3	1	1	3	3	3	2	2	2	3	3	1	2	2	0	0	5	1
599	a	2	2	2	3	2	3	2	1	1	1	1	2	2	2	2	4	6	2	3	6	6	3
	b	1	1	1	0	1	0	0	1	2	0	3	0	1	1	1	1	0	2	0	0	0	1
	Ⓒ	68	67	69	83	79	74	63	66	59	55	62	70	69	68	64	82	89	80	83	67	91	80
	d	27	27	27	15	16	22	33	29	32	38	27	27	25	28	32	14	4	17	14	28	3	17
609	a	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	b	1	2	1	1	2	1	0	0	2	3	2	1	1	2	1	2	0	2	2	5	0	2
	c	1	1	0	1	0	0	0	1	1	2	1	1	1	0	0	2	3	2	0	5	4	1
	Ⓓ	98	97	99	97	98	99	100	98	97	93	97	98	98	98	98	96	97	97	98	90	96	96
616	a	10	10	10	12	10	6	11	8	16	18	16	12	8	6	12	14	16	14	11	13	0	15
	b	9	7	10	9	4	8	7	9	13	13	10	12	6	8	6	13	9	18	8	13	25	12
	c	1	1	1	2	1	0	1	2	1	0	4	1	1	0	0	1	2	0	0	0	0	1
	Ⓓ	79	80	78	78	85	85	80	81	69	61	66	75	85	86	79	78	72	67	81	74	75	73
621	a	33	26	38	16	30	30	34	35	34	44	32	33	36	27	32	28	26	31	31	13	39	25
	Ⓑ	53	62	45	78	58	58	52	48	46	43	46	52	53	61	55	60	66	59	51	69	44	63
	c	5	5	5	3	3	5	6	4	5	4	7	4	4	4	4	5	2	8	5	0	4	5
	d	9	6	12	4	9	7	8	13	12	9	15	10	6	7	9	8	6	2	13	19	13	7
624	a	3	2	4	2	4	1	2	6	4	3	7	4	2	2	1	6	2	10	0	14	5	6
	b	10	10	10	6	6	10	12	12	11	11	11	10	9	13	8	11	13	10	11	7	9	11
	Ⓒ	86	87	85	92	90	89	85	82	83	81	81	86	88	84	90	83	84	80	89	79	86	83
	d	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0
627	a	0	0	1	0	0	0	1	0	1	4	1	0	1	0	0	0	0	0	0	0	0	0
	b	55	55	56	49	56	58	59	55	54	47	44	54	58	61	52	62	61	59	58	74	50	63
	c	0	1	0	0	1	0	1	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
	Ⓓ	43	44	43	51	43	41	39	43	45	48	54	44	41	36	47	38	40	41	42	26	50	37

MICHIGAN ORIGINAL (No Previous License) APPLICANTS
APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	Sex		Age			Driver Ed.			Location					Age							
					All	Male	Fe- male	<18	18-		20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34
									19	20															
4-5	631	a b c d	1 63 3 34	2 40 7 50	5 58 6 31	4 54 5 37	5 62 6 27	2 64 4 30	6 54 5 34	14 51 3 32	14 39 17 31	14 43	0 43 14 43	4 65 4 27	0 46 9 46	8 42 11 39	7 52 7 34	7 65 4 30	4 86 0 14	0 58 8 32	0 47 5 47	0 68 9 18	0 58 8 33		
2-27	635	a b c d	80 15 5 0	56 29 7 7	70 24 2 5	75 18 1 5	65 29 2 4	76 20 1 3	59 24 4 13	56 36 6 3	65 27 0 8	48 45 0 7	75 35 2 6	64 32 0 4	57 35 2 6	61 27 4 9	70 25 2 4	71 24 2 3	77 19 6 4	74 25 2 0	77 24 0 0	96 0 0 0	65 35 0 0		
6-15	639	a b c d	4 0 8 89	24 4 11 61	8 0 7 84	10 0 6 82	6 0 8 86	4 0 6 89	15 0 12 73	10 0 2 83	10 0 14 76	13 0 9 78	5 0 8 87	7 0 3 90	12 0 6 81	6 0 15 75	10 0 5 83	4 0 7 88	8 0 4 85	2 1 2 93	7 0 4 89	0 0 3 97	0 4 0 93		
1-5	641	a b c d	61 25 4 9	58 25 8 7	42 34 5 18	44 32 3 21	41 37 6 16	53 25 2 19	30 48 6 16	18 50 16 16	12 58 6 21	21 53 11 16	49 27 4 19	43 47 0 10	13 54 7 25	18 54 8 20	44 29 4 22	49 35 3 12	42 25 0 14	51 11 9 11	53 0 0 12	52 0 0 11	45 0 0 11		
2-4	642	a b c d	35 1 0 62	48 6 3 43	47 1 0 52	41 0 0 59	52 1 0 47	44 1 0 55	56 0 0 44	39 3 0 58	65 0 0 35	55 0 0 45	46 1 0 54	43 4 0 54	59 0 0 41	51 0 0 49	49 1 0 51	42 1 0 57	42 0 0 58	48 0 0 48	47 0 0 47	48 0 0 48	50 0 0 50		
4-13	646	a b c d	0 19 79 3	16 12 65 19	26 17 69 14	22 19 66 11	29 16 68 16	18 19 72 8	38 15 62 22	40 8 70 22	37 17 64 19	58 33 8 36	20 19 71 10	19 12 76 12	19 36 30 4	48 34 15 2	30 60 6 1	33 17 70 12	19 12 71 18	19 31 59 10	29 20 71 9	37 10 79 10	21 14 82 5	36 33 54 13	
7-7	657	a b c d	16 78 6 0	16 69 8 6	26 62 10 1	22 66 11 1	29 60 9 2	18 73 8 1	38 43 18 3	40 42 16 0	37 47 7 7	58 33 8 0	20 71 8 1	19 72 6 3	19 36 30 4	48 34 15 2	30 60 6 1	33 17 70 12	19 12 71 18	19 31 59 10	29 20 71 9	37 10 79 10	21 14 82 5	36 33 54 13	
6-34	659	a b c d	0 6 3 90	3 11 5 81	0 5 4 91	0 4 4 92	0 6 4 89	0 4 4 92	0 3 5 92	0 10 5 86	0 5 0 86	0 17 0 78	0 3 4 93	0 7 3 90	0 8 4 83	0 10 5 83	0 5 5 77	0 4 2 91	0 4 4 94	0 4 0 96	0 2 6 92	0 0 11 89	0 0 3 97	0 7 4 89	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group								
		All	Male	Fe-male	20-24		25-34		35-44		45-54		55-64		>64		1	2	3	4	5	All	<20		20-24		25-34		1	2
					Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female							Male	Female	Male	Female	Male	Female		
631	a	4	3	4	1	2	1	3	3	4	4	4	7	4	3	3	4	1	5	3	0	0	2	6	11	0	4			
	b	53	55	50	55	51	51	55	57	54	84	54	54	45	47	59	59	47	59	47	51	48	31	61	56	45				
	c	5	4	7	1	2	2	3	8	9	6	9	5	6	5	4	7	4	7	4	4	3	6	0	3	4				
	d	37	37	38	41	44	47	39	32	30	4	30	30	44	35	32	31	36	43	36	43	47	51	28	41	47				
635	a	58	62	56	51	59	62	64	64	62	67	62	54	62	58	56	52	60	59	60	59	56	62	75	59	60				
	b	36	33	39	44	34	32	34	34	32	22	32	32	34	36	38	44	34	35	39	35	39	31	19	33	34				
	c	2	2	2	2	1	3	1	1	3	1	4	4	1	2	3	0	3	0	3	0	3	3	6	0	3				
	d	3	3	3	3	5	4	3	1	2	6	6	6	2	2	3	4	3	6	2	2	2	5	0	7	3				
639	a	6	4	9	17	9	7	6	3	5	5	10	8	5	5	4	4	6	5	4	5	8	6	0	7	6				
	b	0	1	0	0	1	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	c	2	1	3	0	2	2	4	2	2	5	6	4	4	1	1	0	4	7	4	7	2	3	0	7	3				
	d	91	93	88	83	88	91	90	94	93	89	82	88	95	93	96	96	90	88	90	88	90	91	100	87	91				
641	a	44	51	38	46	44	47	49	49	36	26	33	45	47	42	55	40	46	46	32	50	32	50	32	39	41				
	b	30	26	34	40	35	31	26	25	35	24	36	30	28	34	21	34	44	44	43	17	32	17	32	42	33				
	c	10	9	12	4	5	8	10	13	17	18	11	12	10	8	9	9	0	0	7	17	16	17	16	0	11				
	d	11	9	13	8	16	13	10	10	10	5	12	16	10	9	12	12	15	10	17	17	17	17	16	19	14				
642	a	48	45	50	53	46	46	38	49	54	58	62	47	44	45	50	47	50	50	42	51	44	44	44	44	47				
	b	1	0	1	0	1	1	1	1	1	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0				
	c	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	d	51	54	48	47	54	53	61	49	44	38	35	51	54	54	49	53	50	58	58	49	56	49	56	56	53				
646	a	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	b	23	24	23	31	26	27	26	21	15	16	20	20	28	25	21	16	13	13	19	17	11	17	11	0	20				
	c	61	60	62	57	62	63	61	61	61	52	50	63	62	60	62	68	72	64	64	63	78	63	78	81	64				
	d	15	15	14	12	12	9	14	16	16	28	26	16	10	14	18	15	13	13	16	20	11	20	11	19	14				
657	a	35	33	37	14	20	31	31	40	52	53	34	36	34	35	34	40	40	36	36	36	71	36	36	71	50	39			
	b	58	60	55	75	70	64	62	53	39	35	54	56	61	59	59	44	42	46	46	50	29	50	29	41	45				
	c	6	5	6	10	8	2	7	4	7	5	11	6	4	4	3	10	13	12	12	6	0	6	0	5	10				
	d	1	2	1	0	2	2	1	2	0	3	1	2	1	0	3	5	4	4	7	6	6	6	6	0	5				
659	a	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0				
	b	3	3	3	1	1	1	2	3	8	8	2	4	3	2	3	1	2	0	0	3	0	0	3	0	1				
	c	4	4	5	3	2	4	4	5	2	15	7	4	4	4	3	2	2	2	2	0	10	2	0	0	3				
	d	92	93	91	96	95	95	94	90	89	75	88	92	92	92	92	96	97	98	98	94	90	94	90	90	97				

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA CAPE MAY

Michigan Original Test-Item No.

Pool No.

Foil

All

Sex

Fe-
male

<18

18-
19

Age

20-
24

25-
34

>34

High Sch.

Com-
mer.

None

Driver Ed.

1

2

3

4

5

All

<25

25-
34

>34

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	All	Sex	Fe- male	<18	18- 19	Age	20- 24	25- 34	>34	High Sch.	Com- mer.	None	Driver Ed.	1	2	3	4	5	All	<25	25- 34	>34
1-40	661	(a) b c d	90 1 5 3	84 6 4 5	87 5 3 3	87 4 3 2	90 4 2 4	82 8 8 2	82 8 7 5	85 12 0 0	82 2 7 5	85 12 0 0	84 11 0 0	88 4 3 4	93 3 3 0	82 9 4 1	87 2 8 2	87 6 1 4	87 4 2 4	90 4 1 3	88 9 0 4	79 4 7 4	90 1 4 4	88 0 8 4	86 3 3 6	100 0 0 0
3-35	673	a b (c) d	0 9 88 3	1 11 76 12	1 4 79 13	2 7 80 10	1 4 86 8	0 4 70 17	2 7 32 32	0 0 59 32	0 0 72 28	0 0 72 28	0 0 71 21	0 4 81 8	0 3 16 16	0 3 64 28	0 2 62 29	0 4 79 14	0 4 79 14	1 85 6	2 79 16	0 0 84 6	3 0 74 23	0 0 85 15	4 0 81 15	6 0 56 39
7-38	678	a (b) c d	5 92 1 1	12 77 5 4	22 76 0 2	16 82 0 2	16 82 0 2	33 63 0 3	32 68 0 0	27 63 0 7	27 63 0 7	42 58 0 0	20 78 0 2	9 91 0 0	9 91 0 0	32 64 0 4	32 64 0 4	22 77 0 1	22 77 0 1	23 74 0 3	14 85 2 2	19 77 0 4	20 76 0 0	19 82 0 0	21 73 0 0	21 71 0 0
4-32	682	a b c (d)	1 1 1 94	3 6 5 87	0 1 0 99	0 1 0 98	0 1 0 98	0 2 0 98	0 2 0 98	0 0 100 100	0 0 100 100	0 0 100 100	0 0 100 100	0 1 0 99	0 0 100 100	0 2 0 98	0 2 0 98	0 0 98 98	0 0 98 98	0 100 100	0 98 98	0 97 97	0 95 95	0 0 95	0 0 96	0 0 96
5-8	687	a (b) c d	6 94 0 0	12 80 4 4	9 90 0 1	11 88 1 1	6 93 0 0	10 88 0 2	18 73 0 9	6 91 0 3	6 91 0 3	23 77 0 0	8 92 0 0	8 92 0 0	8 84 0 4	10 86 0 4	16 84 0 4	16 84 0 4	8 90 0 1	8 90 0 1	8 90 0 1	7 91 0 0	9 88 0 3	8 88 0 4	10 90 0 0	7 89 0 4
6-13	689	a b (c) d	1 4 86 9	7 8 70 14	4 6 75 14	5 4 77 13	4 4 82 10	7 12 20 17	2 10 62 26	0 10 67 24	0 10 67 24	0 9 70 22	4 5 81 9	4 10 77 9	3 10 77 10	3 8 77 10	4 4 60 31	4 4 60 31	3 79 14	4 77 10	4 73 14	8 72 8	0 89 5	0 89 5	0 87 7	0 93 4
5-34	690	a b c (d)	11 2 1 85	17 8 5 70	13 4 2 81	14 3 2 81	12 2 1 85	17 2 2 79	18 12 3 67	13 9 6 72	13 9 6 72	23 8 0 69	12 2 2 84	20 0 0 80	20 0 0 74	15 7 4 74	14 4 2 80	14 4 2 80	12 6 2 80	12 6 2 80	17 1 3 78	11 0 0 89	10 4 1 83	20 4 0 76	10 5 0 86	4 4 0 89
2-18	691	a (b) c d	4 94 1 1	4 80 12 4	3 92 5 0	3 93 3 0	2 94 4 0	4 87 9 0	3 86 11 0	4 92 4 0	4 92 4 0	10 86 4 0	2 93 5 0	2 89 11 0	2 89 11 0	5 90 5 0	4 93 4 0	4 93 4 0	2 91 7 0	4 92 4 0	5 92 3 0	4 92 3 0	2 93 5 0	0 94 6 0	4 91 4 0	0 100 0 0

