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16. Abstract The use of actual axle load distributions instead of summary statistics, such as equivalent single-axle loads (ESALs), in the forthcoming Mechanistic-Empirical (M-E) Pavement Design Guide will allow the assessment of the consequences of specific loading configurations on pavement performance. For example, the damaging effects of increased axle loads on specific pavement structures, increased tire pressure, or different axle configurations could be assessed. It is expected that the new M-E Guide will significantly influence future pavement design practices in the United States and abroad. The successful application of the new M-E Design Guide will require more detailed traffic data and will place an increased demand on weigh-in-motion (WIM) systems in Texas and probably other states in the U.S. Texas is now evaluating the transition from the current empirical AASHTO Pavement Design Guide (AASHTO'93) to the new M-E Design Guide. In order to assist the Texas Department of Transportation (TxDOT) in determining the measures that should be taken to increase traffic data collection capability in Texas so as to meet the data requirements set by the M-E Design Guide, a review of state-of-the-art WIM technologies in the U.S. with particular emphasis on WIM performance, economy, and calibration, together with an assessment of the potential trends in vehicle weights and dimensions are integral parts of this research. This interim report presents the findings of the literature review with particular emphasis on: (i) current regulations and trends on weights, lengths, and widths of commercial vehicles; and (ii) a review of state-of-the-art WIM technology. The report is complemented with a summary of the available WIM data in Texas to support Level 1 design in the M-E Design Guide.					
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# **Evaluation of Equipment, Methods, and Pavement Design Implications for Texas Conditions of the AASHTO 2002 Axle Load Spectra Traffic Methodology: Literature Review and Level 1 Data**

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# **1. Introduction**

## **1.1 Background**

Federal regulations of commercial motor vehicle weights, lengths, and widths govern the weight and size of vehicles and the number of trailers that a power unit may tow. The regulations apply to major U.S. highways, including the 46,000-mile interstate highway system as well as about 160,000 miles of other roads. The regulations have important economic consequences because trucking accounts for four-fifths of expenditures on freight transportation in the U.S., and trucking costs are influenced by truck size and weight (TRB, 2002). Size and weight limits also influence highway construction and maintenance costs and highway accident losses. The regulations affect international commerce as well, because axle load limits in the U.S. differ from those in Canada and Mexico and because containers shipped through international trade are often not consistent with U.S. regulations.

Many previous studies of truck weights and sizes reported similar results and suggested the changes in federal truck size and weight regulations. The Transportation Research Board (TRB) Special Report 267 recorded one of the most recent studies in truck weights and sizes, which served as a continuation of the Comprehensive Truck Size and Weight Study by the U.S. Department of Transportation (U.S. DOT) in 2000. The TRB Special Report 267 did not provide any recommendations for future regulatory changes; however, the report did provide a comprehensive review of previous truck size and weight studies. In fact, a careful review of previous truck size and weight studies and the history of the evolution of size and weight regulations may provide a better understanding of what the future might hold for the development of truck weights, vehicle sizes, and axle configurations. An understanding of possible future changes in truck configurations is important to pavement designers and should be taken into account, especially when the Texas Department of Transportation (TxDOT) is evaluating the potential impacts of the recently developed Mechanistic-Empirical Pavement Design Guide, hereafter referred to as the M-E Design Guide.

A monumental effort sponsored by the National Cooperative Highway Research Program (NCHRP) that began in 1996 is changing the way in which traffic loads are accounted for in pavement design. In the Mechanistic-Empirical Guide for the Design of New and Rehabilitated Pavement Structures, traffic loading will be accounted for by using axle load spectra (NCHRP, 2005). Axle load spectra consist of the histograms of axle load distributions for each of four axle types: single, tandem, tridem, and quad. Clearly, the axle load distributions observed on highways are closely related to the active vehicle limits on weight and size. The total volume of traffic affects the geometric requirements of a highway, but only the axle loads of heavy commercial traffic affect the structural design of pavements. A study of the current regulations of truck weights and sizes would be relevant in this context. Because pavement structures are normally designed to last for a period of 20 years or more, future developments of truck weights, sizes, and axle configurations should also be taken into consideration.

The state of Texas shares the longest land border between the U.S. and Mexico. Ever-increasing NAFTA trade and the well-developed NAFTA “trucking corridor” may eventually lead to changes in truck characteristics. As a research task of TxDOT Project 0-4510, “Evaluate Equipment, Methods, and Pavement Design Implications for Texas Conditions of the AASHTO 2002 Axle Load Spectra Methodology,” this literature review was conducted to offer a summary of the current federal regulations regarding truck weights and sizes, and through more

background study, analyze the possible changes in truck weight and size regulations in the near future. In addition, a review of commonly used weigh-in-motion (WIM) technologies is included in this report because it is expected that WIM systems will be the primary source of traffic data for the new M-E Design Guide. The need for such data is likely to be a significant factor in the deployment of WIM systems in the state.

The network of WIM systems in Texas consists of approximately twenty WIM stations, which primarily use the bending plate system. Data collected from these systems will allow the development of traffic design inputs into the new M-E Design Guide. In this report, the axle load distribution data from all these stations have been processed into a format compatible with Level 1 design, which is the level with the highest reliability, applicable only when site-specific information is available. Level 2 and Level 3 design inputs will be addressed in the last research report of this series. It should be noted that Level 3 inputs consist of state default data, while Level 2 inputs consist of data that is characteristic of a particular region in the state or a particular type of facility.

## **1.2 Organization of Report**

In this section of the literature review, federal truck size and weight limits are introduced and compared with those of Mexico and Canada because, due to NAFTA, those limits are the most likely to have an influence in future developments in Texas. The history of the evolution of the federal regulations is also reviewed, and the driving forces and decision-making process behind the regulation changes are investigated. Options for possible regulation changes in the future are also discussed.

After reviewing issues regarding truck weights and dimensions, the second part of this report addresses the history of WIM developments in the U.S., followed by a brief summary of the state-of-the-art of WIM technologies nationally as well as internationally. In addition, prevalent WIM technologies in the U.S. are compared in regards to their performance and relative cost, and finally, calibration techniques for WIM systems are discussed.

Axle load distributions for all the current Texas WIM sites, consistent with Level 1 design in the M-E Design Guide, are given in Appendix A. The information is presented in tabular form and covers all traffic classes and axle types. It should be noted that single axle load distributions have been further divided into single axles with single wheels (typically steering axles) and single axles with dual wheels.

## **2. Regulations and Trends of Commercial Vehicle Weights, Lengths and Widths**

### **2.1 Current Truck Weight and Size Limits**

#### **2.1.1 Truck Weight and Size Regulations in United States**

Aside from the federal truck weight and size regulations, all U.S. states regulate the weight and dimensions of vehicles on public roads. Generally, both state and federal regulations govern the following dimensions:

- 1) The maximum load on any single axle;
- 2) The maximum load on any group of axles on a vehicle as a function of the span of the axle group and the number of axles, which is called a bridge formula and is intended to protect bridges from excessive flexural effects by avoiding heavy, clustered, concentrated axle loads;
- 3) The maximum weight of the entire vehicle;
- 4) The maximum length, width, and height; and
- 5) The maximum number of trailers.

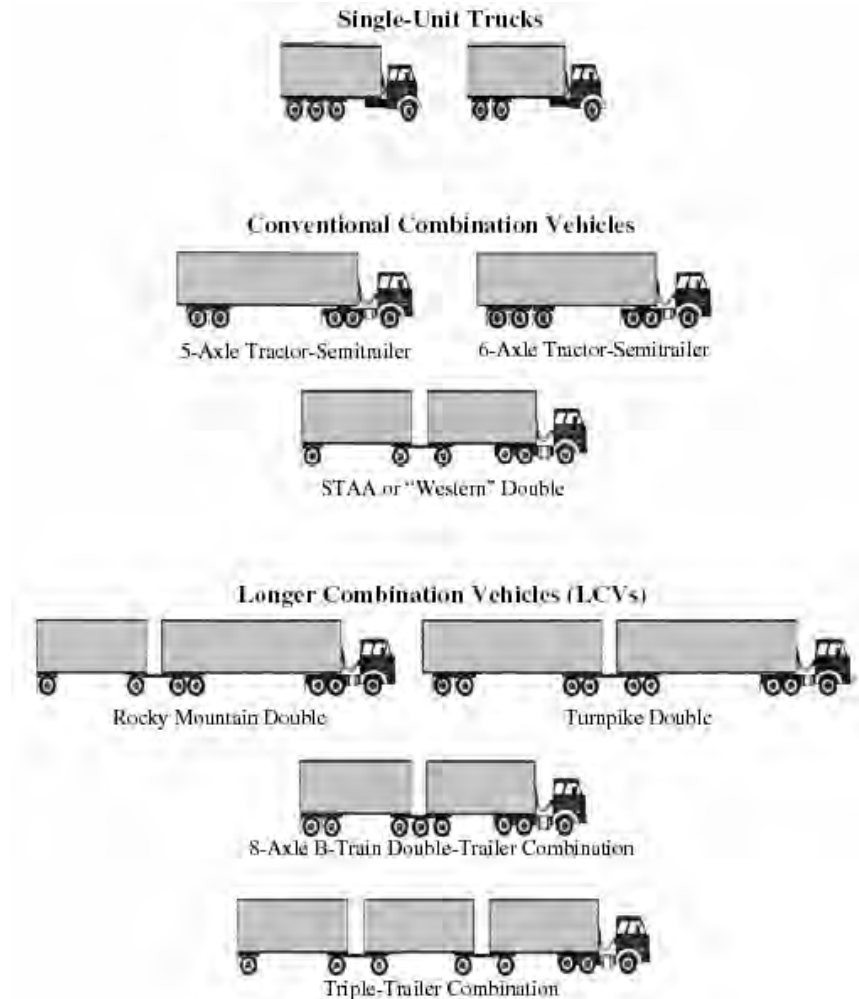
The federal regulations specify the following truck weight and size limits:

- 1) The maximum load on any single axle (20,000 lbs) and on any tandem axle (34,000 lbs), for vehicles on interstate highways.
- 2) The maximum load on any group of axles on a vehicle, as a function of the span of the axle group and the number of axles, on interstate highways (the bridge formula).
- 3) The maximum weight of the entire vehicle (80,000 lbs) on interstate highways. States cannot impose weight limits that are lower than the federal limits on interstate highways.
- 4) Vehicle width. Federal regulations require states to allow vehicles 102 in. wide on the National Network for Large Trucks, a federally designated network that includes the 46,000-mile interstate highway system and 160,000 miles of other roads.
- 5) Trailer length and numbers. Federal law requires the states to allow single trailers at least 48 ft long and tractors pulling two 28-ft trailers on the National Network.

The other main provisions of the federal regulations are as follows:

- 1) Grandfather exemptions. States in which vehicles exceeding a federal limit were in operation before the enactment of the federal limit may continue to allow the vehicles to operate indefinitely.
- 2) Statutory special exceptions. Federal law contains several exemptions applying to particular operations in specified states.
- 3) Longer Combination Vehicles (LCV) freeze. No state that did not allow operation of longer combination vehicles (defined in general as multitrailer combinations having any trailer longer than 28 ft, having more than two trailers, or weighing more than 80,000 lbs) on roads of the National Network before June 1991 may legalize operation of such vehicles on the National Network.
- 4) Intrastate public transit buses. These vehicles are temporarily exempt from the axle load limits.
- 5) Enforcement. The states are required to certify that they have effective programs for enforcing weight limits on federal-aid roads as a condition for receiving federal highway aid.

Figure 2.1 shows an illustration of the truck configurations in use in the U.S. Please note that federal law froze the issuance of new permits for longer combination vehicles (LCVs) since 1991. The five-axle tractor-semitrailer truck (3-S2) is the most popular truck configuration in the U.S. and particularly in Texas.



*Figure 2.1 Illustration of Major Truck Configurations in Use in the U.S.*

### 2.1.2 Truck Limits and Configurations in NAFTA Areas

To compare truck weight and size limits in the NAFTA countries, Table 2.1 lists some of the five-axle tractor-semitrailer truck weight and axle load limits in Mexico, Canadian provinces, and states in the U.S. The data are from a recent NAFTA Land Transportation Standard Subcommittee (LTSS) report published in 2003 and the TRB Special Report 267 published in 2002 (TRB, 2002; LTSS, 2001). It can be seen that the U.S. has the lowest axle load and vehicle weight limits except for the steering axle and, in contrast, Mexico has the highest truck axle load and vehicle weight limits. Mexico has nationwide uniform truck weight and size limits (although different limits are defined for different route classes). In Canada, the Memorandum of Understanding on Vehicle Weights and Dimensions (MOU) is observed as an agreement to improve uniformity in weights and dimensions of commercial vehicles operating between provinces and territories. Table 2.2 shows the truck fleet profiles in the NAFTA countries. The data are based on estimated ton-kilometers carried by the configuration type of domestic transportation in 1997 (LTSS, 2001).

Although NAFTA requires the United States, Canada, and Mexico to seek harmonization of standards related to vehicle weights and dimensions, progress has been slow to date, and great

disparities exist in limits among the three nations. By allowing U.S. operation of trucks with dimensions closer to those employed in Canada and Mexico, the NAFTA proposal would largely accomplish harmonization

**Table 2.1 Approximated 3-S2 Truck Weight Limits in NAFTA Countries/Territories**

<b>Territory</b>	<b>Tandem Min axle spacing (ft)</b>	<b>Tandem Max axle spacing (ft)</b>	<b>Steering Max axle load (lb)</b>	<b>Tandem (Tractor) Max axle load (lb)</b>	<b>Tandem (Trailer) Max axle load (lb)</b>	<b>Gross Comb. Weight (lb)</b>
Mexico	NA	NA	14300	43000	39700	97000
Alberta	4	6	12100	37500	37500	87100
British Columbia	4	6	12100	37500	37500	87100
Ontario	4	6	19840	39700	39700	91500
Canada	4	6	12100	37500	37500	87100
Arizona	3.3	8	20000	34000	34000	80000
California	3.3	8	12500	34000	34000	80000
Illinois	3.3	8	20000	34000	34000	80000
Minnesota	3.3	8	12000	34000	34000	80000
Texas	3.3	8	13000	34000	34000	80000
Virginia	3.3	8	13000	34000	34000	80000
USA	3.3	8	20000	34000	34000	80000

**Table 2.2 Truck Fleet Profiles in NAFTA Countries (based on ton-km carried)**

<b>Truck Configuration</b>	<b>Mexico</b>	<b>Canada</b>	<b>USA</b>
Single unit -- 2 axles	8.3%	9.7%	35.5%
Single unit -- 3 axles	15.3%	2.3%	4.9%
Tractor semitrailer – 3 axles	---		1.6%
Tractor semitrailer – 4 axles	---		5.5%
Tractor semitrailer – 5 axles	35.2%	51.0%	42.2%
Tractor semitrailer – 6 axles	37.3%	18.5%	3.0%
A Train double – 5 axles			2.7%
A Train double – 7 axles		5.2%	0.3%
A Train double – 9 axles	2.5%		0.4%
B Train double – 7 axles		5.3%	
B Train double – 8 axles		7.9%	
Other configurations	1.4%	0.1%	3.9%
Total	100%	100%	100%

## **2.2 Evolution History and Driving Forces**

### **2.2.1 Evolution History**

States within the US began to regulate vehicle dimensions before World War I. Federal limits were first enacted in 1956 in the legislation that created the federal-aid highway program and then were revised in 1975 and 1983.

Federal regulation implies that there are national goals that could not be attained by state regulation alone. The original intent of federal limitation is based on the logic that, if the federal government is to pay 90 percent of the cost of interstate highway system improvements, it is entitled to protection of the investment from damage caused by heavy loads on those highways. The 1956 act initiated the construction of the interstate highway system, for which the federal share of the cost was to be 90 percent. The limits enacted in 1956 were taken from the recommended practices of the American Association of State Highway Officials (AASHO). The act required uniform geometric and construction standards to be developed for the interstate highways. The weight limits would facilitate uniform standards for strength of pavements and bridges, while the width limit was apparently aimed at facilitating uniformity of highway geometric design.

The circumscribed role for federal regulation apparently intended in 1956—to protect the federal investment in roads and bridges and allow uniformity of highway geometric design—was broadened in the 1983 revisions to the federal limits. Those revisions included the first requirements that states with more restrictive limits liberalize them to conform to the federal standards. Such minimum standards are not necessary for uniformity of highway design or control of maintenance costs; their justification is that removing unjustifiably restrictive state limits reduces trucking costs.

The 1991 Longer Combination Vehicle (LCV) freeze was the first federal law that prohibited states from allowing vehicles with larger-than-specified dimensions on roads other than interstates. Such a rule might be imposed on the grounds of infrastructure economy, as were the 1956 limits. The LCV freeze was, however, apparently the first federal rule justified primarily as a safety measure.

### **2.2.2 The Driving Forces for Changes**

Changes in motor vehicle size and weight regulations have historically been driven by external forces. The limits have changed continually throughout the development of the highway system because of system expansion, improvements in vehicles and roads, and economic pressures for cost reduction in the trucking industry. Improvements in highways and freight vehicles and the resultant changes in size and weight limits, together with innovations in the management of freight and logistics, have been important sources of productivity growth. As long as the external driving forces persist, the regulations will continue to change through the political process.

In the past, the regulations have been subject to nearly continuous incremental revision. The result has been truck configurations that are not ideal from the standpoint of highway wear, freight productivity, or safety. Highway engineers are dissatisfied with current standards because heavy truck traffic accounts for a large proportion of road wear and damage. Throughout the country, roads and structures do not stand up well to the loads they must carry, and highway agencies lack the funds to perform more frequent maintenance. At the same time, motor carriers and shippers point out that the benefits from reduced freight costs gained by allowing larger

trucks could greatly outweigh the costs of repairing the additional road wear that larger trucks would cause; whereas safety advocates, motorists, and the public are concerned that trucks are involved in a disproportionate share of the most severe highway accidents (TRB, 2002). Thus, the situation today is that substantial economic benefits could be gained using larger trucks, but chronic funding shortages in state highway maintenance programs and fears of the safety hazards of larger trucks stand in the way of gaining these benefits.

Changes in these three factors—highways, vehicle technology, and freight customer service demands—account for the evolution of size and weight limits throughout the last century. Today, many conditions have changed: state highway programs have received substantial funding increases; pavement and bridge design methods have advanced, and new technology for enforcing highway regulations and collecting user fees is increasingly available; technology has improved vehicle performance; and the freight and logistics sectors have experienced important technological advances and productivity gains. Federal motor vehicle size and weight limits have not undergone overall revision for more than 20 years, so it is likely that the gap between existing limits and optimum vehicle standards is greater than ever.

## **2.3 Possible Options for the Future**

### **2.3.1 Three Option Categories**

A broad range of possibilities as to the form of revised federal regulations has been proposed by past studies, private-sector groups, states, and others. The options can be organized into three general categories as described in the following paragraphs.

#### **2.3.1.1 Policies within the existing framework and precedents of federal truck size and weight regulation**

New policies involve changes in axle load and other dimensional limits, changes in the extent of the road systems on which federal standards apply, and provisions such as the 1983 federal law regarding double trailer trucks, which requires states to allow certain configurations on certain roads. Options in this category are consistent with the critical assumptions that new policies entail no changes in pavement and bridge design practices, basic truck design, or highway user fees. Past size and weight studies, such as those sponsored by the Transportation Research Board (TRB) and U.S. DOT, have focused mainly on this category of options, and the evaluation methods developed in those studies are most applicable to these options.

#### **2.3.1.2 Approaches outside the existing framework of federal size and weight regulation**

These proposals involve changing the structure of the regulations instead of simply changing the limits. There are three important classes of proposals in this category:

- 1) *Performance standards.* Regulations that directly specify required vehicle performance instead of attempting to control performance indirectly through dimensional limits. For example, a standard could require that trucks pass a test of resistance to rollover as an alternative to a gross weight limit, intended to restrain rollover propensity.

- 2) *Pricing.* Setting fees that induce truck operators to select equipment with lower public costs. For example, fees related more closely to costs could discourage operation of certain configurations now in use that generate relatively high pavement wear costs (or alternatively, finance the additional maintenance these configurations necessitate). More refined pricing would also affect shippers' logistical and location decisions.
- 3) *Devolution.* Simply return regulatory responsibilities to the states.

These approaches could complement established forms of regulation instead of wholly replacing them. However, existing data and models are inadequate for predicting some of the important conceivable effects of these kinds of policy changes.

### **2.3.1.3 Other Options**

In addition to changing the size and weight regulations, options that would achieve the same underlying goal of controlling truck traffic costs while allowing for efficient freight transportation could be considered. Examples of such policies include improved enforcement of size and weight limits and safety regulations; bridge management activities regarding reducing the effect of trucks on bridge construction, maintenance, replacement costs, and the risk of bridge failure; changes in pavement design practices; and exclusive truck routes or lanes. Evaluation of such options, along with evaluation of size and weight regulatory options, could lead to better overall solutions.

### **2.3.2 Framework of Past Studies**

Most of the past U.S. Department of Transportation (DOT) and TRB studies lie in the area of benefit-cost framework, which generally consists of five study steps:

- 1) One or more alternative sets of size and weight limits are specified.
- 2) Projections are made of the changes in truck traffic volume and in the distribution of vehicle dimensions in use that would result from introducing the alternative limits.
- 3) The magnitudes of the changes in certain costs arising from the projected traffic changes—including pavement and bridge construction and maintenance, numbers of highway accidents, highway user delay, freight transportation costs, and air and noise pollution—are predicted.
- 4) Certain practical issues, such as enforcement and administrative feasibility, fiscal impact on state highway programs, and effects on railroads, are given at least qualitative consideration.
- 5) Recommendations are made for changes in limits based on predicted economic benefits and recognized practical constraints.

Those past DOT and TRB studies, which applied the cost-effectiveness method, concluded that incremental increases in allowable truck size would produce net benefits. Predicted increases in infrastructure costs (mainly for upgrading bridges) generally are smaller

than predicted freight cost savings; and predicted safety, traffic, and pollution effects are often positive because increasing truck capacity is predicted to reduce total truck-miles of travel.

### **2.3.3 Results of Past Studies of Truck Limit Change**

The three major past studies of possible changes in truck weight and size regulation included in the report are: 1) Truck Weight Limits: Issues and Options (TRB, 1990); 2) Turner Proposal Study (TRB, 1990); and 3) Comprehensive Truck Size and Weight Study (DOT, 2000). The conclusions of the three past studies are summarized in the following paragraphs.

#### **2.3.3.1 Truck Weight Limits: Issues and Options**

The present discussion refers to the “Combined TTI HS-20/ Formula B” scenario. This scenario assumes that existing state truck length and route restrictions are unchanged, as are federal axle load limits. Truck weights are limited only by a new federal bridge formula. Under this formula, carriers are allowed to operate a six-axle tractor-semitrailer with a 48-ft semitrailer of up to 86,000 lbs and configurations with six axles and two 28-ft trailers of up to 96,000 lbs. A tridem axle would be limited to about 44,000 lbs; and an eight-axle double-trailer configuration with 33-ft trailers would be limited to 113,000 lbs. The exact limits would depend on the axle spacings of the vehicles.

#### **2.3.3.2 Turner Proposal study.**

This study predicts the consequences of changes in federal and state regulations that would allow carriers to operate trucks with higher gross weights, and moderately greater lengths for double trailers, on an extensive network, provided the carriers operated the trucks with lower maximum axle loads than those now allowed in federal regulations. The study predicts that the new configuration most likely to be adopted under the new regulations would be a nine-axle configuration with two 33-ft trailers and a maximum gross vehicle weight of 111,000 lbs.

#### **2.3.3.3 Comprehensive Truck Size and Weight Study**

The estimates to which this report refers are from three of the regulatory scenarios evaluated in this most recent DOT study:

- 1) The NAFTA scenario, in which six-axle tractor semitrailers of up to 97,000 lbs and configurations with eight axles and two 33-ft trailers weighing up to 131,000 lbs are allowed on the current federally defined National Network (the roads where twin 28-ft trailer combinations are allowed by federal law today).
- 2) The “LCVs nationwide” scenario, in which double-trailer configurations with two full-sized semitrailers (i.e., turnpike doubles) and weights up to 148,000 lbs and doubles with one full-sized and one short trailer (Rocky Mountain doubles) are allowed on a limited network of roads nationwide, consisting mainly of 42,000 miles of interstate highways. No access for these configurations is allowed on lesser roads; operators are required to couple and uncouple the trailers in staging areas adjacent to major highways. Triple-trailer combinations (three 28.5-ft semitrailers) are allowed on a 65,000-mile network of interstates and other high quality roads nationwide with provisions for access to local destinations, and short

heavy double-trailer configurations similar to that of the NAFTA scenario are allowed on 200,000 miles of main roads plus access routes.

- 3) The “triples nationwide” scenario, in which triples are allowed on the 65,000-mile network, and no other new trucks are allowed.

### **2.3.4 Two Promising Future Options**

The study “Truck Weight Limits: Issues and Options” mentioned in Section 2.3.3 was revised by TRB in response to criticism of the older version. Another TRB proposal, which represents a federal initiative to move U.S. size and weight policies in the direction that the evaluations of past size and weight studies imply, might yield the greatest benefits. Two of the most promising future options for the federal regulation of truck weights and sizes, the revised version of Truck Weight Limits, and the Greatest Benefit option, as well as the old version of Truck Weight Limits, were seriously considered by TRB, a process that was mandated by Congress. The revised version of the TRB Truck Weight Limits and the Greatest Benefit option are summarized in the following paragraphs.

#### **2.3.4.1 Revised Truck Weight Limits: Issues and Options**

An immediate change in the federal bridge formula is not proposed. Instead of defining the trucks that would be eligible for the new permit program solely by a bridge formula, specific eligible configurations are identified: (1) a six-axle tractor-semitrailers with maximum weights of 90,000 lbs (regardless of the bridge formula restriction); and (2) doubletrailer configurations with each trailer up to 33 ft long, seven to nine axles, and weight limits governed by the present bridge formula, implying a maximum weight of about 111,000 lbs. These would be the maximum weights and dimensions allowed, but a state could apply to participate in the program and impose more restrictive limits on its permitted trucks. For example, a state could propose to impose a bridge formula on the six-axle tractor-semitrailer. The specificity of this approach might be attractive to state officials, in contrast to the uncertain outcome of application of the new bridge formula proposed in the old Truck Weight Limits. On the other hand, specificity curtails operator flexibility and innovation. Federal permission to use heavy doubles would constitute a limited relaxation of the present federal LCV freeze.

The six-axle 90,000-lb tractor-semitrailer, one of the vehicles that would be eligible for the permit program, is evaluated as carefully as existing information allows in the DOT 2000 size and weight study and in Truck Weight Limits. This vehicle is considered in the DOT and TRB studies because: 1) it offers a modest productivity gain over the current standard five-axle tractor semitrailer (the TRB study estimates about a 5 percent savings per ton-mile for high-density cargo); 2) it would reduce pavement wear costs per ton-mile of truck freight because it provides carriers an incentive to adopt trucks with lower average axle loads; 3) the total weight and weight distribution would be consistent with the criteria for acceptable levels of bridge stress, which are the basis of current federal regulations. The desire to limit the extent of potential bridge overstress is the principle constraint on the weight of the vehicle in the two earlier analyses; and 4) the DOT study also notes that allowing use of the heavier six-axle tractor-semitrailer would reduce the discrepancies between U.S. limits and those of Canada and Mexico and also reduce the discrepancies between U.S. limits and the weights of standard containers in international commerce. The six-axle tractor-semitrailer is similar to trucks widely used today in many other countries.

Double-trailer combinations with 28-ft trailers and gross weights of up to 80,000 lbs operate legally in every state by federal law, and twenty-two states allow operation of longer and heavier multitrailer combinations. Short, heavy double-trailer combinations are evaluated in the DOT 2000 study, in *Truck Weight Limits*, and in the Turner Proposal study. The proposed 33-ft trailer length limit on the double-trailer permit vehicles would allow this configuration to make turns at intersections without encroaching farther into the opposing lane than do commonly existing tractor-semitrailers. The evaluations in past studies also indicate that the 33-ft trailer length would offer some advantages with respect to stability, compared to the 28-ft trailers.

#### **2.3.4.2 The Greatest Benefit Proposal**

The size and weight provisions in the proposal are as follows:

- 1) Replacement of existing federal weight regulations with a new federal bridge formula that does not specify a weight maximum, but retains the present federal single- and tandem-axle load limits. Candidates for the formula would include the “Uncapped TTI HS-20” formula or the “Combined TTI-HS-20/Formula B” defined in *Truck Weight Limits*.
- 2) Introduction of a new federal tridem-axle load limit of 51,000 lbs.
- 3) Federal authorization to operate six-axle tractor-semitrailers of up to 97,000 lbs, eight-axle B-train double-trailer configurations up to a specified weight, and eight-axle twin 33-ft trailer combinations up to a specified weight on a specified system of roads (this provision could be a federal requirement, like the 1983 federal law requiring states to accept twin trailers and 80,000-lb semis, or a state option).
- 4) A provision allowing limited expansion, as a state option, of the use of turnpike doubles and triple-trailers in rural areas.

The Greatest Benefit Proposal package would be consistent with proposals from some segments of the industry, including the Peterson-Cook bill first introduced in Congress in 1999, allowing 97,000-lb trucks at the option of each state; this option is supported by a group of shippers and carriers. The package would be similar in effect to the Memorandum of Understanding on Vehicle Weights and Dimensions (MOU) and the current Canadian interprovincial limits, which were adopted by all the provinces in 1988 after completion of a government–industry research program and then updated in 1997. The Canadian limits make no provision for turnpike doubles or triples.

### **3. Review of Weigh-In-Motion Technologies**

#### **3.1 Need for Improved WIM Systems**

Two parallel forces continue to push the development, use, and improvement of weigh-in-motion (WIM) systems in the U.S. and Canada. These two parallel forces are (Hallenbeck et al., 2002):

- 1) The need to improve our knowledge of traffic loads, especially in relation to pavement design requirements, in order to improve the design and management of the roadway infrastructure; and
- 2) The need to decrease the cost of, while improving the effectiveness of, truck size and weight enforcement.

For the truck weight enforcement application, WIM scales are frequently used for presorting overweight or oversized trucks from the traffic stream and helping divert those vehicles to static scales for further assessment. To assist in pavement design and management, a large number of WIM systems were installed, a result of the research efforts of the Strategic Highway Research Program's (SHRP) Long-Term Pavement Performance (LTPP) studies. In the 20-year study, LTPP collected traffic data with WIM scales at specific pavement test sites across North America in an attempt to obtain research quality load estimates for pavement engineers to determine the relative performance of different pavement designs (FHWA, 1998).

However, the LTPP data have been both a blessing and a curse. It was a blessing in that it pushed many states and provinces to adopt WIM technology. It was a curse in that many LTPP pavement test sections were selected without regard to the ability to collect accurate vehicle weight data (Hallenbeck et al., 2002). This inefficiency with the WIM data collection could also be understood from the American Society for Testing and Materials (ASTM) "Standard Specification for Highway WIM Systems with User Requirements and Test Method" (ASTM Designation: E 1318) (McCall and Vodrazka, 1997). ASTM E 1318 classifies WIM systems as Type I, II, III, or IV. Type I and II systems are used for traffic data collection, which are less accurate than Types III and IV, which are used for weight enforcement. Many factors may have contributed to the accuracy problem in WIM traffic data collection. The budget constraints in initial investments and routine maintenance, implemented WIM technology, road roughness and installation conditions, vehicle axle suspension characteristics, and calibration methods are several major reasons for the errors in WIM data collection. The accuracy and precision problems with the traffic data have caused concerns in data usage, especially when more accurate and precise axle load data are required by the new M-E Design Guide (Jehaes and Hallstrom, 2002; Hajek and Selezneva, 2002).

The current AASHTO approved pavement design method used in many states of the U.S. and Canada is the 1993 AASHTO Guide for the Design of Pavement Structures (AASHTO, 1993). The current AASHTO Design Guide is based on an empirical pavement design equation where traffic loads are characterized using the concept of Load Equivalency Factors (LEFs). The

axle LEF can be regarded as a pavement damage factor assigned to each specific axle load and axle configuration. The value of the factor is determined by relating to the damage expected to be caused by a standard load of 80 kN (18,000 lbs) carried by a single axle with dual tires. The summation of LEFs that occurs due to the passage of trucks results in the number of Equivalent Single Axle Loads (ESALs). Thus, the pavement-damaging effect of the entire traffic flow is summarized as the number of ESALs. The number of ESALs represents the design traffic load in the current AASHTO Design Guide (Huang, 1993) and the flexible pavement design system (FPS) used by TxDOT. In contrast, the new Mechanistic-Empirical Guide for the Design of New and Rehabilitated Pavement Structures, developed under NCHRP Project 1-37A, utilizes the concept of load spectra (NCHRP, 2005). In the new M-E Design Guide, pavement design is based on the responses of the pavement structure, such as stresses and strains, to specific axle loads. Axle load spectra is defined as a distribution of axle loads, of a given axle type, into weight class intervals. Axle types are classified by the spacing between consecutive axles (Hajek and Selezneva, 2002).

The use of actual axle loads, rather than statistical summaries such as ESALs, allows the assessment of the consequences of specific loading conditions, such as the damaging effects of increased axle loads on specific pavement structures, increased tire pressure, or the effect of different axle configurations. It is expected that the new M-E Design Guide will significantly influence future pavement design practices in the U.S. The successful application of the new M-E Design Guide will require more detailed traffic data and will place an increased demand on WIM systems in Texas and probably other parts in the U.S.

Through several ongoing research efforts, Texas is currently evaluating the transition from the current empirical AASHTO Pavement Design Guide (AASHTO, 1993) to the new Mechanistic-Empirical Design Guide (NCHRP, 2005). In order to help TxDOT determine the measures that should be taken to increase traffic data collection capability in Texas to meet the data requirements set by the new M-E Design Guide, a review of the state-of-the-art WIM technologies in the U.S., with particular emphasis on WIM performance, economy, and calibration is one of the research tasks of TxDOT Research Project 0-4510 (Hong and Prozzi, 2002).

Chapter 3 consists of five sections, including the introduction to the needs for improved WIM systems presented in Section 3.1. The history of WIM developments in the U.S. is introduced in Section 3.2. In Section 3.3, the state of the art of WIM technologies in the world are reviewed. In Section 3.4, prevalent WIM technologies in the U.S. are compared with regard to their performance and economic properties. Calibration techniques for WIM systems are discussed in Section 3.5.

## **3.2 Evolution History of WIM**

As early as the 1950s, several research studies were conducted in the U.S. to develop WIM systems that would make the weighing of axles and vehicles faster and more efficient. One of the first generation WIM systems in the U.S., endorsed by the U.S. Bureau of Public Roads (BPR), had large concrete platforms that were supported by columns to which strain gages were installed. The BPR systems were installed and used in Iowa, Minnesota, Oregon, Indiana, and Illinois (Hallenbeck et al., 2002). The dynamic nature of WIM data collection caused much difficulty and limited the success of the early systems. This problem continues to affect the performance of modern WIM systems today. In the 1950s, the complex real-time dynamic measurement was even more difficult than it is today because of the lack of high-speed data

collection and processing equipment. The clumsy and energy-consuming analog circuits and the slow computer processing capabilities were not able to handle the effects of the real-time dynamic measurement in a proper manner.

While a variety of research efforts were made to improve the designs of the early BPR scales, the next major improvement in WIM technology in the U.S. occurred in the late 1960s, when the ever-increasing ratio of computing power versus cost helped make real-time dynamic measurements more practical. The second-generation U.S. scale systems used strain gage load cells with six triangular steel plates as their weighing surface. These scales, based in large part on the work done by Dr. Clyde Lee at The University of Texas at Austin, were installed in Texas, Florida, Nevada, and Georgia, among other states, and produced better results than the BPR scales (Lee, 1974; Qu et al., 1997).

Starting in the late 1970s and early 1980s, while continuing to produce important new versions of ideas such as bridge weigh-in-motion, researchers in the U.S. became more and more willing to test and adopt WIM technologies developed elsewhere in the world. By the mid-1980s, many research efforts were launched to test new technologies developed in the U.S. and other places in the world. These efforts included the use of a Canadian load cell system, German bending plates, South African capacitance pads, and English and French piezo sensors. Both portable and unattended permanent WIM systems were developed and came into practical use. These continual research efforts have led to the major WIM systems that have been accepted and widely deployed in the U.S. Although there are many varieties, the current WIM technologies used in the U.S. can be divided into three general categories (McCall and Vodrazka, 1997; Middleton et al., 2000):

- 1) Bending plate,
- 2) Piezoelectric sensor, and
- 3) Loading cell.

However, technological development has not stopped. Developments of new WIM systems are very promising in view of exciting research results with new sensors and microcomputer-based real-time dynamic measurement systems that are still in progress in the U.S., Canada, and Europe. These studies of potential new sensor technologies include the testing of Kistler quartz piezoelectric sensors in Connecticut and fiber optic sensors in Florida and Virginia. Similar research studies are also in progress through the Weigh-in-motion of Axles and Vehicles for Europe (WAVE) program of the COST 323 (European Co-Operation in the field of Science and Technical research) project conducted jointly by the European countries (McDonnell, 2002; Cosentino et al., 2003; Caussignac et al., 2000).

During most of the 1990s and continuing today, research has been devoted to testing and refining the systems that use these technologies. Much of the refinement has been in the details of system design and installation, in an attempt to address some of the following questions:

- 1) What are the limitations of each of these technologies? We need to understand when and where they should and should not be used.

- 2) Can we develop new variations on signal analysis, sensor layout, or sensor mounting techniques that mitigate limitations in sensor capabilities or in system functionality?
- 3) How do we place and keep sensors in the ground and working?
- 4) How can we inexpensively calibrate the equipment and use the data these systems are producing?

### **3.3 Commonly Used WIM Technologies**

In this section, six current WIM technologies are briefly discussed. Of these six technologies, three categories of WIM sensors are widely used in the U.S.: 1) Piezoelectric Sensors, 2) Bending Plate Scale sensors, and 3) Single Load Cell Scale sensors. The other three types of WIM sensors, which are still in experimental and testing phases and potentially have practical uses in the near future in the U.S. are: 4) the Kistler Quartz Piezoelectric Sensor, 5) the Capacitive Mat, and 6) the Fiber Optical Sensor.

#### **3.3.1 Piezoelectric Sensors**

The most common WIM sensor for data collection purposes is the piezoelectric sensor (PZ). The basic construction of the typical sensor consists of a copper strand, surrounded by a piezoelectric material, which is covered by a copper sheath. When pressure is applied to the piezoelectric material, an electrical charge is produced. The sensor is actually embedded in the pavement and the load is transferred through the pavement. The strength characteristics of the pavement (bearing capacity) will therefore affect the output signal. By measuring and analyzing the charge produced, the sensor can be used to measure the weight of a passing tire or axle group. There are a number of variations in the shape, size, and packaging of the sensors produced to obtain better results, easier installation, and longer life. This discussion will treat piezoelectric sensors as a general group, rather than as particular products. For further details, the reader should refer to the specialized literature (McCall and Vodrazka, 1997; Bushman and Pratt, 1998; IRD, 2001).

For a complete data collection system, it is common to install two inductive loops and two piezoelectric sensors in each lane being monitored. Installation begins by making a relatively small cut in the road into which the sensor will be installed. The size of the cut varies depending on the sensor being installed, but is generally 1 to 2 in. deep and 1 to 2 in. wide. The sensor is placed in the saw cut and secured in place by a fast curing grout. A complete lane installation, typically consisting of two sensors and two loops, can be accomplished in less than a full day, including curing time.

When properly installed and calibrated, a piezoelectric WIM system should be expected to provide gross vehicle weights within 15 percent of the actual vehicle weight for 95 percent of the trucks measured. Because the instrument response depends on the strength of the pavements, as this strength varies (e.g., as a result of temperature variations), the response signal will change and will need to be corrected.

#### **3.3.2 Bending Plate Scale**

The bending plate (BP) scale uses a different approach to determine vehicle weight. The bending plate scale consists of two steel platforms that are each 2 ft by 6 ft, placed adjacent to

each other to cover a 12-ft lane. The steel plate is instrumented with strain gages placed at critical points to measure the strain in the plate as a tire or axle passes over. The measured strain is analyzed to determine the axle load. The bending plate scale is typically installed in a lane with two inductive loops and an axle sensor to provide vehicle length and axle spacing information (McCall and Vodrazka, 1997; Bushman and Pratt, 1998; IRD, 2001).

There are two basic installation methods for a bending plate scale. In concrete roadways of sufficient depth, a shallow excavation is made in the surface of the road. The scale frame is anchored into place using anchoring bars and epoxy. In asphalt roads or thin concrete roads, it is necessary to install a concrete foundation for support of the frame. The roadway is cut and excavated to form a pit 30 in. deep by 4 ft 10-in. wide by 13 ft 10 in. long. The frame is positioned in place and then is cast into the concrete to form a secure and durable foundation for the scale.

Installing a complete lane of scales, loops, and axle sensor can be accomplished in a day, using the shallow excavation method, and in 3 days using the concrete vault. When properly installed and calibrated, a bending plate WIM system should be expected to provide gross vehicle weights within 10 percent of the actual vehicle weight for 95 percent of the trucks measured. Because the instrument itself is attached to a steel plate, temperature variations have a lesser effect on the signal readings.

### **3.3.3 Single Load Cell Scale**

The single load cell scale consists of two weighing platforms with a surface size of 6 ft by 3 ft 2 in., placed adjacent to each other to fully cover a normal 12-ft traffic lane. A single hydraulic load cell, consisting of a single oil-filled piston, is installed at the center of each platform to measure the force applied to the scale. The load measurements are recorded and analyzed by the system electronics to determine tire and axle loads. This type of system is large and heavy, and requires complex installation (McCall and Vodrazka, 1997; Bushman and Pratt, 1998; IRD, 2001).

The installation of a single load cell scale requires the use of a concrete vault, as explained earlier for the bending plate scale. The size of vault required is slightly larger than the case of the bending plate, measuring 165 in. by 58 in. by 34 in. The single load cell scale is typically installed in a lane with two inductive loops and an axle sensor to provide vehicle length and axle spacing information. Installing a complete lane of scales, loops, and axle sensor can be accomplished in 3 days. When properly installed and calibrated, a single load cell WIM system should be expected to provide gross vehicle weights within 6 percent of the actual vehicle weight for 95 percent of the trucks measured. The relatively higher accuracy of the load cell is accompanied by a higher instrument cost.

### **3.3.4 Kistler Quartz Piezoelectric Sensor**

This sensor utilizes the same piezoelectric principle for signal generation but is innovative in material use and design. The Swiss-developed sensor is currently used by European countries and is being tested in Connecticut. The Kistler WIM consists of a light metal profile in the middle of which quartz disks are fitted under preload. When force is applied to the sensor surface, the quartz disks yield an electrical charge proportional to the applied force through effect. This electrical charge is converted by a charge amplifier into a proportional voltage, which can then be further processed as required (Bushman and Pratt, 1998; IRD, 2001).

The sensors can be installed in combination with other traffic detectors, like induction loops and switching cables. Kistler WIM sensors are easy to install, both individually and in groups, for comprehensive recording over a wide roadway. Typically, four 1-meter (39.4”) long sensors are required to cover one typical lane width of approximately 12 ft. Installation begins by making a relatively small cut in the road into which the sensor will be installed. The size of the cut varies depending on the sensor being installed, but the cut is generally 2.25 in. deep and 3 in. wide. The sensor is placed in the sawcut and secured in place by a fast curing grout. A complete lane installation consisting of eight sensors and two loops can be accomplished in less than a day, including curing time. When properly installed and calibrated, the Kistler WIM system should be expected to provide gross vehicle weights within 10 percent of the actual vehicle weight for 95 percent of the trucks measured.

### **3.3.5 Capacitive Mat**

A capacitive-based WIM system basically consists of two or more conductors (metal plates) carrying equal but opposite charges. The ability of a capacitor to hold a charge is measured by a quantity called the capacitance. When weight force is applied to metal plate conductors separated by non-conducting spacers, the distance between the plates changes and the bending action of the plates results in a change in the capacitance, which is measured by a tuned circuit connected to the capacitor. Using proprietary configurations consisting of multiple capacitors and embedded non-conducting spacers, this capacitance effect is now being exploited to weigh moving trucks. Capacitive mat WIM systems are designed for use in permanent or portable applications (ORNL Webpage, 2004).

Permanently mounted capacitive mat WIM systems are typically designed for high speed weighing. A permanent site layout may consist of two inductive loops and one capacitive mat. The sensors are bolted to stainless steel installation pans that are fixed into the road pavement with suitable adhesives. They are mounted flush with the road surface and suitable for high-speed permanent WIM applications. The inductive loops have multiple functions, including notification of presence of a vehicle, length calculation, and speed calculation. Wheel weight data is calculated as each wheel rolls over the mat, then doubled for axle loads. Axle groupings and gross weight are derived from the individual axle loads.

### **3.3.6 Fiber Optical Sensor**

The fiber optical sensor is flexible, with input and output leads that produce crisp, clean, and uninterrupted light signals at a measurable intensity to and from the sensor. It is sealed from the environment and can be constructed in any desirable length. Sensors placed in pavements are typically 6 ft long. The sensor cross section is approximately 0.075 in. thick by 0.3 in. wide. The sensors are installed in the field into saw cut grooves by grouting them flush with the pavement surface, preventing water intrusion and sensor damage. Fiber optic leads from the sensor are connected to an interface electronics device that converts light intensity to voltage. As vehicles pass over the sensors, loads from the vehicle tires deform the sensors and cause the light intensity to decrease. A roadside computer system can use the change in light intensity with specially developed algorithms to classify and weigh the vehicles (Cosentino et al., 2003).

The fiber optical WIM sensor was developed using a concept known as the fiber optic microbend theory. Among the many fiber optic sensors used for measuring pressure and strains, the most economical ones are those based on the microbend principles. The light source can often be a light emitting diode (LED). Although it is claimed that fiber optic sensors are more

reliable and repeatable than WIM systems that use other measurement methods, the sensors are still under test and calibration in the U.S. and Europe. Furthermore, another type of fiber optic WIM sensor, the “Bragg grating-type fiber optic sensor” is in parallel development with the one based on microbend principles. The Bragg grating sensors operate by sensing the wavelength of light reflected from the grating produced by vehicles and axles (Middleton et al., 2000; Caussignac et al., 2000).

### 3.4 Performance Comparisons

As a result of cumulative development over a long period of time, WIM technologies have improved tremendously, as attempts were made to increase accuracy and performance and reduce costs. While many new WIM technologies are being tested for possible field installation and implementation, only a few WIM sensors are widely accepted and routinely used in the U.S. The discussion in this section focuses on the life cycle performance and economic characteristics of three of the most prevalent WIM technologies, which are the most widely used in the U.S.: Single Load Cell Scales, Bending Plate Scales (in-road), and Piezoelectric sensors. For comparison purposes, the performance and relative costs of the Kistler Quartz Piezoelectric Sensor is also included (Bushman and Pratt, 1998; IRD, 2001).

Many variables are involved in comparing the performance of these technologies. The performance of any WIM system is dependent on road conditions, road geometry, and vehicle condition. Therefore, the American Society for Testing and Materials (ASTM) standards for accuracy will be used for comparison purposes. The actual performance of any WIM system will vary depending on specific conditions at the site. The relative difference in accuracy can still be expected to exist under these conditions.