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	All	Sex		Age										Location					Age			Group				
			Male	Fe- male	20-		25-		35-		45-		55-		>64	1	2	3	4	5	All	<20	20-		>34	1	2
					24	34	34	44	44	54	54	64	24	24									25-	34			
661	a	92	94	90	94	91	94	93	94	85	86	94	91	87	83	74	88	79	95	81	84						
	b	3	2	4	3	2	5	3	2	3	3	2	4	6	8	13	2	15	0	7	8						
	c	1	1	2	1	0	3	3	1	3	3	1	2	1	5	5	7	4	0	8	4						
	d	3	1	4	2	2	4	1	2	3	4	2	4	3	2	5	2	0	0	4	1						
673	a	0	0	1	1	1	3	1	3	1	0	0	1	1	0	0	0	0	0	0	0						
	b	2	3	2	1	5	1	1	1	4	4	2	2	3	3	2	2	3	9	0	4						
	c	80	79	81	82	72	57	82	72	32	66	80	86	72	74	79	65	78	74	83	78						
	d	17	16	17	15	22	32	15	22	32	27	16	11	23	21	19	29	14	17	17	21						
678	a	30	31	29	23	28	18	33	49	52	39	29	28	28	20	13	25	22	14	32	18						
	b	67	65	68	74	69	81	65	46	35	56	70	70	69	77	84	71	75	86	68	78						
	c	1	1	1	0	0	1	1	1	3	2	2	1	0	0	0	0	0	0	0	0						
	d	1	1	1	0	2	1	1	1	2	1	1	0	3	3	0	5	3	0	0	3						
682	a	1	1	1	1	1	3	1	1	3	2	1	0	0	1	0	2	0	6	0	2						
	b	2	2	2	0	1	4	2	5	4	4	2	2	2	3	2	2	3	11	0	4						
	c	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0						
	d	96	97	96	100	99	99	96	91	87	91	97	97	97	95	98	95	97	83	100	94						
687	a	16	17	16	14	10	10	20	22	34	21	17	16	16	16	13	16	18	25	17	16						
	b	81	80	82	85	89	89	77	73	56	74	82	82	81	82	87	84	82	63	83	82						
	c	1	1	0	0	1	2	1	2	1	2	0	0	1	1	0	0	0	6	0	1						
	d	1	1	1	1	1	1	1	1	5	2	2	1	1	0	0	0	0	0	0	0						
689	a	1	1	0	4	2	0	1	0	0	2	1	0	0	3	2	2	3	10	3	3						
	b	14	13	16	15	9	15	11	18	29	16	14	13	14	13	17	12	9	0	7	14						
	c	66	70	62	65	66	75	64	67	46	64	68	63	63	70	72	65	76	70	77	69						
	d	19	17	21	14	17	17	22	16	22	19	18	23	23	15	10	20	12	20	13	15						
690	a	10	13	7	16	9	10	12	12	12	12	7	10	11	12	13	14	10	13	22	11						
	b	12	11	13	3	4	5	15	26	38	18	12	10	8	5	2	6	5	6	4	5						
	c	2	2	2	1	2	2	2	6	3	2	2	3	3	3	2	0	8	0	4	2						
	d	75	74	76	80	85	83	87	56	44	64	74	78	76	79	83	78	77	75	70	81						
691	a	3	2	3	0	1	1	4	5	7	4	3	3	1	3	0	3	5	6	0	4						
	b	94	95	93	94	95	97	95	93	84	93	94	94	95	93	94	90	95	94	93	93						
	c	3	2	4	6	4	2	3	1	7	2	3	4	2	4	6	7	0	0	7	3						
	d	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0						

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA CAPE MAY

Michigan Original Test-Item No. Pool No.

Michigan Original Test-Item No.	Pool No.	IOWA	CAPE MAY	Sex		Age			Driver Ed.			Location					Age						
				All	Fe- male	<18	18- 19	20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34	
																							Male
2-36	694	70	73	82	76	87	81	72	92	81	93	82	79	87	73	83	84	80	85	87	82	83	100
		1	7	1	1	0	1	2	0	0	0	1	0	1	0	1	0	2	0	0	0	0	0
		8	9	8	11	5	9	9	3	15	3	8	7	5	12	6	8	10	8	3	0	0	0
		17	12	9	11	7	9	17	3	0	3	9	14	5	11	9	8	8	8	8	12	9	0
3-13	705	90	91	99	100	99	99	100	100	100	100	100	100	100	100	99	98	100	100	100	100	100	100
		8	3	1	0	1	1	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0	0
		0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-26	710	5	3	4	6	3	2	6	9	9	11	3	7	9	3	5	3	7	0	6	8	8	0
		5	4	5	7	3	4	4	9	6	5	5	3	6	12	4	3	7	0	0	0	0	0
		90	80	84	80	88	89	80	80	67	74	87	83	73	74	83	87	83	100	85	84	83	90
		0	13	6	8	5	5	10	2	12	11	6	7	9	10	7	6	4	0	7	8	8	5
4-14	718	19	27	15	13	16	11	17	19	25	36	14	9	17	11	11	19	28	10	23	21	27	21
		1	5	1	1	0	0	2	3	0	7	0	0	2	4	0	0	2	0	2	5	0	0
		0	6	1	2	0	2	0	0	3	0	1	0	1	2	1	0	4	0	0	0	0	0
		77	62	82	83	82	87	82	78	69	50	84	91	78	82	88	80	67	86	74	74	73	75
2-17	721	1	2	4	3	5	2	7	6	12	7	2	4	7	7	3	3	10	0	2	0	0	5
		12	5	9	9	10	9	17	14	8	3	7	14	17	18	7	14	0	8	3	6	4	0
		82	87	83	85	82	86	72	75	81	90	87	82	72	73	87	82	82	89	95	94	96	95
		4	5	2	3	2	3	4	3	0	0	3	0	2	2	2	0	7	4	0	0	0	0
7-4	724	13	17	23	23	22	23	20	20	37	8	24	22	16	17	26	23	21	23	21	33	18	7
		84	72	74	73	75	73	80	78	63	92	73	78	81	77	72	73	78	77	77	67	82	86
		3	6	2	3	1	3	0	2	0	0	2	0	1	4	1	4	2	0	0	0	0	0
		0	4	1	1	1	1	0	0	0	0	1	0	1	2	2	0	0	0	0	0	0	0
5-7	726	14	11	14	12	15	15	7	15	19	8	13	24	16	4	15	14	16	18	6	8	5	7
		25	24	31	23	37	30	41	30	28	23	30	36	36	43	30	29	29	25	18	16	10	26
		12	7	9	9	8	7	17	6	13	0	8	4	8	14	9	9	7	0	8	4	10	4
		48	56	46	54	38	47	33	46	38	62	49	36	37	36	45	47	45	57	68	72	76	63
2-2	730	4	5	2	1	2	1	4	6	0	0	1	0	4	4	1	2	2	0	0	0	0	0
		0	3	4	3	4	3	2	0	12	10	2	4	4	5	4	2	3	4	3	0	4	5
		78	81	85	84	87	87	87	83	62	79	88	82	81	80	88	85	80	85	87	77	91	90
		18	11	10	13	7	9	7	11	23	10	9	14	12	11	7	12	13	12	10	24	4	5

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Group

Age

Location

Sex

Age

Age

Age

Age

Age

Age

Age

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	IOWA CAPE MAY	Pool No.	Foil	Sex		Age				Driver Ed.		Location					Age					
				All	Fe- male	<18	18-		25-		High Com- Sch. mer.	None	1	2			5	All	<25	25-34	>34	
							19	20	24	25				3	4							
3-5	19 49 18 13	732	a b c d	20 59 15 5	19 60 16 4	20 64 11 4	11 47 26 13	30 48 14 9	12 72 16 0	17 46 33 0	19 63 13 4	16 61 19 10	20 53 19 6	25 38 21 12	15 67 13 4	20 57 18 5	21 66 8 3	31 50 16 3	9 80 8 0	0 90 10 0	8 89 4 0	22 56 11 0
7-18	13 65 8 14	744	a b c d	12 67 12 7	15 65 12 7	10 72 11 7	18 42 13 18	22 64 8 4	7 63 23 7	8 67 17 8	12 69 11 6	9 75 9 6	15 56 14 10	23 55 4 11	9 69 14 7	12 65 13 8	17 69 12 2	8 77 4 12	7 81 4 5	4 85 4 7	6 82 3 3	14 79 7 0
1-10	26 6 58 9	745	a b c d	29 7 48 15	31 5 46 16	34 6 51 9	20 12 46 22	23 2 39 23	24 6 36 30	0 11 37 53	31 6 52 9	37 10 50 3	38 34 38	94 90	27 5 51 15	34 5 47 12	23 11 49 16	21 7 64 7	22 4 64 9	24 12 52 12	14 0 75 11	37 0 58 0
6-7	87 5 5 3	746	a b c d	95 1 4 1	97 0 3 0	94 0 5 0	93 2 3 2	95 0 2 2	95 0 5 0	100 0 0 0	96 0 4 0	90 0 7 3	95 1 3 1	94 0 2 4	95 1 3 1	95 0 3 0	92 2 6 8	100 0 0 8	99 0 1 0	96 0 4 0	100 0 0 0	100 0 0 0
2-35	87 3 5 5	756	a b c d	83 4 5 8	80 4 5 6	87 4 4 5	83 6 4 7	67 3 11 17	65 8 8 15	76 0 7 17	87 4 3 5	86 0 4 11	74 2 8 14	71 2 9 16	87 3 3 5	80 4 6 8	80 7 5 8	89 4 0 8	95 0 2 3	94 0 6 0	100 0 0 0	94 0 0 5
7-34	1 12 82 5	774	a b c d	2 17 70 12	1 17 70 11	3 18 70 9	0 15 68 18	0 18 70 12	0 7 67 27	0 8 75 17	2 19 70 9	0 9 75 16	0 10 71 19	0 19 66 15	2 10 76 11	2 24 65 9	2 21 62 16	4 8 73 15	0 8 79 13	0 7 74 19	0 9 85 6	0 7 71 21
6-36	25 8 58 9	780	a b c d	35 20 37 6	37 23 40 5	31 19 44 6	43 23 28 3	38 21 29 10	43 19 19 14	57 17 17 4	32 20 41 5	33 30 37 0	42 19 27 8	46 15 21 12	31 23 40 5	32 18 41 7	44 15 35 4	40 28 28 4	46 20 33 1	46 18 36 0	57 23 17 3	33 19 48 0
5-24	0 10 4 86	788	a b c d	4 7 7 82	5 8 5 82	3 7 7 83	0 17 5 79	15 0 6 79	6 6 9 72	8 0 0 92	2 8 6 84	4 0 4 92	11 4 8 75	2 11 9 77	3 8 6 82	4 3 3 88	5 5 9 81	4 14 14 68	4 5 0 91	0 12 0 88	5 5 0 90	4 0 0 96

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	All	Sex		Age							Location					Age			Group		
			Male	Fe- male	20-	25-	35-	45-	55-	>64	1	2	3	4	5	All	<20	20-	25-	>34	1	2
					24	34	44	54	64									24	34			
732	a	12	13	11	9	11	14	10	12	11	12	13	10	14	13	8	15	12	14	17	17	14
	(b)	70	68	72	76	71	75	72	58	62	58	70	72	70	66	68	66	65	69	61	65	66
	c	9	9	9	6	10	6	9	14	12	14	7	9	8	13	9	12	14	10	17	4	17
	d	4	6	3	9	5	3	4	0	3	0	4	4	3	4	9	6	9	4	0	13	8
744	a	10	9	11	9	13	5	7	18	13	18	17	9	11	9	8	13	22	13	6	0	36
	(b)	70	71	69	77	66	84	78	44	56	44	55	69	74	74	72	65	62	57	81	64	50
	c	11	10	12	6	14	8	11	15	18	15	13	13	7	11	14	15	11	18	14	21	5
	d	7	8	6	8	5	3	4	15	9	15	11	7	5	6	4	6	4	12	0	7	9
745	a	24	22	26	22	27	25	23	24	20	24	17	26	27	22	21	24	26	27	23	16	15
	b	3	4	3	6	3	3	3	3	5	3	2	4	2	4	5	6	5	3	8	11	0
	(c)	52	52	51	56	51	60	61	35	42	35	39	52	53	54	59	50	44	50	54	53	46
	d	19	19	18	17	20	13	12	12	26	28	26	36	17	17	11	17	21	20	10	16	35
746	(a)	97	96	98	95	97	99	99	97	94	97	94	89	98	96	98	94	98	92	97	70	100
	b	0	1	0	0	0	0	0	0	1	0	1	2	0	0	0	1	2	0	3	0	0
	c	2	2	1	5	2	1	1	3	3	1	3	1	1	2	1	5	0	8	0	30	0
	d	1	1	0	0	1	0	0	1	2	0	1	6	0	2	1	0	0	0	0	0	0
756	(a)	88	90	87	96	86	93	91	88	88	77	83	89	88	87	91	85	88	83	82	88	89
	b	2	2	2	1	2	1	2	2	6	2	2	2	2	3	3	5	3	9	5	0	7
	c	2	1	3	0	4	2	2	2	1	2	3	1	2	3	2	2	3	0	3	6	4
	d	6	5	6	3	5	4	5	6	4	8	9	6	4	7	3	6	3	5	10	6	0
774	a	1	1	0	0	0	1	0	1	1	1	2	0	0	0	0	1	0	2	0	0	0
	b	11	10	12	18	9	10	19	7	9	7	16	11	8	12	9	19	33	13	11	14	23
	(c)	72	73	72	70	74	76	64	66	64	66	53	72	75	76	80	71	60	72	75	86	64
	d	15	15	15	11	16	13	18	18	21	21	23	16	15	11	11	10	4	13	14	0	14
780	a	42	46	38	35	47	35	37	51	52	51	43	44	37	46	39	42	38	49	42	30	45
	b	16	15	18	17	12	22	17	5	17	5	14	17	15	13	18	20	23	12	24	30	19
	(c)	31	30	33	38	32	35	34	22	26	22	28	26	39	31	32	28	28	29	30	10	26
	d	9	9	10	10	9	7	12	12	3	14	12	10	8	6	10	8	8	8	3	20	10
788	a	2	2	2	1	3	0	2	8	3	8	2	2	1	2	2	2	0	6	0	0	4
	b	2	3	2	4	1	2	2	5	4	5	4	3	2	2	1	5	4	8	3	0	13
	c	2	2	2	9	1	1	2	1	1	1	1	2	2	3	1	3	4	4	0	0	4
	(d)	92	92	93	86	93	96	93	93	88	81	89	91	95	91	95	89	89	80	95	100	78