Quantifying the accuracy of a WIM system is more difficult than assigning an accuracy to a static scale. With a static scale, the axle, axle group, or vehicle is placed on the scale. The force of that axle, axle group, or vehicle is constant while it is motionless on the scale. The only factor affecting the accuracy of the determined weight is the scale itself. With repeated testing and calibration, an accuracy level for every vehicle can be determined. One of the purposes behind the development of WIM technology was the ability to measure the actual loads being applied to a roadway by a moving truck. It was felt that this would more accurately represent what the pavement is subjected to than a static weight. However, the calculated static weight is still the value used in evaluating accuracy and in recording traffic information (Bushman and Pratt, 1998) because the applied dynamic weight depends on the road roughness and vehicle properties.

Although there is a definite relationship between static weights and applied loads, there are many other factors introduced. The actual load applied by a vehicle includes much more than the weight of the vehicle. As a vehicle travels, the dynamic load applied to the road varies significantly due to the vehicle bouncing, acceleration or deceleration, and shifting of the load either physically or just in its distribution through the suspension system. The combination of all these loading factors is what is actually measured by a WIM system. In addition to the error in the measuring device, which is also present in a static scale, there is a second error due to the dynamic effects of weighing a vehicle at high speeds.

Because of the effects of vehicle dynamics, the accuracy level of any WIM system is lower than that for a static scale used for enforcement weighing. It is also not possible to quote an absolute accuracy for a WIM scale. Therefore, any WIM accuracy is always quoted as a percentage accuracy with a confidence level. The confidence level is typically set at either 68

percent or 95 percent, corresponding to 1 and 2 standard deviations, respectively. ASTM accuracy uses the 95 percent level. This means that 95 percent of measured WIM values will fall within the stated accuracy level.

In order to evaluate which technology is most appropriate, the cost of each technology must be considered, in addition to the operation and expected performance of the available technologies. However, there are many factors to include in the cost of a WIM technology beyond the costs for equipment or installation. Other factors to consider include the expected life, maintenance cost, and replacement cost.

The four technologies are evaluated based on a life cycle cost basis. For comparison, the equipment and installation costs are for the in-road equipment only. The cost of the electronics, cabinet, power supply, telephone connection, and road preparation are assumed to be relatively constant, regardless of the technology used. The initial installation includes the equipment components, installation by a local contractor, and installation supervision and calibration by a vendor representative.

In order for any WIM system to perform consistently and reliably, it should be properly maintained. It is recommended that scheduled maintenance visits occur at least semi-annually, with calibration occurring at each visit. The cost of a calibration vehicle is not included, because all systems will require the use of a calibration vehicle. One of the maintenance visits can be a visual inspection and calibration check. The other visit should include an in-depth on-road inspection as well as a calibration check.

Other assumptions for the purposes of the comparison are noted for each technology. This comparison takes into account only direct costs for the work and equipment to provide the WIM data. Associated factors, such as road deterioration and repair, traffic delay costs, and data reliability, are not considered. There are many variables that may affect the cost of installing and maintaining a system of this type, including site conditions, site location, contractor installation costs, and traffic control requirements. The actual cost will vary for each specific application, so these numbers should be used for relative comparison of the technologies only.

Four basic types of WIM technology are considered on the basis of accuracy and cost. The accuracy assumed, according to ASTM standards for each technology, is rewritten from the technical report by the International Road Dynamics and outlined in Table 3.1 (IRD, 2001). In addition, some of the key figures regarding the cost of the system are also included. These costs are the direct costs of the inroad equipment only and do not include related conduit work, system electronics, time delays, etc.

**Table 3.1 WIM Technology Comparison**

<b>Sensor</b>	<b>Kistler Sensor</b>	<b>Single Load Cell</b>	<b>Bending Plate</b>	<b>Piezoelectric Sensor</b>
<b>Accuracy (GVW) (95% confidence level)</b>	$2\sigma = 10\%$	$2\sigma = 6\%$	$2\sigma = 10\%$	$2\sigma = 15\%$
<b>Service Life</b>	6 years	20 years	6 years	4 years
<b>Initial Budgetary Equipment Cost</b>	\$ 20,500/lane	\$39,000/lane	\$8,000/lane	\$2,500/lane
<b>Initial Budgetary Installation Cost</b>	\$12,000/lane	\$20,800/lane	\$13,500/lane	\$6,500/lane
<b>Life Cycle Cost (over 12-year period)</b>	\$7,500/year/lane	\$6,200/year/lane	\$6,400/year/lane	\$4,750/year/lane

Source: (IRD, 2001)

In summary, the above-mentioned characteristics are some of the factors that should be considered when planning for the installation of a data collection system. There is no single system that is right for every application. A careful consideration of the accuracy required, anticipated road usage, and convenience of maintenance should be taken into consideration. In addition, factors such as lane closure costs, pavement life, and traffic delay costs should also be considered.

### 3.5 Calibration Methods

The truck weight data collected by WIM systems are frequently the foundation for traffic characterizations for new pavement designs. Therefore, WIM data need to be as accurate and precise as possible. It should be kept in mind that load associated pavement damage increases exponentially as the axle load increases. Accuracy refers to unbiased estimate and precision requires low variability in estimates. The methods developed to evaluate the accuracy and precision of WIM systems fall in two general classes. For many years, the statically scaled axle loads and vehicle weights were used as reference standards and compared with the weight values measured using a WIM system (McCall and Vodrazka, 1997; Jehaes and Hallstrom, 2002). The recognition of the dynamic nature of WIM measurement has resulted in the idea of dynamic calibration, where the weight force being measured by a WIM system is treated as a dynamic force rather than a static weight (Papagiannakis, 1996; Huhtala et al., 2000). Four calibration methods, either in practical use or under rigorous study in the U.S., are presented briefly in the following paragraphs.

#### 3.5.1 ASTM Procedure Using Test Trucks

Calibration is used to ensure that the estimation of the static weight produced by the WIM system is as close to the actual static weight as possible. A system is calibrated to offset the effects of site conditions, such as pavement temperature, vehicle speed, and pavement conditions. These factors can influence the weight estimated by the system. Calibration may be done by comparing the estimation from the WIM system to the actual static weight of a number of different types of trucks.

The American Society for Testing and Materials (ASTM) Standard Specification E 1318 concerning highway WIM systems lists the ASTM recommendations for the calibration procedure, which include (1) system acceptance and testing, and (2) fine tuning and recalibration. In system acceptance and testing, multiple runs of pre-weighted test truck(s) are made in different speed scenarios to determine weight and axle spacing factors. The weight factor settings need to be set so that the estimated weight is within a preset percentage of the actual weight. The axle spacing factor should be corrected because the axle spacing is used to validate the speed readings. Fine-tuning or recalibrating takes place throughout the design life of a WIM site. The parameters are adjusted when problems are identified during the use of the system.

Following the ASTM recommendations, the California Department of Transportation (Caltrans) has established a calibration procedure for bending plate WIM systems during their more than 10 years of experience collecting WIM data. The procedure is divided into two parts, acceptance testing and fine-tuning. The acceptance testing is done after installation and must be completed before the system is brought online. The fine-tuning or recalibration is done throughout the design life of the site. The Caltrans procedure is different from the ASTM procedure in that Caltrans uses only one test truck to calibrate the WIM systems, which differs from the ASTM Standard's minimum recommendation of thirteen test vehicles. The test vehicle used in Caltrans' calibration is normally a 3-S2 truck, a five-axle tractor-semitrailer equipped with air suspension for both tandem axle groups (McCall and Vodrazka, 1997).

### **3.5.2 Automatic Calibration with Known Traffic Data**

Many states attempt to reduce the cost of scale calibration by relying on a variety of automatic calibration techniques. For example, the Minnesota Department of Transportation developed a computer program to automatically recalibrate their bending plate WIM systems. The recalibration program is based on historical data collection and presumed characteristics of the front axle load (FAL) of FHWA Class 9 trucks. This program is stored on the hard drive of the roadside computer at each WIM site and can be turned on and off from an off-site computer using the utility commands (McCall and Vodrazka, 1997).

The calibration procedure used by the Minnesota DOT is divided into initial calibration and automatic recalibration. The initial calibration procedure is a two-step process. The first step is to calibrate the system using a five-axle semi as a test truck. The second step is to operate the system for a week collecting data. The distribution of the gross vehicle weight of five-axle semi-trailers collected during this period is examined. The emphasis of the examination is the placement of peaks for loaded and unloaded vehicles. If the peaks occur at reasonable locations, the system is considered calibrated. The FALs collected during the second part of the process are used as the desired FALs in the automatic recalibration process. During the recalibration process, FAL data are collected by the WIM system and compared with the desired FAL data recorded in the initial calibration process. The system recalibrates if the percentage of the difference between the average recorded FALs and the desired FALs is within a set percentage of the gross vehicle weight.

Automatic calibration (auto-calibration) is the practice in which software calculates and applies an adjustment parameter based on presumed traffic characteristics. Some of these techniques adjust scale calibration factors to known sensitivities in axle sensors for changing environmental conditions, known truck conditions, and equipment limitations. Common automatic calibration techniques embedded in WIM software include: 1) using the average front

axle load of FHWA Class 9 trucks; or 2) using the average gross vehicle weight of specific types of vehicles (often loaded 5-axle tractor semi-trailers).

However, users should be cautious when appreciating the convenience and savings brought by the automatic calibration techniques. Potential measurement errors with the automatic calibration techniques have aroused concerns recently in the pavement data and monitoring arena (Ostrom, 1998). Although the automatic calibration techniques have considerable value, they are only useful after the conditions being monitored at the study site have been confirmed. For example, average FALs for FHWA Class 9 vehicles are fairly constant (if a large enough sample is taken) at most sites. However, these weights often vary from site to site across the country or even within a state and can be due in part to different weight laws and truck characteristics, or to different truck loading conditions at each site.

### **3.5.3 Calibration Method Using AVI Technology**

Researchers from Washington State University tried a method for calibrating WIM systems by comparing static and measured axle loads of vehicles through automatic vehicle identification (AVI) (Papagiannakis, 1996). The AVI facilities developed for the Heavy Vehicle Electronic License Plate (HELP) project was used for this purpose. The AVI facility requires at least two components to function, i.e., an AVI transponder on board the vehicle and an AVI receiver installed at the roadside. The transponder talks to the receiver whenever the vehicle passes by the road site and the unique number assigned to the transponder identifies the exact vehicle. The static axle load data was extracted from a database maintained by the Oregon Department of Transportation for two locations on the I 5 corridor. These are multi-platform load enforcement scales operating downstream from WIM sorting scales; hence, most of the trucks weighed statically at these locations are likely to be heavily loaded. The WIM load data was obtained from all the AVI receiver-equipped WIM systems on the I 5 corridor. WIM and static data were input into two separate relational databases. Each database contained (in addition to AVI number and load) data on the date, time, vehicle class, and axle spacing. The largest percentage of the AVI transponder-equipped vehicles belonged to FHWA Class 9 trucks. The data was analyzed to match AVI numbers, dates and weigh times. Time limits for traveling between sites were established to ensure that trucks had no time to stop and load/unload cargo between sites. Errors were calculated as the percent difference between WIM and static loads for individual axles/axle groups. Calibration factors were derived to minimize the residual sum of squares of the errors.

The AVI technology is also available in Texas. A previous research study by the Center for Transportation Research (CTR) at The University of Texas at Austin has reported the cost and performance properties of AVI technology in Texas (Haas et al., 2001). According to the report, TransGuide, San Antonio's Traffic Management Center (TMC) has installed a number of AVI receivers recently, and about 8 percent of the vehicles in Texas are equipped with AVI transponders, which may be used for WIM calibration purposes.

### **3.5.4 Dynamic Calibration Method with Simulated Vehicle Dynamics**

Traditionally, WIM system accuracy has been evaluated with reference to static axle loads or static gross vehicle weights. The issue is complicated, however, by the fact that in-motion axle loads can be substantially different from static axle loads at any particular road location due to pavement roughness-induced vehicle dynamics. As a result, two WIM error components are perceived: 1) the difference between the dynamic load that is applied to a WIM

sensor at the moment an axle load is directly over the sensor and the static load of this axle, and 2) the inherent error of the WIM system in measuring the dynamic load applied. Papagiannakis at Washington State University developed a dynamic calibration method for effectively separating these two sources of error and incorporating the analysis into a comprehensive procedure for calibrating WIM systems (Papagiannakis, 1996).

The basic property utilized for separating these two sources of error in WIM measurements is the spatial repeatability of the dynamic axle loads resulting from replicate vehicle passes (i.e., same axle running at the same speed generates dynamic load waveforms repetitive in space). The first source of error was quantified through a modified version of the vehicle simulation model VESYM, named VESYMF. In order to calibrate the simulation model, three test trucks were run in different speed scenarios on WIM systems, and the WIM measurements were plotted for each truck axle as a function of speed. The pavement roughness profile was input to the VESYMF vehicle simulations. The calibration of the simulation models was carried out by comparing the vertical accelerations predicted by the models to those measured at selected body and axle locations using accelerometers placed on board the test trucks. After the calibration of the simulation models, the axle dynamic behavior of the test trucks was simulated through VESYMF for different vehicle speeds and pavement roughness conditions at particular WIM sites. The simulation models were used to predict the frequency distribution of the dynamic axle loads at a given WIM site. This source of variation, combined with the variation due to the inherent error of the WIM system in measuring the dynamic axle loads applied, produce the combined frequency distribution of the expected WIM error measurements at a WIM site (Papagiannakis, 1996).

## **4. Level 1 Traffic Inputs for the M-E Guide**

### **4.1 The M-E Design Guide**

The Mechanistic-Empirical Pavement Design Guide for New and Rehabilitated Pavement Structures (developed under NCHRP 1-37A) requires the analysis of pavement performance based on axle load distributions of the various axle types. The four basic axle types considered in the M-E Design Guide, according to their typical configurations, are single, tandem, tridem, and quad axles (NCHRP, 2005). Axle load spectra for these axle types should be available for each of the ten heavy vehicle classes (Classes 4 to 13) considered as recommended in FHWA's Traffic Monitoring Guide (FHWA, 2001; Hong and Prozzi, 2002).

To characterize the loads for each type of axle, a series of load bins (ranges) are used to describe the axle load distribution (axle load spectrum). In the current version of the M-E Design Guide, 39 load bins, ranging from 3 kips to 41 kips, with an equal interval of 1 kip, are used for characterizing single axles. Thirty-nine load bins are also used for tandem axles, with a range from 6 kips to 82 kips and an equal interval of 2 kips. Thirty-one load bins are used for both tridem and quad axles, with ranges from 12 kips to 102 kips and equal intervals of 3 kips.

Axle load spectra are to be primarily obtained from the network of WIM stations available across the state. For instance, for a given axle type, the number of axles corresponding to each load bin is the count of WIM-recorded weights falling into that bin. The axle load spectrum for the axle type is the normalized weight distribution (the counts in each bin divided by the total counts). However, due to the limited number of WIM stations deployed in most states, it is not possible to obtain the load spectra for most highway facilities. This limitation is not unique to axle loads; it also exists for the other traffic input variables for pavement design, such as traffic volume.

The current version of the M-E Design Guide (NCHRP, 2005) proposes three levels of traffic input: Level 1, Level 2, and Level 3. The selection of the appropriate level for each project should be based on the importance of the project and the resources available. These levels represent the hierarchical accuracy of the traffic information for the pavement being designed. The three levels are:

- 1) Level 1, which represents the highest accuracy and should be applied to heavily trafficked pavements where early failures may cause important safety or economic consequences. Site-specific traffic volume and weight information are required to fulfill Level 1 design.
- 2) Level 2 is the intermediate level and is basically consistent with the current version of the guide (AASHTO 1993). This level should be applied when the resources necessary for Level 1 are not available. Level 2 requires site-specific traffic volume data, while the regional axle load spectra will be used to accommodate the pavement design. This level is the most likely to be implemented on a routine basis.
- 3) Level 3 offers the lowest level of accuracy for pavement design. It represents the lowest knowledge of the traffic characteristics. Input variables will consist of

default values or averages for the state. Axle load spectra will be obtained from the state average of available WIM data.

Currently, there are approximately twenty-one WIM stations deployed in the highway systems in Texas. The majority of the stations are located on the interstate facilities and the others are on U.S. highways and state highways. Consequently, Level 1 design is restricted to the twenty-one sites because only these sites can provide the site-specific axle load spectra data required by the M-E Design Guide. Level 2 and Level 3 axle load spectra need to be established based on the load data from these existing WIM stations. In this regard, one of the major products of TxDOT Research Project 0-4510 is to provide the specifications for regional (Level 2) and state default (Level 3) load spectra to better design the pavement structures in Texas. Level 2 and Level 3 design inputs will be provided in the third report of this series, while Level 1 data for the available sites is provided in Appendix A.

## **5. Interim Conclusions**

### **5.1 Conclusions**

The use of measured axle load distributions (axle load spectra) instead of summary traffic statistics in the forthcoming M-E Design Guide will allow the assessment of the effects of specific axle loading configurations on pavement response and performance. It is expected that the new M-E Design Guide will significantly influence future pavement design practices in Texas, the U.S., and abroad. The successful application of the new M-E Design Guide will require more detailed traffic loading characterizations, which will place increased demands on the available WIM systems. Texas is evaluating the transition from the current empirical pavement design approach (which uses ESALs) to a mechanistic-based approach. In order to help TxDOT in this transition, this research study focuses on providing guidelines for accurate traffic characterization for the mechanistic design of pavement structures, with particular emphasis on axle load spectra requirements. To this goal, three primary aspects were addressed in this report:

- 1) Evaluation of current regulations and trends with regard to heavy commercial vehicle weight and dimension, as these trends will dictate future traffic characteristics. These trends were compared with similar regulations and trends in Canada and Mexico because NAFTA-related trade has the potential to affect future developments.
- 2) Review of the state-of-the-art WIM technologies in the U.S. with particular emphasis on WIM performance, economy, and calibration, because pavement engineers will rely on WIM systems for the measurement of axle loads and their distribution.
- 3) Development of Level 1 axle load spectra consistent with the requirements of the M-E Design Guide for all WIM sites available in Texas.

The U.S. has the lowest axle load and gross vehicle weight limits except for the steering axle and, in contrast, Mexico has the highest truck axle load and gross vehicle weight limits. Mexico has nationwide uniform truck weight and size limits. In Canada, the Memorandum of Understanding on Vehicle Weights and Dimensions (MOU) will improve uniformity in weights and dimensions of commercial vehicles operating between provinces and territories. Although NAFTA requires the U.S., Canada, and Mexico to seek harmonization of standards related to vehicle weights and dimensions, progress has been slow and disparities exist. However, in the U.S., by allowing the operation of trucks with dimensions closer to those employed in Canada and Mexico, harmonization would eventually be accomplished, allowing heavier load limits.

In addition, local studies noted that allowing use of the heavier six-axle tractor-semitrailer would reduce the discrepancies between U.S. limits and those of Canada and Mexico and between U.S. limits and the weights of standard containers in international commerce. The six-axle tractor-semitrailer is similar to trucks used widely today in many other countries, and it is likely to become the most popular configuration in the U.S. in the future.

The evaluation of WIM systems indicated that numerous factors should be considered when planning the installation of a WIM system. There is no single system that is right for every application. A careful consideration of the accuracy required, the anticipated road usage, and the convenience of maintenance should be taken into consideration. In addition, factors such as lane closure costs, pavement life, and traffic delay costs should also be considered. The potential for supporting the existing network of permanent WIM stations by a complementary network of temporary, mobile WIM systems should be investigated. It may be economically unfeasible to deploy a system of permanent WIM stations necessary to support the traffic data demands of the M-E Design Guide for a state as large as, and with such varied environmental conditions as Texas.

## References

- AASHTO. *Guide for Design of Pavement Structures*. American Association of State Highway and Transportation Officials, Washington, D.C. 1993.
- Bushman, R. and Pratt, A.J. *Weigh-In-Motion Technology – Economics and Performance*. Presentation on the North American Travel Monitoring Exhibition and Conference (NATMEC). Charlotte, North Carolina, 1998.
- Caussignac, J.M., Rougier, J.C., and Larcher, S. *Optical WIM Systems, Technology for the Future*. Lab. Central des Ponts et Chaussées (LCPC), Weigh-In-Motion of Road Vehicles for Europe (WAVE). Technical Report Ro-96-SC, 403. October 2000.
- Cosentino, P.J., von Eckroth, W., and Grossman, B.G. “Analysis of Fiber Optic Traffic Sensors in Flexible Pavements.” *ASCE Journal of Transportation Engineering*, Vol.129, No. 5, pp549-557, 2003.
- DOT. *Comprehensive Truck Size and Weight Study*. U.S. Department of Transportation, Washington, DC, August 2000.
- FHWA. *WIM Scale Calibration: A Vital Activity for LTPP Sites*. Technical Brief for Report FHWA-RD-98-104. Research and Development, Turner-Fairbanks Highway Research Center, 1998.
- FHWA. *Traffic Monitoring Guide*. U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Washington D.C., 2001.
- Haas, C., Mahmassani, H., Khoury, J., Haynes, M., Rioux, T., and Logman, H. Evaluation of Automatic Vehicle Identification for San Antonio’s Transguide for Incident Detection and Advanced Traveler Information Systems. Research Report No. 4957-1. Center for Transportation Research, The University of Texas at Austin, 2001.
- Hajek, J.J. and Selezneva, O.I. “Weigh-In-Motion Data Requirements for Mechanistic Pavement Design.” *Proceedings of Third International Conference on Weigh-in-Motion (ICWIM3)*, pp325-334. Orlando, Florida, 2002.
- Hallenbeck, M., Jones, D., and Hajek, J.J. “Weigh-In-Motion in North America.” *Proceedings of Third International Conference on Weigh-in-Motion (ICWIM3)*, pp15-24. Orlando, Florida, 2002.
- Hong, F. and J. A. Prozzi, Evaluate Equipment, Methods, and Pavement Design Implications for Texas Conditions of the AASHTO 2002 Axle Load Spectra Traffic Methodology. Research Report No. 4510-1, Center for Transportation Research, The University of Texas at Austin, 2002.

- Huang Y.H. *Pavement Analysis and Design*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1993.
- Huhtala, M., Halonen, P., Dolcemascolo, V., O'Brien, E., and Stanczyk, D. *Calibration of WIM*. Technical Research Center of Finland (VTT), Weigh-In-Motion of Road Vehicles for Europe (WAVE). Technical Report Ro-96-SC, 403. October 2000.
- IRD. *Weigh-In-Motion Technology Comparisons*. Technical Brief of International Road Dynamics, Inc., Saskatoon, Saskatchewan, Canada, 2001.
- Jehaes, S. and Hallstrom, B. "Accuracy Analysis of WIM Systems for the Cold Environment Test." *Proceedings of Third International Conference on Weigh-in-Motion (ICWIM3)*, pp47-56. Orlando, Florida, 2002.
- Lee, C.E. *The History and Development of Weigh-in-motion Systems*. 1st National Conference/workshop on Automating Data Collection for Transportation Planning, Orlando, Florida, 1974.
- LTSS. *Harmonization of Vehicle Weight and Dimension Regulations within the NAFTA Partnership*. Working Group 2 - Vehicle Weights and Dimensions, Land Transportation Standards Subcommittee, North American Free Trade Agreement (NAFTA). Council of Transport Deputy Ministers Secretariat, Ottawa, Canada, 2001.
- McCall B., and Vodrazka, W.C. *State's Successful Practices Weigh-In-Motion Handbook*. Research Report of the Center for Transportation Research and Education, Iowa State University, Ames, 1997.
- McDonnell, A.M. "Evaluation of a Weigh-In-Motion System Utilizing Quartz-Piezoelectric Sensor Technology." *Proceedings of Third International Conference on Weigh-in-Motion (ICWIM3)*, pp58-68. Orlando, Florida, 2002.
- Middleton, D., Crawford, J.A., Carlson, T.B., Cothron, A.S., Jasek, D., and Sepulveda, E.D. *Evaluation of TXDOT's Traffic Data Collection and Load Forecasting Process*. TTI Report FHWA/TX-01/1801-1, Texas Transportation Institute, Texas A&M University System, College Station, Texas, 2000.
- NCHRP. *Guide for Mechanistic-Empirical Design of New and Rehabilitated Pavement Structures*. National Cooperative Highway Research Program, Project 1-37A. Available at <http://trb.org/mepdg/guide.htm>. Accessed 2005.
- ORNL Webpage. Available at <http://www.ornl.gov/sci/dp121/>. Oak Ridge National Laboratory, Federal Highway Administration, Washington DC. Accessed January 2004.
- Papagiannakis, T. *Developing Alternative WIM System Evaluation/Calibration Methods*. Presentation at National Traffic Data Acquisition Conference, Albuquerque, New Mexico, 1996.

- Ostrom, B. *WIM Scale Calibration: A Vital Activity for LTPP Sites*. Tech Brief, Publication No. FHWA-RD-98-104. Turner-Fairbank Highway Research Center. Virginia, 1998.
- Qu, T., Lee, C.E., and Huang, L. *Traffic-Load Forecasting Using Weigh-In-Motion Data*. Research Report No. TX-99/987-6. Center for Transportation Research, The University of Texas at Austin, 1997.
- TRB Special Report 225. *Truck Weights Limits: Issues and Options*. Transportation Research Board, Washington DC, 1990.
- TRB Special Report 267. *Regulation of Weights, Lengths, and Widths of Commercial Motor Vehicles*. Committee for the Study of the Regulation of Weights, Lengths, and Widths of Commercial Motor Vehicles, Transportation Research Board, Washington DC, 2002.










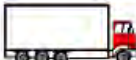







## **Appendix A: Level 1 Axle Load Spectra for Texas**

Appendix A presents axle load spectra for Level 1 design, according to the requirements of the M-E Design Guide, based on the available data in Texas. The raw data used to develop these spectra were provided by TxDOT's Transportation Planning and Programming Division, which is particularly acknowledged. Table A.1 shows a summary of the WIM stations deployed in Texas. Generally, data collection duration covers the period from 1994 to 2002. The mark “√” in Table A.1 indicates that traffic data were collected in that particular year for each WIM station, respectively. Most of the WIM stations do not provide traffic data for all years. It should be noted that the traffic data presented in this appendix were collected, approximately, with a frequency of 2 days per quarter, as required by the Federal Highway Administration. Axle load spectra at each site for each axle type and truck class are provided. The vehicle classification adopts the PAT vehicle classification scheme used in Texas, which is 14-class based system (Figure A1). For data processing purposes, a fifteenth class is typically used which accounts for all vehicles that do not meet any of the specifications of the 14 classes described in Figure A1.



**Table A.1. WIM Station Profile**

Sta ID	1994	1995	1996	1997	1998	1999	2000	2001	2002	County	District	Location
071								✓	✓	McMullen	San Antonio	South of Tilden on SH 16
074								✓	✓	Kenedy	Pharr	East side of Sarita on US 77
077									✓	Cameron	Pharr	Southeast of San Benito on US 77/83
181								✓	✓	Cameron	Pharr	Northeast side of Brownsville on SH 48
502	✓	✓	✓	✓	✓	✓		✓	✓	Guadalupe	San Antonio	Southwest of Seguin on IH 10
504	✓	✓	✓	✓	✓	✓				Nolan	Abilene	Southwest of Sweetwater on IH 20
506	✓	✓							✓	Wichita	Wichita Falls	Northwest Wichita Falls on US 287
507	✓	✓	✓	✓	✓			✓	✓	Walker	Bryan	South of Huntsville on IH 45
509	✓	✓								Hunt	Paris	East of Greenville on IH 30
510		✓	✓	✓	✓					El Paso	El Paso	Northwest El Paso on IH 10
512	✓	✓	✓	✓	✓	✓	✓	✓	✓	Live Oak	Corpus Christi	North of Three Rivers on IH 37
513	✓	✓				✓	✓	✓	✓	Bell	Waco	South of Salado on IH 35
514	✓	✓		✓	✓				✓	Kaufman	Dallas	Northeast of Kaufman on IH 20
515	✓	✓								Hidalgo	Pharr	South of Falfurrias on US 281
516	✓	✓	✓	✓	✓	✓	✓	✓	✓	Bexar	San Antonio	Southeast of San Antonio on IH 35
517	✓	✓	✓							Hidalgo	Pharr	Northeast Pharr on US 83
518					✓			✓	✓	Kerr	San Antonio	East of Kerrville on IH 10
519								✓	✓	Mitchell	Abilene	East of Westwood on IH 20 (west of Colorado City)
520		✓	✓	✓	✓					Randall	Amarillo	East of Canyon on IH 27
522					✓	✓	✓	✓	✓	Hidalgo	Pharr	North of Site 515 on US 281

(1) Motorcycles	(2) Passenger Cars	(3) Two Axle, 4-Tire Single Unit	(4) Buses	
				
(5) Two Axle, 6-Tire Single Units	(6) Three Axle Single Units	(7) Four or More Axles, Single Units	(8) Three Axles, Single Trailers	
				
(9) Four Axles, Single Trailers		(10) Five Axle Single Trailers		(11) Six or More Axles, Single Trailers
				
(12) Five or Less Axles, Multi-Trailers			(13) Six Axles, Multi-Trailers	
				
(14) Seven or More Axles, Multi-Trailers				

*Figure A1: PAT Classification System.*

**Table A.2. D071 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.90%	3	2.65%	3	2.27%	6	0.00%
4	7.59%	4	32.45%	4	19.74%	8	0.00%
5	22.15%	5	35.10%	5	28.48%	10	25.00%
6	23.42%	6	11.26%	6	17.48%	12	0.00%
7	20.89%	7	3.97%	7	12.62%	14	12.50%
8	5.70%	8	0.66%	8	3.24%	16	12.50%
9	3.16%	9	2.65%	9	2.91%	18	12.50%
10	1.90%	10	0.66%	10	1.29%	20	0.00%
11	0.63%	11	4.64%	11	2.59%	22	0.00%
12	2.53%	12	2.65%	12	2.59%	24	0.00%
13	0.63%	13	0.00%	13	0.32%	26	0.00%
14	0.63%	14	0.00%	14	0.32%	28	0.00%
15	2.53%	15	0.00%	15	1.29%	30	0.00%
16	1.27%	16	0.66%	16	0.97%	32	12.50%
17	0.63%	17	0.00%	17	0.32%	34	12.50%
18	1.27%	18	0.00%	18	0.65%	36	12.50%
19	0.63%	19	0.00%	19	0.32%	38	0.00%
20	1.27%	20	0.66%	20	0.97%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.66%	22	0.32%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	1.27%	25	0.00%	25	0.65%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.66%	30	0.32%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.66%	32	0.32%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.3. D071 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.33%	3	0.61%	3	0.97%
4	7.04%	4	6.20%	4	6.62%
5	18.08%	5	18.10%	5	18.09%
6	22.45%	6	23.33%	6	22.89%
7	18.08%	7	17.50%	7	17.79%
8	11.65%	8	11.42%	8	11.54%
9	7.52%	9	5.47%	9	6.50%
10	5.22%	10	3.89%	10	4.55%
11	3.76%	11	3.40%	11	3.58%
12	1.33%	12	1.70%	12	1.52%
13	1.33%	13	1.34%	13	1.34%
14	0.85%	14	1.09%	14	0.97%
15	0.36%	15	1.09%	15	0.73%
16	0.24%	16	1.34%	16	0.79%
17	0.49%	17	0.73%	17	0.61%
18	0.00%	18	0.49%	18	0.24%
19	0.00%	19	0.24%	19	0.12%
20	0.12%	20	0.12%	20	0.12%
21	0.00%	21	0.36%	21	0.18%
22	0.00%	22	0.12%	22	0.06%
23	0.00%	23	0.12%	23	0.06%
24	0.12%	24	0.00%	24	0.06%
25	0.00%	25	0.12%	25	0.06%
26	0.00%	26	0.12%	26	0.06%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.24%	28	0.12%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.12%	30	0.06%
31	0.00%	31	0.12%	31	0.06%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.12%	33	0.06%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.24%	36	0.12%
37	0.00%	37	0.12%	37	0.06%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.12%	39	0.06%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.4. D071 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.61%	3	33.33%	3	4.41%	6	0.00%
4	1.61%	4	0.00%	4	1.47%	8	1.75%
5	4.84%	5	50.00%	5	8.82%	10	3.51%
6	1.61%	6	0.00%	6	1.47%	12	5.26%
7	6.45%	7	16.67%	7	7.35%	14	3.51%
8	20.97%	8	0.00%	8	19.12%	16	7.02%
9	16.13%	9	0.00%	9	14.71%	18	15.79%
10	9.68%	10	0.00%	10	8.82%	20	14.04%
11	11.29%	11	0.00%	11	10.29%	22	7.02%
12	3.23%	12	0.00%	12	2.94%	24	5.26%
13	1.61%	13	0.00%	13	1.47%	26	1.75%
14	0.00%	14	0.00%	14	0.00%	28	8.77%
15	6.45%	15	0.00%	15	5.88%	30	1.75%
16	0.00%	16	0.00%	16	0.00%	32	0.00%
17	1.61%	17	0.00%	17	1.47%	34	1.75%
18	3.23%	18	0.00%	18	2.94%	36	3.51%
19	1.61%	19	0.00%	19	1.47%	38	0.00%
20	0.00%	20	0.00%	20	0.00%	40	3.51%
21	1.61%	21	0.00%	21	1.47%	42	7.02%
22	0.00%	22	0.00%	22	0.00%	44	3.51%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	1.61%	25	0.00%	25	1.47%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	1.75%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	1.61%	29	0.00%	29	1.47%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	1.61%	33	0.00%	33	1.47%	66	1.75%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	1.61%	38	0.00%	38	1.47%	76	1.75%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.5. D071 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	5.88%	3	35.29%	3	25.49%
4	23.53%	4	5.88%	4	11.76%
5	17.65%	5	8.82%	5	11.76%
6	0.00%	6	14.71%	6	9.80%
7	29.41%	7	5.88%	7	13.73%
8	5.88%	8	8.82%	8	7.84%
9	5.88%	9	8.82%	9	7.84%
10	0.00%	10	0.00%	10	0.00%
11	5.88%	11	0.00%	11	1.96%
12	0.00%	12	0.00%	12	0.00%
13	0.00%	13	5.88%	13	3.92%
14	5.88%	14	0.00%	14	1.96%
15	0.00%	15	0.00%	15	0.00%
16	0.00%	16	0.00%	16	0.00%
17	0.00%	17	2.94%	17	1.96%
18	0.00%	18	0.00%	18	0.00%
19	0.00%	19	0.00%	19	0.00%
20	0.00%	20	0.00%	20	0.00%
21	0.00%	21	2.94%	21	1.96%
22	0.00%	22	0.00%	22	0.00%
23	0.00%	23	0.00%	23	0.00%
24	0.00%	24	0.00%	24	0.00%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.6. D071 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	4.12%	3	1.96%	3	3.02%	6	29.03%
4	17.53%	4	2.94%	4	10.05%	8	12.90%
5	18.56%	5	7.84%	5	13.07%	10	10.75%
6	10.31%	6	16.67%	6	13.57%	12	12.90%
7	14.43%	7	13.73%	7	14.07%	14	3.23%
8	8.25%	8	6.86%	8	7.54%	16	4.30%
9	5.15%	9	5.88%	9	5.53%	18	2.15%
10	3.09%	10	7.84%	10	5.53%	20	2.15%
11	3.09%	11	4.90%	11	4.02%	22	6.45%
12	7.22%	12	3.92%	12	5.53%	24	1.08%
13	1.03%	13	5.88%	13	3.52%	26	3.23%
14	2.06%	14	2.94%	14	2.51%	28	0.00%
15	1.03%	15	3.92%	15	2.51%	30	0.00%
16	0.00%	16	0.98%	16	0.50%	32	1.08%
17	0.00%	17	3.92%	17	2.01%	34	1.08%
18	2.06%	18	0.00%	18	1.01%	36	1.08%
19	0.00%	19	2.94%	19	1.51%	38	3.23%
20	1.03%	20	1.96%	20	1.51%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	2.15%
22	1.03%	22	1.96%	22	1.51%	44	0.00%
23	0.00%	23	0.98%	23	0.50%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.98%	26	0.50%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	2.15%
29	0.00%	29	0.00%	29	0.00%	58	1.08%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.98%	33	0.50%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.7. D071 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.10%	3	5.34%	3	0.73%	6	1.95%
4	0.21%	4	6.87%	4	1.01%	8	3.56%
5	0.94%	5	5.34%	5	1.47%	10	5.01%
6	2.19%	6	3.82%	6	2.38%	12	5.67%
7	4.16%	7	6.87%	7	4.49%	14	6.23%
8	5.10%	8	3.05%	8	4.85%	16	4.45%
9	7.28%	9	3.82%	9	6.87%	18	5.84%
10	9.37%	10	1.53%	10	8.42%	20	3.67%
11	10.61%	11	3.05%	11	9.71%	22	3.62%
12	8.95%	12	3.05%	12	8.24%	24	2.78%
13	8.43%	13	0.00%	13	7.42%	26	2.11%
14	7.39%	14	2.29%	14	6.78%	28	2.56%
15	7.28%	15	4.58%	15	6.96%	30	3.11%
16	4.58%	16	8.40%	16	5.04%	32	2.84%
17	4.16%	17	3.82%	17	4.12%	34	3.11%
18	2.81%	18	5.34%	18	3.11%	36	3.73%
19	2.08%	19	3.82%	19	2.29%	38	3.84%
20	1.66%	20	3.05%	20	1.83%	40	3.28%
21	1.35%	21	4.58%	21	1.74%	42	3.11%
22	0.83%	22	0.76%	22	0.82%	44	3.78%
23	1.66%	23	2.29%	23	1.74%	46	2.28%
24	1.66%	24	2.29%	24	1.74%	48	2.28%
25	1.25%	25	2.29%	25	1.37%	50	2.28%
26	1.14%	26	2.29%	26	1.28%	52	2.45%
27	0.94%	27	0.00%	27	0.82%	54	1.78%
28	0.42%	28	1.53%	28	0.55%	56	1.11%
29	0.52%	29	1.53%	29	0.64%	58	0.72%
30	0.83%	30	0.00%	30	0.73%	60	1.50%
31	0.83%	31	0.00%	31	0.73%	62	1.06%
32	0.21%	32	1.53%	32	0.37%	64	0.89%
33	0.31%	33	1.53%	33	0.46%	66	1.06%
34	0.42%	34	0.76%	34	0.46%	68	0.50%
35	0.10%	35	0.00%	35	0.09%	70	0.78%
36	0.10%	36	0.76%	36	0.18%	72	0.78%
37	0.10%	37	0.00%	37	0.09%	74	1.00%
38	0.00%	38	0.00%	38	0.00%	76	1.00%
39	0.00%	39	0.76%	39	0.09%	78	1.11%
40	0.00%	40	0.76%	40	0.09%	80	1.22%
41	0.00%	41	2.29%	41	0.27%	82	1.95%

**Table A.8. D071 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0	3	0.00%	6	0.00%	12	3.45%
4	0.00%	4	0	4	0.00%	8	0.00%	15	0.00%
5	0.00%	5	0	5	0.00%	10	3.33%	18	6.90%
6	10.00%	6	0	6	9.68%	12	0.00%	21	10.34%
7	6.67%	7	0	7	6.45%	14	0.00%	24	6.90%
8	6.67%	8	0	8	6.45%	16	0.00%	27	0.00%
9	13.33%	9	0	9	12.90%	18	3.33%	30	3.45%
10	16.67%	10	0	10	16.13%	20	3.33%	33	0.00%
11	3.33%	11	0	11	3.23%	22	0.00%	36	0.00%
12	0.00%	12	0	12	0.00%	24	3.33%	39	6.90%
13	6.67%	13	0	13	6.45%	26	6.67%	42	3.45%
14	0.00%	14	0	14	0.00%	28	13.33%	45	0.00%
15	0.00%	15	0	15	0.00%	30	10.00%	48	6.90%
16	3.33%	16	0	16	3.23%	32	6.67%	51	3.45%
17	0.00%	17	0	17	0.00%	34	3.33%	54	6.90%
18	3.33%	18	0	18	3.23%	36	3.33%	57	0.00%
19	0.00%	19	0	19	0.00%	38	0.00%	60	0.00%
20	0.00%	20	0	20	0.00%	40	3.33%	63	6.90%
21	6.67%	21	0	21	6.45%	42	3.33%	66	3.45%
22	0.00%	22	0	22	3.23%	44	0.00%	69	0.00%
23	0.00%	23	0	23	0.00%	46	0.00%	72	3.45%
24	0.00%	24	0	24	0.00%	48	0.00%	75	3.45%
25	0.00%	25	0	25	0.00%	50	0.00%	78	0.00%
26	6.67%	26	0	26	6.45%	52	0.00%	81	3.45%
27	3.33%	27	0	27	3.23%	54	0.00%	84	6.90%
28	3.33%	28	0	28	3.23%	56	0.00%	87	0.00%
29	0.00%	29	0	29	0.00%	58	6.67%	90	3.45%
30	0.00%	30	0	30	0.00%	60	3.33%	93	6.90%
31	0.00%	31	0	31	0.00%	62	0.00%	96	0.00%
32	3.33%	32	0	32	3.23%	64	3.33%	99	0.00%
33	3.33%	33	0	33	3.23%	66	3.33%	102	3.45%
34	0.00%	34	0	34	0.00%	68	0.00%		
35	0.00%	35	0	35	0.00%	70	0.00%		
36	3.33%	36	0	36	3.23%	72	6.67%		
37	0.00%	37	0	37	0.00%	74	0.00%		
38	0.00%	38	0	38	0.00%	76	6.67%		
39	0.00%	39	0	39	0.00%	78	0.00%		
40	0.00%	40	0	40	0.00%	80	0.00%		
41	0.00%	41	0	41	0.00%	82	6.67%		

**Table A.9. D071 Class 12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%
4	14.29%	4	0.00%	4	5.88%
5	28.57%	5	0.00%	5	11.76%
6	14.29%	6	10.00%	6	11.76%
7	0.00%	7	10.00%	7	5.88%
8	0.00%	8	20.00%	8	11.76%
9	0.00%	9	0.00%	9	0.00%
10	28.57%	10	10.00%	10	17.65%
11	0.00%	11	0.00%	11	0.00%
12	0.00%	12	0.00%	12	0.00%
13	0.00%	13	0.00%	13	0.00%
14	0.00%	14	0.00%	14	0.00%
15	0.00%	15	0.00%	15	0.00%
16	0.00%	16	0.00%	16	0.00%
17	0.00%	17	20.00%	17	11.76%
18	0.00%	18	0.00%	18	0.00%
19	0.00%	19	10.00%	19	5.88%
20	0.00%	20	0.00%	20	0.00%
21	0.00%	21	0.00%	21	0.00%
22	0.00%	22	0.00%	22	0.00%
23	0.00%	23	0.00%	23	0.00%
24	0.00%	24	0.00%	24	0.00%
25	0.00%	25	10.00%	25	5.88%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	14.29%	28	10.00%	28	11.76%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.10. D071 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	2.00%	3	6.78%	3	4.59%	6	48.00%
4	20.00%	4	6.78%	4	12.84%	8	24.00%
5	26.00%	5	15.25%	5	20.18%	10	4.00%
6	24.00%	6	6.78%	6	14.68%	12	6.00%
7	6.00%	7	11.86%	7	9.17%	14	4.00%
8	14.00%	8	8.47%	8	11.01%	16	4.00%
9	8.00%	9	20.34%	9	14.68%	18	4.00%
10	0.00%	10	5.08%	10	2.75%	20	2.00%
11	0.00%	11	6.78%	11	3.67%	22	2.00%
12	0.00%	12	5.08%	12	2.75%	24	0.00%
13	0.00%	13	0.00%	13	0.00%	26	0.00%
14	0.00%	14	1.69%	14	0.92%	28	2.00%
15	0.00%	15	0.00%	15	0.00%	30	0.00%
16	0.00%	16	1.69%	16	0.92%	32	0.00%
17	0.00%	17	0.00%	17	0.00%	34	0.00%
18	0.00%	18	1.69%	18	0.92%	36	0.00%
19	0.00%	19	0.00%	19	0.00%	38	0.00%
20	0.00%	20	0.00%	20	0.00%	40	0.00%
21	0.00%	21	1.69%	21	0.92%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.11. D074 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.00%	4	0.00%	4	0.00%	8	0.00%
5	4.76%	5	0.00%	5	3.70%	10	0.00%
6	0.00%	6	0.00%	6	0.00%	12	0.00%
7	4.76%	7	0.00%	7	3.70%	14	0.00%
8	19.05%	8	0.00%	8	14.81%	16	0.00%
9	4.76%	9	16.67%	9	7.41%	18	0.00%
10	0.00%	10	16.67%	10	3.70%	20	0.00%
11	4.76%	11	16.67%	11	7.41%	22	6.67%
12	9.52%	12	33.33%	12	14.81%	24	0.00%
13	14.29%	13	16.67%	13	14.81%	26	20.00%
14	4.76%	14	0.00%	14	3.70%	28	0.00%
15	9.52%	15	0.00%	15	7.41%	30	13.33%
16	4.76%	16	0.00%	16	3.70%	32	20.00%
17	0.00%	17	0.00%	17	0.00%	34	13.33%
18	0.00%	18	0.00%	18	0.00%	36	0.00%
19	0.00%	19	0.00%	19	0.00%	38	0.00%
20	0.00%	20	0.00%	20	0.00%	40	6.67%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	4.76%	25	0.00%	25	3.70%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	6.67%
27	4.76%	27	0.00%	27	3.70%	54	0.00%
28	4.76%	28	0.00%	28	3.70%	56	6.67%
29	0.00%	29	0.00%	29	0.00%	58	6.67%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	4.76%	31	0.00%	31	3.70%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.12. D074 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	9.19%	3	0.92%	3	5.06%
4	27.79%	4	7.26%	4	17.53%
5	25.52%	5	19.29%	5	22.41%
6	12.19%	6	17.71%	6	14.95%
7	8.82%	7	10.05%	7	9.44%
8	5.38%	8	7.66%	8	6.52%
9	3.52%	9	6.49%	9	5.00%
10	2.71%	10	5.24%	10	3.98%
11	2.16%	11	4.33%	11	3.24%
12	0.84%	12	3.89%	12	2.36%
13	0.51%	13	3.19%	13	1.85%
14	0.40%	14	2.31%	14	1.36%
15	0.44%	15	2.46%	15	1.45%
16	0.07%	16	1.50%	16	0.79%
17	0.15%	17	1.39%	17	0.77%
18	0.07%	18	1.14%	18	0.60%
19	0.00%	19	1.14%	19	0.57%
20	0.04%	20	0.59%	20	0.31%
21	0.04%	21	0.37%	21	0.20%
22	0.04%	22	0.59%	22	0.31%
23	0.00%	23	0.48%	23	0.24%
24	0.00%	24	0.33%	24	0.16%
25	0.04%	25	0.26%	25	0.15%
26	0.04%	26	0.37%	26	0.20%
27	0.04%	27	0.11%	27	0.07%
28	0.00%	28	0.15%	28	0.07%
29	0.00%	29	0.11%	29	0.05%
30	0.00%	30	0.29%	30	0.15%
31	0.00%	31	0.15%	31	0.07%
32	0.00%	32	0.04%	32	0.02%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.07%	34	0.04%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.04%	36	0.02%
37	0.00%	37	0.04%	37	0.02%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.04%	39	0.02%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.04%	41	0.02%

**Table A.13. D074 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.00%	3	0	3	1.00%	6	6.81%
4	3.66%	4	0	4	3.66%	8	14.29%
5	5.99%	5	0	5	5.99%	10	12.29%
6	3.99%	6	0	6	3.99%	12	10.30%
7	4.66%	7	0	7	4.66%	14	6.64%
8	7.49%	8	0	8	7.49%	16	5.15%
9	8.99%	9	0	9	8.99%	18	3.16%
10	10.82%	10	0	10	10.82%	20	3.16%
11	11.98%	11	0	11	11.98%	22	4.49%
12	9.98%	12	0	12	9.98%	24	3.49%
13	8.65%	13	0	13	8.65%	26	2.49%
14	4.83%	14	0	14	4.83%	28	5.15%
15	5.66%	15	0	15	5.66%	30	5.32%
16	2.16%	16	0	16	2.16%	32	3.65%
17	2.00%	17	0	17	2.00%	34	3.49%
18	1.66%	18	0	18	1.66%	36	3.16%
19	1.50%	19	0	19	1.50%	38	1.16%
20	0.83%	20	0	20	0.83%	40	1.50%
21	0.50%	21	0	21	0.50%	42	0.66%
22	0.33%	22	0	22	0.33%	44	0.66%
23	0.67%	23	0	23	0.67%	46	0.50%
24	0.33%	24	0	24	0.33%	48	0.66%
25	0.33%	25	0	25	0.33%	50	0.00%
26	0.33%	26	0	26	0.33%	52	0.50%
27	0.17%	27	0	27	0.17%	54	0.17%
28	0.50%	28	0	28	0.50%	56	0.00%
29	0.17%	29	0	29	0.17%	58	0.00%
30	0.00%	30	0	30	0.00%	60	0.50%
31	0.50%	31	0	31	0.50%	62	0.00%
32	0.17%	32	0	32	0.17%	64	0.00%
33	0.00%	33	0	33	0.00%	66	0.00%
34	0.00%	34	0	34	0.00%	68	0.17%
35	0.00%	35	0	35	0.00%	70	0.00%
36	0.00%	36	0	36	0.00%	72	0.00%
37	0.00%	37	0	37	0.00%	74	0.17%
38	0.00%	38	0	38	0.00%	76	0.00%
39	0.00%	39	0	39	0.00%	78	0.17%
40	0.00%	40	0	40	0.00%	80	0.00%
41	0.17%	41	0	41	0.17%	82	0.17%

**Table A.14. D074 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	13.53%	3	20.29%	3	18.04%
4	22.71%	4	8.45%	4	13.20%
5	14.49%	5	11.11%	5	12.24%
6	8.70%	6	4.83%	6	6.12%
7	11.59%	7	5.56%	7	7.57%
8	8.70%	8	8.70%	8	8.70%
9	7.73%	9	5.56%	9	6.28%
10	3.38%	10	4.35%	10	4.03%
11	3.38%	11	2.66%	11	2.90%
12	2.42%	12	3.62%	12	3.22%
13	1.93%	13	5.31%	13	4.19%
14	0.97%	14	3.14%	14	2.42%
15	0.00%	15	3.14%	15	2.09%
16	0.00%	16	1.93%	16	1.29%
17	0.00%	17	1.69%	17	1.13%
18	0.00%	18	1.69%	18	1.13%
19	0.00%	19	1.93%	19	1.29%
20	0.48%	20	0.48%	20	0.48%
21	0.00%	21	0.72%	21	0.48%
22	0.00%	22	0.72%	22	0.48%
23	0.00%	23	0.48%	23	0.32%
24	0.00%	24	0.72%	24	0.48%
25	0.00%	25	0.48%	25	0.32%
26	0.00%	26	0.48%	26	0.32%
27	0.00%	27	0.24%	27	0.16%
28	0.00%	28	0.48%	28	0.32%
29	0.00%	29	0.24%	29	0.16%
30	0.00%	30	0.24%	30	0.16%
31	0.00%	31	0.48%	31	0.32%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.24%	33	0.16%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.15. D074 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	18.26%	3	13.24%	3	15.59%	6	27.22%
4	26.42%	4	7.60%	4	16.44%	8	16.57%
5	10.79%	5	13.97%	5	12.48%	10	11.39%
6	5.39%	6	10.66%	6	8.19%	12	7.99%
7	8.44%	7	8.09%	7	8.25%	14	8.58%
8	8.71%	8	7.60%	8	8.12%	16	7.25%
9	5.81%	9	6.62%	9	6.24%	18	6.51%
10	5.26%	10	4.78%	10	5.00%	20	3.55%
11	3.60%	11	4.90%	11	4.29%	22	2.22%
12	1.94%	12	3.31%	12	2.66%	24	2.37%
13	1.66%	13	1.72%	13	1.69%	26	1.63%
14	1.24%	14	3.55%	14	2.47%	28	1.92%
15	0.55%	15	3.06%	15	1.88%	30	1.04%
16	0.55%	16	2.57%	16	1.62%	32	0.30%
17	0.28%	17	1.35%	17	0.84%	34	0.15%
18	0.14%	18	1.23%	18	0.71%	36	0.15%
19	0.55%	19	0.98%	19	0.78%	38	0.30%
20	0.28%	20	0.74%	20	0.52%	40	0.00%
21	0.00%	21	0.74%	21	0.39%	42	0.15%
22	0.00%	22	0.37%	22	0.19%	44	0.15%
23	0.00%	23	0.25%	23	0.13%	46	0.30%
24	0.00%	24	0.37%	24	0.19%	48	0.00%
25	0.00%	25	0.49%	25	0.26%	50	0.00%
26	0.00%	26	0.12%	26	0.06%	52	0.00%
27	0.00%	27	0.12%	27	0.06%	54	0.00%
28	0.14%	28	0.37%	28	0.26%	56	0.15%
29	0.00%	29	0.37%	29	0.19%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.37%	31	0.19%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.12%	35	0.06%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.15%
37	0.00%	37	0.12%	37	0.06%	74	0.00%
38	0.00%	38	0.25%	38	0.13%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.16. D074 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.16%	3	15.19%	3	1.91%	6	6.42%
4	0.51%	4	12.05%	4	1.85%	8	7.12%
5	0.88%	5	6.99%	5	1.59%	10	8.34%
6	2.02%	6	4.59%	6	2.32%	12	7.68%
7	3.30%	7	2.67%	7	3.23%	14	6.54%
8	5.66%	8	2.11%	8	5.25%	16	5.13%
9	10.40%	9	2.20%	9	9.45%	18	4.63%
10	15.31%	10	2.39%	10	13.80%	20	4.23%
11	16.85%	11	2.67%	11	15.20%	22	3.79%
12	13.78%	12	2.58%	12	12.47%	24	3.73%
13	9.67%	13	4.97%	13	9.12%	26	3.94%
14	5.54%	14	5.34%	14	5.52%	28	4.28%
15	3.43%	15	5.34%	15	3.65%	30	4.93%
16	2.25%	16	4.83%	16	2.55%	32	5.49%
17	1.70%	17	4.17%	17	1.98%	34	5.36%
18	1.32%	18	3.33%	18	1.55%	36	4.42%
19	1.16%	19	3.05%	19	1.38%	38	3.58%
20	0.91%	20	2.39%	20	1.08%	40	2.61%
21	0.74%	21	2.53%	21	0.95%	42	1.85%
22	0.61%	22	2.11%	22	0.78%	44	1.25%
23	0.56%	23	1.31%	23	0.65%	46	0.94%
24	0.54%	24	1.50%	24	0.66%	48	0.62%
25	0.46%	25	1.17%	25	0.55%	50	0.44%
26	0.46%	26	0.94%	26	0.52%	52	0.39%
27	0.37%	27	0.61%	27	0.40%	54	0.28%
28	0.31%	28	0.38%	28	0.32%	56	0.28%
29	0.20%	29	0.23%	29	0.21%	58	0.21%
30	0.23%	30	0.28%	30	0.24%	60	0.19%
31	0.20%	31	0.23%	31	0.20%	62	0.16%
32	0.08%	32	0.28%	32	0.10%	64	0.14%
33	0.10%	33	0.38%	33	0.13%	66	0.13%
34	0.07%	34	0.23%	34	0.09%	68	0.15%
35	0.07%	35	0.19%	35	0.09%	70	0.12%
36	0.02%	36	0.05%	36	0.02%	72	0.12%
37	0.02%	37	0.23%	37	0.05%	74	0.12%
38	0.03%	38	0.00%	38	0.03%	76	0.13%
39	0.02%	39	0.05%	39	0.02%	78	0.09%
40	0.04%	40	0.14%	40	0.05%	80	0.07%
41	0.01%	41	0.28%	41	0.04%	82	0.11%

**Table A.17. D074 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.55%	3	0.00%	3	0.55%	6	0.00%	12	17.13%
4	0.00%	4	0.00%	4	0.00%	8	1.64%	15	14.36%
5	0.55%	5	0.00%	5	0.55%	10	5.46%	18	12.15%
6	2.75%	6	0.00%	6	2.73%	12	4.37%	21	6.63%
7	1.65%	7	0.00%	7	1.64%	14	2.73%	24	1.66%
8	4.40%	8	100.00%	8	4.92%	16	5.46%	27	4.42%
9	10.99%	9	0.00%	9	10.93%	18	5.46%	30	7.18%
10	13.74%	10	0.00%	10	13.66%	20	6.01%	33	6.08%
11	12.64%	11	0.00%	11	12.57%	22	8.20%	36	4.97%
12	13.19%	12	0.00%	12	13.11%	24	4.92%	39	4.42%
13	7.14%	13	0.00%	13	7.10%	26	7.10%	42	3.31%
14	6.59%	14	0.00%	14	6.56%	28	7.10%	45	4.97%
15	4.40%	15	0.00%	15	4.37%	30	4.92%	48	2.21%
16	4.40%	16	0.00%	16	4.37%	32	8.74%	51	2.21%
17	7.14%	17	0.00%	17	7.10%	34	5.46%	54	3.31%
18	2.75%	18	0.00%	18	2.73%	36	4.37%	57	1.10%
19	1.10%	19	0.00%	19	1.09%	38	1.09%	60	1.10%
20	0.55%	20	0.00%	20	0.55%	40	2.73%	63	0.55%
21	0.55%	21	0.00%	21	0.55%	42	1.64%	66	0.00%
22	0.00%	22	0.00%	22	0.00%	44	1.64%	69	0.55%
23	1.65%	23	0.00%	23	1.64%	46	2.73%	72	0.55%
24	1.10%	24	0.00%	24	1.09%	48	2.73%	75	0.00%
25	0.55%	25	0.00%	25	0.55%	50	1.64%	78	0.00%
26	0.55%	26	0.00%	26	0.55%	52	0.55%	81	1.10%
27	0.00%	27	0.00%	27	0.00%	54	0.55%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	1.64%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.55%	31	0.00%	31	0.55%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.55%	99	0.00%
33	0.55%	33	0.00%	33	0.55%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.55%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.18. D074 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.59%	3	2.92%	3	2.65%
4	2.26%	4	5.29%	4	4.67%
5	1.73%	5	6.29%	5	5.35%
6	5.05%	6	6.97%	6	6.58%
7	8.37%	7	6.01%	7	6.50%
8	17.13%	8	5.63%	8	8.00%
9	19.26%	9	6.18%	9	8.87%
10	17.26%	10	5.50%	10	7.91%
11	9.43%	11	6.60%	11	7.18%
12	3.45%	12	7.01%	12	6.28%
13	1.59%	13	7.69%	13	6.44%
14	1.33%	14	6.73%	14	5.62%
15	1.06%	15	5.19%	15	4.34%
16	1.33%	16	4.47%	16	3.82%
17	1.86%	17	3.61%	17	3.25%
18	1.06%	18	2.78%	18	2.43%
19	0.53%	19	1.96%	19	1.66%
20	0.80%	20	1.27%	20	1.17%
21	1.33%	21	1.06%	21	1.12%
22	1.06%	22	0.96%	22	0.98%
23	0.53%	23	0.96%	23	0.87%
24	0.27%	24	0.45%	24	0.41%
25	0.13%	25	0.89%	25	0.74%
26	0.53%	26	0.76%	26	0.71%
27	0.40%	27	0.45%	27	0.44%
28	0.40%	28	0.27%	28	0.30%
29	0.00%	29	0.48%	29	0.38%
30	0.00%	30	0.14%	30	0.11%
31	0.27%	31	0.31%	31	0.30%
32	0.00%	32	0.31%	32	0.25%
33	0.00%	33	0.21%	33	0.16%
34	0.00%	34	0.17%	34	0.14%
35	0.00%	35	0.03%	35	0.03%
36	0.00%	36	0.03%	36	0.03%
37	0.00%	37	0.07%	37	0.05%
38	0.00%	38	0.03%	38	0.03%
39	0.00%	39	0.10%	39	0.08%
40	0.00%	40	0.10%	40	0.08%
41	0.00%	41	0.10%	41	0.08%

**Table A.19. D074 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.34%	3	6.58%	3	5.02%	6	3.40%
4	0.00%	4	4.54%	4	3.40%	8	4.42%
5	1.36%	5	8.62%	5	6.80%	10	9.52%
6	3.40%	6	8.62%	6	7.31%	12	10.20%
7	13.95%	7	7.26%	7	8.93%	14	7.82%
8	12.59%	8	7.48%	8	8.76%	16	11.90%
9	18.03%	9	7.94%	9	10.46%	18	10.54%
10	13.95%	10	6.69%	10	8.50%	20	9.52%
11	8.50%	11	6.80%	11	7.23%	22	7.82%
12	5.44%	12	6.80%	12	6.46%	24	6.80%
13	6.80%	13	5.90%	13	6.12%	26	6.12%
14	2.38%	14	5.90%	14	5.02%	28	4.76%
15	3.06%	15	3.06%	15	3.06%	30	2.38%
16	1.02%	16	3.40%	16	2.81%	32	1.36%
17	1.36%	17	2.15%	17	1.96%	34	1.02%
18	2.04%	18	1.02%	18	1.28%	36	0.68%
19	1.36%	19	1.47%	19	1.45%	38	0.68%
20	1.02%	20	1.13%	20	1.11%	40	0.34%
21	0.34%	21	0.68%	21	0.60%	42	0.00%
22	0.34%	22	0.68%	22	0.60%	44	0.34%
23	0.34%	23	0.45%	23	0.43%	46	0.34%
24	0.68%	24	0.68%	24	0.68%	48	0.00%
25	0.34%	25	0.34%	25	0.34%	50	0.00%
26	0.34%	26	0.23%	26	0.26%	52	0.00%
27	0.34%	27	0.23%	27	0.26%	54	0.00%
28	0.34%	28	0.11%	28	0.17%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.34%	30	0.45%	30	0.43%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.23%	32	0.17%	64	0.00%
33	0.00%	33	0.23%	33	0.17%	66	0.00%
34	0.00%	34	0.11%	34	0.09%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.11%	37	0.09%	74	0.00%
38	0.00%	38	0.11%	38	0.09%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.20. D074 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	26.97%	3	40.78%	3	35.56%	6	41.89%	12	66.67%	12	0.00%
4	32.46%	4	7.69%	4	17.06%	8	21.51%	15	11.11%	15	0.00%
5	15.51%	5	8.85%	5	11.37%	10	16.60%	18	22.22%	18	9.52%
6	6.21%	6	9.29%	6	8.12%	12	7.92%	21	0.00%	21	9.52%
7	4.77%	7	6.39%	7	5.78%	14	0.38%	24	0.00%	24	0.00%
8	3.58%	8	4.35%	8	4.06%	16	2.26%	27	0.00%	27	14.29%
9	2.15%	9	3.77%	9	3.16%	18	1.13%	30	0.00%	30	9.52%
10	1.91%	10	1.89%	10	1.90%	20	0.00%	33	0.00%	33	0.00%
11	0.95%	11	2.76%	11	2.08%	22	1.13%	36	0.00%	36	0.00%
12	1.67%	12	3.34%	12	2.71%	24	0.75%	39	0.00%	39	14.29%
13	0.48%	13	3.19%	13	2.17%	26	0.75%	42	0.00%	42	0.00%
14	0.72%	14	1.74%	14	1.35%	28	0.38%	45	0.00%	45	0.00%
15	0.48%	15	1.60%	15	1.17%	30	1.51%	48	0.00%	48	0.00%
16	0.24%	16	1.31%	16	0.90%	32	0.38%	51	0.00%	51	4.76%
17	0.48%	17	0.44%	17	0.45%	34	0.38%	54	0.00%	54	4.76%
18	0.48%	18	0.44%	18	0.45%	36	0.00%	57	0.00%	57	4.76%
19	0.48%	19	0.58%	19	0.54%	38	0.00%	60	0.00%	60	4.76%
20	0.00%	20	0.29%	20	0.18%	40	0.38%	63	0.00%	63	4.76%
21	0.00%	21	0.15%	21	0.09%	42	0.38%	66	0.00%	66	0.00%
22	0.00%	22	0.58%	22	0.36%	44	0.00%	69	0.00%	69	0.00%
23	0.00%	23	0.15%	23	0.09%	46	0.38%	72	0.00%	72	4.76%
24	0.24%	24	0.15%	24	0.18%	48	0.38%	75	0.00%	75	4.76%
25	0.00%	25	0.00%	25	0.00%	50	0.38%	78	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.75%	81	0.00%	81	4.76%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	0.00%
30	0.24%	30	0.00%	30	0.09%	60	0.00%	93	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	4.76%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.00%	36	0.00%	72	0.00%				
37	0.00%	37	0.15%	37	0.09%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.38%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.15%	41	0.09%	82	0.00%				

**Table A.21. D077 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.44%	3	0.00%	3	0.33%	6	0.69%
4	0.15%	4	0.00%	4	0.11%	8	0.00%
5	1.03%	5	0.00%	5	0.76%	10	0.46%
6	3.39%	6	0.00%	6	2.50%	12	0.23%
7	8.26%	7	3.70%	7	7.06%	14	0.69%
8	8.55%	8	3.70%	8	7.27%	16	2.76%
9	10.18%	9	2.06%	9	8.03%	18	3.68%
10	10.03%	10	7.00%	10	9.23%	20	9.43%
11	15.34%	11	10.29%	11	14.01%	22	14.94%
12	12.98%	12	11.11%	12	12.49%	24	12.64%
13	10.62%	13	8.23%	13	9.99%	26	11.49%
14	8.70%	14	13.58%	14	9.99%	28	12.41%
15	6.19%	15	7.82%	15	6.62%	30	9.20%
16	2.36%	16	4.53%	16	2.93%	32	8.97%
17	1.47%	17	4.53%	17	2.28%	34	4.37%
18	0.00%	18	6.17%	18	1.63%	36	2.53%
19	0.00%	19	5.35%	19	1.41%	38	2.76%
20	0.00%	20	5.35%	20	1.41%	40	0.69%
21	0.15%	21	2.06%	21	0.65%	42	1.15%
22	0.00%	22	1.23%	22	0.33%	44	0.46%
23	0.00%	23	0.41%	23	0.11%	46	0.00%
24	0.00%	24	1.23%	24	0.33%	48	0.23%
25	0.00%	25	0.41%	25	0.11%	50	0.23%
26	0.15%	26	0.41%	26	0.22%	52	0.00%
27	0.00%	27	0.41%	27	0.11%	54	0.00%
28	0.00%	28	0.41%	28	0.11%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.22. D077 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	6.81%	3	0.39%	3	3.60%
4	27.01%	4	5.58%	4	16.30%
5	25.17%	5	16.45%	5	20.81%
6	11.75%	6	16.79%	6	14.27%
7	8.29%	7	11.38%	7	9.84%
8	7.63%	8	7.83%	8	7.73%
9	5.40%	9	6.53%	9	5.97%
10	3.23%	10	5.05%	10	4.14%
11	2.41%	11	4.82%	11	3.61%
12	1.34%	12	4.19%	12	2.76%
13	0.53%	13	3.50%	13	2.02%
14	0.30%	14	2.89%	14	1.60%
15	0.07%	15	2.34%	15	1.20%
16	0.04%	16	2.23%	16	1.13%
17	0.02%	17	1.73%	17	0.87%
18	0.00%	18	1.32%	18	0.66%
19	0.00%	19	1.46%	19	0.73%
20	0.00%	20	0.96%	20	0.48%
21	0.00%	21	0.86%	21	0.43%
22	0.00%	22	0.80%	22	0.40%
23	0.00%	23	0.66%	23	0.33%
24	0.00%	24	0.46%	24	0.23%
25	0.00%	25	0.39%	25	0.20%
26	0.00%	26	0.36%	26	0.18%
27	0.00%	27	0.27%	27	0.13%
28	0.00%	28	0.14%	28	0.07%
29	0.00%	29	0.11%	29	0.05%
30	0.00%	30	0.12%	30	0.06%
31	0.00%	31	0.07%	31	0.04%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.02%	33	0.01%
34	0.00%	34	0.09%	34	0.04%
35	0.00%	35	0.11%	35	0.05%
36	0.00%	36	0.04%	36	0.02%
37	0.00%	37	0.02%	37	0.01%
38	0.00%	38	0.02%	38	0.01%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.02%	40	0.01%
41	0.00%	41	0.00%	41	0.00%

**Table A.23. D077 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.82%	3	0.00%	3	0.82%	6	1.64%
4	2.07%	4	0.00%	4	2.07%	8	5.92%
5	3.20%	5	0.00%	5	3.20%	10	14.16%
6	3.58%	6	0.00%	6	3.58%	12	13.60%
7	2.42%	7	0.00%	7	2.42%	14	8.07%
8	4.45%	8	0.00%	8	4.45%	16	5.53%
9	10.32%	9	0.00%	9	10.32%	18	4.84%
10	14.85%	10	0.00%	10	14.85%	20	4.79%
11	19.26%	11	0.00%	11	19.26%	22	4.75%
12	13.08%	12	0.00%	12	13.08%	24	4.36%
13	7.90%	13	0.00%	13	7.90%	26	3.32%
14	5.18%	14	0.00%	14	5.18%	28	4.15%
15	3.28%	15	0.00%	15	3.28%	30	3.84%
16	1.64%	16	0.00%	16	1.64%	32	3.89%
17	1.64%	17	0.00%	17	1.64%	34	2.85%
18	1.55%	18	0.00%	18	1.55%	36	2.89%
19	1.25%	19	0.00%	19	1.25%	38	2.20%
20	0.73%	20	0.00%	20	0.73%	40	1.21%
21	0.82%	21	0.00%	21	0.82%	42	1.42%
22	0.56%	22	0.00%	22	0.56%	44	0.91%
23	0.26%	23	0.00%	23	0.26%	46	0.69%
24	0.17%	24	0.00%	24	0.17%	48	0.82%
25	0.35%	25	0.00%	25	0.35%	50	0.52%
26	0.17%	26	0.00%	26	0.17%	52	0.60%
27	0.13%	27	0.00%	27	0.13%	54	0.56%
28	0.04%	28	0.00%	28	0.04%	56	0.47%
29	0.09%	29	0.00%	29	0.09%	58	0.30%
30	0.13%	30	0.00%	30	0.13%	60	0.39%
31	0.04%	31	0.00%	31	0.04%	62	0.35%
32	0.00%	32	0.00%	32	0.00%	64	0.13%
33	0.00%	33	0.00%	33	0.00%	66	0.35%
34	0.00%	34	0.00%	34	0.00%	68	0.13%
35	0.00%	35	0.00%	35	0.00%	70	0.09%
36	0.00%	36	0.00%	36	0.00%	72	0.22%
37	0.00%	37	0.00%	37	0.00%	74	0.04%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.24. D077 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	5.89%	3	4.37%	3	4.88%
4	7.41%	4	6.08%	4	6.53%
5	7.03%	5	5.13%	5	5.77%
6	11.60%	6	3.61%	6	6.27%
7	16.35%	7	4.18%	7	8.24%
8	19.39%	8	7.79%	8	11.66%
9	16.92%	9	9.70%	9	12.10%
10	8.94%	10	10.74%	10	10.14%
11	4.56%	11	8.08%	11	6.91%
12	1.52%	12	7.89%	12	5.77%
13	0.38%	13	4.18%	13	2.92%
14	0.00%	14	5.04%	14	3.36%
15	0.00%	15	4.56%	15	3.04%
16	0.00%	16	4.09%	16	2.72%
17	0.00%	17	2.47%	17	1.65%
18	0.00%	18	2.38%	18	1.58%
19	0.00%	19	2.47%	19	1.65%
20	0.00%	20	2.00%	20	1.33%
21	0.00%	21	1.52%	21	1.01%
22	0.00%	22	0.67%	22	0.44%
23	0.00%	23	0.57%	23	0.38%
24	0.00%	24	0.38%	24	0.25%
25	0.00%	25	0.48%	25	0.32%
26	0.00%	26	0.48%	26	0.32%
27	0.00%	27	0.57%	27	0.38%
28	0.00%	28	0.10%	28	0.06%
29	0.00%	29	0.19%	29	0.13%
30	0.00%	30	0.10%	30	0.06%
31	0.00%	31	0.10%	31	0.06%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.10%	34	0.06%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.25. D077 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.76%	3	0.96%	3	1.36%	6	3.37%
4	12.98%	4	0.64%	4	6.82%	8	6.41%
5	8.65%	5	3.05%	5	5.85%	10	7.21%
6	7.21%	6	6.58%	6	6.90%	12	9.78%
7	13.14%	7	8.03%	7	10.59%	14	15.38%
8	17.15%	8	6.58%	8	11.87%	16	16.03%
9	15.87%	9	8.35%	9	12.11%	18	11.54%
10	14.10%	10	8.99%	10	11.55%	20	9.46%
11	5.45%	11	6.74%	11	6.09%	22	6.57%
12	2.40%	12	6.74%	12	4.57%	24	4.33%
13	1.12%	13	6.26%	13	3.69%	26	4.81%
14	0.16%	14	6.10%	14	3.13%	28	1.28%
15	0.00%	15	4.17%	15	2.09%	30	1.12%
16	0.00%	16	6.74%	16	3.37%	32	0.96%
17	0.00%	17	3.53%	17	1.76%	34	0.64%
18	0.00%	18	3.85%	18	1.92%	36	0.64%
19	0.00%	19	3.21%	19	1.60%	38	0.32%
20	0.00%	20	2.57%	20	1.28%	40	0.00%
21	0.00%	21	1.44%	21	0.72%	42	0.00%
22	0.00%	22	1.12%	22	0.56%	44	0.16%
23	0.00%	23	0.64%	23	0.32%	46	0.00%
24	0.00%	24	0.64%	24	0.32%	48	0.00%
25	0.00%	25	0.80%	25	0.40%	50	0.00%
26	0.00%	26	1.12%	26	0.56%	52	0.00%
27	0.00%	27	0.32%	27	0.16%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.32%	30	0.16%	60	0.00%
31	0.00%	31	0.16%	31	0.08%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.16%	36	0.08%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.16%	38	0.08%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.26. D077 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.30%	3	3.48%	3	0.62%	6	0.55%
4	0.70%	4	9.21%	4	1.56%	8	2.10%
5	1.08%	5	19.92%	5	2.99%	10	6.94%
6	0.69%	6	9.21%	6	1.55%	12	12.15%
7	1.23%	7	4.23%	7	1.53%	14	11.09%
8	4.86%	8	2.91%	8	4.66%	16	9.61%
9	12.52%	9	1.41%	9	11.40%	18	7.18%
10	20.33%	10	1.88%	10	18.46%	20	5.38%
11	24.02%	11	1.97%	11	21.79%	22	4.30%
12	18.21%	12	1.32%	12	16.50%	24	3.93%
13	10.05%	13	1.69%	13	9.21%	26	4.04%
14	4.23%	14	3.01%	14	4.11%	28	4.46%
15	1.41%	15	3.95%	15	1.66%	30	4.87%
16	0.26%	16	4.23%	16	0.67%	32	5.35%
17	0.08%	17	5.08%	17	0.59%	34	4.94%
18	0.02%	18	7.05%	18	0.73%	36	4.25%
19	0.00%	19	5.73%	19	0.58%	38	3.18%
20	0.00%	20	5.26%	20	0.53%	40	2.28%
21	0.00%	21	3.01%	21	0.30%	42	1.44%
22	0.00%	22	2.35%	22	0.24%	44	0.88%
23	0.00%	23	1.79%	23	0.18%	46	0.46%
24	0.00%	24	0.75%	24	0.08%	48	0.27%
25	0.00%	25	0.19%	25	0.02%	50	0.13%
26	0.00%	26	0.19%	26	0.02%	52	0.09%
27	0.00%	27	0.00%	27	0.00%	54	0.08%
28	0.00%	28	0.00%	28	0.00%	56	0.01%
29	0.00%	29	0.19%	29	0.02%	58	0.03%
30	0.00%	30	0.00%	30	0.00%	60	0.01%
31	0.00%	31	0.00%	31	0.00%	62	0.02%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.27. D077 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.94%	3	0	3	0.94%	6	0.94%	12	3.77%
4	0.94%	4	0	4	0.94%	8	0.94%	15	18.87%
5	1.89%	5	0	5	1.89%	10	0.94%	18	21.70%
6	0.94%	6	0	6	0.94%	12	0.94%	21	16.98%
7	0.94%	7	0	7	0.94%	14	4.72%	24	2.83%
8	9.43%	8	0	8	9.43%	16	5.66%	27	2.83%
9	9.43%	9	0	9	9.43%	18	14.15%	30	4.72%
10	24.53%	10	0	10	24.53%	20	14.15%	33	9.43%
11	31.13%	11	0	11	31.13%	22	12.26%	36	4.72%
12	9.43%	12	0	12	9.43%	24	8.49%	39	6.60%
13	6.60%	13	0	13	6.60%	26	9.43%	42	0.94%
14	0.94%	14	0	14	0.94%	28	2.83%	45	3.77%
15	0.94%	15	0	15	0.94%	30	6.60%	48	0.00%
16	0.94%	16	0	16	0.94%	32	5.66%	51	0.94%
17	0.00%	17	0	17	0.00%	34	8.49%	54	0.00%
18	0.00%	18	0	18	0.00%	36	2.83%	57	0.00%
19	0.94%	19	0	19	0.94%	38	0.00%	60	1.89%
20	0.00%	20	0	20	0.00%	40	0.00%	63	0.00%
21	0.00%	21	0	21	0.00%	42	0.00%	66	0.00%
22	0.00%	22	0	22	0.00%	44	0.00%	69	0.00%
23	0.00%	23	0	23	0.00%	46	0.00%	72	0.00%
24	0.00%	24	0	24	0.00%	48	0.94%	75	0.00%
25	0.00%	25	0	25	0.00%	50	0.00%	78	0.00%
26	0.00%	26	0	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0	34	0.00%	68	0.00%		
35	0.00%	35	0	35	0.00%	70	0.00%		
36	0.00%	36	0	36	0.00%	72	0.00%		
37	0.00%	37	0	37	0.00%	74	0.00%		
38	0.00%	38	0	38	0.00%	76	0.00%		
39	0.00%	39	0	39	0.00%	78	0.00%		
40	0.00%	40	0	40	0.00%	80	0.00%		
41	0.00%	41	0	41	0.00%	82	0.00%		

**Table A.28. D077 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%
4	2.42%	4	0.37%	4	0.79%
5	3.38%	5	1.37%	5	1.78%
6	2.42%	6	4.85%	6	4.35%
7	13.04%	7	8.08%	7	9.10%
8	12.08%	8	9.95%	8	10.39%
9	15.46%	9	10.32%	9	11.37%
10	19.81%	10	9.95%	10	11.97%
11	21.26%	11	6.72%	11	9.69%
12	9.18%	12	8.33%	12	8.51%
13	0.97%	13	6.34%	13	5.24%
14	0.00%	14	6.97%	14	5.54%
15	0.00%	15	5.60%	15	4.45%
16	0.00%	16	5.35%	16	4.25%
17	0.00%	17	3.23%	17	2.57%
18	0.00%	18	3.36%	18	2.67%
19	0.00%	19	2.86%	19	2.27%
20	0.00%	20	2.24%	20	1.78%
21	0.00%	21	1.62%	21	1.29%
22	0.00%	22	1.24%	22	0.99%
23	0.00%	23	0.37%	23	0.30%
24	0.00%	24	0.50%	24	0.40%
25	0.00%	25	0.25%	25	0.20%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.12%	27	0.10%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.29. D077 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.00%	4	0.00%	4	0.00%	8	0.00%
5	0.00%	5	1.39%	5	1.04%	10	0.00%
6	0.00%	6	11.11%	6	8.33%	12	4.17%
7	0.00%	7	23.61%	7	17.71%	14	29.17%
8	12.50%	8	9.72%	8	10.42%	16	8.33%
9	58.33%	9	12.50%	9	23.96%	18	29.17%
10	16.67%	10	4.17%	10	7.29%	20	0.00%
11	8.33%	11	9.72%	11	9.38%	22	12.50%
12	4.17%	12	6.94%	12	6.25%	24	8.33%
13	0.00%	13	2.78%	13	2.08%	26	4.17%
14	0.00%	14	4.17%	14	3.13%	28	4.17%
15	0.00%	15	4.17%	15	3.13%	30	0.00%
16	0.00%	16	1.39%	16	1.04%	32	0.00%
17	0.00%	17	4.17%	17	3.13%	34	0.00%
18	0.00%	18	1.39%	18	1.04%	36	0.00%
19	0.00%	19	1.39%	19	1.04%	38	0.00%
20	0.00%	20	0.00%	20	0.00%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	1.39%	23	1.04%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.30. D077 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	20.51%	3	34.03%	3	28.57%	6	40.28%	9	0.00%	12	0.00%
4	41.03%	4	10.76%	4	22.98%	8	19.44%	12	0.00%	15	0.00%
5	17.44%	5	9.38%	5	12.63%	10	14.58%	15	0.00%	18	0.00%
6	7.18%	6	11.81%	6	9.94%	12	11.81%	18	0.00%	21	11.11%
7	3.59%	7	7.64%	7	6.00%	14	4.17%	21	0.00%	24	11.11%
8	2.05%	8	8.68%	8	6.00%	16	3.47%	24	0.00%	27	0.00%
9	1.54%	9	3.47%	9	2.69%	18	0.00%	27	0.00%	30	11.11%
10	2.05%	10	1.74%	10	1.86%	20	0.69%	30	0.00%	33	0.00%
11	3.08%	11	2.08%	11	2.48%	22	0.00%	33	0.00%	36	11.11%
12	0.00%	12	1.39%	12	0.83%	24	0.00%	36	0.00%	39	11.11%
13	1.03%	13	1.39%	13	1.24%	26	0.69%	39	0.00%	42	0.00%
14	0.51%	14	1.74%	14	1.24%	28	0.69%	42	0.00%	45	11.11%
15	0.00%	15	2.08%	15	1.24%	30	0.00%	45	0.00%	48	11.11%
16	0.00%	16	0.35%	16	0.21%	32	0.69%	48	0.00%	51	11.11%
17	0.00%	17	1.74%	17	1.04%	34	0.69%	51	0.00%	54	0.00%
18	0.00%	18	0.69%	18	0.41%	36	0.69%	54	0.00%	57	11.11%
19	0.00%	19	0.00%	19	0.00%	38	0.69%	57	0.00%	60	0.00%
20	0.00%	20	0.69%	20	0.41%	40	1.39%	60	0.00%	63	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%	63	0.00%	66	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%	66	0.00%	69	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%	69	0.00%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%	72	0.00%	75	0.00%
25	0.00%	25	0.35%	25	0.21%	50	0.00%	75	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	78	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	81	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	84	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	87	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	90	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	93	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	96	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	99	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%	102	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%	105	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%	108	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%	111	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%	114	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%	117	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%	120	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%	123	0.00%		

**Table A.31. D181 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	3.41%	3	0.44%	3	1.92%
4	16.83%	4	7.35%	4	12.10%
5	23.22%	5	13.48%	5	18.35%
6	13.47%	6	14.92%	6	14.20%
7	10.14%	7	11.42%	7	10.78%
8	10.28%	8	8.97%	8	9.62%
9	8.13%	9	7.88%	9	8.01%
10	5.16%	10	6.13%	10	5.64%
11	3.45%	11	5.47%	11	4.46%
12	1.62%	12	4.29%	12	2.95%
13	0.92%	13	3.85%	13	2.38%
14	0.66%	14	2.76%	14	1.71%
15	0.31%	15	2.28%	15	1.29%
16	0.22%	16	1.84%	16	1.03%
17	0.26%	17	1.66%	17	0.96%
18	0.22%	18	1.75%	18	0.98%
19	0.17%	19	1.44%	19	0.81%
20	0.26%	20	0.92%	20	0.59%
21	0.09%	21	0.61%	21	0.35%
22	0.17%	22	0.53%	22	0.35%
23	0.09%	23	0.31%	23	0.20%
24	0.17%	24	0.48%	24	0.33%
25	0.13%	25	0.44%	25	0.28%
26	0.04%	26	0.22%	26	0.13%
27	0.17%	27	0.35%	27	0.26%
28	0.09%	28	0.00%	28	0.04%
29	0.09%	29	0.13%	29	0.11%
30	0.13%	30	0.00%	30	0.07%
31	0.00%	31	0.04%	31	0.02%
32	0.04%	32	0.00%	32	0.02%
33	0.04%	33	0.04%	33	0.04%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.32. D181 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.24%	3	0.00%	3	0.24%	6	3.64%
4	0.58%	4	0.00%	4	0.58%	8	12.67%
5	1.59%	5	0.00%	5	1.59%	10	24.18%
6	1.74%	6	0.00%	6	1.74%	12	13.22%
7	2.94%	7	0.00%	7	2.94%	14	6.43%
8	7.38%	8	0.00%	8	7.38%	16	3.92%
9	13.99%	9	0.00%	9	13.99%	18	2.97%
10	18.98%	10	0.00%	10	18.98%	20	2.63%
11	20.48%	11	0.00%	11	20.48%	22	2.66%
12	14.60%	12	0.00%	12	14.60%	24	2.60%
13	6.95%	13	0.00%	13	6.95%	26	2.36%
14	3.12%	14	0.00%	14	3.12%	28	2.20%
15	1.35%	15	0.00%	15	1.35%	30	2.39%
16	0.95%	16	0.00%	16	0.95%	32	2.94%
17	1.10%	17	0.00%	17	1.10%	34	2.63%
18	0.70%	18	0.00%	18	0.70%	36	2.51%
19	1.07%	19	0.00%	19	1.07%	38	2.63%
20	0.83%	20	0.00%	20	0.83%	40	1.87%
21	0.55%	21	0.00%	21	0.55%	42	1.84%
22	0.37%	22	0.00%	22	0.37%	44	1.29%
23	0.18%	23	0.00%	23	0.18%	46	1.07%
24	0.12%	24	0.00%	24	0.12%	48	0.61%
25	0.06%	25	0.00%	25	0.06%	50	0.28%
26	0.00%	26	0.00%	26	0.00%	52	0.15%
27	0.06%	27	0.00%	27	0.06%	54	0.12%
28	0.03%	28	0.00%	28	0.03%	56	0.12%
29	0.03%	29	0.00%	29	0.03%	58	0.06%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.33. D181 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.13%	3	2.53%	3	2.07%
4	2.83%	4	4.78%	4	4.14%
5	3.12%	5	7.88%	5	6.30%
6	5.10%	6	7.74%	6	6.86%
7	15.30%	7	11.81%	7	12.97%
8	22.10%	8	12.10%	8	15.41%
9	25.21%	9	11.67%	9	16.17%
10	12.46%	10	11.11%	10	11.56%
11	7.93%	11	7.45%	11	7.61%
12	2.83%	12	6.33%	12	5.17%
13	1.42%	13	4.50%	13	3.48%
14	0.00%	14	2.39%	14	1.60%
15	0.00%	15	3.09%	15	2.07%
16	0.28%	16	1.27%	16	0.94%
17	0.00%	17	1.27%	17	0.85%
18	0.00%	18	0.84%	18	0.56%
19	0.00%	19	0.98%	19	0.66%
20	0.00%	20	0.42%	20	0.28%
21	0.00%	21	0.14%	21	0.09%
22	0.00%	22	0.42%	22	0.28%
23	0.00%	23	0.14%	23	0.09%
24	0.00%	24	0.14%	24	0.09%
25	0.00%	25	0.28%	25	0.19%
26	0.00%	26	0.00%	26	0.00%
27	0.28%	27	0.00%	27	0.09%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.14%	36	0.09%
37	0.00%	37	0.14%	37	0.09%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.14%	39	0.09%
40	0.00%	40	0.14%	40	0.09%
41	0.00%	41	0.14%	41	0.09%