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE	MICHIGAN ORIGINAL (No Previous License) APPLICANTS																	MICHIGAN TRANSFER APPLICANTS			
			MAY		Sex			Age					Driver Ed.			Location					All	Age			
					All	Male	Fe-male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5		<25	25-34	>34	
5-23	795	a	0	4	1	0	2	1	2	0	0	0	1	0	1	0	1	2	0	0	0	0	0	0	0
		b	13	9	12	15	10	12	21	9	9	0	14	8	8	7	10	14	17	18	10	12	10	11	
		Ⓒ	75	74	65	61	69	66	48	70	69	69	64	80	67	61	65	68	64	61	83	84	81	82	
		d	12	13	20	23	18	20	24	21	19	23	20	12	20	30	23	16	14	21	4	4	5	4	
4-33	796	a	8	10	6	7	5	4	9	8	6	7	5	9	6	6	8	4	6	3	5	5	9	0	
		b	10	23	15	16	14	16	19	16	3	14	14	21	14	11	16	16	14	14	11	10	9	13	
		Ⓒ	75	61	73	71	75	76	65	68	83	64	76	70	72	74	70	76	75	83	77	79	77	75	
		d	6	6	5	5	5	4	6	8	8	14	5	0	6	1	5	4	6	0	6	5	0	13	
3-40	798	a	12	8	5	6	5	4	13	2	4	4	5	10	6	15	6	2	7	3	2	5	0	0	
		b	9	7	6	4	7	4	2	11	8	17	5	0	10	2	6	6	2	16	9	10	8	11	
		Ⓒ	74	80	84	85	83	88	81	73	84	67	86	87	75	75	84	85	89	75	85	85	89	78	
		d	5	3	5	4	5	2	4	14	4	8	4	3	8	6	4	6	3	3	2	0	0	6	
4-7	800	a	1	5	3	4	2	4	0	3	0	0	4	6	0	0	4	3	6	0	0	0	0	0	
		b	5	15	9	7	10	7	8	19	14	14	9	12	10	13	8	7	14	7	15	5	14	25	
		c	3	7	1	2	1	0	0	3	8	7	1	0	4	2	2	0	2	0	2	0	5	0	
		Ⓓ	90	74	87	88	86	89	91	76	78	79	87	82	86	84	87	90	78	93	82	95	77	75	
1-34	801	a	14	11	4	5	3	4	4	2	3	0	4	3	4	3	1	4	11	7	4	8	3	0	
		b	1	4	4	2	6	1	2	5	21	21	1	7	13	6	4	2	4	4	0	0	0	0	
		c	5	5	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
		Ⓓ	79	79	92	93	92	95	92	93	76	79	95	90	84	90	95	92	86	89	96	92	97	100	
2-28	816	a	0	0	1	1	0	1	0	0	4	0	1	0	1	2	0	2	2	0	0	0	0	0	
		b	8	2	3	2	4	3	4	3	0	7	3	7	1	5	2	3	7	4	2	6	0	0	
		c	9	7	16	17	14	18	17	6	12	0	17	14	13	4	18	19	17	8	5	6	4	5	
		Ⓓ	82	89	79	78	80	77	80	92	85	87	79	79	83	89	79	76	73	89	92	88	91	95	
1-18	820	a	10	9	5	3	7	5	6	7	6	0	5	0	5	5	5	3	4	11	2	8	0	0	
		Ⓑ	87	90	94	95	92	94	90	91	94	95	94	93	92	93	93	95	95	89	94	84	97	100	
		c	1	0	1	2	0	0	4	2	0	0	0	0	2	2	1	1	0	0	1	0	3	0	
		d	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	
1-16 2-11 3-12 4-11	831	a	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	
		Ⓑ	90	93	97	96	97	97	94	97	95	97	97	98	95	93	97	98	96	96	98	97	98	98	
		c	6	2	1	2	1	1	3	2	3	0	1	0	2	3	2	0	1	2	1	1	2	0	
		d	1	1	1	1	1	1	6	2	2	1	1	1	2	3	1	1	1	1	0	1	0	0	

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MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age												Location					Age			Group	
		Male	Female	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2			
		All																							
795	a	1	1	1	1	1	1	1	1	1	1	2	2	0	0	0	0	0	0	0	0	0	0		
	b	10	7	12	9	9	9	16	1	3	10	9	11	16	2	2	0	5	0	4	0	4	2		
	c	76	81	71	73	76	76	67	67	87	74	78	71	67	87	81	86	90	100	78	89	89	89		
	d	13	10	15	13	14	13	14	14	8	14	10	14	16	11	15	14	5	0	17	9	9	9		
796	a	5	6	4	10	6	2	4	5	4	5	4	6	10	4	0	6	6	0	0	0	0	5		
	b	9	10	8	10	10	9	11	10	10	8	10	8	10	13	19	13	9	11	19	12	12	12		
	c	79	77	80	78	81	84	83	74	76	76	80	79	76	79	81	75	83	78	81	78	78	78		
	d	6	5	7	3	3	3	6	8	6	6	6	6	4	3	0	5	3	6	0	4	4	4		
798	a	4	5	3	2	2	2	3	8	8	4	2	4	3	5	2	8	6	4	0	6	6	6		
	b	6	5	6	2	2	3	6	10	14	4	7	6	10	1	0	2	0	4	0	1	1	1		
	c	82	81	83	94	92	88	84	69	53	84	84	80	77	86	88	84	84	91	75	87	87	87		
	d	5	5	4	1	3	5	5	7	7	1	5	5	6	7	9	6	8	0	25	5	5	5		
800	a	1	2	1	2	0	1	2	1	3	2	1	2	0	2	2	3	3	0	0	3	3	3		
	b	13	12	14	10	10	10	13	21	24	15	10	12	18	12	12	3	20	50	3	14	14	14		
	c	1	1	1	1	1	1	0	1	2	1	1	1	2	0	0	0	0	0	0	0	0	0		
	d	83	84	82	88	89	88	82	73	61	78	86	82	84	80	85	94	94	77	50	97	83	83		
801	a	2	3	1	4	3	1	1	4	4	2	3	1	1	2	8	0	2	0	8	1	1	1		
	b	4	4	4	1	2	2	5	12	10	4	2	4	5	5	5	0	10	5	4	5	5	5		
	c	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	2	0	0	0	1	1	1		
	d	93	92	94	95	95	96	94	90	79	86	94	94	94	94	92	87	98	88	95	89	93	93		
816	a	1	1	0	1	0	1	0	1	0	2	1	1	0	2	6	2	0	0	7	1	1	1		
	b	1	1	2	1	3	1	1	5	2	1	1	1	3	0	0	0	0	0	0	0	0	0		
	c	9	10	8	10	10	6	8	7	8	9	10	6	8	16	24	19	10	0	11	17	17	17		
	d	89	88	89	88	87	93	87	89	87	84	90	87	91	89	81	68	80	100	78	82	82	82		
820	a	3	4	2	1	3	2	2	4	4	3	1	3	4	6	8	0	13	5	8	6	6	6		
	b	96	94	98	99	97	96	98	93	90	95	95	96	95	93	92	100	83	95	92	93	93	93		
	c	1	1	0	0	1	1	0	1	1	2	0	1	0	1	0	0	4	0	0	1	1	1		
	d	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
831	a	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0		
	b	98	97	99	98	98	98	98	96	96	98	98	98	98	97	97	96	97	97	97	97	97	97		
	c	1	1	1	1	1	1	1	1	1	2	0	1	0	1	1	2	2	1	1	2	2	2		
	d	1	1	1	1	1	1	1	1	1	1	0	1	0	1	2	1	1	1	1	1	1	1		

Michigan Original Test-Item No.	Pool No.	Foils	IOWA	CAPE MAY	MICHIGAN ORIGINAL (No Previous License) APPLICANTS																	MICHIGAN TRANSFER APPLICANTS			
					All	Sex		Age					Driver Ed.			Location					All	Age			
						Male	Female	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5		<25	25-34	>34	
3-21	834	(a)	87	75	85	88	82	90	79	73	76	79	87	94	70	79	85	86	84	88	91	95	89	90	
		b	8	16	12	10	12	8	17	18	20	8	11	6	18	15	11	11	13	9	8	5	8	11	
		c	1	6	1	0	1	0	2	2	0	4	0	0	3	2	1	0	3	0	2	0	4	0	
		d	3	2	2	1	3	1	2	5	4	4	1	0	6	2	2	2	0	3	0	0	0	0	
4-28	835	a	6	5	7	4	8	4	5	8	14	21	4	3	13	9	4	4	16	10	3	10	0	0	
		b	4	3	10	12	9	7	11	11	25	21	8	6	16	13	11	5	12	14	6	0	0	17	
		c	3	4	2	2	3	2	2	3	3	7	2	0	4	4	2	2	2	3	0	0	0	0	
		(d)	86	88	81	82	80	87	83	78	58	50	85	91	67	74	83	88	71	72	91	90	100	83	
6-35	840	a	4	4	4	4	5	2	7	7	14	9	3	3	10	10	3	5	2	0	1	0	3	0	
		(b)	83	92	90	91	89	94	82	83	76	87	92	93	83	79	92	87	92	100	96	96	97	96	
		c	8	2	4	3	4	2	7	10	5	0	4	0	3	4	3	4	6	0	2	4	0	4	
		d	3	2	1	0	1	1	0	0	5	0	0	3	1	2	1	1	0	0	0	0	0	0	
5-19	842	(a)	82	86	82	79	84	85	76	67	78	85	85	92	71	70	81	87	85	82	86	92	86	92	
		b	3	3	5	6	4	3	12	6	9	0	4	0	10	7	5	3	7	4	5	4	5	4	
		c	8	4	3	2	3	3	5	3	0	0	3	0	1	2	3	2	2	7	0	0	0	0	
		d	5	6	10	12	8	8	7	21	6	15	7	8	15	18	10	7	7	7	8	4	10	4	
7-21	843	(a)	90	91	95	94	95	96	90	92	90	100	95	100	92	89	95	93	98	96	94	93	94	93	
		b	3	4	1	1	0	1	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0	0	
		c	3	2	2	1	3	1	0	8	7	0	1	0	5	6	2	2	2	0	1	4	0	0	
		d	0	2	2	4	1	2	8	0	3	0	3	0	2	4	2	3	0	4	4	4	6	0	
2-13	853	a	3	4	5	3	6	5	7	0	8	0	5	4	4	4	6	4	3	8	2	0	0	5	
		b	1	4	2	2	2	2	2	2	3	8	0	2	4	2	4	1	2	5	4	0	0	0	
		(c)	88	88	86	86	87	89	80	94	62	86	90	86	80	84	86	88	85	89	98	100	100	95	
		d	8	5	6	7	4	3	11	3	15	10	2	7	11	5	7	5	3	0	0	0	0	0	
6-17	861	a	8	13	15	12	17	11	18	17	14	30	13	10	23	21	16	14	10	12	7	7	7	7	
		b	3	4	9	6	11	7	12	5	14	17	7	7	13	12	9	8	10	4	2	7	0	0	
		(c)	63	67	63	65	60	70	53	55	57	44	67	63	51	50	60	65	69	80	80	82	80	78	
		d	26	16	14	16	12	12	17	24	14	9	13	20	13	17	15	14	12	4	11	4	13	15	
1-17	869	a	8	13	19	17	21	14	28	72	33	32	16	17	28	26	24	16	12	0	6	4	11	0	
		b	0	5	2	1	2	2	4	2	0	0	2	0	0	3	1	2	2	0	1	4	0	0	
		c	21	4	7	8	6	8	2	2	6	11	6	6	13	8	2	4	12	11	7	6	4	6	11
		(d)	71	78	71	72	71	76	64	68	61	58	75	70	63	69	68	70	75	93	86	88	83	90	