**Table A.34. D181 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.93%	3	0.30%	3	0.62%	6	2.84%
4	4.05%	4	0.61%	4	2.31%	8	8.20%
5	6.23%	5	0.61%	5	3.38%	10	14.83%
6	4.98%	6	6.69%	6	5.85%	12	20.50%
7	15.26%	7	8.21%	7	11.69%	14	16.72%
8	18.38%	8	6.08%	8	12.15%	16	12.62%
9	14.64%	9	9.12%	9	11.85%	18	8.83%
10	14.64%	10	10.64%	10	12.62%	20	5.99%
11	11.53%	11	9.42%	11	10.46%	22	4.10%
12	4.67%	12	7.60%	12	6.15%	24	2.21%
13	3.74%	13	6.69%	13	5.23%	26	1.26%
14	0.31%	14	8.51%	14	4.46%	28	0.32%
15	0.62%	15	4.26%	15	2.46%	30	0.32%
16	0.00%	16	4.26%	16	2.15%	32	0.32%
17	0.00%	17	4.26%	17	2.15%	34	0.63%
18	0.00%	18	3.95%	18	2.00%	36	0.00%
19	0.00%	19	3.04%	19	1.54%	38	0.00%
20	0.00%	20	2.43%	20	1.23%	40	0.00%
21	0.00%	21	0.91%	21	0.46%	42	0.00%
22	0.00%	22	1.22%	22	0.62%	44	0.00%
23	0.00%	23	0.61%	23	0.31%	46	0.32%
24	0.00%	24	0.30%	24	0.15%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.30%	29	0.15%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.35. D181 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.12%	3	3.99%	3	0.46%	6	0.88%
4	0.71%	4	7.47%	4	1.31%	8	2.97%
5	1.50%	5	25.17%	5	3.60%	10	8.65%
6	0.98%	6	9.90%	6	1.77%	12	13.31%
7	2.29%	7	2.95%	7	2.35%	14	12.04%
8	6.78%	8	2.60%	8	6.41%	16	8.86%
9	15.19%	9	1.56%	9	13.98%	18	5.50%
10	22.58%	10	2.60%	10	20.81%	20	3.26%
11	22.95%	11	2.60%	11	21.15%	22	2.91%
12	16.52%	12	2.08%	12	15.25%	24	2.90%
13	7.79%	13	2.78%	13	7.35%	26	3.36%
14	2.07%	14	5.73%	14	2.40%	28	4.22%
15	0.47%	15	4.86%	15	0.86%	30	5.88%
16	0.02%	16	6.60%	16	0.60%	32	6.55%
17	0.00%	17	5.56%	17	0.49%	34	5.63%
18	0.03%	18	5.03%	18	0.48%	36	3.83%
19	0.00%	19	2.60%	19	0.23%	38	3.11%
20	0.00%	20	2.60%	20	0.23%	40	2.37%
21	0.00%	21	1.04%	21	0.09%	42	1.74%
22	0.00%	22	1.04%	22	0.09%	44	0.98%
23	0.00%	23	0.17%	23	0.02%	46	0.58%
24	0.00%	24	0.35%	24	0.03%	48	0.22%
25	0.00%	25	0.00%	25	0.00%	50	0.10%
26	0.00%	26	0.17%	26	0.02%	52	0.07%
27	0.00%	27	0.00%	27	0.00%	54	0.04%
28	0.00%	28	0.17%	28	0.02%	56	0.00%
29	0.00%	29	0.17%	29	0.02%	58	0.02%
30	0.00%	30	0.17%	30	0.02%	60	0.01%
31	0.00%	31	0.00%	31	0.00%	62	0.01%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.36. D181 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.26%	3	0.00%	3	0.26%	6	0.17%	12	5.60%
4	0.87%	4	0.00%	4	0.87%	8	0.17%	15	11.20%
5	1.57%	5	0.00%	5	1.57%	10	0.09%	18	15.75%
6	0.61%	6	0.00%	6	0.61%	12	0.87%	21	8.05%
7	1.57%	7	0.00%	7	1.57%	14	5.25%	24	2.19%
8	3.93%	8	0.00%	8	3.92%	16	12.42%	27	1.57%
9	9.62%	9	0.00%	9	9.57%	18	13.04%	30	1.66%
10	20.80%	10	20.00%	10	20.80%	20	7.52%	33	1.66%
11	28.58%	11	0.00%	11	28.46%	22	1.66%	36	2.36%
12	19.76%	12	20.00%	12	19.76%	24	0.79%	39	2.80%
13	9.27%	13	20.00%	13	9.31%	26	1.31%	42	6.12%
14	2.36%	14	40.00%	14	2.52%	28	2.01%	45	6.65%
15	0.79%	15	0.00%	15	0.78%	30	3.50%	48	7.52%
16	0.00%	16	0.00%	16	0.00%	32	4.11%	51	7.26%
17	0.00%	17	0.00%	17	0.00%	34	6.39%	54	9.27%
18	0.00%	18	0.00%	18	0.00%	36	9.10%	57	5.69%
19	0.00%	19	0.00%	19	0.00%	38	11.72%	60	2.62%
20	0.00%	20	0.00%	20	0.00%	40	6.47%	63	1.14%
21	0.00%	21	0.00%	21	0.00%	42	5.60%	66	0.61%
22	0.00%	22	0.00%	22	0.00%	44	3.85%	69	0.26%
23	0.00%	23	0.00%	23	0.00%	46	0.87%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	1.75%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.70%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.35%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.09%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.09%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.09%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.37. D181 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.53%	3	0.43%
4	1.05%	4	1.87%	4	1.71%
5	0.00%	5	3.74%	5	2.99%
6	1.05%	6	8.29%	6	6.82%
7	6.32%	7	7.22%	7	7.04%
8	6.32%	8	6.42%	8	6.40%
9	16.84%	9	3.74%	9	6.40%
10	15.79%	10	7.49%	10	9.17%
11	25.26%	11	6.95%	11	10.66%
12	20.00%	12	9.89%	12	11.94%
13	5.26%	13	9.36%	13	8.53%
14	2.11%	14	7.75%	14	6.61%
15	0.00%	15	6.42%	15	5.12%
16	0.00%	16	4.28%	16	3.41%
17	0.00%	17	5.08%	17	4.05%
18	0.00%	18	5.61%	18	4.48%
19	0.00%	19	2.67%	19	2.13%
20	0.00%	20	0.80%	20	0.64%
21	0.00%	21	1.07%	21	0.85%
22	0.00%	22	0.80%	22	0.64%
23	0.00%	23	0.00%	23	0.00%
24	0.00%	24	0.00%	24	0.00%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.38. D181 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.00%	4	0.00%	4	0.00%	8	0.00%
5	7.14%	5	0.00%	5	1.79%	10	0.00%
6	0.00%	6	2.38%	6	1.79%	12	0.00%
7	7.14%	7	9.52%	7	8.93%	14	21.43%
8	7.14%	8	11.90%	8	10.71%	16	7.14%
9	14.29%	9	2.38%	9	5.36%	18	7.14%
10	14.29%	10	9.52%	10	10.71%	20	21.43%
11	28.57%	11	7.14%	11	12.50%	22	28.57%
12	14.29%	12	14.29%	12	14.29%	24	14.29%
13	7.14%	13	4.76%	13	5.36%	26	0.00%
14	0.00%	14	19.05%	14	14.29%	28	0.00%
15	0.00%	15	14.29%	15	10.71%	30	0.00%
16	0.00%	16	0.00%	16	0.00%	32	0.00%
17	0.00%	17	0.00%	17	0.00%	34	0.00%
18	0.00%	18	0.00%	18	0.00%	36	0.00%
19	0.00%	19	2.38%	19	1.79%	38	0.00%
20	0.00%	20	2.38%	20	1.79%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.39. D181 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	22.39%	3	15.91%	3	18.71%	6	60.34%
4	31.34%	4	12.50%	4	20.65%	8	18.97%
5	19.40%	5	17.05%	5	18.06%	10	3.45%
6	8.96%	6	17.05%	6	13.55%	12	12.07%
7	1.49%	7	6.82%	7	4.52%	14	1.72%
8	1.49%	8	2.27%	8	1.94%	16	0.00%
9	4.48%	9	4.55%	9	4.52%	18	0.00%
10	4.48%	10	4.55%	10	4.52%	20	0.00%
11	2.99%	11	3.41%	11	3.23%	22	0.00%
12	1.49%	12	1.14%	12	1.29%	24	0.00%
13	1.49%	13	3.41%	13	2.58%	26	0.00%
14	0.00%	14	2.27%	14	1.29%	28	0.00%
15	0.00%	15	4.55%	15	2.58%	30	0.00%
16	0.00%	16	0.00%	16	0.00%	32	0.00%
17	0.00%	17	0.00%	17	0.00%	34	0.00%
18	0.00%	18	2.27%	18	1.29%	36	0.00%
19	0.00%	19	0.00%	19	0.00%	38	0.00%
20	0.00%	20	1.14%	20	0.65%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	3.45%
22	0.00%	22	1.14%	22	0.65%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.40. D502 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.44%	3	0.10%	6	0.07%
4	0.64%	4	0.09%	4	0.52%	8	0.50%
5	1.25%	5	0.44%	5	1.07%	10	1.15%
6	1.97%	6	0.18%	6	1.57%	12	1.73%
7	4.65%	7	1.32%	7	3.90%	14	1.73%
8	11.25%	8	1.06%	8	8.96%	16	2.38%
9	13.07%	9	4.59%	9	11.16%	18	6.52%
10	17.05%	10	12.87%	10	16.11%	20	14.80%
11	18.79%	11	17.81%	11	18.57%	22	18.58%
12	15.95%	12	17.81%	12	16.37%	24	16.89%
13	8.23%	13	12.79%	13	9.26%	26	12.46%
14	3.61%	14	11.20%	14	5.31%	28	8.25%
15	1.69%	15	7.14%	15	2.91%	30	5.80%
16	0.77%	16	6.26%	16	2.00%	32	4.50%
17	0.59%	17	3.17%	17	1.17%	34	2.84%
18	0.15%	18	1.23%	18	0.40%	36	0.79%
19	0.13%	19	0.53%	19	0.22%	38	0.54%
20	0.03%	20	0.44%	20	0.12%	40	0.25%
21	0.03%	21	0.18%	21	0.06%	42	0.07%
22	0.03%	22	0.26%	22	0.08%	44	0.00%
23	0.03%	23	0.00%	23	0.02%	46	0.00%
24	0.03%	24	0.00%	24	0.02%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.09%	26	0.02%	52	0.04%
27	0.00%	27	0.09%	27	0.02%	54	0.07%
28	0.03%	28	0.00%	28	0.02%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.03%	31	0.00%	31	0.02%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.03%	36	0.00%	36	0.02%	72	0.04%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.41. D502 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.23%	3	17.72%	3	8.95%
4	37.08%	4	22.35%	4	29.74%
5	26.87%	5	9.60%	5	18.26%
6	9.90%	6	6.66%	6	8.28%
7	8.56%	7	5.99%	7	7.28%
8	7.05%	8	6.11%	8	6.59%
9	4.53%	9	5.85%	9	5.19%
10	2.48%	10	5.25%	10	3.86%
11	1.27%	11	4.39%	11	2.82%
12	0.54%	12	3.14%	12	1.84%
13	0.30%	13	2.45%	13	1.37%
14	0.24%	14	2.18%	14	1.21%
15	0.23%	15	1.91%	15	1.07%
16	0.26%	16	1.59%	16	0.92%
17	0.21%	17	1.35%	17	0.78%
18	0.11%	18	0.99%	18	0.55%
19	0.03%	19	0.72%	19	0.38%
20	0.04%	20	0.53%	20	0.28%
21	0.02%	21	0.37%	21	0.19%
22	0.01%	22	0.30%	22	0.16%
23	0.01%	23	0.18%	23	0.09%
24	0.01%	24	0.13%	24	0.07%
25	0.01%	25	0.07%	25	0.04%
26	0.00%	26	0.06%	26	0.03%
27	0.01%	27	0.04%	27	0.02%
28	0.00%	28	0.03%	28	0.01%
29	0.00%	29	0.02%	29	0.01%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.01%	32	0.00%	32	0.01%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.42. D502 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.01%	3	0.00%	3	0.01%	6	5.63%
4	1.10%	4	0.00%	4	1.10%	8	14.94%
5	4.92%	5	0.00%	5	4.92%	10	14.07%
6	3.79%	6	0.00%	6	3.79%	12	8.91%
7	4.18%	7	0.00%	7	4.18%	14	5.70%
8	9.31%	8	0.00%	8	9.31%	16	4.85%
9	17.44%	9	0.00%	9	17.44%	18	4.28%
10	22.20%	10	0.00%	10	22.20%	20	4.19%
11	16.02%	11	0.00%	11	16.02%	22	4.34%
12	8.37%	12	0.00%	12	8.37%	24	4.60%
13	4.27%	13	0.00%	13	4.27%	26	4.72%
14	2.07%	14	0.00%	14	2.07%	28	4.36%
15	1.11%	15	0.00%	15	1.11%	30	4.19%
16	1.18%	16	0.00%	16	1.18%	32	4.25%
17	1.22%	17	0.00%	17	1.22%	34	2.97%
18	1.06%	18	0.00%	18	1.06%	36	1.92%
19	0.93%	19	0.00%	19	0.93%	38	1.56%
20	0.53%	20	0.00%	20	0.53%	40	1.34%
21	0.09%	21	0.00%	21	0.09%	42	1.12%
22	0.10%	22	0.00%	22	0.10%	44	0.86%
23	0.04%	23	0.00%	23	0.04%	46	0.50%
24	0.03%	24	0.00%	24	0.03%	48	0.31%
25	0.02%	25	0.00%	25	0.02%	50	0.14%
26	0.01%	26	0.00%	26	0.01%	52	0.15%
27	0.00%	27	0.00%	27	0.00%	54	0.02%
28	0.00%	28	0.00%	28	0.00%	56	0.03%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.03%
31	0.01%	31	0.00%	31	0.01%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.01%
35	0.00%	35	0.00%	35	0.00%	70	0.01%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.01%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.43. D502 Class7**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	1.56%	12	5.00%
4	3.17%	4	0.00%	4	3.13%	15	8.33%
5	1.59%	5	0.00%	5	1.56%	18	0.00%
6	0.00%	6	0.00%	6	0.00%	21	5.00%
7	1.59%	7	0.00%	7	1.56%	24	1.67%
8	3.17%	8	0.00%	8	3.13%	27	1.67%
9	6.35%	9	0.00%	9	6.25%	30	5.00%
10	12.70%	10	0.00%	10	12.50%	33	0.00%
11	22.22%	11	0.00%	11	21.88%	36	0.00%
12	19.05%	12	0.00%	12	18.75%	39	5.00%
13	12.70%	13	0.00%	13	12.50%	42	18.33%
14	3.17%	14	0.00%	14	3.13%	45	6.67%
15	6.35%	15	0.00%	15	6.25%	48	16.67%
16	3.17%	16	0.00%	16	3.13%	51	8.33%
17	3.17%	17	0.00%	17	3.13%	54	8.33%
18	1.59%	18	0.00%	18	1.56%	57	10.00%
19	0.00%	19	0.00%	19	0.00%	60	0.00%
20	0.00%	20	0.00%	20	0.00%	63	0.00%
21	0.00%	21	0.00%	21	0.00%	66	0.00%
22	0.00%	22	0.00%	22	0.00%	69	0.00%
23	0.00%	23	0.00%	23	0.00%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%		
35	0.00%	35	0.00%	35	0.00%		
36	0.00%	36	0.00%	36	0.00%		
37	0.00%	37	0.00%	37	0.00%		
38	0.00%	38	0.00%	38	0.00%		
39	0.00%	39	0.00%	39	0.00%		
40	0.00%	40	0.00%	40	0.00%		
41	0.00%	41	0.00%	41	0.00%		

**Table A.44. D502 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.86%	3	14.72%	3	10.07%
4	17.87%	4	7.82%	4	11.19%
5	11.54%	5	7.51%	5	8.86%
6	8.37%	6	6.05%	6	6.83%
7	18.62%	7	7.29%	7	11.08%
8	17.44%	8	7.39%	8	10.76%
9	15.13%	9	7.90%	9	10.32%
10	6.77%	10	8.08%	10	7.64%
11	2.19%	11	6.76%	11	5.23%
12	0.47%	12	5.73%	12	3.97%
13	0.16%	13	4.53%	13	3.07%
14	0.16%	14	3.66%	14	2.49%
15	0.12%	15	3.19%	15	2.16%
16	0.12%	16	2.82%	16	1.91%
17	0.04%	17	2.21%	17	1.48%
18	0.04%	18	1.64%	18	1.10%
19	0.00%	19	0.83%	19	0.55%
20	0.08%	20	0.69%	20	0.48%
21	0.00%	21	0.49%	21	0.33%
22	0.00%	22	0.30%	22	0.20%
23	0.00%	23	0.18%	23	0.12%
24	0.04%	24	0.10%	24	0.08%
25	0.00%	25	0.06%	25	0.04%
26	0.00%	26	0.02%	26	0.01%
27	0.00%	27	0.02%	27	0.01%
28	0.00%	28	0.02%	28	0.01%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.02%	31	0.01%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.45. D502 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.03%	3	7.56%	3	3.92%	6	24.88%
4	25.81%	4	5.75%	4	15.46%	8	12.10%
5	16.29%	5	12.50%	5	14.33%	10	14.33%
6	4.71%	6	10.49%	6	7.70%	12	11.85%
7	7.35%	7	7.37%	7	7.36%	14	8.95%
8	15.94%	8	6.98%	8	11.32%	16	6.63%
9	16.62%	9	7.71%	9	12.02%	18	5.93%
10	9.35%	10	6.95%	10	8.11%	20	4.67%
11	2.85%	11	5.92%	11	4.44%	22	3.73%
12	0.73%	12	4.40%	12	2.62%	24	2.31%
13	0.21%	13	4.29%	13	2.31%	26	1.64%
14	0.09%	14	3.90%	14	2.06%	28	1.02%
15	0.02%	15	3.45%	15	1.79%	30	0.72%
16	0.01%	16	3.11%	16	1.61%	32	0.53%
17	0.00%	17	2.47%	17	1.27%	34	0.49%
18	0.00%	18	2.32%	18	1.20%	36	0.13%
19	0.00%	19	1.77%	19	0.91%	38	0.04%
20	0.00%	20	1.16%	20	0.60%	40	0.01%
21	0.00%	21	0.77%	21	0.40%	42	0.00%
22	0.00%	22	0.41%	22	0.21%	44	0.02%
23	0.00%	23	0.25%	23	0.13%	46	0.01%
24	0.00%	24	0.20%	24	0.10%	48	0.00%
25	0.00%	25	0.08%	25	0.04%	50	0.01%
26	0.00%	26	0.04%	26	0.02%	52	0.00%
27	0.00%	27	0.04%	27	0.02%	54	0.00%
28	0.00%	28	0.07%	28	0.03%	56	0.00%
29	0.00%	29	0.01%	29	0.00%	58	0.00%
30	0.00%	30	0.02%	30	0.01%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.01%	32	0.00%	64	0.00%
33	0.00%	33	0.01%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.46. D502 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	7.47%	3	1.10%	6	1.08%
4	0.29%	4	14.86%	4	2.43%	8	4.52%
5	1.18%	5	9.43%	5	2.39%	10	7.68%
6	0.91%	6	4.82%	6	1.49%	12	9.36%
7	1.16%	7	3.48%	7	1.50%	14	7.67%
8	5.48%	8	3.11%	8	5.14%	16	5.90%
9	17.98%	9	2.84%	9	15.75%	18	4.69%
10	31.65%	10	2.61%	10	27.38%	20	4.25%
11	28.50%	11	2.95%	11	24.74%	22	4.13%
12	9.94%	12	3.10%	12	8.94%	24	4.13%
13	1.88%	13	3.25%	13	2.08%	26	4.56%
14	0.61%	14	4.22%	14	1.14%	28	5.94%
15	0.24%	15	6.23%	15	1.12%	30	8.58%
16	0.10%	16	7.90%	16	1.24%	32	11.16%
17	0.03%	17	9.03%	17	1.35%	34	8.80%
18	0.01%	18	6.89%	18	1.02%	36	4.50%
19	0.01%	19	3.82%	19	0.57%	38	1.77%
20	0.00%	20	1.94%	20	0.29%	40	0.70%
21	0.01%	21	0.86%	21	0.13%	42	0.31%
22	0.00%	22	0.50%	22	0.08%	44	0.15%
23	0.00%	23	0.29%	23	0.04%	46	0.07%
24	0.00%	24	0.20%	24	0.03%	48	0.03%
25	0.00%	25	0.06%	25	0.01%	50	0.01%
26	0.00%	26	0.03%	26	0.00%	52	0.00%
27	0.00%	27	0.02%	27	0.00%	54	0.00%
28	0.00%	28	0.04%	28	0.01%	56	0.00%
29	0.00%	29	0.02%	29	0.00%	58	0.00%
30	0.00%	30	0.01%	30	0.00%	60	0.00%
31	0.00%	31	0.01%	31	0.00%	62	0.00%
32	0.00%	32	0.01%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.47. D502 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.05%	3	60.00%	3	0.22%	6	0.22%	12	16.87%
4	0.27%	4	0.00%	4	0.27%	8	0.38%	15	16.14%
5	1.30%	5	0.00%	5	1.29%	10	2.91%	18	8.63%
6	1.08%	6	40.00%	6	1.18%	12	5.39%	21	6.66%
7	1.30%	7	0.00%	7	1.29%	14	7.16%	24	4.57%
8	5.56%	8	0.00%	8	5.55%	16	8.83%	27	5.36%
9	16.04%	9	0.00%	9	15.99%	18	8.72%	30	5.19%
10	29.97%	10	0.00%	10	29.89%	20	9.26%	33	5.81%
11	24.14%	11	0.00%	11	24.07%	22	7.65%	36	7.11%
12	12.63%	12	0.00%	12	12.60%	24	7.49%	39	6.83%
13	4.21%	13	0.00%	13	4.20%	26	8.94%	42	4.74%
14	1.67%	14	0.00%	14	1.67%	28	7.86%	45	3.05%
15	0.86%	15	0.00%	15	0.86%	30	5.39%	48	2.93%
16	0.43%	16	0.00%	16	0.43%	32	5.71%	51	1.58%
17	0.16%	17	0.00%	17	0.16%	34	4.47%	54	1.81%
18	0.11%	18	0.00%	18	0.11%	36	2.26%	57	0.73%
19	0.11%	19	0.00%	19	0.11%	38	1.99%	60	0.45%
20	0.05%	20	0.00%	20	0.05%	40	2.05%	63	0.68%
21	0.05%	21	0.00%	21	0.05%	42	1.13%	66	0.56%
22	0.00%	22	0.00%	22	0.00%	44	0.92%	69	0.17%
23	0.00%	23	0.00%	23	0.00%	46	0.48%	72	0.06%
24	0.00%	24	0.00%	24	0.00%	48	0.32%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.11%	78	0.06%
26	0.00%	26	0.00%	26	0.00%	52	0.22%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.16%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.48. D502 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.02%	3	0.26%	3	0.21%	6	1.16%
4	7.21%	4	2.12%	4	3.25%	8	6.98%
5	5.63%	5	4.73%	5	4.93%	10	9.30%
6	1.81%	6	5.28%	6	4.51%	12	8.14%
7	3.68%	7	5.31%	7	4.95%	14	8.72%
8	9.31%	8	5.87%	8	6.63%	16	11.63%
9	23.88%	9	6.42%	9	10.30%	18	10.47%
10	26.54%	10	6.74%	10	11.14%	20	7.56%
11	16.13%	11	7.18%	11	9.17%	22	1.74%
12	4.94%	12	8.36%	12	7.60%	24	2.91%
13	0.56%	13	8.10%	13	6.43%	26	2.33%
14	0.13%	14	8.57%	14	6.70%	28	4.07%
15	0.09%	15	8.51%	15	6.64%	30	4.07%
16	0.02%	16	6.38%	16	4.97%	32	8.14%
17	0.00%	17	5.28%	17	4.11%	34	6.98%
18	0.02%	18	4.10%	18	3.19%	36	4.07%
19	0.04%	19	3.00%	19	2.34%	38	1.74%
20	0.00%	20	2.01%	20	1.56%	40	0.00%
21	0.00%	21	0.94%	21	0.73%	42	0.00%
22	0.00%	22	0.48%	22	0.37%	44	0.00%
23	0.00%	23	0.18%	23	0.14%	46	0.00%
24	0.00%	24	0.12%	24	0.09%	48	0.00%
25	0.00%	25	0.04%	25	0.03%	50	0.00%
26	0.00%	26	0.03%	26	0.02%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.01%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.01%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.49. D502 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.27%	3	0.20%	6	0.07%
4	0.73%	4	2.09%	4	1.75%	8	1.07%
5	1.60%	5	7.85%	5	6.29%	10	5.81%
6	1.00%	6	8.39%	6	6.54%	12	6.07%
7	2.07%	7	6.74%	7	5.57%	14	8.95%
8	15.55%	8	7.25%	8	9.33%	16	15.15%
9	31.38%	9	9.01%	9	14.60%	18	17.02%
10	24.97%	10	10.01%	10	13.75%	20	17.42%
11	17.16%	11	9.84%	11	11.67%	22	12.82%
12	4.01%	12	9.68%	12	8.26%	24	7.61%
13	0.93%	13	7.79%	13	6.07%	26	4.27%
14	0.20%	14	5.79%	14	4.39%	28	2.34%
15	0.33%	15	4.61%	15	3.54%	30	1.00%
16	0.00%	16	3.60%	16	2.70%	32	0.27%
17	0.00%	17	2.36%	17	1.77%	34	0.07%
18	0.07%	18	2.11%	18	1.60%	36	0.07%
19	0.00%	19	1.20%	19	0.90%	38	0.00%
20	0.00%	20	0.65%	20	0.48%	40	0.00%
21	0.00%	21	0.31%	21	0.23%	42	0.00%
22	0.00%	22	0.24%	22	0.18%	44	0.00%
23	0.00%	23	0.11%	23	0.08%	46	0.00%
24	0.00%	24	0.07%	24	0.05%	48	0.00%
25	0.00%	25	0.02%	25	0.02%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.50. D502 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	5.33%	3	51.23%	3	34.97%	6	33.54%	12	52.75%	12	0.00%
4	27.88%	4	6.27%	4	13.92%	8	14.71%	15	14.29%	15	15.69%
5	30.04%	5	8.09%	5	15.86%	10	9.63%	18	4.40%	18	5.88%
6	11.66%	6	3.98%	6	6.70%	12	8.68%	21	1.10%	21	5.88%
7	3.01%	7	4.02%	7	3.66%	14	3.39%	24	2.20%	24	9.80%
8	2.32%	8	3.77%	8	3.25%	16	2.43%	27	0.00%	27	5.88%
9	4.63%	9	4.53%	9	4.57%	18	1.80%	30	0.00%	30	1.96%
10	6.49%	10	5.08%	10	5.58%	20	2.12%	33	1.10%	33	0.00%
11	4.48%	11	5.38%	11	5.06%	22	1.16%	36	0.00%	36	5.88%
12	2.16%	12	2.24%	12	2.21%	24	1.16%	39	2.20%	39	5.88%
13	1.08%	13	0.97%	13	1.01%	26	1.90%	42	3.30%	42	0.00%
14	0.39%	14	0.76%	14	0.63%	28	2.43%	45	1.10%	45	3.92%
15	0.23%	15	0.68%	15	0.52%	30	2.54%	48	3.30%	48	3.92%
16	0.15%	16	0.72%	16	0.52%	32	2.12%	51	3.30%	51	1.96%
17	0.08%	17	0.30%	17	0.22%	34	2.65%	54	2.20%	54	1.96%
18	0.00%	18	0.59%	18	0.38%	36	2.96%	57	0.00%	57	7.84%
19	0.00%	19	0.51%	19	0.33%	38	1.80%	60	1.10%	60	5.88%
20	0.00%	20	0.13%	20	0.08%	40	0.95%	63	0.00%	63	1.96%
21	0.08%	21	0.30%	21	0.22%	42	1.16%	66	4.40%	66	0.00%
22	0.00%	22	0.04%	22	0.03%	44	0.74%	69	0.00%	69	3.92%
23	0.00%	23	0.04%	23	0.03%	46	0.53%	72	1.10%	72	0.00%
24	0.00%	24	0.04%	24	0.03%	48	0.42%	75	0.00%	75	0.00%
25	0.00%	25	0.04%	25	0.03%	50	0.21%	78	1.10%	78	1.96%
26	0.00%	26	0.08%	26	0.05%	52	0.32%	81	1.10%	81	1.96%
27	0.00%	27	0.00%	27	0.00%	54	0.11%	84	0.00%	84	1.96%
28	0.00%	28	0.08%	28	0.05%	56	0.21%	87	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	3.92%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%	93	1.96%
31	0.00%	31	0.04%	31	0.03%	62	0.11%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.11%	99	0.00%	99	0.00%
33	0.00%	33	0.08%	33	0.05%	66	0.00%	102	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.11%				
36	0.00%	36	0.00%	36	0.00%	72	0.00%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.51. D504 Class4**

Steering Axle		Single Axle (Dual wheel)		Single axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.51%	3	0.08%	6	0.00%
4	0.10%	4	0.00%	4	0.08%	8	0.37%
5	0.30%	5	1.02%	5	0.42%	10	0.99%
6	0.90%	6	1.02%	6	0.92%	12	1.12%
7	2.09%	7	1.02%	7	1.92%	14	0.74%
8	6.38%	8	2.03%	8	5.67%	16	1.12%
9	7.58%	9	5.08%	9	7.17%	18	3.23%
10	8.08%	10	11.68%	10	8.67%	20	5.21%
11	12.66%	11	11.68%	11	12.50%	22	13.65%
12	17.05%	12	17.26%	12	17.08%	24	22.08%
13	17.05%	13	14.21%	13	16.58%	26	17.99%
14	13.06%	14	12.18%	14	12.92%	28	11.29%
15	7.28%	15	10.66%	15	7.83%	30	7.57%
16	3.69%	16	8.12%	16	4.42%	32	6.33%
17	1.00%	17	2.54%	17	1.25%	34	5.21%
18	0.20%	18	1.02%	18	0.33%	36	1.99%
19	0.80%	19	0.00%	19	0.67%	38	0.62%
20	0.40%	20	0.00%	20	0.33%	40	0.12%
21	0.10%	21	0.00%	21	0.08%	42	0.00%
22	0.10%	22	0.00%	22	0.08%	44	0.00%
23	0.30%	23	0.00%	23	0.25%	46	0.00%
24	0.40%	24	0.00%	24	0.33%	48	0.12%
25	0.50%	25	0.00%	25	0.42%	50	0.12%
26	0.00%	26	0.00%	26	0.00%	52	0.12%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.52. D504 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	16.07%	3	8.01%
4	47.40%	4	30.13%	4	38.80%
5	26.05%	5	13.80%	5	19.94%
6	6.17%	6	6.61%	6	6.39%
7	4.68%	7	5.23%	7	4.95%
8	4.89%	8	5.04%	8	4.96%
9	4.18%	9	4.48%	9	4.33%
10	2.99%	10	4.00%	10	3.49%
11	1.77%	11	3.06%	11	2.42%
12	0.86%	12	2.40%	12	1.63%
13	0.42%	13	1.81%	13	1.11%
14	0.14%	14	1.53%	14	0.84%
15	0.10%	15	1.37%	15	0.73%
16	0.03%	16	1.05%	16	0.54%
17	0.05%	17	0.88%	17	0.47%
18	0.03%	18	0.55%	18	0.29%
19	0.03%	19	0.49%	19	0.26%
20	0.02%	20	0.43%	20	0.22%
21	0.02%	21	0.28%	21	0.15%
22	0.02%	22	0.24%	22	0.13%
23	0.02%	23	0.13%	23	0.07%
24	0.00%	24	0.10%	24	0.05%
25	0.02%	25	0.07%	25	0.04%
26	0.02%	26	0.08%	26	0.05%
27	0.01%	27	0.04%	27	0.02%
28	0.02%	28	0.05%	28	0.03%
29	0.00%	29	0.02%	29	0.01%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.01%	32	0.01%	32	0.01%
33	0.00%	33	0.01%	33	0.01%
34	0.00%	34	0.02%	34	0.01%
35	0.00%	35	0.00%	35	0.00%
36	0.01%	36	0.00%	36	0.01%
37	0.00%	37	0.00%	37	0.00%
38	0.02%	38	0.01%	38	0.01%
39	0.01%	39	0.00%	39	0.01%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.53. D504 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	4.11%
4	1.62%	4	0.00%	4	1.62%	8	8.93%
5	4.15%	5	0.00%	5	4.15%	10	14.58%
6	5.10%	6	0.00%	6	5.10%	12	13.52%
7	2.45%	7	0.00%	7	2.45%	14	9.80%
8	4.98%	8	0.00%	8	4.98%	16	7.19%
9	12.89%	9	0.00%	9	12.89%	18	6.17%
10	21.50%	10	0.00%	10	21.50%	20	5.42%
11	22.25%	11	0.00%	11	22.25%	22	3.72%
12	10.63%	12	0.00%	12	10.63%	24	3.48%
13	5.53%	13	0.00%	13	5.53%	26	3.32%
14	2.45%	14	0.00%	14	2.45%	28	3.52%
15	1.50%	15	0.00%	15	1.50%	30	3.52%
16	1.58%	16	0.00%	16	1.58%	32	3.20%
17	0.87%	17	0.00%	17	0.87%	34	2.57%
18	0.79%	18	0.00%	18	0.79%	36	1.82%
19	0.99%	19	0.00%	19	0.99%	38	1.30%
20	0.47%	20	0.00%	20	0.47%	40	1.38%
21	0.16%	21	0.00%	21	0.16%	42	0.51%
22	0.04%	22	0.00%	22	0.04%	44	0.59%
23	0.00%	23	0.00%	23	0.00%	46	0.20%
24	0.00%	24	0.00%	24	0.00%	48	0.47%
25	0.00%	25	0.00%	25	0.00%	50	0.40%
26	0.00%	26	0.00%	26	0.00%	52	0.08%
27	0.04%	27	0.00%	27	0.04%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.04%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.04%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.04%
35	0.00%	35	0.00%	35	0.00%	70	0.04%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.04%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.54. D504 Class 8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	25.46%	3	16.94%
4	26.85%	4	10.83%	4	16.19%
5	24.54%	5	11.24%	5	15.69%
6	8.57%	6	8.44%	6	8.48%
7	8.57%	7	5.91%	7	6.80%
8	8.57%	8	5.95%	8	6.82%
9	9.86%	9	5.54%	9	6.98%
10	8.02%	10	5.06%	10	6.05%
11	3.47%	11	4.44%	11	4.12%
12	1.09%	12	4.10%	12	3.09%
13	0.20%	13	2.87%	13	1.98%
14	0.14%	14	2.46%	14	1.68%
15	0.00%	15	1.98%	15	1.32%
16	0.00%	16	1.98%	16	1.32%
17	0.00%	17	1.40%	17	0.93%
18	0.00%	18	0.75%	18	0.50%
19	0.07%	19	0.44%	19	0.32%
20	0.00%	20	0.51%	20	0.34%
21	0.00%	21	0.31%	21	0.20%
22	0.00%	22	0.10%	22	0.07%
23	0.00%	23	0.00%	23	0.00%
24	0.00%	24	0.03%	24	0.02%
25	0.07%	25	0.00%	25	0.02%
26	0.00%	26	0.03%	26	0.02%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.03%	31	0.02%
32	0.00%	32	0.03%	32	0.02%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.03%	34	0.02%
35	0.00%	35	0.03%	35	0.02%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.55. D504 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	7.60%	3	3.84%	6	13.47%
4	20.15%	4	9.33%	4	14.68%	8	12.20%
5	16.82%	5	13.95%	5	15.37%	10	14.08%
6	2.85%	6	14.14%	6	8.56%	12	14.61%
7	3.37%	7	7.67%	7	5.55%	14	11.69%
8	7.35%	8	5.70%	8	6.52%	16	7.09%
9	11.82%	9	5.36%	9	8.56%	18	5.80%
10	16.20%	10	5.21%	10	10.65%	20	4.50%
11	13.23%	11	4.09%	11	8.61%	22	3.81%
12	6.05%	12	3.49%	12	4.76%	24	2.24%
13	1.68%	13	3.60%	13	2.65%	26	1.86%
14	0.25%	14	3.35%	14	1.82%	28	1.25%
15	0.05%	15	3.29%	15	1.68%	30	1.54%
16	0.06%	16	3.26%	16	1.68%	32	1.91%
17	0.02%	17	3.16%	17	1.61%	34	1.87%
18	0.02%	18	2.34%	18	1.19%	36	1.30%
19	0.02%	19	1.53%	19	0.78%	38	0.54%
20	0.02%	20	1.09%	20	0.56%	40	0.13%
21	0.00%	21	0.56%	21	0.28%	42	0.03%
22	0.02%	22	0.47%	22	0.24%	44	0.00%
23	0.00%	23	0.39%	23	0.20%	46	0.02%
24	0.00%	24	0.23%	24	0.12%	48	0.02%
25	0.00%	25	0.05%	25	0.02%	50	0.00%
26	0.02%	26	0.05%	26	0.03%	52	0.00%
27	0.00%	27	0.05%	27	0.02%	54	0.02%
28	0.00%	28	0.02%	28	0.01%	56	0.00%
29	0.02%	29	0.00%	29	0.01%	58	0.02%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.02%	32	0.01%	64	0.02%
33	0.00%	33	0.02%	33	0.01%	66	0.00%
34	0.00%	34	0.02%	34	0.01%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.56. D504 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	4.57%	3	0.42%	6	0.40%
4	0.06%	4	6.44%	4	0.64%	8	1.58%
5	0.32%	5	4.40%	5	0.70%	10	3.55%
6	0.62%	6	3.63%	6	0.89%	12	4.81%
7	0.39%	7	3.09%	7	0.63%	14	5.60%
8	1.25%	8	3.07%	8	1.42%	16	5.43%
9	5.11%	9	3.30%	9	4.95%	18	5.50%
10	17.01%	10	2.91%	10	15.72%	20	5.64%
11	33.02%	11	3.08%	11	30.28%	22	5.69%
12	30.02%	12	3.14%	12	27.55%	24	5.59%
13	10.66%	13	3.51%	13	10.00%	26	5.40%
14	1.35%	14	5.12%	14	1.69%	28	5.80%
15	0.11%	15	7.04%	15	0.74%	30	7.45%
16	0.05%	16	10.33%	16	1.00%	32	11.42%
17	0.02%	17	13.38%	17	1.24%	34	13.71%
18	0.01%	18	11.25%	18	1.04%	36	8.49%
19	0.01%	19	6.38%	19	0.59%	38	2.89%
20	0.00%	20	3.16%	20	0.29%	40	0.75%
21	0.00%	21	1.22%	21	0.11%	42	0.20%
22	0.00%	22	0.40%	22	0.04%	44	0.07%
23	0.00%	23	0.22%	23	0.02%	46	0.02%
24	0.00%	24	0.06%	24	0.01%	48	0.01%
25	0.00%	25	0.10%	25	0.01%	50	0.01%
26	0.00%	26	0.05%	26	0.00%	52	0.00%
27	0.00%	27	0.01%	27	0.00%	54	0.00%
28	0.00%	28	0.02%	28	0.00%	56	0.00%
29	0.00%	29	0.01%	29	0.00%	58	0.00%
30	0.00%	30	0.02%	30	0.00%	60	0.00%
31	0.00%	31	0.02%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.02%	33	0.00%	66	0.00%
34	0.00%	34	0.01%	34	0.00%	68	0.00%
35	0.00%	35	0.02%	35	0.00%	70	0.00%
36	0.00%	36	0.01%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.57. D504 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%	12	7.54%
4	0.00%	4	0.00%	4	0.00%	8	0.35%	15	12.32%
5	0.35%	5	0.00%	5	0.35%	10	0.53%	18	11.03%
6	0.35%	6	0.00%	6	0.35%	12	1.58%	21	9.01%
7	0.53%	7	0.00%	7	0.53%	14	3.35%	24	6.80%
8	2.12%	8	0.00%	8	2.10%	16	3.87%	27	7.35%
9	7.07%	9	0.00%	9	7.01%	18	7.75%	30	6.99%
10	18.20%	10	0.00%	10	18.04%	20	9.33%	33	8.09%
11	27.21%	11	0.00%	11	27.15%	22	11.80%	36	8.82%
12	19.96%	12	0.00%	12	19.79%	24	7.92%	39	6.43%
13	12.19%	13	0.00%	13	12.08%	26	8.27%	42	5.33%
14	3.53%	14	0.00%	14	3.50%	28	9.33%	45	3.68%
15	3.18%	15	0.00%	15	3.33%	30	8.98%	48	2.57%
16	1.24%	16	0.00%	16	1.40%	32	8.45%	51	2.21%
17	1.94%	17	0.00%	17	2.28%	34	6.87%	54	0.74%
18	0.71%	18	0.00%	18	0.70%	36	4.93%	57	0.18%
19	0.35%	19	0.00%	19	0.35%	38	3.52%	60	0.37%
20	0.53%	20	0.00%	20	0.53%	40	1.94%	63	0.18%
21	0.35%	21	0.00%	21	0.35%	42	1.06%	66	0.18%
22	0.18%	22	0.00%	22	0.18%	44	0.18%	69	0.18%
23	0.00%	23	0.00%	23	0.00%	46	0.00%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.58. D504 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.13%	3	0.10%
4	2.00%	4	1.21%	4	1.38%
5	2.42%	5	2.63%	5	2.58%
6	0.64%	6	3.47%	6	2.88%
7	0.83%	7	4.16%	7	3.47%
8	3.15%	8	4.30%	8	4.06%
9	13.12%	9	5.26%	9	6.89%
10	22.15%	10	7.14%	10	10.24%
11	27.65%	11	8.43%	11	12.41%
12	21.25%	12	9.27%	12	11.75%
13	6.15%	13	10.04%	13	9.24%
14	0.60%	14	10.38%	14	8.36%
15	0.00%	15	8.74%	15	6.93%
16	0.00%	16	7.33%	16	5.81%
17	0.00%	17	5.87%	17	4.65%
18	0.01%	18	4.50%	18	3.57%
19	0.00%	19	3.30%	19	2.62%
20	0.00%	20	2.12%	20	1.68%
21	0.00%	21	1.02%	21	0.81%
22	0.00%	22	0.48%	22	0.38%
23	0.00%	23	0.14%	23	0.11%
24	0.00%	24	0.04%	24	0.03%
25	0.00%	25	0.01%	25	0.01%
26	0.00%	26	0.02%	26	0.01%
27	0.00%	27	0.00%	27	0.00%
28	0.01%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.01%	33	0.00%	33	0.01%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.01%	38	0.01%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.59. D504 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.45%	3	0.34%	6	0.17%
4	0.17%	4	1.97%	4	1.52%	8	0.65%
5	0.43%	5	2.95%	5	2.32%	10	2.65%
6	0.39%	6	4.28%	6	3.31%	12	3.99%
7	0.91%	7	4.79%	7	3.82%	14	6.77%
8	3.30%	8	5.70%	8	5.10%	16	12.11%
9	11.20%	9	7.74%	9	8.60%	18	18.53%
10	25.09%	10	9.35%	10	13.28%	20	21.48%
11	34.20%	11	11.23%	11	16.97%	22	16.71%
12	19.88%	12	12.17%	12	14.10%	24	10.16%
13	4.04%	13	11.99%	13	10.00%	26	4.08%
14	0.39%	14	10.16%	14	7.71%	28	2.00%
15	0.00%	15	6.97%	15	5.23%	30	0.69%
16	0.00%	16	4.24%	16	3.18%	32	0.00%
17	0.00%	17	2.65%	17	1.99%	34	0.00%
18	0.00%	18	1.37%	18	1.03%	36	0.00%
19	0.00%	19	0.87%	19	0.65%	38	0.00%
20	0.00%	20	0.68%	20	0.51%	40	0.00%
21	0.00%	21	0.23%	21	0.17%	42	0.00%
22	0.00%	22	0.09%	22	0.07%	44	0.00%
23	0.00%	23	0.06%	23	0.04%	46	0.00%
24	0.00%	24	0.01%	24	0.01%	48	0.00%
25	0.00%	25	0.04%	25	0.03%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.01%	29	0.01%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.60. D504 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	43.66%	3	31.07%	6	0.51%	12	14.29%	12	0.00%
4	14.94%	4	8.73%	4	10.52%	8	2.02%	15	0.00%	15	0.00%
5	27.87%	5	6.17%	5	12.43%	10	2.53%	18	0.00%	18	4.17%
6	16.38%	6	3.03%	6	6.88%	12	4.04%	21	7.14%	21	4.17%
7	4.89%	7	2.91%	7	3.48%	14	7.58%	24	14.29%	24	12.50%
8	3.16%	8	5.70%	8	4.97%	16	7.07%	27	7.14%	27	0.00%
9	7.47%	9	6.64%	9	6.88%	18	9.09%	30	0.00%	30	0.00%
10	8.62%	10	6.40%	10	7.04%	20	7.07%	33	0.00%	33	4.17%
11	6.61%	11	4.54%	11	5.14%	22	8.59%	36	21.43%	36	25.00%
12	3.45%	12	3.14%	12	3.23%	24	6.06%	39	7.14%	39	0.00%
13	3.45%	13	1.40%	13	1.99%	26	6.06%	42	0.00%	42	4.17%
14	0.86%	14	1.63%	14	1.41%	28	4.55%	45	0.00%	45	12.50%
15	0.57%	15	0.70%	15	0.66%	30	2.02%	48	0.00%	48	8.33%
16	1.15%	16	0.81%	16	0.91%	32	4.04%	51	0.00%	51	0.00%
17	0.00%	17	0.93%	17	0.66%	34	5.56%	54	7.14%	54	0.00%
18	0.00%	18	0.35%	18	0.25%	36	5.56%	57	0.00%	57	4.17%
19	0.00%	19	1.28%	19	0.91%	38	6.57%	60	21.43%	60	0.00%
20	0.00%	20	0.35%	20	0.25%	40	3.54%	63	0.00%	63	4.17%
21	0.00%	21	0.47%	21	0.33%	42	2.02%	66	0.00%	66	8.33%
22	0.00%	22	0.12%	22	0.08%	44	3.03%	69	0.00%	69	0.00%
23	0.00%	23	0.12%	23	0.08%	46	1.01%	72	0.00%	72	4.17%
24	0.29%	24	0.35%	24	0.33%	48	0.00%	75	0.00%	75	4.17%
25	0.00%	25	0.00%	25	0.00%	50	1.01%	78	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.51%	81	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%	84	0.00%
28	0.29%	28	0.12%	28	0.17%	56	0.00%	87	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	0.00%
30	0.00%	30	0.35%	30	0.25%	60	0.00%	93	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.12%	36	0.08%	72	0.00%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.61. D506 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.00%	4	0.00%	4	0.00%	8	1.69%
5	0.89%	5	0.00%	5	0.74%	10	3.39%
6	2.68%	6	2.13%	6	2.58%	12	2.26%
7	4.46%	7	0.00%	7	3.69%	14	1.13%
8	9.38%	8	4.26%	8	8.49%	16	2.82%
9	8.48%	9	10.64%	9	8.86%	18	4.52%
10	8.04%	10	17.02%	10	9.59%	20	5.65%
11	8.04%	11	12.77%	11	8.86%	22	14.12%
12	12.50%	12	10.64%	12	12.18%	24	14.69%
13	19.20%	13	19.15%	13	19.19%	26	12.43%
14	14.73%	14	10.64%	14	14.02%	28	14.69%
15	7.14%	15	6.38%	15	7.01%	30	13.56%
16	3.13%	16	2.13%	16	2.95%	32	6.78%
17	1.34%	17	2.13%	17	1.48%	34	2.26%
18	0.00%	18	0.00%	18	0.00%	36	0.00%
19	0.00%	19	0.00%	19	0.00%	38	0.00%
20	0.00%	20	2.13%	20	0.37%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.62. D506 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	18.43%	3	9.09%
4	46.10%	4	31.34%	4	38.82%
5	29.06%	5	12.84%	5	21.06%
6	6.19%	6	7.18%	6	6.68%
7	5.26%	7	5.84%	7	5.55%
8	4.71%	8	4.90%	8	4.80%
9	3.43%	9	3.69%	9	3.56%
10	1.92%	10	2.83%	10	2.37%
11	1.21%	11	2.61%	11	1.90%
12	0.68%	12	2.07%	12	1.37%
13	0.30%	13	1.57%	13	0.93%
14	0.15%	14	1.27%	14	0.70%
15	0.20%	15	1.17%	15	0.68%
16	0.18%	16	0.76%	16	0.46%
17	0.30%	17	0.73%	17	0.51%
18	0.18%	18	0.57%	18	0.37%
19	0.10%	19	0.61%	19	0.35%
20	0.02%	20	0.80%	20	0.40%
21	0.02%	21	0.34%	21	0.18%
22	0.00%	22	0.21%	22	0.10%
23	0.00%	23	0.06%	23	0.03%
24	0.00%	24	0.06%	24	0.03%
25	0.00%	25	0.06%	25	0.03%
26	0.00%	26	0.03%	26	0.02%
27	0.00%	27	0.01%	27	0.00%
28	0.00%	28	0.01%	28	0.00%
29	0.00%	29	0.02%	29	0.01%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.63. D506 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	1.24%
4	0.46%	4	0.00%	4	0.46%	8	4.72%
5	3.03%	5	0.00%	5	3.03%	10	14.99%
6	4.95%	6	0.00%	6	4.95%	12	10.77%
7	7.02%	7	0.00%	7	7.02%	14	8.25%
8	8.90%	8	0.00%	8	8.90%	16	9.45%
9	10.82%	9	0.00%	9	10.82%	18	7.02%
10	18.25%	10	0.00%	10	18.25%	20	5.87%
11	19.94%	11	0.00%	11	19.94%	22	6.88%
12	12.84%	12	0.00%	12	12.84%	24	7.06%
13	5.41%	13	0.00%	13	5.41%	26	4.59%
14	1.88%	14	0.00%	14	1.88%	28	2.84%
15	1.56%	15	0.00%	15	1.56%	30	2.48%
16	1.15%	16	0.00%	16	1.15%	32	2.38%
17	1.93%	17	0.00%	17	1.93%	34	3.12%
18	0.96%	18	0.00%	18	0.96%	36	2.71%
19	0.64%	19	0.00%	19	0.64%	38	1.93%
20	0.18%	20	0.00%	20	0.18%	40	1.42%
21	0.09%	21	0.00%	21	0.09%	42	1.10%
22	0.00%	22	0.00%	22	0.00%	44	0.50%
23	0.00%	23	0.00%	23	0.00%	46	0.37%
24	0.00%	24	0.00%	24	0.00%	48	0.28%
25	0.00%	25	0.00%	25	0.00%	50	0.05%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.64. D506 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	25.37%	3	16.80%
4	22.70%	4	9.91%	4	14.23%
5	21.00%	5	8.90%	5	12.99%
6	9.71%	6	6.89%	6	7.85%
7	14.30%	7	6.22%	7	8.95%
8	12.99%	8	6.22%	8	8.51%
9	9.19%	9	6.83%	9	7.62%
10	5.12%	10	6.43%	10	5.98%
11	2.36%	11	5.49%	11	4.43%
12	0.52%	12	4.35%	12	3.06%
13	0.66%	13	2.88%	13	2.13%
14	0.52%	14	2.48%	14	1.82%
15	0.66%	15	1.54%	15	1.24%
16	0.00%	16	2.07%	16	1.37%
17	0.13%	17	1.41%	17	0.98%
18	0.00%	18	1.20%	18	0.80%
19	0.00%	19	0.74%	19	0.49%
20	0.13%	20	0.40%	20	0.31%
21	0.00%	21	0.20%	21	0.13%
22	0.00%	22	0.13%	22	0.09%
23	0.00%	23	0.27%	23	0.18%
24	0.00%	24	0.00%	24	0.00%
25	0.00%	25	0.07%	25	0.04%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.65. D506 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	5.55%	3	2.82%	6	24.89%
4	26.92%	4	6.48%	4	16.55%	8	18.51%
5	27.23%	5	20.62%	5	23.88%	10	13.52%
6	3.91%	6	18.51%	6	11.31%	12	11.43%
7	5.45%	7	9.25%	7	7.38%	14	9.82%
8	6.29%	8	6.02%	8	6.15%	16	5.95%
9	10.10%	9	5.30%	9	7.66%	18	3.22%
10	9.52%	10	5.30%	10	7.38%	20	3.17%
11	7.62%	11	3.75%	11	5.66%	22	2.36%
12	2.33%	12	2.62%	12	2.48%	24	1.39%
13	0.48%	13	2.21%	13	1.36%	26	1.23%
14	0.11%	14	2.42%	14	1.28%	28	0.59%
15	0.05%	15	2.01%	15	1.04%	30	0.59%
16	0.00%	16	1.65%	16	0.83%	32	0.48%
17	0.00%	17	1.75%	17	0.89%	34	1.07%
18	0.00%	18	1.54%	18	0.78%	36	1.02%
19	0.00%	19	1.85%	19	0.94%	38	0.64%
20	0.00%	20	1.13%	20	0.57%	40	0.11%
21	0.00%	21	0.57%	21	0.29%	42	0.00%
22	0.00%	22	0.57%	22	0.29%	44	0.00%
23	0.00%	23	0.41%	23	0.21%	46	0.00%
24	0.00%	24	0.31%	24	0.16%	48	0.00%
25	0.00%	25	0.05%	25	0.03%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.05%	28	0.03%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.05%	30	0.03%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.05%	34	0.03%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.66. D506 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	1.68%	3	0.15%	6	0.30%
4	0.09%	4	5.30%	4	0.56%	8	1.91%
5	0.64%	5	8.39%	5	1.34%	10	4.80%
6	0.58%	6	3.97%	6	0.89%	12	5.23%
7	0.57%	7	3.30%	7	0.81%	14	6.25%
8	1.51%	8	3.35%	8	1.68%	16	5.40%
9	6.63%	9	2.97%	9	6.30%	18	4.63%
10	20.71%	10	2.50%	10	19.06%	20	4.38%
11	37.98%	11	2.56%	11	34.77%	22	4.57%
12	25.69%	12	2.47%	12	23.58%	24	4.44%
13	4.90%	13	2.65%	13	4.70%	26	4.18%
14	0.59%	14	3.50%	14	0.85%	28	4.51%
15	0.09%	15	4.97%	15	0.54%	30	6.39%
16	0.02%	16	9.65%	16	0.89%	32	12.20%
17	0.01%	17	15.45%	17	1.41%	34	16.44%
18	0.00%	18	14.69%	18	1.33%	36	9.04%
19	0.00%	19	7.27%	19	0.66%	38	3.48%
20	0.00%	20	3.15%	20	0.29%	40	1.17%
21	0.00%	21	1.32%	21	0.12%	42	0.42%
22	0.00%	22	0.59%	22	0.05%	44	0.14%
23	0.00%	23	0.09%	23	0.01%	46	0.05%
24	0.00%	24	0.09%	24	0.01%	48	0.02%
25	0.00%	25	0.06%	25	0.01%	50	0.02%
26	0.00%	26	0.00%	26	0.00%	52	0.01%
27	0.00%	27	0.00%	27	0.00%	54	0.01%
28	0.00%	28	0.03%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.67. D506 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.20%	6	0.00%	12	3.89%
4	0.20%	4	0.00%	4	0.40%	8	0.20%	15	10.45%
5	0.60%	5	0.00%	5	0.60%	10	0.80%	18	13.11%
6	0.40%	6	0.00%	6	0.40%	12	1.79%	21	8.81%
7	0.60%	7	0.00%	7	0.60%	14	2.99%	24	6.15%
8	1.40%	8	0.00%	8	1.39%	16	7.17%	27	6.15%
9	7.20%	9	0.00%	9	7.17%	18	8.76%	30	5.74%
10	27.80%	10	0.00%	10	27.69%	20	9.36%	33	4.51%
11	38.60%	11	0.00%	11	38.45%	22	7.77%	36	7.79%
12	14.80%	12	0.00%	12	14.74%	24	5.38%	39	11.48%
13	4.80%	13	0.00%	13	4.78%	26	8.96%	42	7.58%
14	1.80%	14	0.00%	14	1.79%	28	8.37%	45	4.71%
15	1.20%	15	0.00%	15	1.20%	30	9.36%	48	2.66%
16	0.40%	16	0.00%	16	0.40%	32	8.17%	51	2.66%
17	0.00%	17	0.00%	17	0.00%	34	7.37%	54	1.23%
18	0.20%	18	0.00%	18	0.20%	36	4.38%	57	1.23%
19	0.00%	19	0.00%	19	0.00%	38	2.39%	60	1.02%
20	0.00%	20	0.00%	20	0.00%	40	1.99%	63	0.20%
21	0.00%	21	0.00%	21	0.00%	42	2.19%	66	0.41%
22	0.00%	22	0.00%	22	0.00%	44	1.59%	69	0.20%
23	0.00%	23	0.00%	23	0.00%	46	0.60%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.20%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.20%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.68. D506 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.11%	3	0.09%
4	0.66%	4	0.46%	4	0.50%
5	1.92%	5	3.76%	5	3.38%
6	0.96%	6	4.49%	6	3.76%
7	1.00%	7	4.52%	7	3.80%
8	3.18%	8	4.42%	8	4.16%
9	12.48%	9	5.81%	9	7.18%
10	27.47%	10	7.05%	10	11.25%
11	32.50%	11	7.76%	11	12.85%
12	16.62%	12	9.82%	12	11.22%
13	2.99%	13	11.38%	13	9.66%
14	0.22%	14	10.17%	14	8.12%
15	0.00%	15	9.16%	15	7.28%
16	0.00%	16	7.07%	16	5.61%
17	0.00%	17	5.06%	17	4.02%
18	0.00%	18	4.11%	18	3.27%
19	0.00%	19	2.54%	19	2.02%
20	0.00%	20	1.52%	20	1.21%
21	0.00%	21	0.48%	21	0.38%
22	0.00%	22	0.15%	22	0.12%
23	0.00%	23	0.07%	23	0.05%
24	0.00%	24	0.06%	24	0.05%
25	0.00%	25	0.02%	25	0.02%
26	0.00%	26	0.01%	26	0.01%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.69. D506 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.34%	3	0.26%	6	0.15%
4	0.29%	4	1.65%	4	1.31%	8	0.44%
5	0.88%	5	6.72%	5	5.26%	10	1.75%
6	0.15%	6	7.45%	6	5.62%	12	5.84%
7	1.17%	7	5.55%	7	4.45%	14	6.57%
8	1.46%	8	5.50%	8	4.49%	16	8.47%
9	12.12%	9	8.03%	9	9.05%	18	16.93%
10	34.60%	10	9.39%	10	15.69%	20	25.55%
11	37.23%	11	11.09%	11	17.63%	22	16.06%
12	11.39%	12	12.26%	12	12.04%	24	10.51%
13	0.58%	13	11.44%	13	8.72%	26	5.55%
14	0.15%	14	8.37%	14	6.31%	28	1.75%
15	0.00%	15	4.43%	15	3.32%	30	0.44%
16	0.00%	16	3.50%	16	2.63%	32	0.00%
17	0.00%	17	1.95%	17	1.46%	34	0.00%
18	0.00%	18	1.65%	18	1.24%	36	0.00%
19	0.00%	19	0.29%	19	0.22%	38	0.00%
20	0.00%	20	0.15%	20	0.11%	40	0.00%
21	0.00%	21	0.05%	21	0.04%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.10%	23	0.07%	46	0.00%
24	0.00%	24	0.05%	24	0.04%	48	0.00%
25	0.00%	25	0.05%	25	0.04%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.70. D506 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	46.11%	3	33.05%	6	3.33%	12	0.00%	12	0.00%
4	18.18%	4	5.99%	4	9.44%	8	0.00%	15	0.00%	15	0.00%
5	13.64%	5	2.99%	5	6.01%	10	6.67%	18	0.00%	18	0.00%
6	13.64%	6	2.40%	6	5.58%	12	0.00%	21	0.00%	21	0.00%
7	10.61%	7	2.40%	7	4.72%	14	3.33%	24	0.00%	24	0.00%
8	7.58%	8	6.59%	8	6.87%	16	0.00%	27	0.00%	27	0.00%
9	4.55%	9	2.40%	9	3.00%	18	3.33%	30	0.00%	30	0.00%
10	13.64%	10	6.59%	10	8.58%	20	3.33%	33	0.00%	33	0.00%
11	10.61%	11	3.59%	11	5.58%	22	6.67%	36	0.00%	36	0.00%
12	6.06%	12	4.79%	12	5.15%	24	3.33%	39	50.00%	39	0.00%
13	0.00%	13	3.59%	13	2.58%	26	3.33%	42	0.00%	42	0.00%
14	1.52%	14	1.80%	14	1.72%	28	10.00%	45	0.00%	45	0.00%
15	0.00%	15	2.99%	15	2.15%	30	6.67%	48	0.00%	48	0.00%
16	0.00%	16	2.40%	16	1.72%	32	20.00%	51	0.00%	51	0.00%
17	0.00%	17	1.20%	17	0.86%	34	13.33%	54	0.00%	54	33.33%
18	0.00%	18	1.20%	18	0.86%	36	3.33%	57	50.00%	57	0.00%
19	0.00%	19	0.00%	19	0.00%	38	3.33%	60	0.00%	60	0.00%
20	0.00%	20	1.80%	20	1.29%	40	0.00%	63	0.00%	63	33.33%
21	0.00%	21	1.20%	21	0.86%	42	3.33%	66	0.00%	66	33.33%
22	0.00%	22	0.00%	22	0.00%	44	3.33%	69	0.00%	69	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%	72	0.00%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%	75	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	3.33%	78	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.00%	36	0.00%	72	0.00%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.71. D507 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	1.01%	3	0.28%	6	0.21%
4	0.51%	4	1.01%	4	0.65%	8	0.21%
5	1.92%	5	0.50%	5	1.53%	10	0.93%
6	2.43%	6	1.17%	6	2.08%	12	2.06%
7	5.24%	7	1.85%	7	4.30%	14	1.86%
8	10.73%	8	4.70%	8	9.07%	16	2.17%
9	12.40%	9	8.05%	9	11.20%	18	3.61%
10	15.27%	10	13.59%	10	14.81%	20	16.00%
11	15.14%	11	18.12%	11	15.96%	22	20.74%
12	13.67%	12	14.60%	12	13.93%	24	18.27%
13	10.10%	13	11.58%	13	10.50%	26	12.49%
14	5.43%	14	7.72%	14	6.06%	28	8.36%
15	2.68%	15	7.21%	15	3.93%	30	6.60%
16	1.21%	16	3.69%	16	1.90%	32	3.30%
17	1.28%	17	1.17%	17	1.25%	34	1.14%
18	0.38%	18	1.85%	18	0.79%	36	0.52%
19	0.58%	19	0.84%	19	0.65%	38	0.62%
20	0.13%	20	0.50%	20	0.23%	40	0.52%
21	0.32%	21	0.34%	21	0.32%	42	0.00%
22	0.38%	22	0.17%	22	0.32%	44	0.31%
23	0.00%	23	0.00%	23	0.00%	46	0.10%
24	0.00%	24	0.34%	24	0.09%	48	0.00%
25	0.06%	25	0.00%	25	0.05%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.06%	28	0.00%	28	0.05%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.06%	34	0.00%	34	0.05%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.72. D507 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.52%	3	14.52%	3	7.45%
4	38.08%	4	23.26%	4	30.74%
5	25.46%	5	12.25%	5	18.92%
6	9.73%	6	8.43%	6	9.09%
7	7.82%	7	6.38%	7	7.11%
8	6.77%	8	6.00%	8	6.39%
9	4.54%	9	5.79%	9	5.16%
10	2.69%	10	4.98%	10	3.83%
11	1.61%	11	3.82%	11	2.70%
12	0.90%	12	2.86%	12	1.87%
13	0.42%	13	2.25%	13	1.33%
14	0.25%	14	1.97%	14	1.10%
15	0.19%	15	1.50%	15	0.84%
16	0.21%	16	1.30%	16	0.75%
17	0.21%	17	1.06%	17	0.63%
18	0.18%	18	0.82%	18	0.50%
19	0.12%	19	0.63%	19	0.37%
20	0.09%	20	0.49%	20	0.29%
21	0.06%	21	0.38%	21	0.22%
22	0.03%	22	0.26%	22	0.14%
23	0.02%	23	0.19%	23	0.11%
24	0.02%	24	0.18%	24	0.10%
25	0.01%	25	0.14%	25	0.08%
26	0.02%	26	0.11%	26	0.07%
27	0.01%	27	0.13%	27	0.07%
28	0.01%	28	0.09%	28	0.05%
29	0.01%	29	0.09%	29	0.05%
30	0.00%	30	0.02%	30	0.01%
31	0.00%	31	0.02%	31	0.01%
32	0.00%	32	0.01%	32	0.01%
33	0.00%	33	0.01%	33	0.01%
34	0.00%	34	0.01%	34	0.01%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.01%	36	0.01%
37	0.00%	37	0.01%	37	0.01%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.01%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.73. D507 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.04%	3	0.00%	3	0.04%	6	1.28%
4	1.20%	4	0.00%	4	1.20%	8	6.46%
5	4.70%	5	0.00%	5	4.70%	10	11.94%
6	4.06%	6	0.00%	6	4.06%	12	10.01%
7	5.34%	7	0.00%	7	5.34%	14	10.19%
8	10.80%	8	0.00%	8	10.80%	16	7.29%
9	17.38%	9	0.00%	9	17.38%	18	5.59%
10	21.97%	10	0.00%	10	21.97%	20	5.54%
11	15.46%	11	0.00%	11	15.46%	22	3.27%
12	8.18%	12	0.00%	12	8.18%	24	3.18%
13	4.13%	13	0.00%	13	4.13%	26	2.77%
14	2.83%	14	0.00%	14	2.83%	28	2.50%
15	1.50%	15	0.00%	15	1.50%	30	2.77%
16	0.78%	16	0.00%	16	0.78%	32	3.88%
17	0.49%	17	0.00%	17	0.49%	34	4.21%
18	0.25%	18	0.00%	18	0.25%	36	4.15%
19	0.19%	19	0.00%	19	0.19%	38	3.26%
20	0.17%	20	0.00%	20	0.17%	40	1.94%
21	0.11%	21	0.00%	21	0.11%	42	1.48%
22	0.07%	22	0.00%	22	0.07%	44	1.36%
23	0.05%	23	0.00%	23	0.05%	46	0.75%
24	0.07%	24	0.00%	24	0.07%	48	0.76%
25	0.05%	25	0.00%	25	0.05%	50	0.64%
26	0.05%	26	0.00%	26	0.05%	52	0.59%
27	0.03%	27	0.00%	27	0.03%	54	0.64%
28	0.02%	28	0.00%	28	0.02%	56	0.60%
29	0.04%	29	0.00%	29	0.04%	58	0.58%
30	0.02%	30	0.00%	30	0.02%	60	0.47%
31	0.01%	31	0.00%	31	0.01%	62	0.34%
32	0.00%	32	0.00%	32	0.00%	64	0.28%
33	0.01%	33	0.00%	33	0.01%	66	0.28%
34	0.00%	34	0.00%	34	0.00%	68	0.19%
35	0.00%	35	0.00%	35	0.00%	70	0.15%
36	0.00%	36	0.00%	36	0.00%	72	0.13%
37	0.00%	37	0.00%	37	0.00%	74	0.07%
38	0.00%	38	0.00%	38	0.00%	76	0.10%
39	0.00%	39	0.00%	39	0.00%	78	0.13%
40	0.00%	40	0.00%	40	0.00%	80	0.10%
41	0.00%	41	0.00%	41	0.00%	82	0.13%