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MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex										Location										Age						Group												
		All					Male					Fe-male					<20			20-24			25-34			>34			1	2										
		All	Male	Fe-male	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34																			
834	a	79	80	79	80	83	81	80	75	69	82	82	80	74	69	85	84	88	86	83	92	85	85	69	74	69	82	82	80	74	69	82	80	74	69					
	b	17	17	16	15	16	15	16	15	22	12	12	16	24	30	12	12	10	14	13	0	12	12	16	24	30	12	12	10	14	13	0	12	10	14	13	0			
	c	1	1	1	1	0	1	0	3	0	0	0	1	0	1	1	1	2	0	0	0	1	1	1	1	0	0	0	0	2	0	0	0	1	1	0	0			
	d	2	2	2	2	2	2	1	4	2	2	3	2	2	0	2	2	2	4	2	2	1	3	2	2	2	0	0	0	0	4	0	0	0	1	1	0	0		
835	a	7	8	5	7	3	7	8	16	16	12	7	5	6	8	7	4	8	6	17	3	7	4	5	6	8	7	4	8	6	6	6	8	7	4	8	6			
	b	9	9	9	11	7	11	11	10	14	12	8	8	8	11	7	9	6	3	11	9	7	8	8	8	8	8	8	6	3	3	3	9	6	3	9	6	3		
	c	3	3	4	3	2	3	4	5	12	7	4	2	3	3	4	11	0	0	6	6	4	4	2	3	3	3	4	11	0	0	0	6	6	4	11	0	0		
	d	80	78	82	80	88	80	77	66	50	68	80	83	83	78	80	77	84	86	61	81	80	80	83	83	78	80	77	84	86	61	81	80	77	84	86	61	81		
840	a	3	4	2	5	3	5	3	3	2	6	2	3	5	0	1	3	0	0	0	0	1	2	3	5	0	0	1	3	0	0	0	0	0	0	1	3	0		
	b	93	91	95	91	94	91	96	93	84	89	95	93	92	98	94	95	92	97	90	97	93	94	93	92	98	92	94	95	92	97	90	97	93	94	92	97	90		
	c	2	2	1	3	2	3	1	3	3	2	1	2	2	1	2	2	2	2	3	0	3	1	2	2	2	2	3	0	8	3	0	0	0	0	3	0	0		
	d	1	2	1	1	1	1	1	0	7	2	1	1	0	1	1	1	0	7	2	2	2	1	1	1	0	0	1	2	0	0	10	10	3	1	2	0	0		
842	a	88	86	90	89	91	89	89	85	71	75	88	91	91	91	76	81	75	69	81	65	78	76	91	91	91	91	88	91	91	75	69	81	75	69	81	65	78		
	b	2	3	2	3	3	3	2	2	4	7	2	3	2	0	2	0	4	0	6	0	2	2	2	3	2	0	2	0	4	0	0	6	0	0	2	0	2		
	c	3	2	4	3	3	3	3	3	5	4	3	3	2	3	7	9	10	5	0	22	5	3	7	3	3	3	7	9	10	5	0	0	22	5	0	22	5		
	d	5	6	3	4	4	4	4	4	9	11	6	2	3	3	14	11	12	21	13	13	14	14	6	2	3	3	14	11	12	21	13	13	13	14	11	12	21	13	
843	a	87	85	90	91	96	91	86	79	57	84	87	87	92	80	92	98	89	100	71	91	93	92	87	92	80	92	98	89	100	71	71	91	91	93	92	89	100		
	b	6	8	4	3	2	3	4	6	31	7	6	6	3	6	3	2	3	0	14	5	3	6	3	6	6	3	2	2	3	0	14	5	3	0	14	5	3		
	c	1	1	1	1	1	1	1	1	1	0	1	2	1	2	1	0	1	1	7	5	1	1	2	1	2	1	0	2	0	0	7	5	1	0	0	0	0		
	d	5	5	4	3	2	3	6	10	9	5	5	4	3	9	3	0	5	0	7	0	3	0	4	3	9	3	0	5	0	7	0	7	0	5	0	7	0		
853	a	3	3	3	2	1	2	3	2	8	7	3	1	3	1	4	3	5	5	0	4	4	4	3	1	3	1	4	3	5	5	0	4	4	3	5	5	0		
	b	2	2	3	2	2	2	1	3	2	1	2	2	4	2	3	6	3	0	0	11	1	3	2	2	2	2	3	6	3	0	0	0	11	1	3	6	3		
	c	92	92	92	96	92	96	92	91	83	86	91	94	91	96	89	88	90	87	94	82	91	92	94	91	96	89	88	90	87	94	82	91	92	90	87	94	82	91	
	d	1	1	1	0	2	0	1	2	3	2	2	1	1	1	2	2	1	2	6	4	2	2	1	1	1	1	2	3	0	3	6	4	2	3	0	3	6	4	
861	a	13	12	14	16	17	16	17	11	21	17	14	12	14	11	13	10	16	12	10	10	13	13	14	12	14	11	13	10	16	12	10	10	10	13	16	12	10		
	b	9	9	8	6	6	6	9	14	19	12	9	8	9	5	9	10	4	12	20	10	9	9	8	9	5	9	10	4	12	20	10	10	9	9	4	12	20	10	
	c	66	64	68	69	64	69	64	60	48	53	65	70	68	72	60	63	55	61	60	65	59	60	63	70	68	72	60	63	55	61	60	65	59	60	63	55	61	60	
	d	10	13	8	8	8	8	8	12	6	15	10	9	9	10	18	17	22	15	10	16	18	17	9	9	10	18	17	22	15	10	16	18	17	22	15	10	16	18	
869	a	18	17	19	18	20	18	20	27	30	30	20	14	17	13	11	8	10	13	16	4	12	11	14	17	13	11	8	10	13	16	4	12	11	8	10	13	16	4	
	b	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	c	6	5	8	8	8	8	8	5	2	5	7	6	7	5	5	13	2	6	0	12	4	5	6	7	5	5	13	2	6	0	12	4	5	13	2	6	0	12	4
	d	75	77	73	74	71	74	71	67	60	63	72	80	76	78	81	82	81	75	79	85	80	81	76	80	76	78	81	80	87	75	79	85	80	81	80	87	75	79	

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	IOWA CAPE MAY	Pool No.	Foil	Sex	Age				Driver Ed.			Location					Age									
					All	18-		20-		High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34					
						Male	Fe-male	<18	18-19													20-24	25-34	>34		
2-19		870	a	37	23	37	32	41	32	43	42	54	48	36	21	42	50	31	40	38	39	28	24	26	30	
			(b)	51	68	52	59	47	57	44	47	42	45	54	75	45	43	59	48	50	50	70	71	74	70	
			c	4	3	1	2	1	1	4	3	4	0	1	0	4	4	1	2	0	0	0	0	0	0	0
			d	8	6	8	7	10	10	7	6	0	3	9	4	7	2	7	10	12	12	12	2	6	0	0
4-29		877	(a)	86	91	95	93	97	95	99	97	92	100	94	100	97	89	95	96	96	100	97	95	100	100	96
			b	0	2	1	2	0	1	0	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	0
			c	8	4	1	1	0	1	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0	0	0
			d	5	4	3	3	2	4	2	0	3	0	3	0	2	0	0	4	2	4	0	2	5	0	0
4-12		880	a	27	19	23	28	18	30	12	8	8	14	27	27	7	13	19	24	92	45	15	21	23	23	4
			b	12	15	23	24	23	18	39	35	28	7	21	12	34	38	22	20	31	0	17	32	14	8	
			c	1	2	1	1	0	0	3	0	3	0	0	0	3	0	2	0	0	0	0	0	0	0	
			(d)	59	63	52	46	57	51	46	54	58	79	51	61	53	49	55	55	39	55	68	47	64	88	
3-11		894	(a)	78	89	79	82	77	83	70	75	76	75	83	61	72	67	79	80	82	94	94	100	89	94	
			b	14	7	13	10	15	13	17	7	12	13	12	29	12	12	13	15	13	3	4	0	8	6	
			c	3	2	3	2	4	1	2	9	8	4	1	3	6	4	2	2	3	0	2	0	4	0	
			d	5	2	5	6	4	3	11	9	0	8	4	6	9	17	4	3	2	3	0	0	0	0	
1-27		899	a	6	7	6	6	6	6	12	2	9	11	5	10	10	8	6	6	4	7	6	12	6	0	
			b	3	4	1	2	0	0	4	0	3	0	1	0	0	3	0	1	0	0	0	0	0	0	
			(c)	89	80	91	90	92	93	78	93	88	84	92	90	90	87	92	92	90	89	91	80	94	100	
			d	1	9	2	2	2	1	6	5	0	5	3	0	0	2	1	2	5	4	2	8	0	0	
7-12		901	a	14	7	8	11	7	8	13	6	17	0	8	12	8	6	9	11	3	4	3	7	0	0	
			b	32	26	50	42	55	47	55	56	50	75	49	44	55	64	58	39	26	46	43	22	58	50	
			(c)	49	63	35	39	32	40	15	28	23	25	38	34	21	23	23	44	55	46	47	63	33	43	
			d	5	4	7	8	6	5	18	10	10	0	5	9	16	6	10	5	5	4	4	4	6	0	
5-15		912	a	1	1	2	3	1	1	7	0	6	8	2	0	3	4	2	1	3	4	4	4	5	4	
			b	7	15	6	4	8	4	10	9	19	0	5	4	12	11	4	3	10	14	9	12	14	4	
			c	1	3	1	1	1	1	0	0	0	0	1	0	0	2	0	1	2	0	0	0	0	0	
			(d)	90	81	90	91	90	93	83	91	75	92	91	96	84	82	92	96	85	82	87	84	81	93	
4-9		919	a	32	47	41	45	38	42	45	32	44	36	42	42	40	40	38	44	37	55	29	26	36	25	
			b	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			c	7	4	3	3	4	3	2	3	8	7	3	0	5	6	4	3	4	0	2	0	0	4	
			(d)	58	47	55	52	58	55	54	65	47	57	55	58	54	54	58	53	59	45	68	74	64	67	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age												Location					Age			Group	
		Male	Fe-male	20-	25-	35-	45-	55-	>64	1	2	3	4	5	All	<20	20-25-		>34	1	2				
				24	34	44	54	64									24	34							
870	a	31	30	35	28	26	30	34	34	46	32	28	29	16	36	38	39	41	6	56	31				
	b	64	66	61	68	70	62	60	58	45	62	68	68	75	58	56	58	54	75	44	61				
	c	1	0	0	0	1	1	1	1	1	0	0	0	2	1	3	0	0	0	0	1				
	d	4	3	4	3	2	5	3	6	7	3	4	3	3	4	3	3	3	13	0	5				
877	a	95	95	99	100	97	93	92	80	93	96	98	91	92	98	94	89	89	78	100	95				
	b	1	1	0	0	1	2	1	5	1	1	0	3	4	2	2	2	9	6	0	0				
	c	1	1	1	0	1	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0				
	d	2	3	0	0	2	3	5	8	4	2	1	2	6	2	0	3	0	11	0	3				
880	a	19	19	12	22	21	14	15	20	16	20	16	21	18	23	16	14	14	22	22	17				
	b	21	20	30	16	22	21	22	21	30	23	17	19	27	30	20	26	26	50	38	25				
	c	1	1	0	0	0	0	1	4	1	0	1	0	0	0	0	0	0	0	0	0				
	d	58	58	57	54	56	64	60	48	51	55	60	59	53	45	63	60	60	28	41	56				
894	a	80	82	73	77	82	82	78	76	67	78	84	80	83	88	78	83	83	87	75	84				
	b	14	13	16	22	13	15	14	14	22	16	11	14	8	9	10	8	8	0	17	7				
	c	2	2	2	2	3	1	3	2	3	2	1	2	2	2	4	4	0	0	0	2				
	d	3	3	3	6	2	2	4	4	6	4	2	1	2	6	0	8	8	9	8	6				
899	a	7	9	0	3	9	11	8	14	11	8	7	3	13	15	17	8	8	11	23	11				
	b	1	1	0	0	0	1	2	0	2	1	0	0	0	0	0	0	0	0	0	0				
	c	91	89	92	93	89	87	89	83	86	90	90	96	84	82	82	90	90	84	77	86				
	d	1	1	0	2	2	1	1	0	1	0	1	0	1	1	0	0	2	0	0	1				
901	a	6	6	3	4	8	7	10	6	8	6	6	6	7	2	15	3	3	0	9	7				
	b	40	41	43	46	32	36	41	44	44	43	37	34	45	49	44	39	39	50	27	48				
	c	42	40	46	44	49	44	36	30	31	38	46	48	37	44	26	47	47	36	50	35				
	d	9	9	8	6	9	11	6	9	13	10	7	9	10	4	13	8	8	14	14	9				
912	a	2	3	0	0	1	1	6	10	7	2	1	2	1	2	2	0	0	0	4	1				
	b	9	8	12	6	10	10	13	8	6	11	6	10	9	11	10	3	3	13	17	7				
	c	1	1	0	1	1	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0				
	d	88	88	88	93	88	87	81	76	82	86	92	87	90	87	88	97	88	88	78	92				
919	a	50	49	56	56	43	44	50	66	43	49	57	47	54	53	61	43	43	56	41	58				
	b	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	6	3	0				
	c	2	2	1	2	1	2	3	1	6	1	2	2	2	2	3	3	3	6	3	2				
	d	48	48	41	43	55	54	45	30	49	49	41	51	42	47	34	54	54	28	53	39				

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	MICHIGAN ORIGINAL (No Previous License) APPLICANTS													MICHIGAN TRANSFER APPLICANTS							
					All	Sex		Age					Driver Ed.			Location					All	Age			
						Male	Fe-male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5		<25	25-34	>34	
7-17	920	a	13	11	13	10	16	7	33	26	23	17	8	6	30	30	14	9	9	8	15	19	18	0	
		b	1	7	3	4	3	4	3	2	0	0	5	3	0	6	2	4	2	8	1	0	3	0	
		c	1	6	2	3	1	2	0	2	3	0	2	3	2	2	1	3	3	0	0	0	0	0	0
		(d)	85	75	81	83	79	87	65	70	70	83	86	88	65	62	82	84	86	85	84	82	79	100	
2-5 (Iowa and Cape May) (Michigan) (UVC)	922	a	24	10	4	5	4	2	9	6	12	10	3	0	8	4	5	5	3	0	8	6	9	5	
		(b)	75	13	3	2	4	2	6	6	0	10	3	4	2	5	2	3	5	0	3	6	0	5	
		(c)	1	48	73	78	68	77	63	69	65	62	75	82	65	62	69	75	82	92	74	77	78	70	
		(d)	0	30	19	14	23	18	22	19	23	17	18	14	24	29	23	15	10	8	15	12	13	20	
3-33	926	a	8	30	16	14	17	13	25	16	28	17	13	13	20	15	14	16	18	16	17	15	19	17	
		b	0	4	1	1	1	0	0	7	0	4	4	1	0	3	2	0	1	0	9	0	0	0	0
		(c)	87	60	70	74	67	80	47	55	56	54	76	77	52	46	73	80	67	63	82	85	81	78	
		d	4	7	13	12	13	7	28	23	16	13	10	10	20	33	13	2	15	13	2	0	0	0	
D-74 7-14	932	a	3	4	5	6	4	3	13	6	7	8	3	3	11	17	4	4	2	0	3	4	0	7	
		b	1	3	1	0	1	1	0	0	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0
		c	0	5	3	4	2	3	5	4	3	8	3	0	5	6	4	4	2	0	7	7	6	7	
		(d)	94	88	91	89	92	92	83	90	90	83	93	94	84	74	90	93	97	100	88	89	88	86	
6-5	937	a	3	6	9	11	8	7	15	10	10	22	9	3	12	23	6	5	12	16	1	4	0	0	
		b	20	22	20	16	24	19	13	31	38	17	20	17	22	23	18	19	23	32	32	32	37	26	
		(c)	61	62	57	64	52	65	52	41	29	39	63	63	36	27	61	66	58	48	54	54	43	67	
		d	15	10	12	8	15	8	18	17	19	22	7	17	27	27	13	9	6	4	13	10	29	7	
1-7	952	a	17	15	10	10	10	10	18	7	12	5	11	3	11	12	11	9	11	7	9	16	8	0	
		(b)	52	51	61	61	61	65	48	57	52	58	62	70	53	57	64	60	58	61	70	36	78	100	
		c	25	27	23	23	24	22	20	27	30	37	22	27	29	23	20	25	25	32	20	44	14	0	
		d	6	5	4	5	4	4	10	7	3	0	5	0	4	5	4	5	7	0	0	0	0	0	
6-4	954	a	7	19	17	21	15	14	27	21	24	13	15	27	24	27	14	15	17	32	9	18	3	7	
		(b)	89	70	71	69	73	81	58	62	43	57	80	67	50	42	76	76	75	68	84	68	97	85	
		c	3	9	8	6	9	3	13	12	24	22	4	3	17	21	7	5	8	0	6	10	0	7	
		d	1	2	2	3	2	2	2	2	2	10	0	0	3	5	6	2	3	0	0	1	4	0	0
5-3	958	a	1	10	8	8	7	6	10	12	13	15	7	0	12	11	7	5	14	4	8	8	5	11	
		b	4	4	2	1	2	1	5	3	0	0	1	4	1	0	3	1	2	0	1	0	0	0	
		(c)	90	81	85	87	84	88	81	79	78	77	87	92	81	86	84	89	76	96	90	92	95	85	
		d	4	5	6	4	7	5	5	5	6	9	8	5	4	6	2	6	5	9	0	0	0	0	

Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS														
		Sex					Age					Location					Age					Group				
		All	Male	Female	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2			
920	a	19	12	26	20	18	22	16	23	13	22	21	18	16	14	24	29	33	8	14	27	24				
	b	1	1	1	0	1	2	1	2	2	4	1	1	0	0	0	0	0	3	0	0	2				
	c	1	1	1	0	1	0	1	2	2	0	1	1	0	0	0	0	0	3	0	0	2				
	(d)	78	84	72	80	81	81	74	79	79	72	77	79	82	85	72	69	64	86	86	68	73				
922	a	12	12	12	3	6	12	15	22	26	15	10	12	14	17	8	9	2	13	19	11	7				
(Iowa and Cape May Michigan)	(b)	10	10	9	5	5	10	11	20	18	14	10	6	11	10	6	0	9	8	6	4	7				
	(c)	60	64	58	56	60	64	54	51	46	47	55	67	68	62	68	79	68	59	69	70	68				
	(d)	18	14	21	26	24	15	20	8	10	23	25	14	7	11	18	12	22	21	6	15	18				
926	a	20	20	21	26	24	22	18	21	14	22	19	21	16	24	19	9	20	17	35	25	18				
	b	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	3	0	0	1				
	(c)	61	62	61	72	69	60	64	53	46	60	60	62	66	53	73	81	71	78	52	67	63				
	d	17	16	17	2	14	17	16	24	31	15	18	15	16	22	7	9	8	3	9	8	7				
932	a	4	4	4	1	2	3	5	4	17	7	4	2	3	6	8	4	15	3	0	5	8				
	b	1	1	1	1	0	0	1	1	1	2	0	1	0	0	1	0	3	0	0	5	1				
	c	3	3	3	3	4	2	3	4	2	2	2	4	4	2	2	2	2	3	0	5	2				
	(d)	91	91	92	94	94	95	91	88	73	84	93	91	92	91	89	93	80	94	100	86	90				
937	a	11	12	10	7	4	17	10	11	18	18	8	11	9	17	9	12	8	9	0	19	7				
	b	24	21	28	18	26	19	24	28	30	27	24	23	26	23	16	17	18	12	10	16	16				
	(c)	49	52	47	61	55	54	47	36	25	38	50	52	50	47	58	60	59	55	50	58	58				
	d	11	11	11	14	9	9	13	12	13	11	13	10	10	9	14	10	14	18	20	7	16				
952	a	9	8	56	8	6	9	10	13	11	5	8	11	11	5	10	13	13	8	0	12	10				
	(b)	68	71	39	66	59	74	72	66	62	67	68	68	67	67	63	56	58	71	68	50	65				
	c	19	18	2	23	30	15	13	19	20	24	20	17	18	22	22	23	23	21	21	23	22				
	d	2	2	3	2	4	1	2	1	2	2	2	2	4	5	3	5	5	0	0	12	1				
954	a	11	9	13	14	11	5	10	9	13	16	10	11	11	10	16	15	16	15	20	29	12				
	(b)	76	79	73	84	82	83	76	68	52	63	76	79	77	78	75	80	71	79	50	61	79				
	c	8	6	9	1	4	8	8	13	16	13	9	5	7	4	9	5	12	6	20	10	8				
	d	1	1	2	1	3	1	1	1	0	2	1	2	1	2	1	0	0	0	10	0	1				
958	a	9	11	8	0	4	7	11	19	22	12	10	8	8	13	9	13	6	13	0	9	9				
	b	2	2	2	0	2	1	1	6	4	2	2	1	2	2	1	2	0	0	0	0	1				
	(c)	84	82	87	99	94	89	82	65	64	77	84	88	86	79	88	81	90	87	100	83	89				
	d	4	4	4	1	0	2	6	8	11	5	4	3	4	6	3	4	4	0	0	9	2				

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MICHIGAN ORIGINAL (No Previous License) APPLICANTS

CAPE
MAY

IOWA

MICHIGAN TRANSFER
APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA		CAPE MAY		Sex		Age				Driver Ed.			Location					Age			
			All	Male	Fe- male	<18	18-		20-		25-		High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34
							19	20	21	22	23	24												
7-35	961	a	4	7	2	2	1	10	2	3	0	1	0	6	4	1	3	3	0	1	0	3	0	
		b	13	6	3	3	0	4	0	0	0	2	3	2	2	1	6	2	4	0	0	0	0	
		c	66	65	72	71	76	58	68	67	58	76	81	56	64	73	71	72	85	83	82	79	93	
		d	17	22	23	24	21	33	26	30	42	21	16	35	30	26	20	22	12	15	19	15	7	
6-40	972	a	4	1	5	3	4	5	5	5	9	7	7	4	8	5	2	8	8	2	4	3	0	
		b	76	74	72	72	77	67	62	52	65	75	73	63	58	75	68	79	68	92	89	90	96	
		c	17	19	19	22	16	27	24	29	22	17	17	22	21	16	26	14	20	5	4	7	4	
		d	3	4	4	3	3	2	7	14	4	2	3	10	10	4	4	0	4	1	4	0	0	
3-15	976	a	13	12	5	5	5	8	7	0	0	5	0	7	6	2	8	8	0	0	0	0	0	
		b	6	12	6	8	4	13	7	8	4	5	3	8	2	6	4	12	6	8	10	0	17	
		c	59	47	64	63	71	51	50	48	50	69	84	43	46	60	72	67	72	76	90	73	67	
		d	23	28	25	24	20	28	36	44	42	22	13	41	44	32	16	13	22	17	0	27	17	
2-7	987	a	18	7	9	8	10	7	6	8	7	11	0	4	14	5	13	8	4	3	12	0	0	
		b	1	4	5	7	4	4	6	8	3	3	4	8	5	4	4	5	8	2	0	4	0	
		c	76	89	86	84	85	89	89	85	86	85	96	87	80	89	81	87	89	95	88	96	100	
		d	3	1	1	0	1	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	
1-32	994	a	4	25	14	17	13	12	21	18	21	12	30	16	18	17	15	4	7	12	16	14	5	
		b	4	4	7	6	6	12	11	12	5	8	7	8	7	8	9	4	4	4	8	3	0	
		c	77	59	64	62	65	66	59	67	42	65	47	67	54	62	61	84	64	70	56	69	95	
		d	13	11	14	14	17	10	7	3	32	16	17	8	21	12	14	9	25	12	16	14	0	
5-33	997	a	0	2	1	1	0	0	0	0	8	0	0	1	2	0	0	2	0	0	0	0	0	
		b	4	4	2	2	1	0	6	9	0	1	0	4	2	1	2	3	4	4	4	0	7	
		c	3	5	2	2	1	0	0	9	0	1	0	3	0	2	1	2	4	0	0	0	0	
		d	93	89	96	96	98	100	94	81	92	98	100	92	96	97	97	93	93	95	96	95	93	
4-39	1007	a	1	5	3	2	4	2	3	3	0	4	0	1	2	4	3	0	3	3	0	0	8	
		b	3	5	2	3	2	2	5	3	7	2	0	4	6	2	2	4	0	0	0	0	0	
		c	72	55	60	62	59	60	57	56	71	89	76	56	47	60	59	69	69	65	74	59	63	
		d	23	33	34	33	35	35	35	39	14	35	24	36	46	33	37	28	28	32	26	41	29	
7-28	1011	a	10	19	17	18	9	38	36	30	8	15	6	29	26	16	16	19	15	13	26	3	14	
		b	2	5	5	7	5	10	0	10	8	4	12	9	6	7	4	3	4	1	4	0	0	
		c	85	71	73	71	82	48	58	53	83	78	78	55	66	73	73	78	81	81	67	94	79	
		d	3	4	3	4	2	5	6	7	0	1	3	8	2	3	6	0	0	3	4	3	0	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS											
		All	Sex		Age							Location					All	Age				Group	
			Male	Female	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5		<20	20-24	25-34	>34	1	2
961	a	1	1	1	0	1	1	1	1	0	3	2	0	1	1	1	3	2	5	0	0	5	2
	b	2	2	2	4	2	2	1	1	4	3	3	2	3	1	1	1	2	0	0	0	0	1
	ⓐ	66	67	66	73	68	66	66	64	72	58	63	66	67	65	70	74	80	67	78	79	73	75
	d	30	29	31	22	29	31	30	33	24	31	31	30	28	31	27	22	13	28	22	21	23	22
972	a	1	1	1	0	1	1	2	1	2	4	2	2	1	1	2	2	0	0	6	10	0	3
	ⓑ	77	75	80	82	80	79	81	78	75	60	76	74	78	78	88	76	75	82	76	60	68	79
	c	18	19	17	18	18	17	15	17	20	24	13	20	19	18	9	17	17	18	18	10	26	15
	d	3	4	1	0	1	3	1	5	3	8	7	3	1	3	1	3	3	0	0	20	3	3
976	a	4	4	4	6	8	5	4	2	3	4	7	3	4	4	3	9	12	10	8	0	8	9
	b	8	10	6	6	5	6	8	5	12	14	14	8	8	6	6	11	2	18	3	22	8	11
	Ⓒ	61	62	61	58	56	61	62	70	61	52	43	60	61	71	65	48	56	37	61	39	42	49
	d	26	23	28	30	31	28	26	23	24	23	35	28	26	20	13	32	30	33	28	39	42	31
987	a	5	6	4	1	5	4	4	5	7	8	10	3	4	6	4	5	15	2	3	0	7	4
	b	2	3	1	0	2	3	1	2	4	2	7	1	2	2	0	1	3	2	0	0	7	0
	Ⓒ	92	89	93	99	92	92	94	92	89	85	79	93	93	92	95	93	82	97	97	94	85	95
	d	1	1	0	0	1	1	1	0	0	0	1	1	1	0	0	1	0	0	0	6	0	1
994	a	16	15	18	16	16	19	18	13	13	19	20	17	16	13	10	21	23	28	15	11	35	19
	b	3	2	5	5	7	5	1	1	2	6	4	5	2	2	4	4	8	3	4	0	8	4
	Ⓒ	72	76	68	67	69	73	77	78	75	54	64	68	72	80	85	64	54	62	69	79	54	66
	d	6	5	7	12	7	3	3	6	7	11	8	7	6	5	1	11	15	7	13	11	4	12
997	a	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	b	5	7	3	0	2	3	7	7	8	9	5	5	6	6	1	4	2	2	10	0	4	4
	c	2	2	1	0	0	0	2	2	2	5	2	1	2	2	0	1	0	0	3	6	0	2
	Ⓓ	93	91	95	100	98	97	90	90	89	84	92	93	92	93	98	94	98	98	87	88	96	94
1007	a	2	2	2	3	1	2	1	3	2	2	4	2	2	0	2	2	0	3	3	6	0	3
	b	2	1	1	0	0	1	2	1	2	3	2	2	1	1	2	1	0	2	0	6	0	2
	Ⓒ	75	75	76	60	72	73	83	78	79	73	67	74	77	78	81	63	66	56	69	67	56	64
	d	20	20	21	36	27	24	15	16	15	16	24	22	18	20	14	31	34	34	29	17	44	28
1011	a	23	25	20	14	29	17	19	26	25	38	27	24	21	19	25	27	27	33	19	21	36	25
	b	4	3	6	4	1	3	5	3	7	10	5	5	3	6	3	3	0	7	3	0	0	4
	Ⓒ	70	69	71	81	68	78	73	68	63	47	63	67	73	74	68	67	71	57	75	79	59	69
	d	2	3	1	1	2	1	4	1	3	2	3	3	2	0	1	3	2	3	3	0	5	2