**Table A.74. D507 Class7**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	2.56%	12	9.09%
4	0.00%	4	0.00%	4	0.00%	15	9.09%
5	5.56%	5	0.00%	5	5.13%	18	15.15%
6	0.00%	6	0.00%	6	0.00%	21	6.06%
7	0.00%	7	0.00%	7	0.00%	24	6.06%
8	16.67%	8	0.00%	8	17.95%	27	0.00%
9	19.44%	9	0.00%	9	20.51%	30	3.03%
10	5.56%	10	0.00%	10	5.13%	33	6.06%
11	8.33%	11	0.00%	11	7.69%	36	12.12%
12	8.33%	12	0.00%	12	7.69%	39	6.06%
13	13.89%	13	0.00%	13	12.82%	42	3.03%
14	5.56%	14	0.00%	14	5.13%	45	6.06%
15	0.00%	15	0.00%	15	0.00%	48	0.00%
16	2.78%	16	0.00%	16	2.56%	51	3.03%
17	5.56%	17	0.00%	17	5.13%	54	3.03%
18	5.56%	18	0.00%	18	5.13%	57	0.00%
19	2.78%	19	0.00%	19	2.56%	60	0.00%
20	0.00%	20	0.00%	20	0.00%	63	0.00%
21	0.00%	21	0.00%	21	0.00%	66	3.03%
22	0.00%	22	0.00%	22	0.00%	69	0.00%
23	0.00%	23	0.00%	23	0.00%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	78	3.03%
26	0.00%	26	0.00%	26	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	87	3.03%
29	0.00%	29	0.00%	29	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	102	3.03%
34	0.00%	34	0.00%	34	0.00%		
35	0.00%	35	0.00%	35	0.00%		
36	0.00%	36	0.00%	36	0.00%		
37	0.00%	37	0.00%	37	0.00%		
38	0.00%	38	0.00%	38	0.00%		
39	0.00%	39	0.00%	39	0.00%		
40	0.00%	40	0.00%	40	0.00%		
41	0.00%	41	0.00%	41	0.00%		

**Table A.75. D507 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.39%	3	19.28%	3	13.29%
4	18.77%	4	7.58%	4	11.33%
5	12.40%	5	8.30%	5	9.68%
6	6.97%	6	5.73%	6	6.15%
7	11.04%	7	6.15%	7	7.79%
8	14.79%	8	7.00%	8	9.61%
9	17.58%	9	6.74%	9	10.37%
10	11.00%	10	6.90%	10	8.27%
11	3.07%	11	6.13%	11	5.11%
12	1.55%	12	5.21%	12	3.98%
13	0.60%	13	4.83%	13	3.41%
14	0.28%	14	3.54%	14	2.45%
15	0.16%	15	2.96%	15	2.02%
16	0.04%	16	2.84%	16	1.90%
17	0.04%	17	2.15%	17	1.44%
18	0.08%	18	1.41%	18	0.96%
19	0.12%	19	0.92%	19	0.65%
20	0.00%	20	0.64%	20	0.43%
21	0.12%	21	0.38%	21	0.29%
22	0.00%	22	0.30%	22	0.20%
23	0.00%	23	0.32%	23	0.21%
24	0.00%	24	0.06%	24	0.04%
25	0.00%	25	0.04%	25	0.03%
26	0.00%	26	0.14%	26	0.09%
27	0.00%	27	0.06%	27	0.04%
28	0.00%	28	0.06%	28	0.04%
29	0.00%	29	0.06%	29	0.04%
30	0.00%	30	0.12%	30	0.08%
31	0.00%	31	0.06%	31	0.04%
32	0.00%	32	0.04%	32	0.03%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.02%	34	0.01%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.02%	38	0.01%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.76. D507 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.36%	3	3.29%	3	1.83%	6	8.10%
4	15.74%	4	5.01%	4	10.35%	8	9.03%
5	11.34%	5	8.33%	5	9.83%	10	10.20%
6	3.26%	6	9.22%	6	6.25%	12	14.64%
7	5.87%	7	7.57%	7	6.72%	14	14.37%
8	14.60%	8	6.13%	8	10.35%	16	11.67%
9	20.40%	9	6.15%	9	13.25%	18	8.30%
10	15.64%	10	7.59%	10	11.59%	20	5.95%
11	8.14%	11	7.52%	11	7.83%	22	4.82%
12	3.09%	12	5.90%	12	4.50%	24	3.77%
13	0.84%	13	5.37%	13	3.12%	26	2.73%
14	0.32%	14	4.56%	14	2.45%	28	1.53%
15	0.21%	15	4.48%	15	2.35%	30	1.01%
16	0.07%	16	3.98%	16	2.04%	32	0.87%
17	0.04%	17	3.66%	17	1.86%	34	0.63%
18	0.00%	18	3.14%	18	1.57%	36	0.61%
19	0.02%	19	2.64%	19	1.34%	38	0.55%
20	0.01%	20	1.89%	20	0.96%	40	0.31%
21	0.01%	21	1.08%	21	0.54%	42	0.12%
22	0.01%	22	0.80%	22	0.41%	44	0.10%
23	0.01%	23	0.55%	23	0.28%	46	0.09%
24	0.01%	24	0.30%	24	0.16%	48	0.04%
25	0.01%	25	0.21%	25	0.11%	50	0.04%
26	0.00%	26	0.18%	26	0.09%	52	0.03%
27	0.00%	27	0.13%	27	0.06%	54	0.05%
28	0.00%	28	0.11%	28	0.06%	56	0.01%
29	0.01%	29	0.10%	29	0.05%	58	0.02%
30	0.00%	30	0.05%	30	0.03%	60	0.01%
31	0.00%	31	0.03%	31	0.01%	62	0.01%
32	0.00%	32	0.01%	32	0.00%	64	0.03%
33	0.00%	33	0.01%	33	0.00%	66	0.06%
34	0.00%	34	0.00%	34	0.00%	68	0.05%
35	0.00%	35	0.01%	35	0.00%	70	0.02%
36	0.00%	36	0.01%	36	0.01%	72	0.04%
37	0.00%	37	0.00%	37	0.00%	74	0.07%
38	0.00%	38	0.00%	38	0.00%	76	0.04%
39	0.00%	39	0.00%	39	0.00%	78	0.04%
40	0.00%	40	0.00%	40	0.00%	80	0.03%
41	0.00%	41	0.01%	41	0.01%	82	0.00%

**Table A.77. D507 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.02%	3	1.88%	3	0.19%	6	0.28%
4	0.08%	4	7.50%	4	0.77%	8	1.92%
5	0.42%	5	8.60%	5	1.18%	10	4.86%
6	0.51%	6	4.07%	6	0.84%	12	7.83%
7	1.08%	7	3.55%	7	1.31%	14	9.66%
8	5.28%	8	3.28%	8	5.09%	16	7.54%
9	16.80%	9	3.42%	9	15.56%	18	5.64%
10	29.85%	10	2.80%	10	27.34%	20	4.90%
11	27.11%	11	2.66%	11	24.84%	22	4.61%
12	12.67%	12	2.57%	12	11.73%	24	4.33%
13	3.98%	13	3.09%	13	3.90%	26	4.31%
14	1.05%	14	4.09%	14	1.33%	28	4.95%
15	0.47%	15	5.24%	15	0.91%	30	6.61%
16	0.24%	16	7.31%	16	0.90%	32	9.70%
17	0.12%	17	9.68%	17	1.00%	34	10.17%
18	0.10%	18	10.21%	18	1.04%	36	6.33%
19	0.06%	19	7.72%	19	0.77%	38	2.80%
20	0.04%	20	4.62%	20	0.46%	40	1.19%
21	0.03%	21	2.68%	21	0.27%	42	0.54%
22	0.03%	22	1.59%	22	0.17%	44	0.32%
23	0.02%	23	1.08%	23	0.12%	46	0.21%
24	0.01%	24	0.64%	24	0.07%	48	0.16%
25	0.01%	25	0.52%	25	0.06%	50	0.15%
26	0.00%	26	0.39%	26	0.04%	52	0.13%
27	0.01%	27	0.22%	27	0.03%	54	0.12%
28	0.00%	28	0.18%	28	0.02%	56	0.12%
29	0.00%	29	0.13%	29	0.02%	58	0.12%
30	0.00%	30	0.10%	30	0.01%	60	0.08%
31	0.00%	31	0.07%	31	0.01%	62	0.08%
32	0.00%	32	0.05%	32	0.00%	64	0.08%
33	0.00%	33	0.01%	33	0.00%	66	0.06%
34	0.00%	34	0.02%	34	0.00%	68	0.05%
35	0.00%	35	0.02%	35	0.00%	70	0.04%
36	0.00%	36	0.01%	36	0.00%	72	0.03%
37	0.00%	37	0.01%	37	0.00%	74	0.03%
38	0.00%	38	0.00%	38	0.00%	76	0.03%
39	0.00%	39	0.00%	39	0.00%	78	0.03%
40	0.00%	40	0.00%	40	0.00%	80	0.02%
41	0.00%	41	0.00%	41	0.00%	82	0.02%

**Table A.78. D507 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	11.11%	3	0.08%	6	0.04%	12	7.15%
4	0.21%	4	38.89%	4	0.49%	8	0.50%	15	15.90%
5	0.58%	5	5.56%	5	0.62%	10	1.82%	18	10.62%
6	0.75%	6	16.67%	6	0.87%	12	4.64%	21	5.29%
7	1.33%	7	11.11%	7	1.40%	14	5.84%	24	5.03%
8	4.57%	8	5.56%	8	4.58%	16	7.12%	27	3.77%
9	15.41%	9	0.00%	9	15.30%	18	7.70%	30	4.59%
10	27.88%	10	5.56%	10	27.71%	20	8.53%	33	5.46%
11	26.46%	11	0.00%	11	26.27%	22	7.20%	36	7.06%
12	13.05%	12	5.56%	12	12.99%	24	6.95%	39	9.79%
13	5.32%	13	0.00%	13	5.28%	26	6.58%	42	8.45%
14	2.08%	14	0.00%	14	2.06%	28	7.57%	45	4.98%
15	0.79%	15	0.00%	15	0.78%	30	9.52%	48	3.21%
16	0.62%	16	0.00%	16	0.62%	32	6.62%	51	2.47%
17	0.54%	17	0.00%	17	0.54%	34	4.88%	54	1.39%
18	0.08%	18	0.00%	18	0.08%	36	3.44%	57	1.08%
19	0.04%	19	0.00%	19	0.04%	38	3.31%	60	1.08%
20	0.04%	20	0.00%	20	0.04%	40	2.15%	63	0.43%
21	0.04%	21	0.00%	21	0.04%	42	1.74%	66	0.26%
22	0.08%	22	0.00%	22	0.08%	44	0.58%	69	0.22%
23	0.00%	23	0.00%	23	0.00%	46	0.62%	72	0.17%
24	0.08%	24	0.00%	24	0.08%	48	0.79%	75	0.17%
25	0.00%	25	0.00%	25	0.00%	50	0.29%	78	0.22%
26	0.00%	26	0.00%	26	0.00%	52	0.46%	81	0.22%
27	0.00%	27	0.00%	27	0.00%	54	0.17%	84	0.04%
28	0.00%	28	0.00%	28	0.00%	56	0.04%	87	0.04%
29	0.04%	29	0.00%	29	0.04%	58	0.33%	90	0.22%
30	0.00%	30	0.00%	30	0.00%	60	0.12%	93	0.04%
31	0.00%	31	0.00%	31	0.00%	62	0.08%	96	0.04%
32	0.00%	32	0.00%	32	0.00%	64	0.12%	99	0.13%
33	0.00%	33	0.00%	33	0.00%	66	0.17%	102	0.48%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.04%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.04%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.79. D507 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.15%	3	0.08%	3	0.09%
4	2.42%	4	0.17%	4	0.64%
5	2.21%	5	1.26%	5	1.46%
6	1.14%	6	3.87%	6	3.30%
7	1.90%	7	6.75%	7	5.74%
8	10.41%	8	5.86%	8	6.81%
9	29.35%	9	6.32%	9	11.12%
10	30.17%	10	7.58%	10	12.29%
11	15.88%	11	8.25%	11	9.84%
12	4.83%	12	9.04%	12	8.16%
13	0.80%	13	9.37%	13	7.58%
14	0.35%	14	9.39%	14	7.51%
15	0.17%	15	8.52%	15	6.78%
16	0.08%	16	7.20%	16	5.71%
17	0.08%	17	5.65%	17	4.49%
18	0.05%	18	4.06%	18	3.22%
19	0.00%	19	2.81%	19	2.23%
20	0.00%	20	1.71%	20	1.35%
21	0.00%	21	0.95%	21	0.76%
22	0.00%	22	0.48%	22	0.38%
23	0.00%	23	0.24%	23	0.19%
24	0.00%	24	0.11%	24	0.08%
25	0.00%	25	0.06%	25	0.04%
26	0.00%	26	0.08%	26	0.07%
27	0.00%	27	0.06%	27	0.04%
28	0.00%	28	0.05%	28	0.04%
29	0.00%	29	0.04%	29	0.03%
30	0.00%	30	0.02%	30	0.01%
31	0.00%	31	0.01%	31	0.01%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.01%	35	0.01%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.80. D507 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.16%	3	0.12%	6	0.16%
4	0.20%	4	0.48%	4	0.41%	8	0.28%
5	0.84%	5	2.14%	5	1.82%	10	1.20%
6	0.80%	6	6.16%	6	4.82%	12	5.44%
7	2.12%	7	10.36%	7	8.30%	14	9.04%
8	15.37%	8	8.28%	8	10.05%	16	9.48%
9	33.43%	9	8.24%	9	14.55%	18	17.04%
10	28.74%	10	8.66%	10	13.70%	20	18.56%
11	12.89%	11	9.53%	11	10.38%	22	14.16%
12	4.20%	12	9.57%	12	8.23%	24	9.28%
13	0.60%	13	8.53%	13	6.54%	26	5.72%
14	0.36%	14	7.89%	14	6.00%	28	3.40%
15	0.12%	15	6.05%	15	4.57%	30	1.64%
16	0.12%	16	3.82%	16	2.89%	32	0.72%
17	0.08%	17	3.20%	17	2.42%	34	0.16%
18	0.00%	18	2.36%	18	1.77%	36	0.36%
19	0.08%	19	1.42%	19	1.08%	38	0.24%
20	0.04%	20	1.02%	20	0.77%	40	0.80%
21	0.00%	21	0.52%	21	0.39%	42	0.44%
22	0.00%	22	0.39%	22	0.29%	44	0.56%
23	0.00%	23	0.25%	23	0.19%	46	0.36%
24	0.00%	24	0.33%	24	0.25%	48	0.28%
25	0.00%	25	0.11%	25	0.08%	50	0.20%
26	0.00%	26	0.17%	26	0.13%	52	0.12%
27	0.00%	27	0.05%	27	0.04%	54	0.12%
28	0.00%	28	0.05%	28	0.04%	56	0.00%
29	0.00%	29	0.03%	29	0.02%	58	0.00%
30	0.00%	30	0.04%	30	0.03%	60	0.12%
31	0.00%	31	0.04%	31	0.03%	62	0.00%
32	0.00%	32	0.05%	32	0.04%	64	0.04%
33	0.00%	33	0.07%	33	0.05%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.01%	35	0.01%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.04%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.04%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.81. D507 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.2104567	3	26.58%	3	24.32%	6	47.28%	12	29.41%	12	4.65%
4	0.3745864	4	15.81%	4	24.67%	8	18.04%	15	5.88%	15	0.00%
5	0.1581734	5	18.79%	5	17.57%	10	9.72%	18	5.88%	18	4.65%
6	0.0595632	6	11.14%	6	9.02%	12	5.44%	21	5.88%	21	2.33%
7	0.0277962	7	5.59%	7	4.44%	14	2.88%	24	11.76%	24	9.30%
8	0.0297816	8	4.22%	8	3.71%	16	2.95%	27	0.00%	27	4.65%
9	0.0410324	9	3.85%	9	3.95%	18	1.87%	30	0.00%	30	4.65%
10	0.0469887	10	3.30%	10	3.87%	20	1.09%	33	0.00%	33	0.00%
11	0.021178	11	2.38%	11	2.27%	22	1.63%	36	0.00%	36	9.30%
12	0.0172071	12	1.05%	12	1.33%	24	1.01%	39	0.00%	39	0.00%
13	0.0059563	13	1.28%	13	1.00%	26	0.78%	42	0.00%	42	2.33%
14	0.0039709	14	1.28%	14	0.92%	28	0.70%	45	5.88%	45	0.00%
15	0.0019854	15	1.15%	15	0.76%	30	1.01%	48	5.88%	48	4.65%
16	0.0013236	16	0.82%	16	0.54%	32	1.17%	51	0.00%	51	0.00%
17	0	17	0.73%	17	0.43%	34	1.01%	54	0.00%	54	9.30%
18	0	18	0.55%	18	0.32%	36	0.39%	57	5.88%	57	2.33%
19	0	19	0.69%	19	0.41%	38	0.70%	60	5.88%	60	4.65%
20	0	20	0.37%	20	0.22%	40	0.39%	63	11.76%	63	4.65%
21	0	21	0.18%	21	0.11%	42	0.78%	66	0.00%	66	4.65%
22	0	22	0.09%	22	0.05%	44	0.31%	69	0.00%	69	2.33%
23	0	23	0.09%	23	0.05%	46	0.23%	72	0.00%	72	4.65%
24	0	24	0.00%	24	0.00%	48	0.16%	75	0.00%	75	0.00%
25	0	25	0.00%	25	0.00%	50	0.39%	78	0.00%	78	6.98%
26	0	26	0.05%	26	0.03%	52	0.00%	81	0.00%	81	2.33%
27	0	27	0.00%	27	0.00%	54	0.00%	84	0.00%	84	6.98%
28	0	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	0.00%
29	0	29	0.00%	29	0.00%	58	0.08%	90	5.88%	90	0.00%
30	0	30	0.00%	30	0.00%	60	0.00%	93	0.00%	93	0.00%
31	0	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	2.33%
33	0	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	0.00%
34	0	34	0.00%	34	0.00%	68	0.00%				
35	0	35	0.00%	35	0.00%	70	0.00%				
36	0	36	0.00%	36	0.00%	72	0.00%				
37	0	37	0.00%	37	0.00%	74	0.00%				
38	0	38	0.00%	38	0.00%	76	0.00%				
39	0	39	0.00%	39	0.00%	78	0.00%				
40	0	40	0.00%	40	0.00%	80	0.00%				
41	0	41	0.00%	41	0.00%	82	0.00%				

**Table A.82. D509 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	2.08%	3	0.27%	6	0.00%
4	0.31%	4	0.00%	4	0.27%	8	0.00%
5	0.62%	5	2.08%	5	0.81%	10	0.36%
6	0.62%	6	4.17%	6	1.08%	12	0.36%
7	0.62%	7	4.17%	7	1.08%	14	0.73%
8	5.59%	8	4.17%	8	5.41%	16	1.82%
9	8.39%	9	4.17%	9	7.84%	18	4.74%
10	13.66%	10	12.50%	10	13.51%	20	18.98%
11	22.05%	11	6.25%	11	20.00%	22	34.67%
12	21.12%	12	12.50%	12	20.00%	24	23.36%
13	17.39%	13	4.17%	13	15.68%	26	9.85%
14	7.45%	14	4.17%	14	7.03%	28	3.65%
15	1.86%	15	6.25%	15	2.43%	30	0.36%
16	0.31%	16	4.17%	16	0.81%	32	1.09%
17	0.00%	17	4.17%	17	0.54%	34	0.00%
18	0.00%	18	4.17%	18	0.54%	36	0.00%
19	0.00%	19	4.17%	19	0.54%	38	0.00%
20	0.00%	20	8.33%	20	1.08%	40	0.00%
21	0.00%	21	2.08%	21	0.27%	42	0.00%
22	0.00%	22	2.08%	22	0.27%	44	0.00%
23	0.00%	23	2.08%	23	0.27%	46	0.00%
24	0.00%	24	2.08%	24	0.27%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.83. D509 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.02%	3	12.59%	3	6.29%
4	43.37%	4	21.00%	4	32.21%
5	20.35%	5	9.81%	5	15.09%
6	10.28%	6	7.66%	6	8.97%
7	9.38%	7	7.50%	7	8.44%
8	7.75%	8	7.64%	8	7.69%
9	4.64%	9	7.82%	9	6.22%
10	2.40%	10	6.40%	10	4.39%
11	1.14%	11	4.72%	11	2.93%
12	0.49%	12	3.04%	12	1.76%
13	0.12%	13	2.86%	13	1.49%
14	0.04%	14	1.91%	14	0.98%
15	0.04%	15	1.50%	15	0.77%
16	0.00%	16	1.60%	16	0.80%
17	0.00%	17	1.24%	17	0.62%
18	0.00%	18	0.71%	18	0.35%
19	0.00%	19	0.67%	19	0.33%
20	0.00%	20	0.53%	20	0.27%
21	0.00%	21	0.39%	21	0.20%
22	0.00%	22	0.10%	22	0.05%
23	0.00%	23	0.14%	23	0.07%
24	0.00%	24	0.04%	24	0.02%
25	0.00%	25	0.02%	25	0.01%
26	0.00%	26	0.08%	26	0.04%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.02%	33	0.01%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.84. D509 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	3.04%
4	0.82%	4	0.00%	4	0.82%	8	13.78%
5	8.37%	5	0.00%	5	8.37%	10	16.16%
6	7.71%	6	0.00%	6	7.71%	12	10.83%
7	4.76%	7	0.00%	7	4.76%	14	11.81%
8	8.86%	8	0.00%	8	8.86%	16	8.45%
9	20.67%	9	0.00%	9	20.67%	18	4.43%
10	18.87%	10	0.00%	10	18.87%	20	4.02%
11	14.11%	11	0.00%	11	14.11%	22	2.87%
12	6.40%	12	0.00%	12	6.40%	24	3.04%
13	3.45%	13	0.00%	13	3.45%	26	2.54%
14	2.30%	14	0.00%	14	2.30%	28	2.46%
15	0.82%	15	0.00%	15	0.82%	30	1.48%
16	0.66%	16	0.00%	16	0.66%	32	2.46%
17	0.74%	17	0.00%	17	0.74%	34	2.30%
18	0.66%	18	0.00%	18	0.66%	36	3.28%
19	0.41%	19	0.00%	19	0.41%	38	1.89%
20	0.33%	20	0.00%	20	0.33%	40	1.72%
21	0.08%	21	0.00%	21	0.08%	42	0.98%
22	0.00%	22	0.00%	22	0.00%	44	0.98%
23	0.00%	23	0.00%	23	0.00%	46	1.15%
24	0.00%	24	0.00%	24	0.00%	48	0.33%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.85. D509 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	21.38%	3	14.24%
4	17.80%	4	4.79%	4	9.14%
5	15.25%	5	7.34%	5	9.99%
6	12.71%	6	6.17%	6	8.36%
7	15.25%	7	6.70%	7	9.56%
8	13.77%	8	6.91%	8	9.21%
9	13.35%	9	8.62%	9	10.20%
10	7.84%	10	6.49%	10	6.94%
11	2.97%	11	5.85%	11	4.89%
12	0.42%	12	6.17%	12	4.25%
13	0.42%	13	4.15%	13	2.90%
14	0.21%	14	3.83%	14	2.62%
15	0.00%	15	2.87%	15	1.91%
16	0.00%	16	2.13%	16	1.42%
17	0.00%	17	2.02%	17	1.35%
18	0.00%	18	1.91%	18	1.27%
19	0.00%	19	1.06%	19	0.71%
20	0.00%	20	0.53%	20	0.35%
21	0.00%	21	0.53%	21	0.35%
22	0.00%	22	0.32%	22	0.21%
23	0.00%	23	0.21%	23	0.14%
24	0.00%	24	0.00%	24	0.00%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.86. D509 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	6.30%	3	3.17%	6	5.46%
4	9.25%	4	10.32%	4	9.79%	8	7.73%
5	4.81%	5	7.50%	5	6.16%	10	16.37%
6	4.26%	6	5.88%	6	5.08%	12	23.11%
7	9.98%	7	5.10%	7	7.52%	14	16.92%
8	18.20%	8	5.46%	8	11.78%	16	8.58%
9	21.30%	9	7.38%	9	14.29%	18	6.93%
10	19.35%	10	8.58%	10	13.93%	20	5.09%
11	10.53%	11	6.00%	11	8.25%	22	3.31%
12	2.07%	12	5.82%	12	3.96%	24	2.58%
13	0.24%	13	7.14%	13	3.72%	26	0.98%
14	0.00%	14	5.22%	14	2.63%	28	1.29%
15	0.00%	15	4.74%	15	2.39%	30	0.74%
16	0.00%	16	3.96%	16	1.99%	32	0.61%
17	0.00%	17	2.76%	17	1.39%	34	0.18%
18	0.00%	18	2.70%	18	1.36%	36	0.12%
19	0.00%	19	1.86%	19	0.94%	38	0.00%
20	0.00%	20	1.02%	20	0.51%	40	0.00%
21	0.00%	21	1.20%	21	0.60%	42	0.00%
22	0.00%	22	0.36%	22	0.18%	44	0.00%
23	0.00%	23	0.18%	23	0.09%	46	0.00%
24	0.00%	24	0.12%	24	0.06%	48	0.00%
25	0.00%	25	0.06%	25	0.03%	50	0.00%
26	0.00%	26	0.18%	26	0.09%	52	0.00%
27	0.00%	27	0.06%	27	0.03%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.06%	29	0.03%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.06%	31	0.03%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.87. D509 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	2.44%	3	0.07%	6	0.58%
4	0.08%	4	7.60%	4	0.28%	8	2.73%
5	0.55%	5	4.97%	5	0.66%	10	6.51%
6	0.64%	6	4.78%	6	0.75%	12	7.56%
7	1.42%	7	4.88%	7	1.50%	14	7.59%
8	5.63%	8	4.97%	8	5.61%	16	6.53%
9	15.64%	9	4.97%	9	15.37%	18	6.22%
10	29.78%	10	3.28%	10	29.10%	20	6.17%
11	31.49%	11	3.56%	11	30.77%	22	5.62%
12	12.44%	12	3.28%	12	12.20%	24	5.27%
13	2.11%	13	6.29%	13	2.21%	26	5.27%
14	0.19%	14	5.91%	14	0.33%	28	6.24%
15	0.03%	15	7.60%	15	0.22%	30	7.97%
16	0.01%	16	8.82%	16	0.24%	32	10.38%
17	0.00%	17	11.16%	17	0.29%	34	8.87%
18	0.00%	18	7.22%	18	0.18%	36	4.22%
19	0.00%	19	4.41%	19	0.11%	38	1.52%
20	0.00%	20	2.35%	20	0.06%	40	0.45%
21	0.00%	21	0.84%	21	0.02%	42	0.18%
22	0.00%	22	0.56%	22	0.01%	44	0.08%
23	0.00%	23	0.00%	23	0.00%	46	0.03%
24	0.00%	24	0.09%	24	0.00%	48	0.01%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.88. D509 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.17%	3	0.00%	3	0.17%	6	0.00%	12	9.15%
4	0.35%	4	22.22%	4	0.68%	8	0.00%	15	13.73%
5	1.04%	5	11.11%	5	1.20%	10	0.52%	18	7.57%
6	0.52%	6	0.00%	6	0.51%	12	5.39%	21	6.34%
7	3.30%	7	0.00%	7	3.25%	14	10.26%	24	4.93%
8	12.87%	8	0.00%	8	12.67%	16	6.78%	27	3.35%
9	40.87%	9	0.00%	9	40.24%	18	6.96%	30	1.41%
10	25.22%	10	11.11%	10	25.00%	20	6.43%	33	5.63%
11	10.78%	11	0.00%	11	10.62%	22	5.57%	36	16.37%
12	3.30%	12	22.22%	12	3.60%	24	6.43%	39	14.61%
13	1.04%	13	22.22%	13	1.37%	26	3.30%	42	5.63%
14	0.35%	14	0.00%	14	0.34%	28	5.39%	45	2.99%
15	0.17%	15	11.11%	15	0.34%	30	11.13%	48	2.82%
16	0.00%	16	0.00%	16	0.00%	32	17.22%	51	2.46%
17	0.00%	17	0.00%	17	0.00%	34	8.00%	54	1.41%
18	0.00%	18	0.00%	18	0.00%	36	3.13%	57	0.70%
19	0.00%	19	0.00%	19	0.00%	38	1.22%	60	0.53%
20	0.00%	20	0.00%	20	0.00%	40	1.22%	63	0.18%
21	0.00%	21	0.00%	21	0.00%	42	0.52%	66	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.17%	69	0.18%
23	0.00%	23	0.00%	23	0.00%	46	0.35%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.89. D509 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.03%	3	0.23%	3	0.19%
4	0.29%	4	0.67%	4	0.59%
5	0.52%	5	2.65%	5	2.22%
6	0.93%	6	4.22%	6	3.56%
7	2.64%	7	3.74%	7	3.52%
8	10.14%	8	5.03%	8	6.06%
9	26.47%	9	6.75%	9	10.70%
10	33.32%	10	7.62%	10	12.77%
11	20.57%	11	8.72%	11	11.09%
12	4.79%	12	9.65%	12	8.68%
13	0.26%	13	9.79%	13	7.88%
14	0.03%	14	9.34%	14	7.47%
15	0.00%	15	8.81%	15	7.05%
16	0.00%	16	7.17%	16	5.74%
17	0.00%	17	5.89%	17	4.71%
18	0.00%	18	4.27%	18	3.41%
19	0.00%	19	3.23%	19	2.58%
20	0.00%	20	1.43%	20	1.15%
21	0.00%	21	0.66%	21	0.52%
22	0.00%	22	0.09%	22	0.08%
23	0.00%	23	0.04%	23	0.03%
24	0.00%	24	0.02%	24	0.02%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.90. D509 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.71%	3	0.53%	6	0.76%
4	0.61%	4	1.27%	4	1.10%	8	0.30%
5	1.21%	5	6.89%	5	5.47%	10	3.33%
6	0.46%	6	9.62%	6	7.33%	12	8.48%
7	3.34%	7	9.32%	7	7.82%	14	10.45%
8	12.29%	8	7.90%	8	9.00%	16	16.97%
9	24.28%	9	9.67%	9	13.33%	18	21.82%
10	30.96%	10	8.81%	10	14.35%	20	22.12%
11	20.94%	11	10.78%	11	13.33%	22	8.64%
12	5.77%	12	11.19%	12	9.83%	24	3.64%
13	0.15%	13	9.37%	13	7.06%	26	2.88%
14	0.00%	14	6.68%	14	5.01%	28	0.15%
15	0.00%	15	4.20%	15	3.15%	30	0.30%
16	0.00%	16	1.62%	16	1.21%	32	0.15%
17	0.00%	17	1.11%	17	0.84%	34	0.00%
18	0.00%	18	0.66%	18	0.49%	36	0.00%
19	0.00%	19	0.10%	19	0.08%	38	0.00%
20	0.00%	20	0.10%	20	0.08%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.91. D509 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.01%	3	37.77%	3	28.12%	6	6.67%
4	7.07%	4	3.60%	4	4.51%	8	0.00%
5	15.15%	5	4.68%	5	7.43%	10	0.00%
6	20.20%	6	4.32%	6	8.49%	12	0.00%
7	15.15%	7	3.96%	7	6.90%	14	0.00%
8	14.14%	8	5.04%	8	7.43%	16	0.00%
9	11.11%	9	10.43%	9	10.61%	18	0.00%
10	10.10%	10	4.68%	10	6.10%	20	0.00%
11	3.03%	11	6.47%	11	5.57%	22	0.00%
12	2.02%	12	4.68%	12	3.98%	24	0.00%
13	1.01%	13	3.60%	13	2.92%	26	6.67%
14	0.00%	14	2.88%	14	2.12%	28	0.00%
15	0.00%	15	2.16%	15	1.59%	30	33.33%
16	0.00%	16	2.52%	16	1.86%	32	20.00%
17	0.00%	17	1.80%	17	1.33%	34	6.67%
18	0.00%	18	0.36%	18	0.27%	36	13.33%
19	0.00%	19	1.08%	19	0.80%	38	6.67%
20	0.00%	20	0.00%	20	0.00%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	6.67%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.92. D510 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.13%
4	0.22%	4	0.00%	4	0.18%	8	0.13%
5	0.61%	5	0.00%	5	0.51%	10	0.53%
6	2.37%	6	0.19%	6	2.03%	12	1.19%
7	4.23%	7	0.00%	7	3.57%	14	1.36%
8	7.39%	8	0.39%	8	6.30%	16	1.58%
9	6.46%	9	1.95%	9	5.76%	18	2.68%
10	10.33%	10	6.43%	10	9.72%	20	6.46%
11	15.03%	11	17.15%	11	15.36%	22	13.76%
12	18.51%	12	19.88%	12	18.72%	24	19.56%
13	16.25%	13	15.59%	13	16.15%	26	19.43%
14	10.47%	14	15.59%	14	11.27%	28	12.00%
15	5.02%	15	11.11%	15	5.97%	30	9.05%
16	2.01%	16	8.38%	16	3.00%	32	6.42%
17	0.68%	17	2.53%	17	0.97%	34	4.13%
18	0.32%	18	0.78%	18	0.39%	36	1.32%
19	0.07%	19	0.00%	19	0.06%	38	0.13%
20	0.00%	20	0.00%	20	0.00%	40	0.04%
21	0.04%	21	0.00%	21	0.03%	42	0.04%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.04%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.93. D510 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	13.12%	3	6.56%
4	46.26%	4	25.94%	4	36.11%
5	23.18%	5	12.15%	5	17.67%
6	7.95%	6	7.42%	6	7.69%
7	6.49%	7	6.37%	7	6.43%
8	5.97%	8	6.29%	8	6.13%
9	4.12%	9	5.23%	9	4.68%
10	2.60%	10	4.35%	10	3.47%
11	1.51%	11	3.60%	11	2.55%
12	0.88%	12	2.98%	12	1.93%
13	0.30%	13	2.51%	13	1.40%
14	0.20%	14	2.15%	14	1.18%
15	0.12%	15	1.76%	15	0.94%
16	0.09%	16	1.55%	16	0.82%
17	0.09%	17	1.23%	17	0.66%
18	0.06%	18	0.98%	18	0.52%
19	0.05%	19	0.77%	19	0.41%
20	0.03%	20	0.59%	20	0.31%
21	0.02%	21	0.39%	21	0.21%
22	0.03%	22	0.27%	22	0.15%
23	0.01%	23	0.15%	23	0.08%
24	0.01%	24	0.06%	24	0.04%
25	0.01%	25	0.05%	25	0.03%
26	0.01%	26	0.02%	26	0.02%
27	0.00%	27	0.02%	27	0.01%
28	0.00%	28	0.01%	28	0.01%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.01%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.01%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.94. D510 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	3.33%
4	1.13%	4	0.00%	4	1.13%	8	8.66%
5	2.57%	5	0.00%	5	2.57%	10	22.82%
6	2.50%	6	0.00%	6	2.50%	12	17.82%
7	2.39%	7	0.00%	7	2.39%	14	8.15%
8	5.44%	8	0.00%	8	5.44%	16	4.23%
9	14.21%	9	0.00%	9	14.21%	18	2.76%
10	20.18%	10	0.00%	10	20.18%	20	2.83%
11	22.34%	11	0.00%	11	22.34%	22	2.85%
12	14.81%	12	0.00%	12	14.81%	24	3.26%
13	6.97%	13	0.00%	13	6.97%	26	3.31%
14	2.99%	14	0.00%	14	2.99%	28	3.24%
15	1.46%	15	0.00%	15	1.46%	30	3.57%
16	1.18%	16	0.00%	16	1.18%	32	4.05%
17	0.44%	17	0.00%	17	0.44%	34	3.71%
18	0.48%	18	0.00%	18	0.48%	36	2.18%
19	0.39%	19	0.00%	19	0.39%	38	1.14%
20	0.19%	20	0.00%	20	0.19%	40	0.56%
21	0.12%	21	0.00%	21	0.12%	42	0.40%
22	0.11%	22	0.00%	22	0.11%	44	0.35%
23	0.04%	23	0.00%	23	0.04%	46	0.28%
24	0.00%	24	0.00%	24	0.00%	48	0.18%
25	0.00%	25	0.00%	25	0.00%	50	0.14%
26	0.02%	26	0.00%	26	0.02%	52	0.05%
27	0.02%	27	0.00%	27	0.02%	54	0.04%
28	0.00%	28	0.00%	28	0.00%	56	0.04%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.04%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.02%	36	0.00%	36	0.02%	72	0.00%
37	0.02%	37	0.00%	37	0.02%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.95. D510 Class7**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	12	5.56%
4	0.00%	4	0.00%	4	0.00%	15	0.00%
5	0.00%	5	0.00%	5	0.00%	18	5.56%
6	0.00%	6	0.00%	6	0.00%	21	0.00%
7	0.00%	7	0.00%	7	0.00%	24	0.00%
8	0.00%	8	0.00%	8	0.00%	27	5.56%
9	5.56%	9	0.00%	9	5.56%	30	16.67%
10	16.67%	10	0.00%	10	16.67%	33	0.00%
11	0.00%	11	0.00%	11	0.00%	36	5.56%
12	11.11%	12	0.00%	12	11.11%	39	16.67%
13	5.56%	13	0.00%	13	5.56%	42	16.67%
14	0.00%	14	0.00%	14	0.00%	45	16.67%
15	16.67%	15	0.00%	15	16.67%	48	5.56%
16	5.56%	16	0.00%	16	5.56%	51	0.00%
17	5.56%	17	0.00%	17	5.56%	54	5.56%
18	5.56%	18	0.00%	18	5.56%	57	0.00%
19	11.11%	19	0.00%	19	11.11%	60	0.00%
20	5.56%	20	0.00%	20	5.56%	63	0.00%
21	5.56%	21	0.00%	21	5.56%	66	0.00%
22	0.00%	22	0.00%	22	0.00%	69	0.00%
23	5.56%	23	0.00%	23	5.56%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%		
35	0.00%	35	0.00%	35	0.00%		
36	0.00%	36	0.00%	36	0.00%		
37	0.00%	37	0.00%	37	0.00%		
38	0.00%	38	0.00%	38	0.00%		
39	0.00%	39	0.00%	39	0.00%		
40	0.00%	40	0.00%	40	0.00%		
41	0.00%	41	0.00%	41	0.00%		