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MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	Sex		Age			Driver Ed.			Location					Age							
					All	Male	Fe- male	<18	18-		20-	25-	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-	
									19	24														34	34
6-39	1015	a	3	4	4	3	4	3	2	0	3	0	1	2	4	2	6	0	0	0	0	0	0		
		b	0	2	2	1	3	5	0	0	1	7	4	4	1	3	2	0	0	0	0	0	0		
		c	5	3	6	3	8	2	0	13	3	7	8	10	3	4	8	0	1	4	0	0	0		
		d	92	91	89	92	83	91	100	83	93	87	86	79	91	92	85	100	99	96	100	100	100		
3-39	1016	a	88	87	74	86	77	57	64	71	86	81	61	73	76	84	85	84	91	100	85	85			
		b	7	9	18	12	17	25	20	8	12	19	19	21	16	11	10	16	8	0	0	12			
		c	3	2	4	1	4	5	8	8	1	0	7	2	3	3	2	0	0	0	0	0	0		
		d	3	3	4	1	2	14	8	8	0	0	11	2	6	2	3	0	0	0	0	0	0		
4-24	1017	a	12	9	10	8	12	8	14	29	9	9	13	9	10	11	8	10	5	0	0	13			
		b	80	82	78	85	74	81	72	50	84	79	71	80	80	81	80	79	89	90	100	100			
		c	3	2	4	4	2	3	3	0	3	6	3	4	3	3	6	3	2	5	0	0			
		d	5	6	6	4	11	8	11	21	4	6	12	7	7	4	6	7	3	5	5	0			
2-26	1020	a	73	86	91	87	82	100	89	100	88	96	90	91	90	88	83	85	97	100	96	95			
		b	5	5	3	6	4	0	0	0	5	0	1	0	4	5	5	8	0	0	0	0			
		c	3	1	1	1	2	0	8	0	1	0	1	2	1	0	2	4	0	0	0	0			
		d	19	10	8	7	11	0	4	0	6	4	6	5	5	7	10	4	2	0	0	5			
1-36	1027	a	1	2	0	2	4	0	3	0	2	3	1	0	1	3	2	0	2	0	6	0			
		b	77	92	96	96	80	98	91	100	96	93	89	93	94	95	93	100	98	100	94	100			
		c	5	1	0	0	6	0	0	0	0	0	2	2	1	1	0	0	0	0	0	0			
		d	16	3	2	2	10	2	0	0	2	3	6	3	4	1	5	0	0	0	0	0			
5-25	1028	a	12	6	12	10	12	3	13	0	9	8	11	11	8	10	7	18	0	0	0	0			
		b	75	85	82	84	69	91	78	100	84	80	81	77	85	84	83	82	95	100	100	85			
		c	1	2	0	0	7	0	3	0	1	0	3	0	2	0	3	0	1	0	0	4			
		d	12	5	6	5	7	6	6	0	5	8	4	9	4	6	5	0	4	0	0	11			
3-34	1042	a	47	56	62	59	70	50	52	67	64	52	51	40	61	59	66	66	71	65	73	78			
		b	3	2	1	1	2	1	4	0	1	0	2	0	1	2	3	0	2	5	0	0			
		c	17	22	24	23	13	32	24	13	21	23	25	42	22	18	20	22	15	10	12	22			
		d	33	26	18	17	15	11	20	17	14	26	19	17	15	20	12	13	11	20	12	0			
4-26	1069	a	1	2	3	0	3	8	11	0	1	0	6	2	4	1	2	0	2	0	0	4			
		b	68	63	75	76	71	60	69	64	73	70	69	69	65	68	75	69	60	68	68	46			
		c	29	23	23	24	25	27	11	36	25	30	20	24	19	29	24	31	35	32	32	42			
		d	0	8	1	0	0	0	6	0	0	0	2	4	1	0	0	0	3	0	0	8			

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age										Location					Age			Group	
		Male	Fe- male	20-	25-	35-	45-	55-	>64	1	2	3	4	5	All	<20	20-	25-	>34	1	2		
				24	34	44	54	64									24	34					
1015	a	3	4	2	3	4	4	4	4	4	3	2	8	6	5	4	9	10	0	7			
	b	0	0	0	0	1	0	0	1	0	0	0	1	1	2	2	0	3	0	0			
	c	5	4	4	3	4	3	3	4	4	4	3	7	5	7	4	3	0	7	4			
	d	91	92	91	93	91	91	91	88	92	93	93	84	88	87	92	85	90	94	87			
1016	a	89	91	87	88	90	82	84	85	94	91	89	93	98	88	90	100	92	93				
	b	4	2	6	4	3	1	4	5	2	4	4	3	2	2	0	0	8	2				
	c	2	2	3	4	2	5	4	3	2	2	1	2	0	2	6	0	0	2				
	d	3	3	1	2	4	4	5	4	3	2	2	3	2	0	4	3	0	0				
1017	a	10	7	12	9	13	12	14	9	10	8	7	7	9	5	3	17	19	4				
	b	78	79	78	76	66	54	57	81	79	73	80	84	85	86	86	67	72	86				
	c	3	4	2	3	4	11	8	3	2	3	1	3	2	3	3	6	0	4				
	d	8	10	7	10	15	17	10	6	9	9	12	5	4	5	6	6	9	4				
1020	a	96	95	98	98	97	94	94	96	98	96	97	93	91	90	95	100	93	93				
	b	1	1	1	0	0	0	0	1	1	2	1	2	0	3	3	0	0	3				
	c	1	2	0	1	1	2	2	1	1	1	1	1	1	6	0	0	4	1				
	d	2	2	1	1	0	2	2	2	2	1	2	1	4	3	7	3	0	4				
1027	a	1	1	2	2	3	4	4	2	1	0	0	4	4	10	2	0	4	4				
	b	97	97	97	96	95	94	92	96	98	100	99	92	87	97	90	95	96	91				
	c	1	0	1	1	0	0	0	1	0	0	0	1	0	0	2	0	0	1				
	d	1	1	0	0	1	1	0	1	1	1	0	3	3	0	6	5	0	4				
1028	a	3	3	3	1	5	3	5	4	2	1	3	5	4	4	3	6	9	4				
	b	92	93	90	94	85	74	86	90	94	95	90	93	96	92	90	94	91	93				
	c	1	1	2	2	1	2	1	1	1	2	0	1	0	2	3	0	0	2				
	d	4	2	4	3	6	14	5	4	2	3	6	1	0	0	5	0	0	2				
1042	a	63	65	61	65	58	45	62	60	63	66	67	58	56	61	53	61	67	57				
	b	1	1	1	1	1	2	2	1	1	8	3	0	0	0	0	0	0	0				
	c	12	11	13	13	11	15	14	14	12	0	11	21	21	22	19	17	8	22				
	d	24	23	25	21	28	37	19	25	24	25	18	21	23	14	25	22	25	20				
1069	a	5	6	5	8	10	20	10	6	5	3	4	1	0	2	3	0	0	2				
	b	69	69	69	62	51	36	60	67	72	74	72	71	77	73	69	56	72	71				
	c	21	19	22	26	27	22	18	21	21	20	20	23	23	23	23	17	22	23				
	d	2	2	2	3	4	9	6	2	1	2	2	2	0	0	3	17	6	2				

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA CAPE MAY	Sex		Age			Driver Ed.		Location					Age							
				All	Male	Fe-male	<18	18-19	20-24	25-34	>34	High Sch.	Com-mer.	None	1	2	3	4	5	All	<25	25-34	>34
7-22	1081	(a)	69	27	24	29	30	10	22	17	50	29	22	21	15	27	30	31	27	75	78	71	
		b	6	21	15	25	15	25	38	47	17	16	25	36	38	22	15	17	15	7	4	14	
		c	15	36	42	32	33	63	36	30	33	35	41	41	45	38	31	33	35	15	11	14	
		d	9	16	19	13	22	3	4	3	0	21	9	0	2	13	22	19	19	4	7	0	
2-25	1085	a	1	6	4	7	5	7	6	4	3	5	0	7	14	2	8	7	0	2	0	0	
		b	12	6	5	6	6	2	8	4	3	5	4	4	5	4	9	3	8	2	6	0	
		(c)	86	79	81	77	81	80	75	73	66	82	79	76	70	83	74	82	85	90	94	90	
		d	1	10	10	9	7	11	11	19	24	7	18	13	11	11	8	8	8	7	0	0	
3-25	1086	a	1	3	3	4	1	4	7	4	17	1	6	7	8	3	2	0	3	2	0	0	
		b	12	14	10	17	10	19	27	20	17	11	3	28	23	14	11	10	16	4	5	0	
		(c)	82	73	78	68	82	72	46	64	42	80	87	46	42	73	80	84	72	85	95	67	
		d	5	10	10	11	8	6	21	12	25	8	3	19	27	10	6	7	9	9	0	22	
1-11	1087	(a)	92	93	92	94	97	88	89	79	84	95	90	87	90	92	94	93	100	98	92	100	
		b	5	4	5	3	3	6	0	12	11	3	3	6	7	5	2	0	0	1	4	0	
		c	0	1	0	1	0	0	2	3	5	0	0	2	0	2	1	0	0	0	0	0	
		d	3	2	3	2	0	6	9	6	0	2	3	4	3	1	2	7	0	1	4	0	
7-33	1099	(a)	94	88	87	88	90	85	86	70	83	91	84	78	83	88	88	90	89	95	96	100	
		b	3	5	5	5	5	8	4	7	0	5	3	6	6	5	5	3	8	1	0	3	
		c	4	7	1	3	0	5	6	10	8	1	3	8	8	2	1	2	0	0	0	0	
		d	0	4	7	3	5	3	4	7	8	3	9	6	2	5	5	5	4	4	4	0	
5-2	1126	a	9	8	6	9	6	14	9	13	8	6	4	15	9	10	5	9	0	4	4	4	
		b	5	3	2	3	2	2	3	13	0	3	0	4	11	1	2	5	0	0	0	0	
		(c)	82	89	91	86	91	81	82	75	92	90	92	81	77	88	90	86	100	94	96	93	
		d	4	1	1	1	1	2	3	0	0	1	4	0	2	1	3	0	0	3	0	4	
1-1 5-1	1139	(a)	94	90	91	89	94	85	81	77	80	93	93	80	80	88	93	94	97	93	97	85	
2-1 6-1		b	1	1	2	1	1	1	2	3	3	1	1	2	2	2	1	2	0	1	1	1	
3-1 7-1		c	0	1	1	1	0	2	2	2	1	0	0	2	2	1	0	0	1	1	1	1	
4-1		d	5	8	7	8	4	12	15	17	16	5	6	15	16	9	5	4	3	5	1	10	
6-25	1142	a	5	8	3	12	4	5	19	14	17	6	7	12	23	8	4	8	0	6	0	7	
		(b)	82	81	90	81	92	82	69	71	70	90	87	74	73	84	88	87	100	89	93	87	
		c	4	2	3	2	1	5	5	5	9	1	0	8	0	3	3	2	0	0	0	0	
		d	6	3	4	3	2	8	5	10	4	3	7	5	4	3	5	2	0	2	4	4	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age							Location					Age				Group		
		All	Male	Fe- male	20-	25-	35-	45-	55-	>64	1	2	3	4	5	All	<20	20-	25-	>34	1	2
					24	34	44	54	64									24	34			
1081	a	54	58	50	38	55	63	58	49	33	47	50	64	54	41	36	36	47	64	41	41	
	b	21	21	20	26	16	19	21	25	24	25	25	17	21	19	22	15	25	7	27	17	
	c	18	14	20	29	17	13	15	20	27	23	17	19	15	34	31	43	25	29	27	35	
	d	6	5	8	8	11	5	6	3	10	2	6	6	8	6	11	7	3	0	5	7	
1085	a	2	3	2	0	5	2	1	2	4	3	2	3	1	1	0	3	0	0	0	2	
	b	1	2	1	0	4	1	2	1	1	4	1	1	0	1	3	0	3	0	4	1	
	c	83	83	83	97	82	93	80	71	62	71	86	83	80	85	91	86	77	81	82	85	
	d	13	12	14	3	10	5	18	22	33	17	11	13	19	13	6	10	21	19	15	12	
1086	a														4	2	6	6	0	0	4	
	b														6	5	6	6	9	8	6	
	c														78	86	74	81	70	75	78	
	d														11	7	12	8	12	17	11	
1087	a	92	92	92	99	98	97	95	84	75	84	92	95	87	92	92	92	90	100	85	94	
	b	5	5	5	1	2	1	3	11	15	8	5	3	4	5	5	7	4	0	8	4	
	c	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	0	4	0	4	1	
	d	2	2	3	0	0	2	3	4	5	4	2	2	1	1	0	2	2	0	4	1	
1099	a	89	88	90	90	86	92	90	89	76	83	87	91	92	89	85	85	97	79	91	88	
	b	2	2	3	0	3	1	4	0	2	2	1	3	1	2	2	3	0	0	0	2	
	c	1	1	2	2	2	1	1	1	2	2	1	1	3	1	0	3	0	0	0	2	
	d	6	7	5	7	8	6	4	7	10	9	8	4	2	8	7	8	3	21	9	8	
1126	a	5	5	5	4	6	3	4	6	15	8	8	3	3	9	9	8	10	6	4	9	
	b	1	1	2	1	1	1	2	3	2	2	2	0	1	1	0	2	3	0	0	2	
	c	90	90	90	95	92	96	93	85	74	83	87	93	95	89	92	88	87	88	96	88	
	d	3	2	3	0	1	1	6	5	6	4	3	2	1	1	0	2	0	6	0	2	
1139	a	89	89	88	99	97	95	84	77	59	85	88	90	89	93	96	94	93	85	89	94	
	b	2	2	2	0	1	1	3	4	6	2	2	2	3	1	1	1	0	3	2	1	
	c	1	2	1	0	0	1	1	3	6	2	2	1	1	1	1	1	1	3	2	1	
	d	7	6	7	1	2	3	11	15	15	7	8	6	7	5	2	5	5	10	7	5	
1142	a	7	2	11	6	7	5	9	5	4	10	10	4	7	5	7	2	9	0	13	3	
	b	86	93	80	90	91	91	79	88	84	77	84	90	88	92	92	96	88	90	87	93	
	c	2	1	3	1	1	2	4	0	6	5	2	2	2	1	0	0	3	10	0	2	
	d	4	2	5	3	0	3	6	4	4	7	4	3	2	1	2	0	0	0	0	1	

(No data available for this group)

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	Sex		Age				Driver Ed.			Location					Age									
					All	Male	Fe- male	<18	18-		20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34			
									18- 19	20- 24																		
1-12	1143	a	6	7	15	6	22	7	20	43	30	32	11	7	29	30	17	8	9	7	9	12	5	9	12	11	0	
		b	13	6	7	6	8	4	14	9	9	21	6	7	11	13	8	3	7	0	5	8	0	0	5	8	3	5
		c	75	83	76	87	66	88	64	41	52	42	82	80	52	54	71	85	84	93	84	76	0	0	0	86	76	90
		d	5	4	2	1	3	2	2	5	9	0	1	7	6	2	4	2	0	0	2	4	0	0	0	4	0	5
4-4	1148	a	8	10	9	7	10	6	8	22	17	21	7	6	17	9	8	12	8	7	12	5	9	7	12	5	9	21
		b	1	7	4	2	6	2	8	5	8	14	4	0	7	9	5	4	2	0	0	0	0	0	0	0	0	0
		c	16	13	29	26	32	30	37	27	28	7	28	48	28	34	35	26	26	7	9	16	7	9	9	16	9	4
		d	75	70	56	62	50	61	46	43	47	50	59	46	47	44	52	58	61	86	77	79	86	77	79	79	77	75
2-14	1150	a	3	3	8	6	10	4	17	8	19	14	6	11	12	20	10	5	0	0	2	6	0	2	6	0	0	0
		b	77	73	71	73	69	80	59	56	50	55	75	71	57	50	73	73	78	81	69	71	81	69	71	74	74	65
		c	5	5	6	5	6	4	2	17	12	3	4	7	10	11	5	3	10	0	2	0	0	2	0	4	0	0
		d	13	20	15	14	15	11	22	17	19	24	14	7	20	16	12	19	12	19	28	24	19	28	24	22	22	35
3-9	1155	a	5	4	6	6	7	5	6	9	12	17	6	3	10	17	5	5	3	9	6	10	5	6	10	4	6	6
		b	0	5	6	9	4	6	8	5	0	17	5	10	7	6	9	3	5	6	3	0	3	0	0	0	4	6
		c	1	6	5	5	5	4	11	7	4	4	6	3	3	2	6	4	7	6	0	6	0	6	0	0	0	0
		d	92	85	81	81	82	85	76	77	84	58	83	84	77	69	80	88	85	78	91	90	88	91	90	92	89	89
6-16	1164	a	1	4	2	0	3	1	2	2	5	0	0	3	5	0	4	0	2	0	1	4	0	1	4	0	0	0
		b	4	5	7	4	9	4	8	10	24	13	3	10	15	17	6	7	4	4	4	7	4	4	7	0	0	4
		c	92	87	88	93	83	92	90	81	57	83	94	83	74	79	86	89	92	96	93	89	92	93	89	93	96	96
		d	3	4	3	2	4	2	0	5	14	0	2	3	5	4	3	3	2	0	2	0	2	0	2	0	7	0
4-15	1175	a	1	3	3	5	1	2	3	3	6	7	2	3	6	7	2	3	2	3	4	0	3	4	0	0	0	0
		b	0	2	1	0	1	0	0	0	3	7	0	0	0	2	0	0	0	3	9	0	3	9	0	0	0	0
		c	5	7	6	4	7	4	3	14	14	7	5	9	7	9	5	7	8	0	0	0	0	0	0	0	4	4
		d	94	88	90	90	90	94	92	84	78	79	93	88	85	82	93	90	90	93	87	100	90	87	100	100	96	96
7-2	1178	a	81	68	78	80	76	79	68	78	87	75	78	75	80	70	73	83	85	89	93	96	93	96	93	91	93	93
		b	4	15	8	7	9	8	13	10	3	17	9	6	6	15	10	6	3	4	1	0	3	1	0	3	0	
		c	5	9	8	9	7	8	8	8	3	8	8	12	5	8	10	5	5	8	4	4	4	4	4	6	0	0
		d	9	7	6	3	7	5	10	4	7	0	5	3	9	6	7	4	7	0	1	0	0	1	0	0	7	7
3-32	1183	a	0	6	5	5	4	3	6	11	4	4	2	3	10	10	6	3	0	0	4	0	0	4	0	0	8	6
		b	9	5	6	5	7	5	8	9	8	17	4	6	14	4	8	6	5	6	8	15	6	8	15	8	0	0
		c	1	13	5	5	6	5	9	5	8	0	6	3	6	0	11	4	2	0	4	5	4	4	5	4	6	6
		d	90	76	82	85	80	86	76	73	76	67	87	87	64	81	73	85	93	94	83	80	83	80	81	81	89	89

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS											
		All	Sex		Age								Location					All	Age				Group
			Male	Fe-male	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5		<20	20-24	25-34	>34	1	2
1143	a	12	9	16	15	15	13	8	12	14	14	24	14	9	9	5	11	13	8	15	11	12	11
	b	10	4	15	3	5	8	8	12	14	16	11	8	11	13	3	3	3	7	0	0	4	3
	ⓐ	72	83	59	81	79	76	77	68	61	60	57	70	75	72	82	82	80	83	79	90	77	83
	d	6	2	10	1	1	4	6	8	10	8	7	6	4	6	9	4	5	2	6	0	8	3
1148	a	14	14	14	3	7	14	14	16	19	18	15	11	15	16	19	10	6	11	11	11	6	11
	b	5	3	7	4	5	5	4	5	6	7	4	6	6	3	3	5	11	2	3	6	9	4
	c	9	7	11	24	13	8	7	8	4	5	6	10	9	7	7	18	28	20	9	6	22	17
	ⓐ	72	76	67	70	75	72	74	70	69	67	72	73	68	73	71	66	55	66	77	72	63	67
1150	a	8	6	11	5	5	9	11	7	7	13	10	10	7	7	2	8	3	7	15	4	5	8
	ⓑ	66	67	65	83	77	67	59	64	59	57	60	60	68	70	80	62	56	71	49	69	56	63
	c	3	3	4	6	4	2	4	4	5	0	4	5	2	2	2	1	0	3	0	0	0	2
	d	21	24	17	5	14	20	26	23	26	22	23	22	21	20	14	28	38	19	36	25	37	26
1155	a	13	12	14	4	7	10	16	15	18	21	16	11	12	14	16	8	14	8	0	9	0	9
	b	5	3	7	4	3	5	5	6	7	6	6	6	5	4	3	4	0	6	6	4	0	4
	c	3	1	5	4	3	3	1	4	5	2	4	4	2	2	3	5	7	2	8	0	0	5
	ⓐ	78	83	74	89	87	82	76	74	71	70	72	79	79	78	77	83	79	82	86	87	100	81
1164	a	2	1	3	0	0	1	1	3	2	9	6	2	2	1	1	1	2	0	0	0	3	0
	b	5	4	6	1	5	4	5	6	7	10	13	4	4	5	3	5	0	10	6	10	0	7
	ⓐ	89	90	88	99	93	94	90	87	84	69	70	90	91	91	94	93	97	90	94	80	94	93
	d	3	3	3	0	2	1	4	2	6	7	9	3	2	2	2	1	2	0	0	0	3	0
1175	a	1	1	1	0	1	2	1	0	2	2	2	1	1	0	1	2	2	5	0	0	6	2
	b	1	2	1	0	0	0	0	1	2	9	2	1	2	0	0	0	0	0	0	0	0	0
	c	2	1	3	4	1	2	3	2	2	1	2	3	1	2	3	2	2	3	0	6	0	3
	ⓐ	94	94	95	96	98	95	96	95	93	82	92	93	96	95	96	95	96	91	100	94	94	95
1178	ⓐ	90	90	89	90	87	90	91	90	90	85	79	90	92	91	94	85	82	82	89	93	68	87
	b	5	5	5	2	6	4	5	6	7	6	11	5	4	4	3	5	2	5	8	0	5	5
	c	3	3	4	5	6	4	1	4	1	2	4	3	3	3	3	4	7	3	3	0	9	3
	d	1	2	1	2	2	1	2	1	1	1	4	1	1	1	0	6	9	8	0	7	18	5
1183	a	7	7	6	1	5	7	3	6	12	13	10	7	5	6	6	7	2	4	6	22	0	7
	b	9	8	9	10	12	9	7	8	8	13	13	9	6	8	11	7	9	10	3	4	17	7
	c	4	3	5	2	5	3	4	6	5	3	2	5	2	4	6	6	7	6	8	0	25	4
	ⓐ	80	80	80	87	79	81	86	80	74	68	75	76	85	82	76	78	81	78	81	70	58	80

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MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

IOWA CAPE MAY

Michigan Original Test-Item No.

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	Sex		Age					Driver Ed.			Location					Age						
					All	Male	Fe- male	<18	18-		20-		25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34
									19	20	21	22														
7-25	1185	a	75	74	68	70	66	74	65	50	43	83	74	62	50	47	65	75	52	81	73	70	73	79		
		b	3	10	21	19	23	18	23	30	33	8	19	22	31	45	20	16	17	19	1	11	6	14		
		c	13	9	9	9	10	7	10	18	20	8	7	12	18	6	13	7	10	0	9	11	12	0		
		d	9	6	1	2	0	1	0	0	0	0	0	3	0	0	2	0	0	0	5	4	6	7		
5-27	1193	a	12	7	6	4	7	3	5	15	6	31	3	12	14	14	4	3	9	0	10	0	14	15		
		b	3	7	2	3	0	1	5	0	3	15	1	0	6	2	1	1	5	4	1	0	0	4		
		c	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4		
		d	79	83	93	93	93	96	91	85	91	54	96	88	81	84	95	96	86	96	87	100	86	78		
3-24	1200	a	22	12	14	15	13	13	11	11	20	25	9	13	14	25	9	15	16	9	17	10	15	28		
		b	56	69	73	74	72	74	76	73	64	63	86	74	69	65	78	72	64	75	64	70	69	44		
		c	13	8	4	3	5	4	2	7	4	4	3	0	6	0	5	5	5	3	9	5	8	17		
		d	9	11	9	8	9	9	9	9	8	4	2	13	9	8	8	6	13	13	11	15	8	11		
3-37 4-36	1205	a	71	83	81	82	81	84	79	75	83	69	83	86	73	69	83	83	81	82	86	95	85	79		
		b	4	10	4	4	4	3	6	9	2	0	3	2	5	7	2	4	5	2	4	3	4	4		
		c	1	3	3	2	3	1	3	6	7	17	2	2	6	8	2	2	2	2	3	0	2	8		
		d	24	5	12	12	12	13	12	11	9	10	12	11	14	14	12	11	12	14	7	3	9	10		
6-37	1206	a	0	3	1	0	1	0	0	0	5	4	0	0	3	2	1	0	0	0	0	0	0	0		
		b	0	3	1	1	1	0	2	2	0	4	1	0	1	6	0	0	2	0	0	0	0	0		
		c	96	81	88	85	91	91	82	86	86	83	90	90	82	73	89	95	89	84	95	96	97	93		
		d	4	12	10	14	8	9	17	12	10	9	9	10	14	19	10	5	10	11	5	4	3	7		
2-24 6-32	1208	a	16	28	10	9	10	8	14	8	22	18	8	6	14	16	8	10	8	14	10	11	4	17		
		b	66	63	85	84	86	89	81	86	72	78	88	90	78	76	86	88	89	84	89	87	96	84		
		c	15	7	2	3	2	2	4	4	3	0	2	2	4	4	4	2	0	2	0	0	0	0		
		d	3	2	2	2	2	2	3	3	4	4	1	2	4	4	2	2	2	0	1	2	0	0		
2-21	1210	a	74	54	70	72	68	72	78	69	50	59	72	68	68	64	71	68	65	85	66	77	65	55		
		b	7	13	5	4	5	3	4	8	4	24	3	7	10	9	6	2	3	4	18	6	17	30		
		c	6	8	3	2	4	4	6	0	4	0	4	0	2	0	3	6	3	0	3	6	4	0		
		d	13	23	21	20	22	21	13	22	31	17	20	25	18	23	19	23	25	12	13	12	13	15		
1-24	1214	a	7	4	3	3	3	0	4	11	9	11	1	0	11	5	2	3	4	0	2	4	3	0		
		b	84	88	91	94	88	99	82	71	76	68	93	100	77	79	90	93	95	100	95	88	97	100		
		c	3	4	1	0	2	0	0	5	9	5	0	0	6	7	0	2	0	0	0	0	0	0		
		d	4	4	5	2	7	1	12	14	6	16	5	0	5	8	7	2	2	0	2	8	0	0		

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	ALL	Sex		Age											Location					Age			Group					
			Male	Fe-male	20-		25-		35-		45-		55-		1	2	3	4	5	ALL	<20	20-		25-	>34	1	2		
					24	34	44	54	64	64	24	34	24	34															
1185	a	69	68	71	73	69	70	78	76	58	51	62	63	76	74	76	70	67	67	69	93	55	72	1	2				
	b	8	5	10	4	6	10	12	9	4	8	12	9	8	8	12	16	16	6	0	0	27	10			14	16		
	c	19	21	17	17	27	26	16	25	16	14	12	25	16	14	12	15	16	13	22	7	14	0					2	
	d	3	4	2	2	4	10	4	2	3	2	4	2	3	2	3	1	0	3	0	0	0							0
1193	a	29	25	31	10	17	27	30	31	42	37	26	32	27	28	18	11	2	12	15	25	4		12	4				5
	b	17	19	14	10	12	19	18	16	16	20	14	17	16	17	17	5	4	0	10	13	4		5		0	1		
	c	2	2	2	0	0	1	3	2	3	5	2	1	2	2	2	1	0	0	0	6	0	0	83				94	
	d	51	52	50	79	71	54	47	46	34	30	54	47	52	51	59	83	94	88	74	56	91	82						
1200	a	24	20	26	17	19	13	24	28	32	45	27	20	24	24	34	13	12	12	17	13	17	13		76				75
	b	61	67	57	73	72	73	60	52	48	40	62	65	62	54	58	76	81	76	75	70	75	76			0	1		
	c	2	1	3	0	2	2	3	2	0	3	2	3	3	0	0	1	0	2	0	4	0	0	9				8	
	d	11	10	13	10	7	12	12	15	15	7	10	10	10	20	8	9	7	8	8	13	8	9						
1205	a	83	83	91	89	84	84	81	84	81	70	80	88	84	81	82	86	86	91	83	78	92	85		5				3
	b	6	5	2	3	4	4	5	2	4	11	6	2	4	7	8	5	5	3	3	11	2	1			3	10		
	c	3	3	0	1	1	3	3	3	2	10	5	2	2	2	4	3	1	1	2	10	2	2	7				5	
	d	8	8	7	8	10	10	9	7	9	5	6	8	9	10	6	7	9	5	5	3	3	5						
1206	a	1	1	0	0	0	1	1	1	0	0	2	0	0	0	0	1	0	0	3	10	0	2		0				0
	b	1	1	0	1	2	2	2	1	1	2	2	1	1	0	1	0	0	0	0	0	0	0			90	94		
	c	92	91	92	90	93	83	89	94	92	88	83	89	94	88	92	90	90	94	91	70	87	91	8				13	
	d	7	7	9	9	6	6	6	4	7	4	13	6	5	11	7	8	10	6	3	20	13	7						
1208	a	9	9	10	6	8	8	10	10	8	15	13	9	8	7	9	7	4	7	8	3	7	2		91				89
	b	88	89	88	91	89	77	81	88	88	77	81	88	88	92	90	91	95	91	89	84	88	91			2	2		
	c	2	1	0	1	1	5	2	2	2	5	2	2	2	1	0	2	1	2	3	5	4	2	1				1	
	d	2	1	3	2	2	2	0	1	2	2	2	2	2	0	1	1	1	1	0	8	2	0						
1210	a	62	58	66	67	75	70	60	60	48	47	57	64	65	59	54	67	71	63	77	50	63	68		16				13
	b	26	30	21	10	8	19	27	32	41	44	23	25	24	31	32	16	9	17	13	38	11	17			3	0		
	c	2	2	2	3	1	3	1	1	1	5	3	2	1	2	2	3	0	5	3	0	0	0	14				8	
	d	10	9	10	20	16	9	11	6	7	4	13	10	9	8	12	14	21	15	8	6	26	11						
1214	a	6	6	5	1	1	4	5	5	8	17	13	5	4	5	6	5	5	3	6	5	8	4		90				92
	b	89	88	90	95	97	93	87	92	82	73	73	89	93	91	91	90	92	93	83	95	85	91			1	1		
	c	1	1	1	1	1	2	2	0	2	2	2	2	1	0	1	1	3	0	2	0	4	1	3				0	
	d	4	4	4	2	2	6	4	3	8	6	10	5	1	4	1	3	0	3	6	0	0	4						