**Table A.96. D510 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	12.60%	3	8.38%
4	15.69%	4	4.96%	4	8.55%
5	11.30%	5	6.48%	5	8.09%
6	5.92%	6	6.12%	6	6.05%
7	9.05%	7	7.25%	7	7.85%
8	16.29%	8	6.84%	8	10.00%
9	19.31%	9	6.75%	9	10.95%
10	13.33%	10	6.37%	10	8.70%
11	6.36%	11	6.42%	11	6.40%
12	1.97%	12	5.90%	12	4.59%
13	0.49%	13	6.53%	13	4.51%
14	0.05%	14	5.65%	14	3.78%
15	0.00%	15	4.30%	15	2.86%
16	0.05%	16	4.63%	16	3.10%
17	0.05%	17	3.00%	17	2.02%
18	0.00%	18	2.70%	18	1.80%
19	0.11%	19	1.32%	19	0.92%
20	0.00%	20	0.80%	20	0.53%
21	0.00%	21	0.61%	21	0.40%
22	0.00%	22	0.41%	22	0.28%
23	0.00%	23	0.19%	23	0.13%
24	0.00%	24	0.08%	24	0.06%
25	0.00%	25	0.06%	25	0.04%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.03%	27	0.02%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.97. D510 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	11.91%	3	6.31%	6	25.55%
4	25.15%	4	2.81%	4	13.32%	8	13.34%
5	22.77%	5	9.68%	5	15.84%	10	11.47%
6	6.03%	6	12.25%	6	9.32%	12	9.66%
7	4.68%	7	8.99%	7	6.96%	14	6.30%
8	6.71%	8	6.63%	8	6.66%	16	4.93%
9	8.84%	9	5.82%	9	7.24%	18	3.98%
10	8.74%	10	6.31%	10	7.45%	20	2.92%
11	7.88%	11	4.79%	11	6.24%	22	2.60%
12	6.02%	12	3.45%	12	4.66%	24	2.15%
13	2.15%	13	3.38%	13	2.80%	26	2.23%
14	0.36%	14	3.15%	14	1.84%	28	2.49%
15	0.11%	15	3.70%	15	2.01%	30	2.53%
16	0.09%	16	4.29%	16	2.31%	32	3.18%
17	0.08%	17	3.71%	17	2.00%	34	2.92%
18	0.20%	18	3.03%	18	1.70%	36	2.42%
19	0.13%	19	2.34%	19	1.30%	38	0.82%
20	0.08%	20	1.81%	20	1.00%	40	0.35%
21	0.00%	21	0.88%	21	0.46%	42	0.08%
22	0.00%	22	0.59%	22	0.31%	44	0.04%
23	0.00%	23	0.12%	23	0.06%	46	0.01%
24	0.00%	24	0.21%	24	0.11%	48	0.03%
25	0.00%	25	0.06%	25	0.03%	50	0.00%
26	0.00%	26	0.02%	26	0.01%	52	0.00%
27	0.00%	27	0.04%	27	0.02%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.01%	29	0.01%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.01%	31	0.01%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.98. D510 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	5.10%	3	0.67%	6	0.36%
4	0.24%	4	3.16%	4	0.62%	8	1.84%
5	0.79%	5	7.41%	5	1.67%	10	3.67%
6	1.12%	6	6.67%	6	1.86%	12	4.76%
7	0.89%	7	4.63%	7	1.39%	14	6.18%
8	2.21%	8	4.45%	8	2.50%	16	6.18%
9	8.10%	9	4.06%	9	7.57%	18	5.58%
10	18.89%	10	3.74%	10	16.89%	20	5.40%
11	32.47%	11	3.89%	11	28.70%	22	5.61%
12	24.86%	12	3.67%	12	22.06%	24	5.75%
13	8.31%	13	4.12%	13	7.75%	26	5.94%
14	1.83%	14	5.21%	14	2.27%	28	6.96%
15	0.22%	15	7.27%	15	1.15%	30	9.15%
16	0.04%	16	9.61%	16	1.31%	32	11.65%
17	0.01%	17	9.89%	17	1.31%	34	10.02%
18	0.01%	18	8.03%	18	1.07%	36	5.98%
19	0.00%	19	4.72%	19	0.63%	38	2.97%
20	0.00%	20	2.54%	20	0.34%	40	1.31%
21	0.00%	21	1.07%	21	0.14%	42	0.48%
22	0.00%	22	0.39%	22	0.05%	44	0.14%
23	0.00%	23	0.17%	23	0.02%	46	0.05%
24	0.00%	24	0.08%	24	0.01%	48	0.01%
25	0.00%	25	0.04%	25	0.01%	50	0.01%
26	0.00%	26	0.03%	26	0.00%	52	0.00%
27	0.00%	27	0.03%	27	0.00%	54	0.00%
28	0.00%	28	0.01%	28	0.00%	56	0.00%
29	0.00%	29	0.01%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.99. D510 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%	12	5.40%
4	0.55%	4	0.00%	4	0.55%	8	0.00%	15	14.54%
5	0.28%	5	0.00%	5	0.41%	10	0.55%	18	12.60%
6	0.97%	6	0.00%	6	0.96%	12	2.07%	21	8.17%
7	0.97%	7	0.00%	7	0.96%	14	5.51%	24	5.54%
8	3.45%	8	0.00%	8	3.44%	16	7.02%	27	8.17%
9	9.24%	9	0.00%	9	9.23%	18	10.19%	30	5.40%
10	21.24%	10	0.00%	10	21.21%	20	10.19%	33	8.45%
11	32.41%	11	0.00%	11	32.37%	22	8.82%	36	8.59%
12	19.86%	12	0.00%	12	19.83%	24	7.16%	39	7.34%
13	8.28%	13	0.00%	13	8.26%	26	10.74%	42	6.79%
14	1.93%	14	0.00%	14	1.93%	28	7.44%	45	3.32%
15	0.69%	15	0.00%	15	0.69%	30	10.06%	48	2.08%
16	0.14%	16	0.00%	16	0.14%	32	6.34%	51	1.39%
17	0.00%	17	0.00%	17	0.00%	34	4.68%	54	1.11%
18	0.00%	18	0.00%	18	0.00%	36	3.58%	57	0.55%
19	0.00%	19	0.00%	19	0.00%	38	2.07%	60	0.14%
20	0.00%	20	0.00%	20	0.00%	40	1.24%	63	0.14%
21	0.00%	21	0.00%	21	0.00%	42	0.55%	66	0.14%
22	0.00%	22	0.00%	22	0.00%	44	0.83%	69	0.14%
23	0.00%	23	0.00%	23	0.00%	46	0.41%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.28%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.28%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.100. D510 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.26%	3	0.20%
4	2.04%	4	0.67%	4	0.96%
5	2.61%	5	1.56%	5	1.79%
6	1.07%	6	3.24%	6	2.77%
7	1.52%	7	3.07%	7	2.74%
8	2.71%	8	3.50%	8	3.33%
9	8.94%	9	4.31%	9	5.32%
10	18.57%	10	5.20%	10	8.10%
11	30.90%	11	6.74%	11	11.97%
12	23.68%	12	8.45%	12	11.75%
13	6.99%	13	9.35%	13	8.84%
14	0.88%	14	10.28%	14	8.25%
15	0.06%	15	10.05%	15	7.89%
16	0.03%	16	9.19%	16	7.20%
17	0.00%	17	7.77%	17	6.09%
18	0.00%	18	5.87%	18	4.60%
19	0.00%	19	4.86%	19	3.81%
20	0.00%	20	3.00%	20	2.35%
21	0.00%	21	1.49%	21	1.17%
22	0.00%	22	0.72%	22	0.56%
23	0.00%	23	0.28%	23	0.22%
24	0.00%	24	0.09%	24	0.07%
25	0.00%	25	0.02%	25	0.02%
26	0.00%	26	0.01%	26	0.01%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.101. D510 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.54%	3	0.40%	6	0.04%
4	0.30%	4	0.81%	4	0.68%	8	0.61%
5	0.52%	5	1.84%	5	1.51%	10	1.00%
6	0.95%	6	4.54%	6	3.64%	12	2.78%
7	2.00%	7	6.19%	7	5.14%	14	6.25%
8	4.43%	8	6.75%	8	6.17%	16	9.89%
9	12.36%	9	7.38%	9	8.62%	18	18.26%
10	26.51%	10	8.23%	10	12.80%	20	22.13%
11	31.84%	11	9.92%	11	15.40%	22	17.05%
12	16.10%	12	11.11%	12	12.35%	24	12.67%
13	4.47%	13	11.29%	13	9.59%	26	5.25%
14	0.52%	14	10.08%	14	7.69%	28	2.95%
15	0.00%	15	8.32%	15	6.24%	30	0.61%
16	0.00%	16	5.45%	16	4.09%	32	0.39%
17	0.00%	17	3.53%	17	2.65%	34	0.04%
18	0.00%	18	2.10%	18	1.57%	36	0.04%
19	0.00%	19	1.06%	19	0.79%	38	0.04%
20	0.00%	20	0.52%	20	0.39%	40	0.00%
21	0.00%	21	0.22%	21	0.16%	42	0.00%
22	0.00%	22	0.09%	22	0.07%	44	0.00%
23	0.00%	23	0.06%	23	0.04%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.102. D510 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	60.44%	3	43.85%	6	0.00%	12	11.11%	12	0.00%
4	16.50%	4	3.20%	4	6.85%	8	0.00%	15	0.00%	15	0.00%
5	38.70%	5	1.57%	5	11.76%	10	0.47%	18	0.00%	18	0.00%
6	25.38%	6	1.05%	6	7.73%	12	0.47%	21	0.00%	21	0.00%
7	3.19%	7	2.99%	7	3.05%	14	0.94%	24	0.00%	24	0.00%
8	1.25%	8	6.14%	8	4.80%	16	0.47%	27	0.00%	27	0.00%
9	1.25%	9	7.82%	9	6.01%	18	1.42%	30	0.00%	30	0.00%
10	2.22%	10	7.35%	10	5.94%	20	3.77%	33	11.11%	33	0.00%
11	3.88%	11	4.30%	11	4.19%	22	3.77%	36	0.00%	36	0.00%
12	4.30%	12	1.15%	12	2.02%	24	9.43%	39	0.00%	39	0.00%
13	2.91%	13	0.16%	13	0.91%	26	13.68%	42	22.22%	42	0.00%
14	0.14%	14	0.21%	14	0.19%	28	11.32%	45	11.11%	45	0.00%
15	0.00%	15	0.21%	15	0.15%	30	9.43%	48	22.22%	48	25.00%
16	0.00%	16	0.37%	16	0.27%	32	7.08%	51	22.22%	51	0.00%
17	0.14%	17	1.00%	17	0.76%	34	6.60%	54	0.00%	54	50.00%
18	0.14%	18	0.68%	18	0.53%	36	10.38%	57	0.00%	57	0.00%
19	0.00%	19	0.47%	19	0.34%	38	8.96%	60	0.00%	60	0.00%
20	0.00%	20	0.26%	20	0.19%	40	5.19%	63	0.00%	63	0.00%
21	0.00%	21	0.47%	21	0.34%	42	2.83%	66	0.00%	66	0.00%
22	0.00%	22	0.16%	22	0.11%	44	2.36%	69	0.00%	69	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.94%	72	0.00%	72	25.00%
24	0.00%	24	0.00%	24	0.00%	48	0.47%	75	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%	78	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%	105	0.00%	105	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%	108	0.00%	108	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%	111	0.00%	111	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%	114	0.00%	114	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%	117	0.00%	117	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%	120	0.00%	120	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%	123	0.00%	123	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%	126	0.00%	126	0.00%

**Table A.103. D512 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.04%	3	0.00%	3	0.03%	6	0.12%
4	0.08%	4	0.00%	4	0.06%	8	0.18%
5	0.00%	5	0.00%	5	0.00%	10	0.54%
6	0.46%	6	0.27%	6	0.42%	12	0.18%
7	3.80%	7	0.27%	7	2.98%	14	0.42%
8	9.87%	8	0.54%	8	7.68%	16	0.66%
9	11.41%	9	3.68%	9	9.60%	18	3.62%
10	12.79%	10	17.03%	10	13.79%	20	16.04%
11	19.90%	11	19.89%	11	19.90%	22	23.34%
12	20.48%	12	19.35%	12	20.22%	24	17.37%
13	12.88%	13	12.94%	13	12.89%	26	12.00%
14	5.73%	14	10.63%	14	6.88%	28	11.76%
15	1.30%	15	8.58%	15	3.01%	30	8.56%
16	0.54%	16	5.18%	16	1.63%	32	4.04%
17	0.29%	17	1.09%	17	0.48%	34	0.60%
18	0.08%	18	0.14%	18	0.10%	36	0.30%
19	0.00%	19	0.14%	19	0.03%	38	0.06%
20	0.00%	20	0.00%	20	0.00%	40	0.12%
21	0.13%	21	0.00%	21	0.10%	42	0.00%
22	0.13%	22	0.14%	22	0.13%	44	0.06%
23	0.08%	23	0.14%	23	0.10%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.104. D512 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.02%	3	17.25%	3	8.41%
4	43.00%	4	35.58%	4	39.39%
5	30.30%	5	14.41%	5	22.56%
6	7.05%	6	5.72%	6	6.40%
7	5.02%	7	3.66%	7	4.36%
8	4.61%	8	3.53%	8	4.08%
9	2.98%	9	3.71%	9	3.34%
10	1.96%	10	3.50%	10	2.71%
11	1.05%	11	2.77%	11	1.89%
12	0.45%	12	2.14%	12	1.27%
13	0.25%	13	1.76%	13	0.98%
14	0.27%	14	1.43%	14	0.83%
15	0.57%	15	1.16%	15	0.85%
16	0.85%	16	0.95%	16	0.90%
17	0.82%	17	0.76%	17	0.79%
18	0.50%	18	0.59%	18	0.54%
19	0.21%	19	0.44%	19	0.32%
20	0.07%	20	0.30%	20	0.18%
21	0.02%	21	0.14%	21	0.08%
22	0.01%	22	0.06%	22	0.04%
23	0.00%	23	0.07%	23	0.03%
24	0.00%	24	0.03%	24	0.01%
25	0.00%	25	0.02%	25	0.01%
26	0.00%	26	0.01%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.105. D512 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	1.33%
4	0.58%	4	0.00%	4	0.58%	8	10.70%
5	2.25%	5	0.00%	5	2.25%	10	15.17%
6	2.50%	6	0.00%	6	2.50%	12	10.03%
7	2.30%	7	0.00%	7	2.30%	14	9.80%
8	4.39%	8	0.00%	8	4.39%	16	5.15%
9	10.94%	9	0.00%	9	10.94%	18	3.01%
10	22.15%	10	0.00%	10	22.15%	20	3.05%
11	28.68%	11	0.00%	11	28.68%	22	3.21%
12	16.22%	12	0.00%	12	16.22%	24	3.29%
13	5.07%	13	0.00%	13	5.07%	26	3.42%
14	2.20%	14	0.00%	14	2.20%	28	3.52%
15	0.99%	15	0.00%	15	0.99%	30	4.59%
16	0.50%	16	0.00%	16	0.50%	32	6.16%
17	0.37%	17	0.00%	17	0.37%	34	9.20%
18	0.39%	18	0.00%	18	0.39%	36	6.11%
19	0.21%	19	0.00%	19	0.21%	38	1.44%
20	0.18%	20	0.00%	20	0.18%	40	0.44%
21	0.06%	21	0.00%	21	0.06%	42	0.31%
22	0.00%	22	0.00%	22	0.00%	44	0.05%
23	0.00%	23	0.00%	23	0.00%	46	0.03%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.106. D512 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.04%	3	24.27%	3	16.18%
4	19.32%	4	8.21%	4	11.92%
5	20.58%	5	8.19%	5	12.33%
6	9.98%	6	4.81%	6	6.54%
7	8.96%	7	5.23%	7	6.48%
8	11.09%	8	6.84%	8	8.26%
9	16.69%	9	6.36%	9	9.81%
10	9.41%	10	6.61%	10	7.54%
11	3.24%	11	6.53%	11	5.43%
12	0.61%	12	5.35%	12	3.77%
13	0.08%	13	3.93%	13	2.65%
14	0.00%	14	3.09%	14	2.06%
15	0.00%	15	2.48%	15	1.65%
16	0.00%	16	2.16%	16	1.44%
17	0.00%	17	1.80%	17	1.20%
18	0.00%	18	1.38%	18	0.92%
19	0.00%	19	0.90%	19	0.60%
20	0.00%	20	0.82%	20	0.55%
21	0.00%	21	0.55%	21	0.37%
22	0.00%	22	0.32%	22	0.22%
23	0.00%	23	0.06%	23	0.04%
24	0.00%	24	0.08%	24	0.05%
25	0.00%	25	0.02%	25	0.01%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.107. D512 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.10%	3	5.81%	3	2.99%	6	15.22%
4	20.07%	4	7.77%	4	13.85%	8	12.60%
5	20.15%	5	16.55%	5	18.33%	10	16.88%
6	3.98%	6	15.98%	6	10.05%	12	16.22%
7	3.11%	7	7.98%	7	5.57%	14	10.41%
8	8.18%	8	5.23%	8	6.69%	16	7.12%
9	16.94%	9	5.59%	9	11.20%	18	4.83%
10	15.42%	10	5.32%	10	10.31%	20	3.70%
11	8.33%	11	4.32%	11	6.30%	22	2.92%
12	2.63%	12	3.81%	12	3.22%	24	2.35%
13	0.81%	13	3.26%	13	2.05%	26	1.55%
14	0.22%	14	3.39%	14	1.82%	28	1.21%
15	0.02%	15	3.12%	15	1.58%	30	0.80%
16	0.02%	16	3.13%	16	1.59%	32	1.22%
17	0.01%	17	2.60%	17	1.32%	34	1.79%
18	0.02%	18	2.42%	18	1.23%	36	0.85%
19	0.00%	19	1.64%	19	0.83%	38	0.22%
20	0.00%	20	1.11%	20	0.56%	40	0.06%
21	0.00%	21	0.53%	21	0.27%	42	0.03%
22	0.00%	22	0.20%	22	0.10%	44	0.01%
23	0.00%	23	0.15%	23	0.07%	46	0.01%
24	0.00%	24	0.05%	24	0.02%	48	0.01%
25	0.00%	25	0.02%	25	0.01%	50	0.00%
26	0.00%	26	0.01%	26	0.00%	52	0.00%
27	0.00%	27	0.01%	27	0.00%	54	0.00%
28	0.00%	28	0.02%	28	0.01%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.108. D512 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	5.29%	3	0.44%	6	0.50%
4	0.03%	4	11.33%	4	0.96%	8	3.29%
5	0.21%	5	9.73%	5	0.99%	10	7.09%
6	0.40%	6	5.85%	6	0.85%	12	9.65%
7	0.60%	7	3.62%	7	0.85%	14	8.12%
8	2.01%	8	2.73%	8	2.07%	16	6.99%
9	10.18%	9	2.76%	9	9.57%	18	5.43%
10	24.45%	10	2.42%	10	22.64%	20	4.60%
11	33.86%	11	2.23%	11	31.26%	22	4.06%
12	23.33%	12	2.19%	12	21.59%	24	3.75%
13	4.38%	13	3.14%	13	4.28%	26	3.61%
14	0.41%	14	3.84%	14	0.69%	28	4.28%
15	0.09%	15	5.17%	15	0.51%	30	6.34%
16	0.03%	16	8.69%	16	0.74%	32	11.01%
17	0.01%	17	12.04%	17	1.00%	34	13.42%
18	0.00%	18	10.47%	18	0.87%	36	6.02%
19	0.00%	19	5.37%	19	0.44%	38	1.38%
20	0.00%	20	1.96%	20	0.16%	40	0.32%
21	0.00%	21	0.59%	21	0.05%	42	0.10%
22	0.00%	22	0.27%	22	0.02%	44	0.03%
23	0.00%	23	0.13%	23	0.01%	46	0.01%
24	0.00%	24	0.06%	24	0.00%	48	0.00%
25	0.00%	25	0.01%	25	0.00%	50	0.00%
26	0.00%	26	0.01%	26	0.00%	52	0.00%
27	0.00%	27	0.05%	27	0.00%	54	0.00%
28	0.00%	28	0.03%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.02%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.109. D512 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.12%	12	11.18%
4	0.25%	4	0.00%	4	0.25%	8	0.12%	15	14.78%
5	0.37%	5	0.00%	5	0.37%	10	0.25%	18	14.65%
6	0.62%	6	0.00%	6	0.62%	12	2.10%	21	6.56%
7	0.62%	7	0.00%	7	0.62%	14	4.93%	24	5.53%
8	2.10%	8	0.00%	8	2.10%	16	6.41%	27	5.40%
9	8.01%	9	0.00%	9	8.01%	18	8.38%	30	6.56%
10	17.88%	10	0.00%	10	17.88%	20	9.49%	33	5.40%
11	32.18%	11	0.00%	11	32.18%	22	12.58%	36	6.81%
12	20.10%	12	0.00%	12	20.10%	24	7.27%	39	4.50%
13	9.12%	13	0.00%	13	9.12%	26	7.27%	42	5.14%
14	4.81%	14	0.00%	14	4.81%	28	7.15%	45	2.44%
15	2.34%	15	0.00%	15	2.34%	30	8.63%	48	2.44%
16	0.74%	16	0.00%	16	0.74%	32	5.92%	51	2.96%
17	0.62%	17	0.00%	17	0.62%	34	5.18%	54	1.67%
18	0.00%	18	0.00%	18	0.00%	36	3.82%	57	2.06%
19	0.12%	19	0.00%	19	0.12%	38	2.96%	60	0.90%
20	0.12%	20	0.00%	20	0.12%	40	2.10%	63	0.51%
21	0.00%	21	0.00%	21	0.00%	42	2.34%	66	0.39%
22	0.00%	22	0.00%	22	0.00%	44	1.11%	69	0.13%
23	0.00%	23	0.00%	23	0.00%	46	0.99%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.74%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.12%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.110. D512 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.03%	3	0.11%	3	0.10%
4	3.78%	4	0.58%	4	1.28%
5	6.78%	5	3.92%	5	4.54%
6	1.47%	6	7.77%	6	6.40%
7	1.97%	7	9.25%	7	7.67%
8	8.84%	8	8.83%	8	8.83%
9	24.78%	9	8.68%	9	12.17%
10	34.94%	10	7.55%	10	13.49%
11	15.00%	11	8.30%	11	9.76%
12	2.26%	12	8.59%	12	7.22%
13	0.07%	13	7.67%	13	6.03%
14	0.06%	14	7.29%	14	5.72%
15	0.01%	15	6.44%	15	5.04%
16	0.00%	16	4.84%	16	3.79%
17	0.01%	17	3.43%	17	2.69%
18	0.00%	18	2.26%	18	1.77%
19	0.00%	19	1.82%	19	1.43%
20	0.00%	20	1.23%	20	0.97%
21	0.00%	21	0.81%	21	0.64%
22	0.00%	22	0.39%	22	0.31%
23	0.00%	23	0.16%	23	0.12%
24	0.00%	24	0.04%	24	0.03%
25	0.00%	25	0.01%	25	0.01%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.111. D512 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.13%	3	0.10%	6	0.00%
4	0.11%	4	1.07%	4	0.83%	8	0.45%
5	0.62%	5	6.69%	5	5.17%	10	3.33%
6	0.45%	6	11.05%	6	8.40%	12	7.68%
7	1.07%	7	9.49%	7	7.39%	14	12.60%
8	5.59%	8	9.15%	8	8.26%	16	16.89%
9	27.63%	9	10.21%	9	14.56%	18	18.31%
10	42.94%	10	9.68%	10	17.99%	20	16.05%
11	17.57%	11	8.46%	11	10.73%	22	11.36%
12	3.45%	12	7.76%	12	6.68%	24	7.01%
13	0.51%	13	6.84%	13	5.25%	26	4.69%
14	0.06%	14	5.39%	14	4.05%	28	1.13%
15	0.00%	15	4.58%	15	3.43%	30	0.34%
16	0.00%	16	3.95%	16	2.97%	32	0.17%
17	0.00%	17	2.20%	17	1.65%	34	0.00%
18	0.00%	18	1.49%	18	1.12%	36	0.00%
19	0.00%	19	1.04%	19	0.78%	38	0.00%
20	0.00%	20	0.41%	20	0.31%	40	0.00%
21	0.00%	21	0.24%	21	0.18%	42	0.00%
22	0.00%	22	0.13%	22	0.10%	44	0.00%
23	0.00%	23	0.04%	23	0.03%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.112. D512 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.19%	3	59.91%	3	43.96%	6	1.90%	12	0.00%	12	0.00%
4	17.88%	4	7.46%	4	10.24%	8	0.95%	15	40.00%	15	5.00%
5	42.27%	5	2.37%	5	13.03%	10	4.76%	18	0.00%	18	0.00%
6	20.11%	6	1.42%	6	6.41%	12	1.90%	21	0.00%	21	10.00%
7	4.47%	7	1.42%	7	2.24%	14	5.71%	24	0.00%	24	5.00%
8	2.23%	8	4.14%	8	3.63%	16	2.86%	27	0.00%	27	5.00%
9	2.61%	9	6.11%	9	5.17%	18	7.62%	30	0.00%	30	0.00%
10	2.05%	10	9.36%	10	7.41%	20	1.90%	33	0.00%	33	5.00%
11	2.61%	11	4.48%	11	3.98%	22	5.71%	36	0.00%	36	0.00%
12	2.98%	12	0.95%	12	1.49%	24	2.86%	39	0.00%	39	0.00%
13	0.74%	13	0.34%	13	0.45%	26	4.76%	42	0.00%	42	5.00%
14	0.93%	14	0.47%	14	0.60%	28	3.81%	45	0.00%	45	0.00%
15	0.56%	15	0.27%	15	0.35%	30	5.71%	48	20.00%	48	0.00%
16	0.00%	16	0.00%	16	0.00%	32	3.81%	51	0.00%	51	5.00%
17	0.19%	17	0.47%	17	0.40%	34	5.71%	54	0.00%	54	5.00%
18	0.19%	18	0.34%	18	0.30%	36	8.57%	57	20.00%	57	0.00%
19	0.00%	19	0.14%	19	0.10%	38	10.48%	60	20.00%	60	0.00%
20	0.00%	20	0.07%	20	0.05%	40	5.71%	63	0.00%	63	5.00%
21	0.00%	21	0.07%	21	0.05%	42	4.76%	66	0.00%	66	5.00%
22	0.00%	22	0.14%	22	0.10%	44	3.81%	69	0.00%	69	10.00%
23	0.00%	23	0.00%	23	0.00%	46	1.90%	72	0.00%	72	10.00%
24	0.00%	24	0.07%	24	0.05%	48	1.90%	75	0.00%	75	10.00%
25	0.00%	25	0.00%	25	0.00%	50	0.95%	78	0.00%	78	5.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%	81	5.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	5.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.95%	93	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.95%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.00%	36	0.00%	72	0.00%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.113. D513 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.30%	3	0.07%	6	0.08%
4	0.00%	4	0.00%	4	0.00%	8	0.40%
5	0.29%	5	0.00%	5	0.22%	10	0.61%
6	0.40%	6	0.10%	6	0.34%	12	0.85%
7	2.88%	7	0.20%	7	2.29%	14	0.93%
8	7.70%	8	0.70%	8	6.14%	16	1.01%
9	12.40%	9	4.63%	9	10.67%	18	2.95%
10	13.78%	10	16.72%	10	14.44%	20	9.82%
11	16.21%	11	22.26%	11	17.55%	22	13.13%
12	14.24%	12	17.32%	12	14.93%	24	13.25%
13	13.90%	13	15.51%	13	14.26%	26	15.72%
14	10.24%	14	10.17%	14	10.22%	28	14.46%
15	5.42%	15	6.34%	15	5.63%	30	13.29%
16	1.85%	16	4.23%	16	2.38%	32	7.76%
17	0.52%	17	1.31%	17	0.69%	34	4.48%
18	0.12%	18	0.10%	18	0.11%	36	0.81%
19	0.03%	19	0.00%	19	0.02%	38	0.20%
20	0.03%	20	0.00%	20	0.02%	40	0.08%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.10%	22	0.02%	44	0.04%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.04%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.08%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.114. D513 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	20.45%	3	10.17%
4	43.51%	4	33.62%	4	38.59%
5	29.53%	5	13.33%	5	21.48%
6	8.64%	6	5.80%	6	7.23%
7	5.75%	7	3.95%	7	4.86%
8	4.80%	8	3.97%	8	4.38%
9	3.26%	9	3.98%	9	3.62%
10	1.99%	10	3.44%	10	2.71%
11	0.98%	11	2.72%	11	1.84%
12	0.48%	12	1.96%	12	1.22%
13	0.25%	13	1.56%	13	0.90%
14	0.14%	14	1.24%	14	0.68%
15	0.09%	15	0.95%	15	0.52%
16	0.09%	16	0.77%	16	0.43%
17	0.09%	17	0.60%	17	0.34%
18	0.06%	18	0.47%	18	0.26%
19	0.07%	19	0.35%	19	0.21%
20	0.04%	20	0.22%	20	0.13%
21	0.03%	21	0.16%	21	0.10%
22	0.02%	22	0.09%	22	0.06%
23	0.02%	23	0.09%	23	0.06%
24	0.02%	24	0.06%	24	0.04%
25	0.01%	25	0.04%	25	0.03%
26	0.01%	26	0.02%	26	0.01%
27	0.01%	27	0.02%	27	0.01%
28	0.02%	28	0.03%	28	0.02%
29	0.01%	29	0.01%	29	0.01%
30	0.01%	30	0.02%	30	0.02%
31	0.01%	31	0.01%	31	0.01%
32	0.01%	32	0.01%	32	0.01%
33	0.01%	33	0.01%	33	0.01%
34	0.01%	34	0.01%	34	0.01%
35	0.01%	35	0.01%	35	0.01%
36	0.01%	36	0.01%	36	0.01%
37	0.01%	37	0.01%	37	0.01%
38	0.00%	38	0.01%	38	0.00%
39	0.01%	39	0.01%	39	0.01%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.115. D513 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	2.83%
4	1.09%	4	0.00%	4	1.09%	8	13.58%
5	2.90%	5	0.00%	5	2.90%	10	16.40%
6	2.16%	6	0.00%	6	2.16%	12	11.11%
7	2.46%	7	0.00%	7	2.46%	14	7.73%
8	4.74%	8	0.00%	8	4.74%	16	5.39%
9	13.17%	9	0.00%	9	13.17%	18	3.60%
10	22.26%	10	0.00%	10	22.26%	20	3.88%
11	22.35%	11	0.00%	11	22.35%	22	3.73%
12	13.61%	12	0.00%	12	13.61%	24	3.93%
13	6.23%	13	0.00%	13	6.23%	26	4.93%
14	3.29%	14	0.00%	14	3.29%	28	5.19%
15	2.00%	15	0.00%	15	2.00%	30	4.64%
16	1.14%	16	0.00%	16	1.14%	32	3.94%
17	0.90%	17	0.00%	17	0.90%	34	2.98%
18	0.71%	18	0.00%	18	0.71%	36	2.14%
19	0.58%	19	0.00%	19	0.58%	38	1.71%
20	0.18%	20	0.00%	20	0.18%	40	0.83%
21	0.13%	21	0.00%	21	0.13%	42	0.64%
22	0.05%	22	0.00%	22	0.05%	44	0.31%
23	0.00%	23	0.00%	23	0.00%	46	0.14%
24	0.00%	24	0.00%	24	0.00%	48	0.08%
25	0.00%	25	0.00%	25	0.00%	50	0.14%
26	0.00%	26	0.00%	26	0.00%	52	0.06%
27	0.00%	27	0.00%	27	0.00%	54	0.03%
28	0.00%	28	0.00%	28	0.00%	56	0.04%
29	0.00%	29	0.00%	29	0.00%	58	0.03%
30	0.01%	30	0.00%	30	0.01%	60	0.01%
31	0.03%	31	0.00%	31	0.03%	62	0.00%
32	0.01%	32	0.00%	32	0.01%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.01%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.116. D513 Class7**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	3.17%	9	8.77%
4	1.67%	4	0.00%	4	1.59%	12	12.28%
5	1.67%	5	0.00%	5	1.59%	15	10.53%
6	1.67%	6	0.00%	6	1.59%	18	7.02%
7	5.00%	7	0.00%	7	4.76%	21	3.51%
8	10.00%	8	0.00%	8	11.11%	24	7.02%
9	15.00%	9	0.00%	9	14.29%	27	3.51%
10	13.33%	10	0.00%	10	12.70%	30	3.51%
11	15.00%	11	0.00%	11	14.29%	33	0.00%
12	5.00%	12	0.00%	12	4.76%	36	7.02%
13	6.67%	13	0.00%	13	6.35%	39	0.00%
14	1.67%	14	0.00%	14	1.59%	42	10.53%
15	0.00%	15	0.00%	15	0.00%	45	7.02%
16	8.33%	16	0.00%	16	7.94%	48	7.02%
17	13.33%	17	0.00%	17	12.70%	51	7.02%
18	0.00%	18	0.00%	18	0.00%	54	3.51%
19	1.67%	19	0.00%	19	1.59%	57	1.75%
20	0.00%	20	0.00%	20	0.00%	60	0.00%
21	0.00%	21	0.00%	21	0.00%	63	0.00%
22	0.00%	22	0.00%	22	0.00%	66	0.00%
23	0.00%	23	0.00%	23	0.00%	69	0.00%
24	0.00%	24	0.00%	24	0.00%	72	0.00%
25	0.00%	25	0.00%	25	0.00%	75	0.00%
26	0.00%	26	0.00%	26	0.00%	78	0.00%
27	0.00%	27	0.00%	27	0.00%	81	0.00%
28	0.00%	28	0.00%	28	0.00%	84	0.00%
29	0.00%	29	0.00%	29	0.00%	87	0.00%
30	0.00%	30	0.00%	30	0.00%	90	0.00%
31	0.00%	31	0.00%	31	0.00%	93	0.00%
32	0.00%	32	0.00%	32	0.00%	96	0.00%
33	0.00%	33	0.00%	33	0.00%	99	0.00%
34	0.00%	34	0.00%	34	0.00%	102	0.00%
35	0.00%	35	0.00%	35	0.00%	105	0.00%
36	0.00%	36	0.00%	36	0.00%	108	0.00%
37	0.00%	37	0.00%	37	0.00%	111	0.00%
38	0.00%	38	0.00%	38	0.00%	114	0.00%
39	0.00%	39	0.00%	39	0.00%	117	0.00%
40	0.00%	40	0.00%	40	0.00%	120	0.00%
41	0.00%	41	0.00%	41	0.00%	123	0.00%

**Table A.117. D513 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	23.01%	3	15.29%
4	21.26%	4	9.75%	4	13.61%
5	19.74%	5	8.51%	5	12.28%
6	7.70%	6	5.89%	6	6.50%
7	6.56%	7	5.01%	7	5.53%
8	11.52%	8	6.21%	8	7.99%
9	17.30%	9	6.86%	9	10.37%
10	10.07%	10	6.40%	10	7.63%
11	4.04%	11	6.42%	11	5.62%
12	1.15%	12	5.16%	12	3.82%
13	0.22%	13	4.28%	13	2.92%
14	0.11%	14	3.22%	14	2.17%
15	0.04%	15	2.54%	15	1.70%
16	0.04%	16	1.83%	16	1.23%
17	0.04%	17	1.57%	17	1.06%
18	0.04%	18	1.33%	18	0.89%
19	0.04%	19	0.71%	19	0.48%
20	0.00%	20	0.52%	20	0.35%
21	0.00%	21	0.30%	21	0.20%
22	0.00%	22	0.09%	22	0.06%
23	0.00%	23	0.07%	23	0.05%
24	0.00%	24	0.07%	24	0.05%
25	0.00%	25	0.04%	25	0.02%
26	0.00%	26	0.04%	26	0.02%
27	0.00%	27	0.07%	27	0.05%
28	0.07%	28	0.02%	28	0.04%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.02%	31	0.01%
32	0.04%	32	0.00%	32	0.01%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.04%	39	0.04%	39	0.04%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.118. D513 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	4.92%	3	2.50%	6	19.89%
4	19.15%	4	6.53%	4	12.74%	8	13.60%
5	21.56%	5	14.14%	5	17.80%	10	13.14%
6	4.38%	6	13.74%	6	9.13%	12	12.90%
7	3.40%	7	8.95%	7	6.22%	14	10.79%
8	8.77%	8	6.24%	8	7.49%	16	8.58%
9	15.57%	9	6.93%	9	11.18%	18	6.20%
10	14.96%	10	6.31%	10	10.57%	20	4.34%
11	8.59%	11	4.91%	11	6.72%	22	3.76%
12	2.54%	12	4.34%	12	3.45%	24	2.67%
13	0.60%	13	3.95%	13	2.30%	26	1.71%
14	0.18%	14	3.63%	14	1.94%	28	0.90%
15	0.15%	15	3.35%	15	1.77%	30	0.53%
16	0.02%	16	2.77%	16	1.41%	32	0.36%
17	0.02%	17	2.66%	17	1.36%	34	0.36%
18	0.02%	18	2.24%	18	1.15%	36	0.13%
19	0.04%	19	1.79%	19	0.93%	38	0.04%
20	0.01%	20	0.95%	20	0.49%	40	0.02%
21	0.01%	21	0.69%	21	0.35%	42	0.05%
22	0.00%	22	0.39%	22	0.20%	44	0.01%
23	0.01%	23	0.21%	23	0.11%	46	0.01%
24	0.01%	24	0.14%	24	0.08%	48	0.01%
25	0.00%	25	0.06%	25	0.03%	50	0.00%
26	0.01%	26	0.05%	26	0.03%	52	0.00%
27	0.00%	27	0.03%	27	0.01%	54	0.00%
28	0.00%	28	0.02%	28	0.01%	56	0.00%
29	0.00%	29	0.01%	29	0.00%	58	0.01%
30	0.00%	30	0.01%	30	0.00%	60	0.00%
31	0.01%	31	0.01%	31	0.01%	62	0.00%
32	0.00%	32	0.01%	32	0.01%	64	0.00%
33	0.00%	33	0.01%	33	0.00%	66	0.00%
34	0.00%	34	0.01%	34	0.01%	68	0.00%
35	0.00%	35	0.01%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.01%	39	0.00%	78	0.00%
40	0.00%	40	0.01%	40	0.01%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.119. D513 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	4.45%	3	0.54%	6	0.40%
4	0.10%	4	9.41%	4	1.23%	8	2.30%
5	0.35%	5	7.07%	5	1.16%	10	6.03%
6	0.35%	6	4.75%	6	0.89%	12	8.42%
7	0.54%	7	3.58%	7	0.91%	14	8.20%
8	2.39%	8	3.13%	8	2.48%	16	7.36%
9	9.46%	9	3.21%	9	8.70%	18	6.64%
10	23.61%	10	2.77%	10	21.07%	20	6.29%
11	33.71%	11	2.62%	11	29.92%	22	5.97%
12	22.70%	12	2.84%	12	20.28%	24	5.24%
13	5.97%	13	3.28%	13	5.64%	26	5.03%
14	0.67%	14	4.24%	14	1.10%	28	5.47%
15	0.09%	15	5.99%	15	0.81%	30	7.05%
16	0.03%	16	9.30%	16	1.16%	32	9.69%
17	0.01%	17	12.02%	17	1.47%	34	9.40%
18	0.01%	18	10.53%	18	1.29%	36	4.55%
19	0.00%	19	6.56%	19	0.80%	38	1.39%
20	0.00%	20	2.75%	20	0.34%	40	0.37%
21	0.00%	21	0.92%	21	0.11%	42	0.11%
22	0.00%	22	0.28%	22	0.04%	44	0.04%
23	0.00%	23	0.11%	23	0.02%	46	0.02%
24	0.00%	24	0.04%	24	0.01%	48	0.01%
25	0.00%	25	0.03%	25	0.01%	50	0.01%
26	0.00%	26	0.04%	26	0.01%	52	0.01%
27	0.00%	27	0.03%	27	0.00%	54	0.00%
28	0.00%	28	0.02%	28	0.01%	56	0.00%
29	0.00%	29	0.01%	29	0.00%	58	0.00%
30	0.00%	30	0.01%	30	0.00%	60	0.00%
31	0.00%	31	0.01%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.120. D513 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	5.88%	3	0.06%	6	0.06%	12	11.74%
4	0.00%	4	0.00%	4	0.00%	8	0.32%	15	13.94%
5	0.26%	5	0.00%	5	0.25%	10	0.89%	18	11.54%
6	0.77%	6	0.00%	6	0.76%	12	4.33%	21	8.01%
7	0.90%	7	5.88%	7	0.95%	14	6.30%	24	5.27%
8	3.84%	8	0.00%	8	3.80%	16	9.68%	27	6.14%
9	16.66%	9	5.88%	9	16.54%	18	9.42%	30	6.00%
10	24.79%	10	5.88%	10	24.59%	20	10.25%	33	6.74%
11	26.14%	11	11.76%	11	25.98%	22	7.77%	36	7.94%
12	16.14%	12	17.65%	12	16.16%	24	6.62%	39	8.21%
13	6.34%	13	5.88%	13	6.34%	26	6.37%	42	4.34%
14	2.69%	14	23.53%	14	2.92%	28	5.67%	45	3.14%
15	0.58%	15	0.00%	15	0.57%	30	7.96%	48	2.13%
16	0.58%	16	5.88%	16	0.63%	32	6.11%	51	1.80%
17	0.13%	17	0.00%	17	0.13%	34	7.77%	54	1.40%
18	0.06%	18	5.88%	18	0.13%	36	3.12%	57	0.80%
19	0.06%	19	5.88%	19	0.13%	38	2.42%	60	0.40%
20	0.00%	20	0.00%	20	0.00%	40	1.78%	63	0.33%
21	0.00%	21	0.00%	21	0.00%	42	0.89%	66	0.07%
22	0.00%	22	0.00%	22	0.00%	44	0.76%	69	0.00%
23	0.06%	23	0.00%	23	0.06%	46	0.32%	72	0.07%
24	0.00%	24	0.00%	24	0.00%	48	0.83%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.25%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.06%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.06%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.121. D513 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.29%	3	0.23%
4	1.92%	4	1.25%	4	1.40%
5	3.36%	5	5.03%	5	4.68%
6	0.85%	6	7.35%	6	5.96%
7	1.25%	7	5.95%	7	4.95%
8	6.24%	8	6.10%	8	6.13%
9	22.63%	9	7.06%	9	10.39%
10	32.69%	10	8.09%	10	13.36%
11	22.31%	11	9.06%	11	11.90%
12	7.12%	12	9.31%	12	8.84%
13	1.40%	13	9.05%	13	7.41%
14	0.12%	14	8.57%	14	6.76%
15	0.06%	15	7.08%	15	5.58%
16	0.02%	16	5.32%	16	4.19%
17	0.03%	17	4.03%	17	3.17%
18	0.00%	18	2.74%	18	2.16%
19	0.00%	19	1.81%	19	1.42%
20	0.00%	20	1.06%	20	0.83%
21	0.00%	21	0.51%	21	0.40%
22	0.00%	22	0.19%	22	0.15%
23	0.00%	23	0.07%	23	0.05%
24	0.01%	24	0.02%	24	0.02%
25	0.00%	25	0.01%	25	0.01%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.01%	28	0.01%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.122. D513 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.47%	3	0.35%	6	0.08%
4	0.26%	4	2.16%	4	1.68%	8	0.59%
5	0.28%	5	9.42%	5	7.14%	10	6.15%
6	0.33%	6	12.07%	6	9.13%	12	11.22%
7	1.10%	7	7.75%	7	6.08%	14	9.76%
8	8.17%	8	7.18%	8	7.42%	16	14.63%
9	28.94%	9	8.49%	9	13.61%	18	17.01%
10	34.93%	10	9.42%	10	15.81%	20	15.55%
11	18.21%	11	8.48%	11	10.92%	22	11.07%
12	6.50%	12	8.73%	12	8.17%	24	7.12%
13	1.20%	13	7.90%	13	6.23%	26	4.12%
14	0.08%	14	6.05%	14	4.55%	28	1.92%
15	0.00%	15	4.16%	15	3.12%	30	0.61%
16	0.00%	16	2.62%	16	1.96%	32	0.15%
17	0.00%	17	2.10%	17	1.58%	34	0.00%
18	0.00%	18	1.46%	18	1.10%	36	0.00%
19	0.00%	19	0.75%	19	0.56%	38	0.00%
20	0.00%	20	0.40%	20	0.30%	40	0.00%
21	0.00%	21	0.23%	21	0.17%	42	0.00%
22	0.00%	22	0.09%	22	0.07%	44	0.00%
23	0.00%	23	0.03%	23	0.02%	46	0.00%
24	0.00%	24	0.01%	24	0.01%	48	0.03%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.01%	29	0.01%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.01%	35	0.01%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.123. D513 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	48.44%	3	33.32%	6	4.86%	12	39.34%	12	0.00%
4	14.85%	4	11.00%	4	12.20%	8	7.37%	15	24.59%	15	9.09%
5	22.55%	5	5.15%	5	10.58%	10	8.21%	18	9.84%	18	6.06%
6	12.75%	6	3.62%	6	6.47%	12	10.72%	21	3.28%	21	9.09%
7	3.50%	7	2.23%	7	2.62%	14	9.72%	24	0.00%	24	0.00%
8	5.18%	8	3.81%	8	4.24%	16	7.54%	27	3.28%	27	0.00%
9	10.50%	9	5.79%	9	7.26%	18	7.37%	30	4.92%	30	3.03%
10	11.20%	10	5.85%	10	7.52%	20	6.70%	33	1.64%	33	3.03%
11	8.40%	11	4.51%	11	5.73%	22	6.37%	36	1.64%	36	18.18%
12	5.60%	12	2.42%	12	3.41%	24	3.69%	39	0.00%	39	6.06%
13	1.96%	13	1.02%	13	1.31%	26	4.69%	42	1.64%	42	6.06%
14	1.12%	14	1.21%	14	1.18%	28	3.69%	45	3.28%	45	6.06%
15	1.12%	15	1.14%	15	1.14%	30	2.18%	48	0.00%	48	0.00%
16	0.56%	16	1.02%	16	0.87%	32	3.35%	51	1.64%	51	0.00%
17	0.56%	17	0.83%	17	0.74%	34	3.02%	54	0.00%	54	3.03%
18	0.00%	18	0.83%	18	0.57%	36	2.35%	57	1.64%	57	6.06%
19	0.14%	19	0.45%	19	0.35%	38	1.51%	60	1.64%	60	3.03%
20	0.00%	20	0.38%	20	0.26%	40	2.01%	63	1.64%	63	3.03%
21	0.00%	21	0.00%	21	0.00%	42	1.17%	66	0.00%	66	6.06%
22	0.00%	22	0.19%	22	0.13%	44	1.17%	69	0.00%	69	6.06%
23	0.00%	23	0.06%	23	0.04%	46	0.84%	72	0.00%	72	6.06%
24	0.00%	24	0.00%	24	0.00%	48	0.50%	75	0.00%	75	0.00%
25	0.00%	25	0.06%	25	0.04%	50	0.17%	78	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.34%	81	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.17%	84	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.17%	93	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.17%	102	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.00%	36	0.00%	72	0.00%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.124. D514 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.04%	3	0.14%	3	0.07%	6	0.19%
4	0.48%	4	0.72%	4	0.54%	8	0.25%
5	1.71%	5	1.15%	5	1.58%	10	0.82%
6	5.87%	6	1.58%	6	4.87%	12	0.95%
7	8.07%	7	1.15%	7	6.45%	14	1.26%
8	9.21%	8	4.87%	8	8.19%	16	2.40%
9	10.61%	9	8.17%	9	10.04%	18	3.22%
10	11.22%	10	8.02%	10	10.47%	20	7.26%
11	14.99%	11	11.03%	11	14.07%	22	12.70%
12	14.16%	12	10.74%	12	13.36%	24	14.72%
13	10.52%	13	12.18%	13	10.91%	26	10.30%
14	6.31%	14	7.16%	14	6.51%	28	9.73%
15	2.85%	15	7.88%	15	4.03%	30	8.84%
16	1.80%	16	5.59%	16	2.69%	32	7.90%
17	1.10%	17	4.87%	17	1.98%	34	3.98%
18	0.31%	18	3.58%	18	1.07%	36	3.22%
19	0.18%	19	2.58%	19	0.74%	38	2.84%
20	0.13%	20	2.01%	20	0.57%	40	1.26%
21	0.04%	21	1.29%	21	0.34%	42	1.33%
22	0.09%	22	2.29%	22	0.60%	44	1.39%
23	0.04%	23	0.86%	23	0.23%	46	1.07%
24	0.04%	24	0.72%	24	0.20%	48	1.26%
25	0.13%	25	0.72%	25	0.27%	50	0.82%
26	0.00%	26	0.43%	26	0.10%	52	0.69%
27	0.00%	27	0.14%	27	0.03%	54	0.38%
28	0.09%	28	0.00%	28	0.07%	56	0.44%
29	0.00%	29	0.14%	29	0.03%	58	0.19%
30	0.00%	30	0.00%	30	0.00%	60	0.13%
31	0.00%	31	0.00%	31	0.00%	62	0.13%
32	0.00%	32	0.00%	32	0.00%	64	0.06%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.06%
35	0.00%	35	0.00%	35	0.00%	70	0.06%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.06%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.06%

**Table A.125. D514 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.74%	3	12.90%	3	7.28%
4	42.38%	4	26.99%	4	34.74%
5	25.91%	5	15.05%	5	20.52%
6	7.88%	6	7.98%	6	7.93%
7	5.93%	7	5.73%	7	5.83%
8	5.59%	8	4.66%	8	5.13%
9	3.82%	9	4.45%	9	4.13%
10	2.22%	10	3.97%	10	3.09%
11	1.23%	11	3.20%	11	2.21%
12	0.68%	12	2.61%	12	1.64%
13	0.39%	13	2.12%	13	1.25%
14	0.29%	14	1.68%	14	0.98%
15	0.32%	15	1.53%	15	0.92%
16	0.27%	16	1.21%	16	0.74%
17	0.26%	17	1.11%	17	0.68%
18	0.19%	18	0.93%	18	0.55%
19	0.16%	19	0.82%	19	0.48%
20	0.13%	20	0.67%	20	0.40%
21	0.09%	21	0.46%	21	0.28%
22	0.12%	22	0.48%	22	0.30%
23	0.09%	23	0.33%	23	0.21%
24	0.09%	24	0.28%	24	0.18%
25	0.05%	25	0.27%	25	0.16%
26	0.08%	26	0.27%	26	0.18%
27	0.07%	27	0.18%	27	0.13%
28	0.00%	28	0.07%	28	0.04%
29	0.00%	29	0.01%	29	0.01%
30	0.00%	30	0.01%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.126. D514 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.16%	3	0.00%	3	0.16%	6	0.37%
4	0.68%	4	0.00%	4	0.68%	8	1.47%
5	2.80%	5	0.00%	5	2.80%	10	4.87%
6	5.39%	6	0.00%	6	5.39%	12	6.32%
7	7.25%	7	0.00%	7	7.25%	14	6.60%
8	11.96%	8	0.00%	8	11.96%	16	5.63%
9	19.00%	9	0.00%	9	19.00%	18	5.24%
10	20.97%	10	0.00%	10	20.97%	20	4.90%
11	15.53%	11	0.00%	11	15.53%	22	4.85%
12	8.16%	12	0.00%	12	8.16%	24	5.14%
13	3.76%	13	0.00%	13	3.76%	26	4.91%
14	1.98%	14	0.00%	14	1.98%	28	4.69%
15	0.78%	15	0.00%	15	0.78%	30	4.79%
16	0.41%	16	0.00%	16	0.41%	32	5.23%
17	0.24%	17	0.00%	17	0.24%	34	5.63%
18	0.17%	18	0.00%	18	0.17%	36	5.66%
19	0.10%	19	0.00%	19	0.10%	38	5.34%
20	0.08%	20	0.00%	20	0.08%	40	4.70%
21	0.10%	21	0.00%	21	0.10%	42	4.04%
22	0.05%	22	0.00%	22	0.05%	44	3.38%
23	0.06%	23	0.00%	23	0.06%	46	2.59%
24	0.04%	24	0.00%	24	0.04%	48	1.66%
25	0.05%	25	0.00%	25	0.05%	50	0.76%
26	0.08%	26	0.00%	26	0.08%	52	0.48%
27	0.06%	27	0.00%	27	0.06%	54	0.23%
28	0.05%	28	0.00%	28	0.05%	56	0.13%
29	0.07%	29	0.00%	29	0.07%	58	0.10%
30	0.01%	30	0.00%	30	0.01%	60	0.08%
31	0.01%	31	0.00%	31	0.01%	62	0.02%
32	0.00%	32	0.00%	32	0.00%	64	0.04%
33	0.00%	33	0.00%	33	0.00%	66	0.04%
34	0.01%	34	0.00%	34	0.01%	68	0.04%
35	0.00%	35	0.00%	35	0.00%	70	0.01%
36	0.00%	36	0.00%	36	0.00%	72	0.02%
37	0.00%	37	0.00%	37	0.00%	74	0.02%
38	0.00%	38	0.00%	38	0.00%	76	0.01%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.01%
41	0.00%	41	0.00%	41	0.00%	82	0.01%

**Table A.127. D514 Class7**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	12	2.44%
4	2.38%	4	0.00%	4	2.38%	15	2.44%
5	0.00%	5	0.00%	5	0.00%	18	0.00%
6	4.76%	6	0.00%	6	4.76%	21	4.88%
7	2.38%	7	0.00%	7	2.38%	24	2.44%
8	4.76%	8	0.00%	8	4.76%	27	0.00%
9	2.38%	9	0.00%	9	2.38%	30	2.44%
10	7.14%	10	0.00%	10	7.14%	33	0.00%
11	21.43%	11	0.00%	11	21.43%	36	12.20%
12	9.52%	12	0.00%	12	9.52%	39	14.63%
13	2.38%	13	0.00%	13	2.38%	42	12.20%
14	9.52%	14	0.00%	14	9.52%	45	19.51%
15	14.29%	15	0.00%	15	14.29%	48	4.88%
16	16.67%	16	0.00%	16	16.67%	51	4.88%
17	2.38%	17	0.00%	17	2.38%	54	9.76%
18	0.00%	18	0.00%	18	0.00%	57	0.00%
19	0.00%	19	0.00%	19	0.00%	60	0.00%
20	0.00%	20	0.00%	20	0.00%	63	2.44%
21	0.00%	21	0.00%	21	0.00%	66	2.44%
22	0.00%	22	0.00%	22	0.00%	69	2.44%
23	0.00%	23	0.00%	23	0.00%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%		
35	0.00%	35	0.00%	35	0.00%		
36	0.00%	36	0.00%	36	0.00%		
37	0.00%	37	0.00%	37	0.00%		
38	0.00%	38	0.00%	38	0.00%		
39	0.00%	39	0.00%	39	0.00%		
40	0.00%	40	0.00%	40	0.00%		
41	0.00%	41	0.00%	41	0.00%		

**Table A.128. D514 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.43%	3	22.19%	3	15.25%
4	22.34%	4	9.46%	4	13.77%
5	17.55%	5	9.68%	5	12.31%
6	7.73%	6	7.19%	6	7.37%
7	8.12%	7	6.76%	7	7.22%
8	10.86%	8	5.44%	8	7.25%
9	13.88%	9	6.14%	9	8.73%
10	10.17%	10	5.64%	10	7.15%
11	4.87%	11	5.07%	11	5.00%
12	1.55%	12	4.41%	12	3.45%
13	0.62%	13	3.54%	13	2.56%
14	0.27%	14	3.07%	14	2.13%
15	0.15%	15	2.39%	15	1.64%
16	0.08%	16	2.25%	16	1.53%
17	0.08%	17	1.79%	17	1.22%
18	0.04%	18	1.34%	18	0.91%
19	0.08%	19	0.86%	19	0.59%
20	0.00%	20	0.74%	20	0.49%
21	0.04%	21	0.43%	21	0.30%
22	0.00%	22	0.35%	22	0.23%
23	0.04%	23	0.25%	23	0.18%
24	0.00%	24	0.33%	24	0.22%
25	0.00%	25	0.06%	25	0.04%
26	0.08%	26	0.10%	26	0.09%
27	0.00%	27	0.08%	27	0.05%
28	0.04%	28	0.19%	28	0.14%
29	0.00%	29	0.08%	29	0.05%
30	0.00%	30	0.02%	30	0.01%
31	0.00%	31	0.06%	31	0.04%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.02%	33	0.01%
34	0.00%	34	0.02%	34	0.01%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.02%	38	0.01%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.04%	41	0.03%

**Table A.129. D514 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.37%	3	5.12%	3	2.74%	6	10.46%
4	14.99%	4	6.54%	4	10.78%	8	8.64%
5	13.56%	5	9.92%	5	11.74%	10	11.13%
6	4.17%	6	9.93%	6	7.04%	12	14.63%
7	6.70%	7	7.38%	7	7.04%	14	13.54%
8	12.24%	8	6.10%	8	9.17%	16	8.83%
9	17.68%	9	6.03%	9	11.86%	18	7.08%
10	14.39%	10	6.20%	10	10.30%	20	5.53%
11	10.18%	11	5.89%	11	8.04%	22	3.66%
12	4.13%	12	5.33%	12	4.73%	24	2.65%
13	1.11%	13	4.64%	13	2.87%	26	1.94%
14	0.23%	14	4.09%	14	2.16%	28	1.31%
15	0.03%	15	4.22%	15	2.12%	30	1.32%
16	0.00%	16	3.68%	16	1.83%	32	1.15%
17	0.01%	17	3.16%	17	1.58%	34	1.23%
18	0.04%	18	2.33%	18	1.18%	36	1.14%
19	0.01%	19	1.67%	19	0.84%	38	0.68%
20	0.01%	20	1.30%	20	0.66%	40	0.70%
21	0.00%	21	0.86%	21	0.43%	42	0.46%
22	0.01%	22	0.62%	22	0.32%	44	0.63%
23	0.03%	23	0.35%	23	0.19%	46	0.37%
24	0.01%	24	0.32%	24	0.17%	48	0.31%
25	0.00%	25	0.31%	25	0.16%	50	0.33%
26	0.06%	26	0.16%	26	0.11%	52	0.15%
27	0.00%	27	0.24%	27	0.12%	54	0.29%
28	0.02%	28	0.26%	28	0.14%	56	0.19%
29	0.01%	29	0.29%	29	0.15%	58	0.08%
30	0.00%	30	0.28%	30	0.14%	60	0.08%
31	0.00%	31	0.19%	31	0.09%	62	0.06%
32	0.00%	32	0.22%	32	0.11%	64	0.08%
33	0.00%	33	0.29%	33	0.14%	66	0.08%
34	0.00%	34	0.37%	34	0.19%	68	0.09%
35	0.00%	35	0.40%	35	0.20%	70	0.06%
36	0.00%	36	0.34%	36	0.17%	72	0.08%
37	0.00%	37	0.13%	37	0.07%	74	0.20%
38	0.00%	38	0.29%	38	0.14%	76	0.20%
39	0.00%	39	0.18%	39	0.09%	78	0.17%
40	0.00%	40	0.17%	40	0.08%	80	0.18%
41	0.00%	41	0.21%	41	0.10%	82	0.27%

**Table A.130. D514 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.01%	3	2.72%	3	0.24%	6	0.32%
4	0.06%	4	5.41%	4	0.53%	8	1.29%
5	0.27%	5	6.60%	5	0.82%	10	4.60%
6	0.63%	6	4.10%	6	0.93%	12	6.19%
7	1.21%	7	2.83%	7	1.35%	14	6.71%
8	3.26%	8	2.55%	8	3.20%	16	5.94%
9	10.50%	9	2.69%	9	9.82%	18	5.58%
10	24.77%	10	2.53%	10	22.84%	20	5.42%
11	33.64%	11	2.65%	11	30.96%	22	5.26%
12	19.55%	12	2.49%	12	18.07%	24	5.15%
13	4.77%	13	2.95%	13	4.61%	26	5.11%
14	0.93%	14	3.47%	14	1.15%	28	5.79%
15	0.16%	15	5.14%	15	0.59%	30	7.71%
16	0.05%	16	7.85%	16	0.73%	32	10.74%
17	0.04%	17	11.87%	17	1.07%	34	11.53%
18	0.03%	18	13.49%	18	1.19%	36	7.19%
19	0.03%	19	10.23%	19	0.91%	38	2.88%
20	0.03%	20	5.34%	20	0.49%	40	1.03%
21	0.02%	21	2.77%	21	0.26%	42	0.46%
22	0.01%	22	1.16%	22	0.11%	44	0.31%
23	0.01%	23	0.44%	23	0.04%	46	0.23%
24	0.01%	24	0.19%	24	0.02%	48	0.17%
25	0.01%	25	0.12%	25	0.02%	50	0.13%
26	0.01%	26	0.12%	26	0.02%	52	0.08%
27	0.00%	27	0.08%	27	0.01%	54	0.06%
28	0.00%	28	0.05%	28	0.01%	56	0.03%
29	0.00%	29	0.02%	29	0.00%	58	0.02%
30	0.00%	30	0.03%	30	0.00%	60	0.01%
31	0.00%	31	0.04%	31	0.00%	62	0.01%
32	0.00%	32	0.03%	32	0.00%	64	0.01%
33	0.00%	33	0.01%	33	0.00%	66	0.00%
34	0.00%	34	0.02%	34	0.00%	68	0.00%
35	0.00%	35	0.04%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.01%	41	0.00%	82	0.00%

**Table A.131. D514 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	20.00%	3	0.30%	6	0.00%	12	6.33%
4	0.10%	4	0.00%	4	0.10%	8	0.60%	15	8.94%
5	0.71%	5	0.00%	5	0.70%	10	0.80%	18	10.63%
6	1.01%	6	0.00%	6	0.99%	12	1.61%	21	8.94%
7	2.22%	7	6.67%	7	2.28%	14	3.42%	24	4.98%
8	4.54%	8	0.00%	8	4.47%	16	8.24%	27	6.56%
9	16.13%	9	26.67%	9	16.29%	18	8.94%	30	4.98%
10	25.71%	10	6.67%	10	25.42%	20	8.24%	33	6.11%
11	26.61%	11	6.67%	11	26.32%	22	8.24%	36	6.00%
12	14.11%	12	0.00%	12	13.90%	24	9.65%	39	7.24%
13	4.64%	13	0.00%	13	4.57%	26	7.74%	42	6.56%
14	2.12%	14	0.00%	14	2.09%	28	8.04%	45	3.85%
15	1.01%	15	0.00%	15	0.99%	30	6.53%	48	4.41%
16	0.20%	16	0.00%	16	0.20%	32	5.63%	51	3.96%
17	0.50%	17	0.00%	17	0.50%	34	5.23%	54	2.94%
18	0.00%	18	0.00%	18	0.00%	36	3.52%	57	1.70%
19	0.00%	19	6.67%	19	0.10%	38	3.62%	60	1.92%
20	0.10%	20	6.67%	20	0.20%	40	2.31%	63	1.24%
21	0.20%	21	13.33%	21	0.40%	42	2.31%	66	0.57%
22	0.10%	22	0.00%	22	0.10%	44	1.91%	69	0.68%
23	0.00%	23	0.00%	23	0.00%	46	0.90%	72	0.34%
24	0.00%	24	0.00%	24	0.00%	48	0.60%	75	0.45%
25	0.00%	25	0.00%	25	0.00%	50	0.90%	78	0.23%
26	0.00%	26	0.00%	26	0.00%	52	0.20%	81	0.11%
27	0.00%	27	0.00%	27	0.00%	54	0.30%	84	0.23%
28	0.00%	28	0.00%	28	0.00%	56	0.20%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.20%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.11%
31	0.00%	31	0.00%	31	0.00%	62	0.10%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	6.67%	40	0.10%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.132. D514 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.08%	3	0.19%	3	0.16%
4	1.03%	4	0.55%	4	0.65%
5	1.50%	5	2.29%	5	2.13%
6	0.82%	6	4.41%	6	3.68%
7	1.56%	7	5.15%	7	4.42%
8	7.10%	8	6.14%	8	6.33%
9	22.67%	9	7.28%	9	10.42%
10	31.21%	10	7.88%	10	12.64%
11	22.16%	11	9.09%	11	11.75%
12	9.04%	12	9.82%	12	9.66%
13	2.11%	13	10.15%	13	8.51%
14	0.49%	14	9.24%	14	7.46%
15	0.07%	15	7.75%	15	6.19%
16	0.04%	16	6.37%	16	5.08%
17	0.02%	17	4.99%	17	3.97%
18	0.00%	18	3.42%	18	2.72%
19	0.02%	19	2.31%	19	1.84%
20	0.03%	20	1.43%	20	1.14%
21	0.02%	21	0.70%	21	0.56%
22	0.00%	22	0.28%	22	0.22%
23	0.02%	23	0.13%	23	0.10%
24	0.00%	24	0.06%	24	0.05%
25	0.00%	25	0.05%	25	0.04%
26	0.00%	26	0.03%	26	0.02%
27	0.00%	27	0.04%	27	0.03%
28	0.01%	28	0.04%	28	0.03%
29	0.00%	29	0.06%	29	0.05%
30	0.01%	30	0.05%	30	0.04%
31	0.00%	31	0.04%	31	0.03%
32	0.00%	32	0.04%	32	0.03%
33	0.00%	33	0.02%	33	0.02%
34	0.00%	34	0.01%	34	0.01%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.133. D514 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.03%	3	0.22%	3	0.17%	6	0.07%
4	0.07%	4	0.87%	4	0.67%	8	0.48%
5	0.48%	5	4.24%	5	3.30%	10	0.96%
6	0.72%	6	7.95%	6	6.14%	12	3.86%
7	2.32%	7	7.75%	7	6.40%	14	7.90%
8	10.39%	8	8.84%	8	9.23%	16	12.31%
9	25.16%	9	9.81%	9	13.65%	18	17.95%
10	28.82%	10	10.26%	10	14.90%	20	18.39%
11	21.61%	11	11.26%	11	13.85%	22	15.15%
12	8.21%	12	9.87%	12	9.46%	24	9.33%
13	1.54%	13	9.05%	13	7.17%	26	5.44%
14	0.41%	14	6.72%	14	5.14%	28	2.32%
15	0.10%	15	4.77%	15	3.60%	30	1.13%
16	0.00%	16	3.51%	16	2.63%	32	0.82%
17	0.03%	17	1.84%	17	1.39%	34	0.65%
18	0.03%	18	1.13%	18	0.85%	36	0.65%
19	0.00%	19	0.60%	19	0.45%	38	0.44%
20	0.00%	20	0.38%	20	0.28%	40	0.55%
21	0.00%	21	0.18%	21	0.14%	42	0.38%
22	0.00%	22	0.07%	22	0.05%	44	0.44%
23	0.00%	23	0.08%	23	0.06%	46	0.24%
24	0.00%	24	0.05%	24	0.03%	48	0.10%
25	0.03%	25	0.03%	25	0.03%	50	0.14%
26	0.00%	26	0.05%	26	0.03%	52	0.21%
27	0.03%	27	0.08%	27	0.07%	54	0.07%
28	0.00%	28	0.07%	28	0.05%	56	0.00%
29	0.00%	29	0.05%	29	0.03%	58	0.00%
30	0.00%	30	0.15%	30	0.11%	60	0.00%
31	0.00%	31	0.10%	31	0.08%	62	0.03%
32	0.00%	32	0.02%	32	0.02%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.01%	35	0.01%	70	0.00%
36	0.00%	36	0.01%	36	0.01%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.134. D514 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	6.91%	3	27.14%	3	19.58%	6	43.80%	12	0.00%	12	6.06%
4	32.47%	4	9.83%	4	18.30%	8	19.29%	15	0.00%	15	6.06%
5	26.40%	5	12.49%	5	17.69%	10	12.77%	18	9.09%	18	0.00%
6	8.97%	6	8.64%	6	8.76%	12	6.34%	21	0.00%	21	3.03%
7	3.81%	7	5.71%	7	5.00%	14	3.08%	24	9.09%	24	3.03%
8	4.26%	8	5.09%	8	4.78%	16	1.58%	27	0.00%	27	6.06%
9	4.33%	9	4.24%	9	4.27%	18	1.68%	30	9.09%	30	3.03%
10	6.26%	10	3.66%	10	4.63%	20	1.03%	33	0.00%	33	0.00%
11	3.42%	11	3.74%	11	3.62%	22	0.47%	36	0.00%	36	3.03%
12	2.00%	12	2.85%	12	2.53%	24	0.28%	39	0.00%	39	3.03%
13	0.45%	13	1.85%	13	1.33%	26	0.56%	42	9.09%	42	3.03%
14	0.26%	14	2.89%	14	1.91%	28	0.28%	45	9.09%	45	6.06%
15	0.13%	15	2.31%	15	1.50%	30	0.56%	48	18.18%	48	3.03%
16	0.13%	16	2.39%	16	1.54%	32	1.21%	51	0.00%	51	3.03%
17	0.06%	17	1.89%	17	1.21%	34	1.12%	54	18.18%	54	3.03%
18	0.00%	18	1.20%	18	0.75%	36	1.21%	57	0.00%	57	6.06%
19	0.00%	19	0.54%	19	0.34%	38	1.12%	60	0.00%	60	15.15%
20	0.06%	20	0.85%	20	0.56%	40	1.12%	63	18.18%	63	3.03%
21	0.00%	21	0.27%	21	0.17%	42	0.65%	66	0.00%	66	6.06%
22	0.00%	22	0.19%	22	0.12%	44	0.56%	69	0.00%	69	3.03%
23	0.00%	23	0.35%	23	0.22%	46	0.28%	72	0.00%	72	0.00%
24	0.00%	24	0.39%	24	0.24%	48	0.28%	75	0.00%	75	0.00%
25	0.06%	25	0.08%	25	0.07%	50	0.47%	78	0.00%	78	3.03%
26	0.00%	26	0.50%	26	0.31%	52	0.00%	81	0.00%	81	3.03%
27	0.00%	27	0.39%	27	0.24%	54	0.09%	84	0.00%	84	0.00%
28	0.00%	28	0.12%	28	0.07%	56	0.00%	87	0.00%	87	3.03%
29	0.00%	29	0.23%	29	0.14%	58	0.00%	90	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.09%	93	0.00%	93	0.00%
31	0.00%	31	0.15%	31	0.10%	62	0.09%	96	0.00%	96	0.00%
32	0.00%	32	0.04%	32	0.02%	64	0.00%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	6.06%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.00%	36	0.00%	72	0.00%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.135. D515 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.38%
4	0.30%	4	0.00%	4	0.25%	8	0.38%
5	0.60%	5	1.47%	5	0.75%	10	0.76%
6	1.20%	6	1.47%	6	1.25%	12	0.38%
7	9.04%	7	1.47%	7	7.75%	14	1.14%
8	7.83%	8	1.47%	8	6.75%	16	2.27%
9	6.93%	9	0.00%	9	5.75%	18	18.94%
10	15.06%	10	5.88%	10	13.50%	20	34.85%
11	31.33%	11	17.65%	11	29.00%	22	28.41%
12	18.07%	12	32.35%	12	20.50%	24	7.95%
13	5.42%	13	19.12%	13	7.75%	26	1.52%
14	2.11%	14	4.41%	14	2.50%	28	2.27%
15	0.00%	15	5.88%	15	1.00%	30	0.38%
16	0.00%	16	1.47%	16	0.25%	32	0.38%
17	0.00%	17	2.94%	17	0.50%	34	0.00%
18	0.60%	18	1.47%	18	0.75%	36	0.00%
19	0.60%	19	1.47%	19	0.75%	38	0.00%
20	0.30%	20	1.47%	20	0.50%	40	0.00%
21	0.30%	21	0.00%	21	0.25%	42	0.00%
22	0.30%	22	0.00%	22	0.25%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.136. D515 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	11.29%	3	5.61%
4	40.70%	4	22.42%	4	31.61%
5	23.52%	5	11.85%	5	17.72%
6	10.04%	6	8.73%	6	9.39%
7	7.78%	7	5.97%	7	6.88%
8	7.31%	8	5.81%	8	6.57%
9	4.93%	9	4.85%	9	4.89%
10	3.55%	10	4.50%	10	4.02%
11	1.59%	11	3.21%	11	2.39%
12	0.31%	12	3.07%	12	1.68%
13	0.11%	13	2.67%	13	1.38%
14	0.02%	14	2.72%	14	1.36%
15	0.00%	15	2.56%	15	1.27%
16	0.09%	16	2.09%	16	1.09%
17	0.04%	17	1.67%	17	0.85%
18	0.00%	18	1.27%	18	0.63%
19	0.00%	19	0.56%	19	0.28%
20	0.00%	20	0.49%	20	0.24%
21	0.00%	21	0.47%	21	0.23%
22	0.00%	22	0.47%	22	0.23%
23	0.00%	23	0.56%	23	0.28%
24	0.00%	24	0.47%	24	0.23%
25	0.00%	25	0.40%	25	0.20%
26	0.00%	26	0.42%	26	0.21%
27	0.00%	27	0.38%	27	0.19%
28	0.00%	28	0.33%	28	0.17%
29	0.00%	29	0.24%	29	0.12%
30	0.00%	30	0.24%	30	0.12%
31	0.00%	31	0.11%	31	0.06%
32	0.00%	32	0.11%	32	0.06%
33	0.00%	33	0.04%	33	0.02%
34	0.00%	34	0.02%	34	0.01%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.137. D515 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	1.75%
4	1.64%	4	0.00%	4	1.64%	8	7.45%
5	6.38%	5	0.00%	5	6.38%	10	13.77%
6	6.21%	6	0.00%	6	6.21%	12	9.54%
7	4.46%	7	0.00%	7	4.46%	14	8.52%
8	9.03%	8	0.00%	8	9.03%	16	4.97%
9	13.54%	9	0.00%	9	13.54%	18	5.25%
10	16.25%	10	0.00%	10	16.25%	20	4.40%
11	11.74%	11	0.00%	11	11.74%	22	4.57%
12	7.11%	12	0.00%	12	7.11%	24	4.68%
13	5.19%	13	0.00%	13	5.19%	26	4.18%
14	3.84%	14	0.00%	14	3.84%	28	3.61%
15	3.39%	15	0.00%	15	3.39%	30	4.29%
16	4.46%	16	0.00%	16	4.46%	32	3.33%
17	2.88%	17	0.00%	17	2.88%	34	2.93%
18	2.65%	18	0.00%	18	2.65%	36	2.77%
19	0.79%	19	0.00%	19	0.79%	38	2.77%
20	0.34%	20	0.00%	20	0.34%	40	1.98%
21	0.11%	21	0.00%	21	0.11%	42	3.16%
22	0.00%	22	0.00%	22	0.00%	44	2.31%
23	0.00%	23	0.00%	23	0.00%	46	1.58%
24	0.00%	24	0.00%	24	0.00%	48	0.96%
25	0.00%	25	0.00%	25	0.00%	50	0.73%
26	0.00%	26	0.00%	26	0.00%	52	0.28%
27	0.00%	27	0.00%	27	0.00%	54	0.17%
28	0.00%	28	0.00%	28	0.00%	56	0.06%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.138. D515 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	24.20%	3	16.14%
4	20.06%	4	8.28%	4	12.21%
5	15.61%	5	8.28%	5	10.72%
6	9.87%	6	7.48%	6	8.28%
7	13.69%	7	4.46%	7	7.54%
8	14.65%	8	6.53%	8	9.24%
9	11.78%	9	6.69%	9	8.39%
10	7.64%	10	6.37%	10	6.79%
11	4.78%	11	5.57%	11	5.31%
12	0.64%	12	4.94%	12	3.50%
13	0.32%	13	2.87%	13	2.02%
14	0.32%	14	2.55%	14	1.80%
15	0.00%	15	1.91%	15	1.27%
16	0.32%	16	2.07%	16	1.49%
17	0.00%	17	2.55%	17	1.70%
18	0.32%	18	2.07%	18	1.49%
19	0.00%	19	1.11%	19	0.74%
20	0.00%	20	1.11%	20	0.74%
21	0.00%	21	0.80%	21	0.53%
22	0.00%	22	0.00%	22	0.00%
23	0.00%	23	0.00%	23	0.00%
24	0.00%	24	0.16%	24	0.11%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.139. D515 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	12.17%	3	6.10%	6	9.17%
4	14.63%	4	13.85%	4	14.24%	8	11.00%
5	6.33%	5	14.27%	5	10.31%	10	16.22%
6	5.06%	6	7.27%	6	6.17%	12	21.02%
7	10.27%	7	4.48%	7	7.36%	14	11.99%
8	16.03%	8	6.01%	8	11.01%	16	6.91%
9	21.38%	9	7.41%	9	14.38%	18	5.64%
10	16.32%	10	4.62%	10	10.45%	20	2.54%
11	6.75%	11	3.78%	11	5.26%	22	3.39%
12	1.83%	12	2.52%	12	2.17%	24	2.96%
13	1.27%	13	2.80%	13	2.03%	26	1.55%
14	0.14%	14	1.96%	14	1.05%	28	0.56%
15	0.00%	15	2.24%	15	1.12%	30	0.56%
16	0.00%	16	2.80%	16	1.40%	32	1.69%
17	0.00%	17	3.36%	17	1.68%	34	2.26%
18	0.00%	18	1.26%	18	0.63%	36	1.55%
19	0.00%	19	1.40%	19	0.70%	38	0.28%
20	0.00%	20	1.54%	20	0.77%	40	0.71%
21	0.00%	21	1.26%	21	0.63%	42	0.00%
22	0.00%	22	1.82%	22	0.91%	44	0.00%
23	0.00%	23	0.84%	23	0.42%	46	0.00%
24	0.00%	24	0.42%	24	0.21%	48	0.00%
25	0.00%	25	0.56%	25	0.28%	50	0.00%
26	0.00%	26	1.26%	26	0.63%	52	0.00%
27	0.00%	27	0.14%	27	0.07%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.140. D515 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	13.04%	3	0.14%	6	1.15%
4	0.29%	4	11.59%	4	0.41%	8	4.23%
5	0.87%	5	5.07%	5	0.91%	10	7.86%
6	0.88%	6	14.49%	6	1.03%	12	10.35%
7	1.72%	7	11.59%	7	1.83%	14	8.03%
8	7.91%	8	4.35%	8	7.88%	16	6.33%
9	20.23%	9	3.62%	9	20.06%	18	5.34%
10	29.72%	10	0.00%	10	29.40%	20	4.35%
11	26.32%	11	1.45%	11	26.06%	22	4.02%
12	10.22%	12	1.45%	12	10.13%	24	3.91%
13	1.48%	13	1.45%	13	1.48%	26	3.96%
14	0.27%	14	4.35%	14	0.31%	28	5.21%
15	0.05%	15	6.52%	15	0.12%	30	7.90%
16	0.02%	16	5.07%	16	0.07%	32	11.17%
17	0.01%	17	5.07%	17	0.06%	34	8.98%
18	0.01%	18	7.97%	18	0.09%	36	4.29%
19	0.00%	19	1.45%	19	0.02%	38	1.63%
20	0.00%	20	0.72%	20	0.01%	40	0.71%
21	0.00%	21	0.72%	21	0.01%	42	0.36%
22	0.00%	22	0.00%	22	0.00%	44	0.14%
23	0.00%	23	0.00%	23	0.00%	46	0.04%
24	0.00%	24	0.00%	24	0.00%	48	0.03%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.01%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.141. D515 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	1.17%	12	11.54%
4	0.58%	4	0.00%	4	0.58%	8	0.58%	15	17.95%
5	1.17%	5	0.00%	5	1.17%	10	2.92%	18	11.54%
6	1.75%	6	0.00%	6	1.75%	12	6.43%	21	6.41%
7	1.75%	7	0.00%	7	1.75%	14	2.34%	24	4.49%
8	4.09%	8	0.00%	8	4.09%	16	8.77%	27	2.56%
9	21.64%	9	0.00%	9	21.64%	18	6.43%	30	2.56%
10	25.73%	10	0.00%	10	25.73%	20	7.02%	33	6.41%
11	19.30%	11	0.00%	11	19.30%	22	9.94%	36	13.46%
12	11.70%	12	0.00%	12	11.70%	24	9.36%	39	5.13%
13	4.68%	13	0.00%	13	4.68%	26	7.60%	42	4.49%
14	4.09%	14	0.00%	14	4.09%	28	5.85%	45	5.77%
15	1.75%	15	0.00%	15	1.75%	30	8.19%	48	1.28%
16	0.58%	16	0.00%	16	0.58%	32	6.43%	51	1.92%
17	0.00%	17	0.00%	17	0.00%	34	4.09%	54	1.28%
18	0.58%	18	0.00%	18	0.58%	36	4.68%	57	1.28%
19	0.00%	19	0.00%	19	0.00%	38	2.34%	60	1.28%
20	0.58%	20	0.00%	20	0.58%	40	1.75%	63	0.64%
21	0.00%	21	0.00%	21	0.00%	42	1.17%	66	0.00%
22	0.00%	22	0.00%	22	0.00%	44	2.34%	69	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.58%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.142. D515 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.39%	3	0.31%
4	1.52%	4	1.48%	4	1.48%
5	1.01%	5	6.55%	5	5.43%
6	1.52%	6	7.84%	6	6.55%
7	4.04%	7	8.29%	7	7.42%
8	23.99%	8	7.64%	8	10.96%
9	33.33%	9	7.90%	9	13.06%
10	20.96%	10	7.77%	10	10.45%
11	11.11%	11	8.73%	11	9.22%
12	2.53%	12	8.86%	12	7.58%
13	0.00%	13	7.71%	13	6.14%
14	0.00%	14	8.03%	14	6.40%
15	0.00%	15	6.04%	15	4.81%
16	0.00%	16	5.39%	16	4.30%
17	0.00%	17	2.57%	17	2.05%
18	0.00%	18	1.54%	18	1.23%
19	0.00%	19	1.54%	19	1.23%
20	0.00%	20	0.96%	20	0.77%
21	0.00%	21	0.45%	21	0.36%
22	0.00%	22	0.13%	22	0.10%
23	0.00%	23	0.00%	23	0.00%
24	0.00%	24	0.19%	24	0.15%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.143. D515 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.69%	4	0.92%	4	0.86%	8	0.69%
5	2.07%	5	5.52%	5	4.66%	10	6.90%
6	0.69%	6	11.72%	6	8.97%	12	9.66%
7	2.07%	7	12.41%	7	9.83%	14	11.72%
8	15.17%	8	7.82%	8	9.66%	16	18.62%
9	34.48%	9	11.72%	9	17.41%	18	26.90%
10	34.48%	10	13.33%	10	18.62%	20	13.10%
11	9.66%	11	8.51%	11	8.79%	22	6.90%
12	0.69%	12	6.67%	12	5.17%	24	3.45%
13	0.00%	13	4.83%	13	3.62%	26	0.69%
14	0.00%	14	5.75%	14	4.31%	28	0.69%
15	0.00%	15	4.60%	15	3.45%	30	0.00%
16	0.00%	16	2.07%	16	1.55%	32	0.69%
17	0.00%	17	2.30%	17	1.72%	34	0.00%
18	0.00%	18	0.69%	18	0.52%	36	0.00%
19	0.00%	19	0.23%	19	0.17%	38	0.00%
20	0.00%	20	0.92%	20	0.69%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.144. D515 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	52.11%	3	34.58%	6	3.57%
4	16.67%	4	8.45%	4	11.21%	8	28.57%
5	22.22%	5	5.63%	5	11.21%	10	10.71%
6	13.89%	6	1.41%	6	5.61%	12	10.71%
7	5.56%	7	4.23%	7	4.67%	14	7.14%
8	5.56%	8	8.45%	8	7.48%	16	3.57%
9	11.11%	9	4.23%	9	6.54%	18	3.57%
10	16.67%	10	5.63%	10	9.35%	20	7.14%
11	5.56%	11	9.86%	11	8.41%	22	0.00%
12	2.78%	12	0.00%	12	0.93%	24	0.00%
13	0.00%	13	0.00%	13	0.00%	26	3.57%
14	0.00%	14	0.00%	14	0.00%	28	3.57%
15	0.00%	15	0.00%	15	0.00%	30	3.57%
16	0.00%	16	0.00%	16	0.00%	32	0.00%
17	0.00%	17	0.00%	17	0.00%	34	0.00%
18	0.00%	18	0.00%	18	0.00%	36	3.57%
19	0.00%	19	0.00%	19	0.00%	38	0.00%
20	0.00%	20	0.00%	20	0.00%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	7.14%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	3.57%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.145. D516 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.14%	3	0.02%	6	0.06%
4	0.06%	4	0.14%	4	0.07%	8	0.15%
5	0.20%	5	0.14%	5	0.20%	10	0.36%
6	0.41%	6	0.14%	6	0.37%	12	0.41%
7	1.11%	7	0.28%	7	1.01%	14	0.83%
8	3.47%	8	1.24%	8	3.21%	16	0.85%
9	7.78%	9	6.76%	9	7.66%	18	3.09%
10	13.38%	10	16.14%	10	13.70%	20	11.01%
11	17.98%	11	18.34%	11	18.02%	22	14.48%
12	20.36%	12	16.83%	12	19.94%	24	13.31%
13	17.74%	13	15.17%	13	17.43%	26	16.66%
14	10.23%	14	9.93%	14	10.20%	28	16.42%
15	4.78%	15	7.59%	15	5.12%	30	12.20%
16	1.77%	16	4.55%	16	2.10%	32	6.42%
17	0.54%	17	1.38%	17	0.64%	34	2.20%
18	0.09%	18	0.28%	18	0.11%	36	0.85%
19	0.02%	19	0.41%	19	0.07%	38	0.30%
20	0.07%	20	0.14%	20	0.08%	40	0.17%
21	0.00%	21	0.00%	21	0.00%	42	0.13%
22	0.00%	22	0.14%	22	0.02%	44	0.06%
23	0.00%	23	0.28%	23	0.03%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.02%	26	0.00%	26	0.02%	52	0.02%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.146. D516 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	25.08%	3	12.31%
4	46.23%	4	35.86%	4	41.14%
5	33.01%	5	14.50%	5	23.92%
6	7.10%	6	5.78%	6	6.45%
7	3.39%	7	3.46%	7	3.42%
8	2.99%	8	2.60%	8	2.80%
9	2.31%	9	2.37%	9	2.34%
10	1.54%	10	2.10%	10	1.81%
11	1.00%	11	1.66%	11	1.32%
12	0.55%	12	1.37%	12	0.95%
13	0.33%	13	1.03%	13	0.67%
14	0.25%	14	0.88%	14	0.56%
15	0.29%	15	0.68%	15	0.48%
16	0.35%	16	0.73%	16	0.53%
17	0.31%	17	0.58%	17	0.44%
18	0.20%	18	0.45%	18	0.32%
19	0.09%	19	0.36%	19	0.22%
20	0.04%	20	0.23%	20	0.13%
21	0.02%	21	0.11%	21	0.06%
22	0.01%	22	0.05%	22	0.03%
23	0.00%	23	0.05%	23	0.02%
24	0.00%	24	0.03%	24	0.02%
25	0.00%	25	0.03%	25	0.01%
26	0.00%	26	0.01%	26	0.01%
27	0.00%	27	0.01%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.147. D516 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	3.31%
4	0.61%	4	0.00%	4	0.61%	8	11.12%
5	1.33%	5	0.00%	5	1.33%	10	19.69%
6	1.75%	6	0.00%	6	1.75%	12	10.46%
7	2.47%	7	0.00%	7	2.47%	14	8.47%
8	3.88%	8	0.00%	8	3.88%	16	5.02%
9	9.67%	9	0.00%	9	9.67%	18	3.19%
10	21.36%	10	0.00%	10	21.36%	20	2.94%
11	27.11%	11	0.00%	11	27.11%	22	3.01%
12	17.08%	12	0.00%	12	17.08%	24	3.41%
13	6.90%	13	0.00%	13	6.90%	26	4.90%
14	3.18%	14	0.00%	14	3.18%	28	5.62%
15	1.45%	15	0.00%	15	1.45%	30	5.67%
16	0.99%	16	0.00%	16	0.99%	32	4.92%
17	0.89%	17	0.00%	17	0.89%	34	3.88%
18	0.63%	18	0.00%	18	0.63%	36	1.66%
19	0.39%	19	0.00%	19	0.39%	38	0.96%
20	0.18%	20	0.00%	20	0.18%	40	0.73%
21	0.08%	21	0.00%	21	0.08%	42	0.48%
22	0.01%	22	0.00%	22	0.01%	44	0.30%
23	0.02%	23	0.00%	23	0.02%	46	0.15%
24	0.00%	24	0.00%	24	0.00%	48	0.05%
25	0.00%	25	0.00%	25	0.00%	50	0.03%
26	0.00%	26	0.00%	26	0.00%	52	0.01%
27	0.00%	27	0.00%	27	0.00%	54	0.01%
28	0.00%	28	0.00%	28	0.00%	56	0.01%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.148. D516 Class7**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	3.85%	12	31.82%
4	8.11%	4	0.00%	4	5.77%	15	4.55%
5	10.81%	5	0.00%	5	9.62%	18	13.64%
6	0.00%	6	0.00%	6	5.77%	21	0.00%
7	2.70%	7	0.00%	7	5.77%	24	0.00%
8	8.11%	8	0.00%	8	7.69%	27	4.55%
9	8.11%	9	0.00%	9	7.69%	30	13.64%
10	8.11%	10	0.00%	10	5.77%	33	0.00%
11	13.51%	11	0.00%	11	9.62%	36	4.55%
12	16.22%	12	0.00%	12	11.54%	39	9.09%
13	2.70%	13	0.00%	13	3.85%	42	4.55%
14	5.41%	14	0.00%	14	5.77%	45	4.55%
15	2.70%	15	0.00%	15	1.92%	48	9.09%
16	0.00%	16	0.00%	16	1.92%	51	0.00%
17	2.70%	17	0.00%	17	1.92%	54	0.00%
18	5.41%	18	0.00%	18	3.85%	57	0.00%
19	2.70%	19	0.00%	19	1.92%	60	0.00%
20	2.70%	20	0.00%	20	1.92%	63	0.00%
21	0.00%	21	0.00%	21	0.00%	66	0.00%
22	0.00%	22	0.00%	22	0.00%	69	0.00%
23	0.00%	23	0.00%	23	1.92%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	84	0.00%
28	0.00%	28	0.00%	28	1.92%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%		
35	0.00%	35	0.00%	35	0.00%		
36	0.00%	36	0.00%	36	0.00%		
37	0.00%	37	0.00%	37	0.00%		
38	0.00%	38	0.00%	38	0.00%		
39	0.00%	39	0.00%	39	0.00%		
40	0.00%	40	0.00%	40	0.00%		
41	0.00%	41	0.00%	41	0.00%		