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MICHIGAN TRANSFER APPLICANTS

IOWA CAPE MAY

Michigan Original Test-Item No.	Pool No.	Foil	IOWA	CAPE MAY	Sex		Age			Driver Ed.			Location					Age					
					All	Male	Fe- male	<18	18-		25- 34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34
									19	20- 24													
4-35	1218	a b c d	1 6 90 3	5 4 88 4	4 5 89 2	3 4 92 2	5 6 86 2	2 6 92 1	8 2 89 0	11 8 76 5	18- 19	20- 24	25- 34	3 5 92 0	7 4 84 6	5 6 88 2	4 4 92 0	3 3 93 0	3 3 93 0	0 5 90 5	0 5 91 5	8 8 83 0	
3-2	1227	a b c d	28 3 64 6	50 8 35 7	41 3 50 6	36 4 52 9	44 3 48 4	33 2 60 6	45 9 34 11	68 2 25 5	18- 19	20- 24	25- 34	38 3 55 5	57 6 31 7	40 4 52 5	43 3 51 3	44 3 44 9	44 3 44 9	41 0 47 11	30 0 60 10	35 0 58 8	56 0 22 17
1-4	1239	a b c d	1 11 3 85	4 8 7 82	1 10 2 88	2 13 2 84	0 7 2 91	1 10 3 87	2 10 0 88	0 16 0 84	18- 19	20- 24	25- 34	0 10 2 87	1 8 1 90	1 14 0 85	2 7 2 90	0 5 7 88	0 7 7 86	0 11 2 86	0 12 0 88	0 14 6 81	0 5 0 95
1-21 5-32 7-32	1248	a b c d	22 59 9 10	18 70 8 4	38 51 8 3	31 59 7 2	44 45 7 4	33 59 5 3	41 45 8 5	51 35 11 3	18- 19	20- 24	25- 34	34 56 6 3	49 36 12 3	42 47 7 4	28 57 10 3	25 67 5 3	25 67 5 3	21 70 6 2	22 72 4 1	22 69 6 3	17 77 5 1
6-26	1253	a b c d	10 4 56 29	3 4 85 7	16 2 31 51	16 2 34 48	16 1 28 54	18 2 32 49	15 3 28 50	12 0 33 55	18- 19	20- 24	25- 34	17 2 29 52	14 0 32 53	17 2 34 47	21 0 17 62	12 4 16 68	12 4 16 68	13 1 41 45	18 4 39 39	10 0 40 50	11 0 44 44
1-33	1262	a b c d	24 9 65 3	23 6 63 7	28 2 64 5	23 2 69 5	32 2 59 6	22 1 75 3	38 2 48 8	36 5 46 11	18- 19	20- 24	25- 34	25 1 69 4	37 4 46 8	34 5 67 10	29 2 67 3	29 0 64 7	29 0 64 7	20 1 76 1	20 4 68 4	19 0 81 0	21 0 79 0
6-29	1272	a b c d	4 4 8 82	7 4 14 75	12 1 14 73	10 0 12 77	13 1 16 70	8 0 11 80	22 2 17 60	14 2 17 67	18- 19	20- 24	25- 34	10 1 12 77	7 1 20 73	8 0 14 78	7 1 10 64	16 0 8 76	16 0 8 76	9 6 11 71	8 4 14 57	0 3 10 77	15 11 7 78
5-12	1275	a b c d	10 0 0 88	10 5 3 82	15 6 2 77	12 4 1 82	17 8 2 73	14 2 1 83	14 17 5 64	21 9 3 67	18- 19	20- 24	25- 34	14 3 1 82	19 8 6 56	20 16 2 77	15 6 2 81	11 0 4 86	11 0 4 86	9 9 0 82	8 8 0 84	0 5 0 95	15 15 0 70

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	Sex		Age						Location					Age			Group					
		All	Fe- male	20-	25-	35-	45-	55-	1	2	3	4	5	All	<20	20-24	25-34	>34	1	2			
				Male	34	44	54	64	>64	1	2	3	4	5	1	2	3	4	5	1	2		
1218	a	5	4	7	2	3	4	4	6	10	11	7	6	4	4	4	9	11	8	3	22	13	8
	b	6	5	7	3	4	7	6	6	6	7	7	7	4	7	12	4	2	3	6	6	6	3
	c	86	89	84	93	92	89	88	84	80	79	81	84	91	88	83	84	81	86	91	72	72	87
	d	1	1	1	1	1	2	2	2	1	1	2	2	1	0	0	2	6	0	0	0	9	0
1227	a	47	49	46	31	49	45	48	50	52	43	52	46	48	44	46	50	42	49	50	65	42	50
	b	1	0	1	3	1	1	1	0	1	2	2	0	1	2	0	1	0	2	0	0	0	1
	c	38	39	37	60	47	46	34	31	26	27	34	36	38	42	38	40	49	37	44	26	42	40
	d	13	11	15	6	3	7	17	18	21	22	12	15	13	12	14	9	9	12	6	4	17	8
1239	a	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	2	0	0	1
	b	10	11	8	4	11	12	8	9	11	9	16	10	11	4	8	9	5	10	8	16	4	10
	c	1	1	2	0	2	1	2	1	1	2	2	1	2	1	2	1	0	2	2	0	4	1
	d	88	87	90	96	88	87	90	88	87	86	77	89	87	95	90	89	95	88	88	84	92	89
1248	a	20	17	23	18	25	23	20	17	17	18	33	23	17	12	16	25	30	32	16	18	42	22
	b	60	65	55	75	65	66	60	54	50	54	40	57	66	66	66	60	59	56	67	55	43	63
	c	19	16	21	6	9	11	19	28	24	23	24	20	15	20	17	12	8	15	13	24	9	12
	d	1	1	1	1	1	0	1	1	1	1	3	0	1	0	0	2	3	1	3	0	6	1
1253	a	11	9	14	9	14	13	10	11	10	8	7	8	12	17	16	12	13	10	12	10	19	10
	b	1	2	1	3	1	2	2	1	2	2	2	2	1	0	1	3	5	0	0	10	3	3
	c	31	39	31	26	34	32	30	31	30	32	42	35	30	22	18	33	22	39	46	30	26	35
	d	54	56	53	62	52	54	56	55	56	52	44	53	55	59	64	53	60	51	42	50	52	53
1262	a	31	27	35	37	36	30	32	33	23	30	27	31	31	32	40	33	41	28	31	32	39	31
	b	7	3	10	3	4	4	4	9	10	13	10	6	8	3	8	4	3	3	4	5	8	3
	c	56	64	48	59	56	63	58	50	58	45	52	58	55	59	50	59	56	62	60	53	54	60
	d	4	2	5	1	1	3	3	6	7	3	6	2	4	6	1	2	0	3	2	5	0	3
1272	a	7	6	7	6	9	9	4	6	7	4	9	7	6	7	6	12	10	8	21	10	10	12
	b	4	4	3	0	1	2	5	4	7	7	2	2	4	6	7	2	0	2	3	10	0	3
	c	20	15	26	12	20	17	21	21	23	28	29	21	20	17	13	7	2	14	3	20	3	8
	d	67	73	62	83	70	71	68	65	61	58	57	68	68	69	73	79	88	76	73	60	87	77
1275	a	13	9	17	7	10	7	16	13	24	14	13	13	12	12	16	6	6	4	5	13	4	6
	b	9	9	9	1	6	6	6	13	13	22	20	7	7	10	6	5	6	6	0	6	9	4
	c	1	1	2	0	2	0	1	1	3	1	4	2	0	0	2	1	0	2	3	0	9	0
	d	75	80	71	91	81	87	76	71	55	59	56	76	80	77	74	88	87	88	92	81	78	90

MICHIGAN ORIGINAL (No Previous License) APPLICANTS

MICHIGAN TRANSFER APPLICANTS

Michigan Original Test-Item No.	Pool No.	Foils	IOWA	CAPE MAY	Sex		Age			Driver Ed.			Location					Age							
					All	Male	Fe- male	<18	18- 19	20- 24	25- 34	>34	High Sch.	Com- mer.	None	1	2	3	4	5	All	<25	25- 34	>34	
																									4
5-5	1278	a b c d	3	4	4	3	4	2	10	6	6	0	3	8	3	4	6	1	3	4	0	0	0		
			90	87	88	93	84	92	74	85	75	92	68	83	97	95	89	97	100	100	93				
			6	6	4	2	5	3	7	6	6	8	16	5	0	2	0	0	1	0	0	0	4		
			0	4	4	1	7	3	7	13	0	0	7	9	6	2	0	7	1	0	0	0	4		
4-34	1283	a b c d	18	11	10	6	14	7	14	19	19	21	9	13	8	10	7	6	5	8	6	5	8		
			76	77	79	82	75	84	71	65	72	71	69	73	85	84	93	92	90	96	92	92	96	92	
			4	10	11	11	10	9	15	11	8	7	18	13	7	6	0	0	2	5	0	0	0	0	
			1	3	1	0	0	0	0	3	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
7-15	1286	a b c d	3	2	2	1	3	2	3	0	3	0	2	0	2	6	2	0	2	4	0	0	0		
			93	88	96	97	94	97	90	92	97	100	91	89	95	99	97	89	97	96	96	97	100		
			1	4	1	0	1	0	0	2	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0
			1	6	2	2	2	1	8	6	0	0	5	4	2	1	0	8	3	4	3	4	3	0	0
2-32	1297	a b c d	63	60	49	50	48	48	46	64	50	45	50	50	46	43	49	54	47	46	72	77	65		
			32	25	38	36	39	44	35	25	27	24	24	39	25	34	40	32	38	54	21	18	26	15	
			0	8	4	4	3	2	4	3	12	10	10	4	8	11	4	1	3	0	0	0	0	0	0
			4	6	8	9	8	7	13	8	8	17	17	9	7	17	9	6	11	12	0	7	6	9	5
5-37	1304	a b c d	6	8	16	16	16	12	17	27	19	62	13	12	25	18	14	12	28	14	18	20	19		
			3	3	1	0	1	0	0	3	0	8	0	0	3	2	1	1	0	0	0	0	0	0	
			43	57	58	55	60	63	60	36	44	23	62	64	44	52	56	59	29	68	54	60	52	52	
			49	31	26	29	23	25	24	33	38	8	8	25	20	29	27	19	28	43	18	26	20	29	30
2-33	1309	a b c d	0	4	1	0	2	1	2	6	4	0	1	4	0	4	1	0	2	4	0	0	0		
			4	5	3	2	4	2	2	3	8	7	3	0	0	5	1	4	3	0	0	0	0	0	
			4	7	6	5	6	4	17	6	4	0	4	7	12	5	3	6	13	4	3	6	6	4	0
			92	85	90	92	88	93	80	87	81	93	93	89	87	84	94	90	82	92	97	94	96	100	

MICHIGAN RENEWAL APPLICANTS

MICHIGAN PROBLEM DRIVERS

Pool No.	Foil	MICHIGAN RENEWAL APPLICANTS										MICHIGAN PROBLEM DRIVERS											
		All	Sex		Age								Location					All	Age				Group
		Male	Fe-male	<20	20-24	25-34	35-44	45-54	55-64	>64	1	2	3	4	5	<20	20-24	25-34	>34	1	2		
1278	a	1	2	1	1	0	0	0	1	2	6	2	1	1	2	1	1	4	0	0	0	9	0
	ⓑ	96	95	97	98	98	97	97	95	94	88	89	95	97	96	98	94	92	92	100	94	78	97
	c	2	3	2	1	2	2	1	2	3	5	4	2	2	2	0	3	4	4	0	6	9	2
	d	1	1	1	0	1	1	1	1	1	0	0	2	1	1	0	1	0	4	0	0	4	1
1283	a	13	11	16	1	2	5	10	18	28	40	16	15	12	12	8	8	6	5	3	3	9	8
	ⓑ	83	86	79	97	97	92	87	77	67	57	73	81	86	86	90	86	83	91	94	61	81	87
	c	2	1	3	2	1	2	2	3	0	2	6	2	1	1	1	4	9	3	0	0	9	2
	d	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	1	0	0	3	6	0	2
1286	a	3	3	4	1	3	1	4	3	5	10	7	2	4	4	0	3	0	3	3	7	0	3
	ⓑ	94	94	95	99	96	98	93	96	89	85	87	95	95	94	99	95	100	90	97	93	96	95
	c	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	3	0	0	5	1
	d	2	2	1	0	1	1	3	1	1	3	4	1	1	1	1	1	0	3	0	0	0	2
1297	Ⓐ	54	55	52	61	61	58	51	50	52	43	41	56	55	55	52	55	47	56	54	69	44	57
	b	31	30	32	37	28	28	30	33	32	28	34	28	80	33	35	29	41	27	23	25	41	26
	c	6	6	6	0	4	3	9	5	6	20	10	6	6	5	6	4	6	3	5	0	3	4
	d	7	7	8	1	6	8	7	10	8	6	11	8	7	6	6	11	6	12	15	6	11	11
1304	a	42	4	47	29	29	36	40	48	62	50	45	42	38	51	37	20	19	8	33	31	17	21
	b	2	12	2	1	3	0	1	3	1	8	3	2	1	3	1	0	0	0	0	0	0	0
	Ⓒ	44	73	39	56	59	50	45	39	28	33	42	45	48	36	45	67	62	86	54	56	61	69
	d	10	9	11	14	11	13	12	9	6	5	6	9	13	9	15	12	19	6	13	0	22	10
1309	a	2	1	2	0	0	1	1	1	3	6	3	2	1	0	2	1	0	0	3	0	0	1
	b	2	2	2	3	0	1	1	1	5	6	5	2	2	2	2	2	0	0	8	0	4	2
	c	3	3	3	0	2	1	2	5	5	7	4	2	2	5	5	4	6	5	0	6	4	4
	Ⓓ	92	93	92	97	98	97	96	91	85	78	85	93	95	93	89	92	94	92	90	94	93	92

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