**Table A.149. D516 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	19.95%	3	13.29%
4	21.72%	4	10.59%	4	14.30%
5	19.31%	5	9.41%	5	12.71%
6	7.76%	6	6.75%	6	7.09%
7	13.16%	7	5.97%	7	8.37%
8	12.58%	8	5.56%	8	7.90%
9	11.55%	9	5.63%	9	7.61%
10	8.25%	10	6.10%	10	6.82%
11	3.26%	11	5.50%	11	4.75%
12	1.56%	12	4.71%	12	3.66%
13	0.49%	13	4.02%	13	2.84%
14	0.13%	14	3.33%	14	2.26%
15	0.00%	15	2.86%	15	1.91%
16	0.04%	16	2.57%	16	1.73%
17	0.13%	17	1.85%	17	1.28%
18	0.04%	18	1.81%	18	1.22%
19	0.00%	19	1.21%	19	0.80%
20	0.00%	20	1.03%	20	0.68%
21	0.00%	21	0.54%	21	0.36%
22	0.00%	22	0.27%	22	0.18%
23	0.00%	23	0.13%	23	0.09%
24	0.00%	24	0.09%	24	0.06%
25	0.00%	25	0.13%	25	0.09%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.150. D516 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	3.96%	3	1.99%	6	21.18%
4	17.87%	4	8.39%	4	13.10%	8	12.52%
5	21.76%	5	17.18%	5	19.46%	10	11.81%
6	5.02%	6	15.29%	6	10.19%	12	12.25%
7	4.24%	7	9.35%	7	6.81%	14	10.13%
8	8.04%	8	6.39%	8	7.21%	16	7.70%
9	12.96%	9	5.83%	9	9.37%	18	5.72%
10	12.23%	10	5.32%	10	8.75%	20	4.88%
11	9.37%	11	3.92%	11	6.63%	22	3.86%
12	4.69%	12	3.57%	12	4.13%	24	2.53%
13	1.43%	13	3.43%	13	2.44%	26	1.67%
14	1.27%	14	2.81%	14	2.04%	28	1.21%
15	0.72%	15	2.85%	15	1.79%	30	1.04%
16	0.29%	16	2.53%	16	1.42%	32	1.43%
17	0.09%	17	2.33%	17	1.22%	34	1.20%
18	0.02%	18	2.41%	18	1.22%	36	0.47%
19	0.00%	19	1.86%	19	0.94%	38	0.17%
20	0.00%	20	1.05%	20	0.53%	40	0.14%
21	0.00%	21	0.60%	21	0.30%	42	0.03%
22	0.00%	22	0.42%	22	0.21%	44	0.02%
23	0.00%	23	0.25%	23	0.13%	46	0.00%
24	0.00%	24	0.10%	24	0.05%	48	0.00%
25	0.00%	25	0.07%	25	0.04%	50	0.00%
26	0.00%	26	0.05%	26	0.03%	52	0.01%
27	0.00%	27	0.03%	27	0.02%	54	0.00%
28	0.00%	28	0.02%	28	0.01%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.01%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.01%	39	0.01%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.151. D516 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	2.80%	3	0.32%	6	0.27%
4	0.05%	4	7.27%	4	0.87%	8	1.77%
5	0.17%	5	9.37%	5	1.22%	10	4.80%
6	0.40%	6	5.32%	6	0.96%	12	6.88%
7	0.90%	7	3.54%	7	1.21%	14	7.32%
8	2.43%	8	2.86%	8	2.48%	16	6.26%
9	6.35%	9	2.84%	9	5.95%	18	6.08%
10	16.61%	10	2.76%	10	15.03%	20	6.17%
11	33.09%	11	2.74%	11	29.63%	22	5.93%
12	30.39%	12	3.62%	12	27.34%	24	5.64%
13	7.73%	13	3.89%	13	7.30%	26	5.44%
14	1.12%	14	4.59%	14	1.51%	28	6.04%
15	0.52%	15	6.47%	15	1.20%	30	8.34%
16	0.21%	16	9.65%	16	1.28%	32	11.76%
17	0.01%	17	12.44%	17	1.43%	34	10.47%
18	0.00%	18	10.15%	18	1.16%	36	4.41%
19	0.00%	19	5.55%	19	0.63%	38	1.45%
20	0.00%	20	2.26%	20	0.26%	40	0.55%
21	0.00%	21	0.95%	21	0.11%	42	0.28%
22	0.00%	22	0.50%	22	0.06%	44	0.10%
23	0.00%	23	0.21%	23	0.02%	46	0.03%
24	0.00%	24	0.11%	24	0.01%	48	0.01%
25	0.00%	25	0.04%	25	0.00%	50	0.00%
26	0.00%	26	0.03%	26	0.00%	52	0.00%
27	0.00%	27	0.03%	27	0.00%	54	0.00%
28	0.00%	28	0.01%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.152. D516 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%	12	7.87%
4	0.00%	4	0.00%	4	0.00%	8	0.09%	15	15.36%
5	0.00%	5	0.00%	5	0.00%	10	0.93%	18	14.89%
6	0.56%	6	0.00%	6	0.56%	12	3.27%	21	8.99%
7	1.50%	7	0.00%	7	1.50%	14	6.63%	24	6.18%
8	3.27%	8	0.00%	8	3.27%	16	9.34%	27	5.62%
9	7.20%	9	0.00%	9	7.20%	18	10.18%	30	6.27%
10	23.36%	10	0.00%	10	23.36%	20	9.15%	33	4.78%
11	31.40%	11	0.00%	11	31.40%	22	8.50%	36	5.71%
12	19.91%	12	0.00%	12	19.91%	24	7.28%	39	6.65%
13	7.76%	13	0.00%	13	7.76%	26	8.31%	42	5.52%
14	2.99%	14	0.00%	14	2.99%	28	8.22%	45	3.75%
15	1.59%	15	0.00%	15	1.59%	30	8.59%	48	2.62%
16	0.37%	16	0.00%	16	0.37%	32	6.91%	51	1.97%
17	0.00%	17	0.00%	17	0.00%	34	3.64%	54	1.78%
18	0.09%	18	0.00%	18	0.09%	36	3.08%	57	0.94%
19	0.00%	19	0.00%	19	0.00%	38	2.52%	60	0.19%
20	0.00%	20	0.00%	20	0.00%	40	1.59%	63	0.37%
21	0.00%	21	0.00%	21	0.00%	42	0.75%	66	0.09%
22	0.00%	22	0.00%	22	0.00%	44	0.47%	69	0.09%
23	0.00%	23	0.00%	23	0.00%	46	0.28%	72	0.19%
24	0.00%	24	0.00%	24	0.00%	48	0.00%	75	0.19%
25	0.00%	25	0.00%	25	0.00%	50	0.00%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.19%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.09%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.153. D516 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.22%	3	0.17%
4	2.17%	4	1.53%	4	1.66%
5	4.71%	5	4.89%	5	4.85%
6	1.50%	6	6.78%	6	5.66%
7	1.83%	7	5.13%	7	4.44%
8	5.35%	8	4.83%	8	4.94%
9	14.24%	9	5.38%	9	7.25%
10	28.93%	10	5.50%	10	10.44%
11	27.95%	11	6.39%	11	10.93%
12	11.46%	12	7.10%	12	8.02%
13	1.23%	13	7.55%	13	6.22%
14	0.41%	14	7.71%	14	6.17%
15	0.20%	15	7.75%	15	6.16%
16	0.00%	16	7.39%	16	5.83%
17	0.00%	17	6.59%	17	5.20%
18	0.00%	18	5.60%	18	4.42%
19	0.00%	19	4.45%	19	3.51%
20	0.00%	20	2.74%	20	2.16%
21	0.00%	21	1.44%	21	1.14%
22	0.00%	22	0.57%	22	0.45%
23	0.00%	23	0.26%	23	0.21%
24	0.00%	24	0.14%	24	0.11%
25	0.00%	25	0.05%	25	0.04%
26	0.00%	26	0.02%	26	0.01%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.154. D516 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.26%	3	0.19%	6	0.13%
4	0.13%	4	1.94%	4	1.49%	8	0.52%
5	0.32%	5	8.00%	5	6.08%	10	2.20%
6	0.32%	6	12.36%	6	9.35%	12	11.97%
7	2.52%	7	8.24%	7	6.81%	14	9.32%
8	7.57%	8	5.80%	8	6.25%	16	12.10%
9	22.72%	9	7.46%	9	11.28%	18	14.30%
10	36.05%	10	7.14%	10	14.37%	20	14.95%
11	21.29%	11	7.85%	11	11.21%	22	13.85%
12	6.93%	12	8.03%	12	7.75%	24	10.68%
13	1.29%	13	8.33%	13	6.57%	26	5.76%
14	0.65%	14	6.90%	14	5.34%	28	2.98%
15	0.19%	15	5.11%	15	3.88%	30	0.84%
16	0.00%	16	4.57%	16	3.43%	32	0.13%
17	0.00%	17	2.89%	17	2.17%	34	0.06%
18	0.00%	18	2.42%	18	1.81%	36	0.19%
19	0.00%	19	1.10%	19	0.83%	38	0.00%
20	0.00%	20	0.71%	20	0.53%	40	0.00%
21	0.00%	21	0.26%	21	0.19%	42	0.00%
22	0.00%	22	0.26%	22	0.19%	44	0.00%
23	0.00%	23	0.09%	23	0.06%	46	0.00%
24	0.00%	24	0.09%	24	0.06%	48	0.00%
25	0.00%	25	0.09%	25	0.06%	50	0.00%
26	0.00%	26	0.04%	26	0.03%	52	0.00%
27	0.00%	27	0.02%	27	0.02%	54	0.00%
28	0.00%	28	0.02%	28	0.02%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.155. D516 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	36.22%	3	24.57%	6	2.78%	12	7.14%	12	0.00%
4	22.85%	4	22.83%	4	22.84%	8	5.09%	15	14.29%	15	1.47%
5	14.25%	5	10.20%	5	11.51%	10	8.80%	18	10.71%	18	0.00%
6	6.45%	6	5.61%	6	5.88%	12	8.80%	21	21.43%	21	1.47%
7	6.18%	7	2.93%	7	3.98%	14	10.65%	24	3.57%	24	4.41%
8	6.45%	8	2.81%	8	3.98%	16	4.63%	27	14.29%	27	0.00%
9	8.33%	9	2.93%	9	4.67%	18	7.41%	30	14.29%	30	1.47%
10	7.53%	10	3.83%	10	5.02%	20	7.87%	33	7.14%	33	7.35%
11	11.02%	11	1.91%	11	4.84%	22	4.17%	36	0.00%	36	2.94%
12	6.18%	12	2.93%	12	3.98%	24	4.63%	39	0.00%	39	1.47%
13	4.03%	13	1.40%	13	2.25%	26	1.39%	42	0.00%	42	0.00%
14	2.42%	14	1.40%	14	1.73%	28	0.93%	45	0.00%	45	4.41%
15	1.61%	15	1.53%	15	1.56%	30	3.70%	48	0.00%	48	2.94%
16	0.27%	16	1.02%	16	0.78%	32	4.17%	51	0.00%	51	4.41%
17	0.81%	17	0.89%	17	0.87%	34	4.63%	54	0.00%	54	1.47%
18	0.81%	18	0.64%	18	0.69%	36	5.56%	57	0.00%	57	7.35%
19	0.00%	19	0.38%	19	0.26%	38	2.78%	60	0.00%	60	2.94%
20	0.00%	20	0.38%	20	0.26%	40	4.17%	63	3.57%	63	2.94%
21	0.27%	21	0.00%	21	0.09%	42	1.85%	66	0.00%	66	2.94%
22	0.27%	22	0.00%	22	0.09%	44	1.39%	69	3.57%	69	4.41%
23	0.00%	23	0.00%	23	0.00%	46	1.39%	72	0.00%	72	2.94%
24	0.00%	24	0.00%	24	0.00%	48	1.39%	75	0.00%	75	5.88%
25	0.27%	25	0.13%	25	0.17%	50	0.46%	78	0.00%	78	2.94%
26	0.00%	26	0.00%	26	0.00%	52	0.46%	81	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.46%	84	0.00%	84	2.94%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	2.94%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	4.41%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%	93	2.94%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	2.94%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	1.47%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	16.18%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.00%	36	0.00%	72	0.46%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.156. D517 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.43%	3	0.15%	6	0.00%
4	0.00%	4	0.43%	4	0.15%	8	0.97%
5	0.23%	5	0.00%	5	0.15%	10	1.45%
6	1.13%	6	0.43%	6	0.89%	12	1.93%
7	20.86%	7	1.71%	7	14.22%	14	1.45%
8	25.17%	8	1.28%	8	16.89%	16	2.42%
9	16.78%	9	5.13%	9	12.74%	18	19.32%
10	16.78%	10	13.68%	10	15.70%	20	41.55%
11	10.66%	11	22.65%	11	14.81%	22	16.91%
12	4.54%	12	22.22%	12	10.67%	24	8.21%
13	2.49%	13	12.39%	13	5.93%	26	3.86%
14	0.91%	14	4.27%	14	2.07%	28	1.45%
15	0.23%	15	4.27%	15	1.63%	30	0.48%
16	0.00%	16	3.85%	16	1.33%	32	0.00%
17	0.23%	17	3.85%	17	1.48%	34	0.00%
18	0.00%	18	2.14%	18	0.74%	36	0.00%
19	0.00%	19	0.43%	19	0.15%	38	0.00%
20	0.00%	20	0.43%	20	0.15%	40	0.00%
21	0.00%	21	0.43%	21	0.15%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.157. D517 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	14.99%	3	7.49%
4	49.95%	4	25.65%	4	37.81%
5	20.33%	5	11.34%	5	15.84%
6	8.32%	6	8.38%	6	8.35%
7	8.13%	7	7.26%	7	7.70%
8	6.25%	8	6.10%	8	6.18%
9	3.67%	9	5.27%	9	4.47%
10	1.94%	10	4.39%	10	3.16%
11	0.91%	11	2.92%	11	1.92%
12	0.30%	12	2.33%	12	1.32%
13	0.12%	13	2.43%	13	1.28%
14	0.02%	14	1.98%	14	1.00%
15	0.03%	15	1.67%	15	0.85%
16	0.01%	16	1.50%	16	0.75%
17	0.00%	17	1.01%	17	0.51%
18	0.01%	18	0.83%	18	0.42%
19	0.00%	19	0.52%	19	0.26%
20	0.00%	20	0.34%	20	0.17%
21	0.00%	21	0.33%	21	0.17%
22	0.00%	22	0.27%	22	0.14%
23	0.00%	23	0.14%	23	0.07%
24	0.00%	24	0.13%	24	0.07%
25	0.00%	25	0.04%	25	0.02%
26	0.00%	26	0.04%	26	0.02%
27	0.00%	27	0.06%	27	0.03%
28	0.00%	28	0.03%	28	0.02%
29	0.00%	29	0.03%	29	0.01%
30	0.00%	30	0.01%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.158. D517 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	2.41%
4	1.22%	4	0.00%	4	1.22%	8	9.96%
5	4.57%	5	0.00%	5	4.57%	10	13.58%
6	5.37%	6	0.00%	6	5.37%	12	11.63%
7	5.03%	7	0.00%	7	5.03%	14	7.97%
8	8.80%	8	0.00%	8	8.80%	16	6.54%
9	15.89%	9	0.00%	9	15.89%	18	5.97%
10	19.20%	10	0.00%	10	19.20%	20	4.89%
11	14.51%	11	0.00%	11	14.51%	22	4.57%
12	8.74%	12	0.00%	12	8.74%	24	3.48%
13	4.42%	13	0.00%	13	4.42%	26	3.35%
14	2.50%	14	0.00%	14	2.50%	28	2.64%
15	1.53%	15	0.00%	15	1.53%	30	2.20%
16	2.50%	16	0.00%	16	2.50%	32	1.97%
17	3.15%	17	0.00%	17	3.15%	34	2.60%
18	1.24%	18	0.00%	18	1.24%	36	2.66%
19	1.13%	19	0.00%	19	1.13%	38	2.66%
20	0.17%	20	0.00%	20	0.17%	40	1.99%
21	0.02%	21	0.00%	21	0.02%	42	1.49%
22	0.00%	22	0.00%	22	0.00%	44	1.55%
23	0.00%	23	0.00%	23	0.00%	46	1.76%
24	0.00%	24	0.00%	24	0.00%	48	1.89%
25	0.00%	25	0.00%	25	0.00%	50	1.22%
26	0.00%	26	0.00%	26	0.00%	52	0.67%
27	0.00%	27	0.00%	27	0.00%	54	0.25%
28	0.00%	28	0.00%	28	0.00%	56	0.04%
29	0.00%	29	0.00%	29	0.00%	58	0.04%
30	0.00%	30	0.00%	30	0.00%	60	0.02%
31	0.00%	31	0.00%	31	0.00%	62	0.02%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.159. D517 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	11.35%	3	7.56%
4	12.48%	4	5.65%	4	7.93%
5	7.89%	5	5.91%	5	6.57%
6	14.56%	6	7.61%	6	9.93%
7	20.36%	7	7.65%	7	11.90%
8	21.32%	8	8.35%	8	12.68%
9	15.86%	9	7.61%	9	10.36%
10	5.63%	10	6.48%	10	6.20%
11	1.04%	11	7.22%	11	5.15%
12	0.17%	12	6.09%	12	4.11%
13	0.09%	13	5.57%	13	3.73%
14	0.17%	14	4.83%	14	3.27%
15	0.17%	15	3.30%	15	2.26%
16	0.00%	16	2.96%	16	1.97%
17	0.00%	17	2.83%	17	1.88%
18	0.00%	18	2.09%	18	1.39%
19	0.00%	19	1.26%	19	0.84%
20	0.00%	20	0.96%	20	0.64%
21	0.00%	21	1.13%	21	0.75%
22	0.00%	22	0.87%	22	0.58%
23	0.00%	23	0.22%	23	0.14%
24	0.00%	24	0.00%	24	0.00%
25	0.00%	25	0.04%	25	0.03%
26	0.00%	26	0.04%	26	0.03%
27	0.09%	27	0.00%	27	0.03%
28	0.00%	28	0.00%	28	0.00%
29	0.09%	29	0.00%	29	0.03%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.09%	39	0.00%	39	0.03%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.160. D517 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	5.95%	3	2.98%	6	13.99%
4	23.16%	4	7.12%	4	15.11%	8	13.00%
5	9.93%	5	13.73%	5	11.84%	10	16.83%
6	7.89%	6	11.96%	6	9.93%	12	16.83%
7	11.32%	7	8.37%	7	9.84%	14	12.87%
8	17.30%	8	8.24%	8	12.75%	16	8.12%
9	18.09%	9	9.02%	9	13.54%	18	5.74%
10	9.21%	10	6.34%	10	7.77%	20	3.17%
11	2.43%	11	4.64%	11	3.54%	22	1.52%
12	0.53%	12	3.53%	12	2.03%	24	1.06%
13	0.13%	13	3.33%	13	1.74%	26	0.99%
14	0.00%	14	3.27%	14	1.64%	28	0.53%
15	0.00%	15	2.55%	15	1.28%	30	0.46%
16	0.00%	16	1.96%	16	0.98%	32	0.59%
17	0.00%	17	1.83%	17	0.92%	34	0.59%
18	0.00%	18	1.57%	18	0.79%	36	0.86%
19	0.00%	19	0.92%	19	0.46%	38	1.19%
20	0.00%	20	0.65%	20	0.33%	40	0.79%
21	0.00%	21	1.18%	21	0.59%	42	0.46%
22	0.00%	22	0.98%	22	0.49%	44	0.40%
23	0.00%	23	0.72%	23	0.36%	46	0.00%
24	0.00%	24	0.85%	24	0.43%	48	0.00%
25	0.00%	25	0.59%	25	0.30%	50	0.00%
26	0.00%	26	0.39%	26	0.20%	52	0.00%
27	0.00%	27	0.07%	27	0.03%	54	0.00%
28	0.00%	28	0.07%	28	0.03%	56	0.00%
29	0.00%	29	0.20%	29	0.10%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.161. D517 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	20.67%	3	0.17%	6	1.24%
4	0.44%	4	11.33%	4	0.53%	8	5.07%
5	1.23%	5	12.00%	5	1.32%	10	11.26%
6	1.00%	6	14.67%	6	1.12%	12	13.95%
7	2.93%	7	14.67%	7	3.02%	14	12.57%
8	13.05%	8	8.67%	8	13.01%	16	8.67%
9	24.55%	9	0.67%	9	24.35%	18	4.82%
10	28.72%	10	4.67%	10	28.51%	20	3.37%
11	20.66%	11	1.33%	11	20.50%	22	2.93%
12	6.57%	12	0.67%	12	6.52%	24	2.65%
13	0.75%	13	0.67%	13	0.75%	26	2.62%
14	0.08%	14	1.33%	14	0.10%	28	3.07%
15	0.01%	15	0.00%	15	0.01%	30	4.11%
16	0.00%	16	1.33%	16	0.01%	32	6.14%
17	0.00%	17	4.67%	17	0.04%	34	7.25%
18	0.00%	18	1.33%	18	0.01%	36	5.42%
19	0.00%	19	0.67%	19	0.01%	38	2.76%
20	0.00%	20	0.67%	20	0.01%	40	1.13%
21	0.00%	21	0.00%	21	0.00%	42	0.59%
22	0.00%	22	0.00%	22	0.00%	44	0.22%
23	0.00%	23	0.00%	23	0.00%	46	0.09%
24	0.00%	24	0.00%	24	0.00%	48	0.04%
25	0.00%	25	0.00%	25	0.00%	50	0.02%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.162. D517 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.19%	6	0.00%	12	17.10%
4	0.00%	4	0.00%	4	0.00%	8	0.19%	15	14.51%
5	0.39%	5	0.00%	5	0.39%	10	0.58%	18	13.52%
6	0.58%	6	0.00%	6	0.58%	12	9.50%	21	5.96%
7	1.36%	7	0.00%	7	1.36%	14	8.33%	24	3.98%
8	9.32%	8	0.00%	8	9.30%	16	5.23%	27	4.57%
9	24.85%	9	0.00%	9	24.81%	18	8.14%	30	4.17%
10	27.57%	10	0.00%	10	27.52%	20	5.43%	33	3.38%
11	20.00%	11	0.00%	11	19.96%	22	7.56%	36	4.17%
12	11.26%	12	0.00%	12	11.24%	24	8.53%	39	10.54%
13	4.47%	13	0.00%	13	4.46%	26	4.84%	42	10.34%
14	0.19%	14	0.00%	14	0.19%	28	5.62%	45	1.39%
15	0.00%	15	0.00%	15	0.00%	30	8.33%	48	1.79%
16	0.00%	16	0.00%	16	0.00%	32	11.05%	51	1.59%
17	0.00%	17	0.00%	17	0.00%	34	5.81%	54	0.80%
18	0.00%	18	0.00%	18	0.00%	36	3.10%	57	1.19%
19	0.00%	19	0.00%	19	0.00%	38	1.16%	60	0.20%
20	0.00%	20	0.00%	20	0.00%	40	1.74%	63	0.40%
21	0.00%	21	0.00%	21	0.00%	42	1.36%	66	0.20%
22	0.00%	22	0.00%	22	0.00%	44	1.16%	69	0.20%
23	0.00%	23	0.00%	23	0.00%	46	0.97%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.39%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.19%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.39%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.19%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.19%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.163. D517 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.36%	3	0.28%
4	8.40%	4	3.08%	4	4.26%
5	4.62%	5	6.29%	5	5.92%
6	6.72%	6	11.15%	6	10.18%
7	11.34%	7	14.47%	7	13.78%
8	29.83%	8	11.51%	8	15.54%
9	24.37%	9	10.08%	9	13.23%
10	11.76%	10	6.88%	10	7.96%
11	2.94%	11	6.05%	11	5.37%
12	0.00%	12	7.00%	12	5.46%
13	0.00%	13	4.74%	13	3.70%
14	0.00%	14	4.98%	14	3.89%
15	0.00%	15	3.20%	15	2.50%
16	0.00%	16	3.56%	16	2.78%
17	0.00%	17	1.78%	17	1.39%
18	0.00%	18	1.42%	18	1.11%
19	0.00%	19	1.19%	19	0.93%
20	0.00%	20	0.24%	20	0.19%
21	0.00%	21	1.07%	21	0.83%
22	0.00%	22	0.59%	22	0.46%
23	0.00%	23	0.12%	23	0.09%
24	0.00%	24	0.24%	24	0.19%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.164. D517 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.00%	4	4.65%	4	3.49%	8	0.00%
5	0.00%	5	17.83%	5	13.37%	10	18.60%
6	0.00%	6	24.81%	6	18.60%	12	9.30%
7	4.65%	7	19.38%	7	15.70%	14	16.28%
8	13.95%	8	13.18%	8	13.37%	16	13.95%
9	46.51%	9	6.20%	9	16.28%	18	30.23%
10	25.58%	10	4.65%	10	9.88%	20	2.33%
11	9.30%	11	0.78%	11	2.91%	22	6.98%
12	0.00%	12	2.33%	12	1.74%	24	2.33%
13	0.00%	13	0.78%	13	0.58%	26	0.00%
14	0.00%	14	1.55%	14	1.16%	28	0.00%
15	0.00%	15	1.55%	15	1.16%	30	0.00%
16	0.00%	16	2.33%	16	1.74%	32	0.00%
17	0.00%	17	0.00%	17	0.00%	34	0.00%
18	0.00%	18	0.00%	18	0.00%	36	0.00%
19	0.00%	19	0.00%	19	0.00%	38	0.00%
20	0.00%	20	0.00%	20	0.00%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.165. D517 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	63.16%	3	43.37%	6	4.00%
4	9.62%	4	7.02%	4	7.83%	8	14.00%
5	26.92%	5	2.63%	5	10.24%	10	16.00%
6	7.69%	6	2.63%	6	4.22%	12	16.00%
7	7.69%	7	3.51%	7	4.82%	14	8.00%
8	7.69%	8	2.63%	8	4.22%	16	6.00%
9	13.46%	9	3.51%	9	6.63%	18	4.00%
10	13.46%	10	4.39%	10	7.23%	20	10.00%
11	7.69%	11	2.63%	11	4.22%	22	4.00%
12	0.00%	12	0.88%	12	0.60%	24	2.00%
13	1.92%	13	0.88%	13	1.20%	26	0.00%
14	1.92%	14	0.88%	14	1.20%	28	4.00%
15	0.00%	15	0.00%	15	0.00%	30	0.00%
16	0.00%	16	1.75%	16	1.20%	32	2.00%
17	0.00%	17	0.00%	17	0.00%	34	0.00%
18	0.00%	18	0.88%	18	0.60%	36	4.00%
19	0.00%	19	0.88%	19	0.60%	38	2.00%
20	0.00%	20	0.00%	20	0.00%	40	2.00%
21	1.92%	21	0.00%	21	0.60%	42	0.00%
22	0.00%	22	0.88%	22	0.60%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	2.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.88%	27	0.60%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.166. D518 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.53%	4	0.00%	4	0.40%	8	0.00%
5	0.00%	5	0.00%	5	0.00%	10	0.00%
6	1.60%	6	0.00%	6	1.21%	12	0.78%
7	4.79%	7	0.00%	7	3.63%	14	0.00%
8	8.51%	8	1.67%	8	6.85%	16	0.78%
9	9.04%	9	8.33%	9	8.87%	18	2.34%
10	7.45%	10	8.33%	10	7.66%	20	3.13%
11	10.64%	11	6.67%	11	9.68%	22	7.81%
12	17.55%	12	6.67%	12	14.92%	24	10.16%
13	16.49%	13	6.67%	13	14.11%	26	12.50%
14	8.51%	14	8.33%	14	8.47%	28	19.53%
15	5.85%	15	6.67%	15	6.05%	30	9.38%
16	2.66%	16	8.33%	16	4.03%	32	14.84%
17	1.60%	17	8.33%	17	3.23%	34	12.50%
18	1.06%	18	5.00%	18	2.02%	36	3.91%
19	1.60%	19	8.33%	19	3.23%	38	0.00%
20	0.00%	20	1.67%	20	0.40%	40	0.00%
21	1.06%	21	6.67%	21	2.42%	42	0.78%
22	0.53%	22	3.33%	22	1.21%	44	0.78%
23	0.00%	23	0.00%	23	0.00%	46	0.78%
24	0.00%	24	1.67%	24	0.40%	48	0.00%
25	0.00%	25	1.67%	25	0.40%	50	0.00%
26	0.53%	26	1.67%	26	0.81%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.167. D518 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	6.78%	3	6.34%	3	6.56%
4	31.80%	4	20.24%	4	26.02%
5	31.84%	5	16.51%	5	24.17%
6	12.12%	6	9.38%	6	10.75%
7	5.78%	7	7.91%	7	6.84%
8	4.08%	8	7.30%	8	5.69%
9	3.91%	9	5.95%	9	4.93%
10	1.30%	10	5.43%	10	3.37%
11	0.74%	11	3.74%	11	2.24%
12	0.91%	12	3.00%	12	1.95%
13	0.30%	13	2.22%	13	1.26%
14	0.22%	14	2.09%	14	1.15%
15	0.00%	15	1.91%	15	0.96%
16	0.04%	16	1.61%	16	0.83%
17	0.04%	17	1.22%	17	0.63%
18	0.04%	18	1.61%	18	0.83%
19	0.04%	19	1.91%	19	0.98%
20	0.00%	20	0.48%	20	0.24%
21	0.00%	21	0.26%	21	0.13%
22	0.00%	22	0.35%	22	0.17%
23	0.00%	23	0.13%	23	0.07%
24	0.00%	24	0.09%	24	0.04%
25	0.00%	25	0.09%	25	0.04%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.04%	27	0.02%
28	0.04%	28	0.13%	28	0.09%
29	0.00%	29	0.04%	29	0.02%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.04%	33	0.02%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.168. D518 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	1.69%
4	2.74%	4	0.00%	4	2.74%	8	10.76%
5	3.59%	5	0.00%	5	3.59%	10	18.78%
6	5.70%	6	0.00%	6	5.70%	12	12.66%
7	5.70%	7	0.00%	7	5.70%	14	10.34%
8	4.64%	8	0.00%	8	4.64%	16	6.75%
9	8.86%	9	0.00%	9	8.86%	18	3.59%
10	19.62%	10	0.00%	10	19.62%	20	2.32%
11	23.63%	11	0.00%	11	23.63%	22	1.48%
12	12.45%	12	0.00%	12	12.45%	24	1.69%
13	6.54%	13	0.00%	13	6.54%	26	1.69%
14	2.32%	14	0.00%	14	2.32%	28	3.16%
15	1.27%	15	0.00%	15	1.27%	30	2.32%
16	0.84%	16	0.00%	16	0.84%	32	2.95%
17	0.84%	17	0.00%	17	0.84%	34	6.96%
18	0.42%	18	0.00%	18	0.42%	36	7.81%
19	0.00%	19	0.00%	19	0.00%	38	3.38%
20	0.42%	20	0.00%	20	0.42%	40	1.05%
21	0.21%	21	0.00%	21	0.21%	42	0.21%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.21%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.21%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.21%	36	0.00%	36	0.21%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.169. D518 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	12.20%	3	26.02%	3	21.41%
4	31.71%	4	12.20%	4	18.70%
5	19.51%	5	13.01%	5	15.18%
6	12.20%	6	6.91%	6	8.67%
7	4.88%	7	3.66%	7	4.07%
8	5.69%	8	4.47%	8	4.88%
9	7.32%	9	4.47%	9	5.42%
10	2.44%	10	5.28%	10	4.34%
11	2.44%	11	3.25%	11	2.98%
12	0.81%	12	2.85%	12	2.17%
13	0.00%	13	4.88%	13	3.25%
14	0.00%	14	2.44%	14	1.63%
15	0.81%	15	3.25%	15	2.44%
16	0.00%	16	0.41%	16	0.27%
17	0.00%	17	1.63%	17	1.08%
18	0.00%	18	0.81%	18	0.54%
19	0.00%	19	2.03%	19	1.36%
20	0.00%	20	0.81%	20	0.54%
21	0.00%	21	0.41%	21	0.27%
22	0.00%	22	0.41%	22	0.27%
23	0.00%	23	0.41%	23	0.27%
24	0.00%	24	0.41%	24	0.27%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.170. D518 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	5.34%	3	12.64%	3	9.22%	6	30.43%
4	27.56%	4	5.85%	4	16.03%	8	10.98%
5	26.28%	5	13.77%	5	19.64%	10	12.81%
6	6.41%	6	15.28%	6	11.12%	12	8.01%
7	5.98%	7	10.19%	7	8.22%	14	5.72%
8	6.41%	8	4.91%	8	5.61%	16	8.24%
9	6.62%	9	6.79%	9	6.71%	18	4.12%
10	6.20%	10	6.60%	10	6.41%	20	3.66%
11	5.34%	11	2.64%	11	3.91%	22	3.66%
12	2.78%	12	2.83%	12	2.81%	24	2.06%
13	0.43%	13	3.21%	13	1.90%	26	1.83%
14	0.43%	14	2.83%	14	1.70%	28	1.37%
15	0.21%	15	2.26%	15	1.30%	30	1.83%
16	0.00%	16	1.51%	16	0.80%	32	1.37%
17	0.00%	17	2.83%	17	1.50%	34	1.14%
18	0.00%	18	2.26%	18	1.20%	36	2.06%
19	0.00%	19	0.38%	19	0.20%	38	0.46%
20	0.00%	20	0.94%	20	0.50%	40	0.00%
21	0.00%	21	0.75%	21	0.40%	42	0.00%
22	0.00%	22	0.75%	22	0.40%	44	0.00%
23	0.00%	23	0.38%	23	0.20%	46	0.23%
24	0.00%	24	0.19%	24	0.10%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.19%	34	0.10%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.171. D518 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.08%	3	4.80%	3	0.98%	6	0.71%
4	0.16%	4	7.86%	4	1.63%	8	2.47%
5	0.33%	5	7.10%	5	1.62%	10	4.41%
6	0.53%	6	3.15%	6	1.03%	12	4.78%
7	0.64%	7	3.53%	7	1.19%	14	5.67%
8	2.55%	8	2.70%	8	2.58%	16	5.06%
9	8.55%	9	2.89%	9	7.48%	18	4.46%
10	23.26%	10	2.70%	10	19.34%	20	4.65%
11	32.96%	11	3.15%	11	27.29%	22	4.73%
12	19.90%	12	3.44%	12	16.77%	24	4.85%
13	5.84%	13	4.31%	13	5.55%	26	4.61%
14	2.07%	14	3.38%	14	2.32%	28	5.16%
15	1.02%	15	5.13%	15	1.80%	30	6.50%
16	0.56%	16	7.10%	16	1.81%	32	9.44%
17	0.46%	17	8.62%	17	2.01%	34	11.83%
18	0.20%	18	10.71%	18	2.20%	36	9.99%
19	0.25%	19	7.44%	19	1.62%	38	5.22%
20	0.15%	20	5.64%	20	1.20%	40	2.45%
21	0.12%	21	2.68%	21	0.61%	42	1.28%
22	0.12%	22	1.35%	22	0.35%	44	0.68%
23	0.07%	23	0.74%	23	0.20%	46	0.42%
24	0.05%	24	0.42%	24	0.12%	48	0.25%
25	0.03%	25	0.44%	25	0.11%	50	0.19%
26	0.02%	26	0.19%	26	0.05%	52	0.09%
27	0.02%	27	0.11%	27	0.04%	54	0.04%
28	0.00%	28	0.08%	28	0.02%	56	0.04%
29	0.00%	29	0.17%	29	0.03%	58	0.01%
30	0.01%	30	0.11%	30	0.03%	60	0.01%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.01%
33	0.00%	33	0.02%	33	0.00%	66	0.00%
34	0.00%	34	0.02%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.02%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.172. D518 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%	12	10.40%
4	0.00%	4	0.00%	4	0.00%	8	0.00%	15	12.14%
5	1.69%	5	0.00%	5	1.69%	10	0.00%	18	5.78%
6	1.69%	6	0.00%	6	1.69%	12	1.69%	21	4.62%
7	2.26%	7	0.00%	7	2.26%	14	5.65%	24	5.20%
8	4.52%	8	0.00%	8	4.52%	16	5.08%	27	6.94%
9	12.99%	9	0.00%	9	12.99%	18	6.21%	30	9.25%
10	19.77%	10	0.00%	10	19.77%	20	9.04%	33	8.09%
11	21.47%	11	0.00%	11	21.47%	22	8.47%	36	6.36%
12	10.73%	12	0.00%	12	10.73%	24	5.65%	39	5.78%
13	6.78%	13	0.00%	13	6.78%	26	9.60%	42	4.05%
14	2.82%	14	0.00%	14	2.82%	28	6.78%	45	4.05%
15	2.82%	15	0.00%	15	2.82%	30	8.47%	48	3.47%
16	2.26%	16	0.00%	16	2.26%	32	6.21%	51	2.89%
17	1.69%	17	0.00%	17	1.69%	34	5.65%	54	1.16%
18	1.13%	18	0.00%	18	1.13%	36	3.95%	57	2.89%
19	0.56%	19	0.00%	19	0.56%	38	3.39%	60	2.31%
20	2.82%	20	0.00%	20	2.82%	40	1.69%	63	0.58%
21	0.56%	21	0.00%	21	0.56%	42	2.26%	66	0.58%
22	0.56%	22	0.00%	22	0.56%	44	3.95%	69	0.58%
23	0.56%	23	0.00%	23	0.56%	46	2.26%	72	0.58%
24	0.00%	24	0.00%	24	0.00%	48	1.13%	75	1.73%
25	0.00%	25	0.00%	25	0.00%	50	1.13%	78	0.00%
26	1.69%	26	0.00%	26	1.69%	52	0.56%	81	0.00%
27	0.56%	27	0.00%	27	0.56%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.56%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.56%	99	0.58%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.173. D518 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.81%	3	0.40%	3	0.72%
4	5.24%	4	0.81%	4	1.79%
5	5.24%	5	2.42%	5	3.05%
6	2.42%	6	5.07%	6	4.48%
7	1.81%	7	6.46%	7	5.43%
8	10.69%	8	5.13%	8	6.37%
9	19.96%	9	5.54%	9	8.74%
10	18.55%	10	8.42%	10	10.67%
11	21.98%	11	9.52%	11	12.29%
12	9.07%	12	10.50%	12	10.18%
13	1.61%	13	7.84%	13	6.46%
14	0.40%	14	7.90%	14	6.23%
15	0.00%	15	6.92%	15	5.38%
16	0.60%	16	6.86%	16	5.47%
17	0.20%	17	4.73%	17	3.72%
18	0.20%	18	3.81%	18	3.00%
19	0.20%	19	3.06%	19	2.42%
20	0.00%	20	1.27%	20	0.99%
21	0.00%	21	1.33%	21	1.03%
22	0.00%	22	0.87%	22	0.67%
23	0.00%	23	0.35%	23	0.27%
24	0.00%	24	0.29%	24	0.22%
25	0.00%	25	0.35%	25	0.27%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.12%	27	0.09%
28	0.00%	28	0.06%	28	0.04%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.174. D518 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.64%	3	0.22%	3	0.32%	6	0.61%
4	0.00%	4	1.30%	4	0.97%	8	1.82%
5	0.00%	5	7.56%	5	5.65%	10	3.03%
6	0.64%	6	10.37%	6	7.90%	12	3.64%
7	5.10%	7	7.34%	7	6.77%	14	10.91%
8	12.10%	8	11.88%	8	11.94%	16	19.39%
9	17.20%	9	10.80%	9	12.42%	18	19.39%
10	21.02%	10	12.31%	10	14.52%	20	14.55%
11	20.38%	11	8.42%	11	11.45%	22	7.27%
12	17.20%	12	6.91%	12	9.52%	24	10.91%
13	3.18%	13	7.13%	13	6.13%	26	1.82%
14	1.91%	14	6.05%	14	5.00%	28	2.42%
15	0.00%	15	2.16%	15	1.61%	30	0.00%
16	0.00%	16	1.94%	16	1.45%	32	0.00%
17	0.00%	17	1.51%	17	1.13%	34	4.24%
18	0.00%	18	2.16%	18	1.61%	36	0.00%
19	0.64%	19	0.86%	19	0.81%	38	0.00%
20	0.00%	20	0.22%	20	0.16%	40	0.00%
21	0.00%	21	0.22%	21	0.16%	42	0.00%
22	0.00%	22	0.43%	22	0.32%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.22%	29	0.16%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.175. D518 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	14.89%	3	50.94%	3	38.99%	6	39.30%	12	33.33%	12	9.09%
4	23.94%	4	4.20%	4	10.74%	8	14.08%	15	33.33%	15	9.09%
5	23.80%	5	5.35%	5	11.47%	10	14.37%	18	0.00%	18	18.18%
6	14.74%	6	4.92%	6	8.18%	12	11.73%	21	0.00%	21	18.18%
7	6.86%	7	3.76%	7	4.79%	14	4.69%	24	0.00%	24	0.00%
8	4.82%	8	3.84%	8	4.16%	16	2.05%	27	0.00%	27	18.18%
9	4.09%	9	3.76%	9	3.87%	18	1.47%	30	0.00%	30	0.00%
10	2.34%	10	3.47%	10	3.10%	20	1.76%	33	0.00%	33	0.00%
11	2.04%	11	3.40%	11	2.95%	22	1.47%	36	0.00%	36	0.00%
12	1.17%	12	2.82%	12	2.27%	24	0.88%	39	16.67%	39	0.00%
13	0.29%	13	2.82%	13	1.98%	26	0.59%	42	0.00%	42	9.09%
14	0.44%	14	2.53%	14	1.84%	28	2.64%	45	0.00%	45	0.00%
15	0.29%	15	2.03%	15	1.45%	30	0.00%	48	16.67%	48	0.00%
16	0.29%	16	1.66%	16	1.21%	32	1.47%	51	0.00%	51	0.00%
17	0.00%	17	1.01%	17	0.68%	34	0.59%	54	0.00%	54	0.00%
18	0.00%	18	1.52%	18	1.02%	36	0.59%	57	0.00%	57	0.00%
19	0.00%	19	1.01%	19	0.68%	38	0.59%	60	0.00%	60	9.09%
20	0.00%	20	0.29%	20	0.19%	40	0.29%	63	0.00%	63	0.00%
21	0.00%	21	0.29%	21	0.19%	42	0.29%	66	0.00%	66	9.09%
22	0.00%	22	0.22%	22	0.15%	44	0.29%	69	0.00%	69	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%	72	0.00%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.59%	75	0.00%	75	0.00%
25	0.00%	25	0.07%	25	0.05%	50	0.29%	78	0.00%	78	0.00%
26	0.00%	26	0.07%	26	0.05%	52	0.00%	81	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%				
35	0.00%	35	0.00%	35	0.00%	70	0.00%				
36	0.00%	36	0.00%	36	0.00%	72	0.00%				
37	0.00%	37	0.00%	37	0.00%	74	0.00%				
38	0.00%	38	0.00%	38	0.00%	76	0.00%				
39	0.00%	39	0.00%	39	0.00%	78	0.00%				
40	0.00%	40	0.00%	40	0.00%	80	0.00%				
41	0.00%	41	0.00%	41	0.00%	82	0.00%				

**Table A.176. D519 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	7.72%	3	6.86%	3	7.30%
4	14.28%	4	13.63%	4	13.96%
5	13.68%	5	18.30%	5	15.94%
6	9.24%	6	14.85%	6	11.98%
7	8.39%	7	9.35%	7	8.86%
8	14.78%	8	7.49%	8	11.22%
9	12.33%	9	5.55%	9	9.02%
10	6.75%	10	4.20%	10	5.50%
11	2.95%	11	3.48%	11	3.21%
12	3.33%	12	2.66%	12	3.00%
13	2.40%	13	2.49%	13	2.44%
14	1.62%	14	2.01%	14	1.81%
15	0.74%	15	1.59%	15	1.15%
16	0.55%	16	1.09%	16	0.81%
17	0.38%	17	1.22%	17	0.79%
18	0.26%	18	1.22%	18	0.73%
19	0.19%	19	0.85%	19	0.51%
20	0.10%	20	0.82%	20	0.45%
21	0.07%	21	0.55%	21	0.30%
22	0.05%	22	0.30%	22	0.17%
23	0.05%	23	0.32%	23	0.18%
24	0.02%	24	0.27%	24	0.15%
25	0.05%	25	0.20%	25	0.12%
26	0.02%	26	0.15%	26	0.09%
27	0.00%	27	0.02%	27	0.01%
28	0.02%	28	0.10%	28	0.06%
29	0.00%	29	0.05%	29	0.02%
30	0.02%	30	0.07%	30	0.05%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.02%	32	0.01%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.07%	34	0.04%
35	0.00%	35	0.02%	35	0.01%
36	0.00%	36	0.00%	36	0.00%
37	0.02%	37	0.00%	37	0.01%
38	0.00%	38	0.05%	38	0.02%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.05%	40	0.02%
41	0.00%	41	0.07%	41	0.04%

**Table A.177. D519 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.57%	3	0.00%	3	0.57%	6	1.02%
4	1.09%	4	0.00%	4	1.09%	8	2.72%
5	1.85%	5	0.00%	5	1.85%	10	4.83%
6	1.96%	6	0.00%	6	1.96%	12	5.66%
7	2.60%	7	0.00%	7	2.60%	14	7.40%
8	3.09%	8	0.00%	8	3.09%	16	6.75%
9	5.55%	9	0.00%	9	5.55%	18	6.34%
10	13.43%	10	0.00%	10	13.43%	20	6.57%
11	18.94%	11	0.00%	11	18.94%	22	6.64%
12	14.37%	12	0.00%	12	14.37%	24	6.26%
13	17.13%	13	0.00%	13	17.13%	26	6.53%
14	11.54%	14	0.00%	14	11.54%	28	6.60%
15	4.83%	15	0.00%	15	4.83%	30	7.81%
16	1.92%	16	0.00%	16	1.92%	32	7.40%
17	0.64%	17	0.00%	17	0.64%	34	6.60%
18	0.15%	18	0.00%	18	0.15%	36	4.23%
19	0.08%	19	0.00%	19	0.08%	38	2.79%
20	0.11%	20	0.00%	20	0.11%	40	1.58%
21	0.00%	21	0.00%	21	0.00%	42	0.79%
22	0.00%	22	0.00%	22	0.00%	44	0.42%
23	0.04%	23	0.00%	23	0.04%	46	0.34%
24	0.00%	24	0.00%	24	0.00%	48	0.19%
25	0.08%	25	0.00%	25	0.08%	50	0.04%
26	0.04%	26	0.00%	26	0.04%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.04%
28	0.00%	28	0.00%	28	0.00%	56	0.08%
29	0.00%	29	0.00%	29	0.00%	58	0.08%
30	0.00%	30	0.00%	30	0.00%	60	0.04%
31	0.00%	31	0.00%	31	0.00%	62	0.11%
32	0.00%	32	0.00%	32	0.00%	64	0.04%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.11%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.178. D519 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	7.62%	3	11.45%	3	10.14%
4	10.06%	4	5.25%	4	6.90%
5	12.20%	5	7.15%	5	8.88%
6	11.28%	6	6.04%	6	7.84%
7	11.28%	7	7.31%	7	8.67%
8	12.20%	8	6.52%	8	8.46%
9	7.32%	9	8.27%	9	7.94%
10	7.62%	10	6.20%	10	6.69%
11	4.57%	11	6.20%	11	5.64%
12	4.27%	12	5.09%	12	4.81%
13	5.18%	13	6.84%	13	6.27%
14	3.05%	14	5.72%	14	4.81%
15	1.22%	15	3.18%	15	2.51%
16	1.22%	16	3.82%	16	2.93%
17	0.61%	17	3.02%	17	2.19%
18	0.30%	18	2.07%	18	1.46%
19	0.00%	19	1.11%	19	0.73%
20	0.00%	20	1.75%	20	1.15%
21	0.00%	21	0.79%	21	0.52%
22	0.00%	22	0.48%	22	0.31%
23	0.00%	23	0.79%	23	0.52%
24	0.00%	24	0.16%	24	0.10%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.16%	26	0.10%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.16%	34	0.10%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.16%	36	0.10%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.32%	38	0.21%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.179. D519 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	6.89%	3	3.95%	3	5.45%	6	10.98%
4	16.90%	4	2.80%	4	10.02%	8	10.33%
5	10.80%	5	8.22%	5	9.54%	10	9.02%
6	8.61%	6	9.54%	6	9.06%	12	14.75%
7	9.23%	7	10.53%	7	9.86%	14	9.02%
8	10.80%	8	8.22%	8	9.54%	16	9.67%
9	9.70%	9	6.58%	9	8.18%	18	6.89%
10	6.73%	10	6.74%	10	6.74%	20	4.26%
11	4.38%	11	8.06%	11	6.17%	22	4.59%
12	3.91%	12	4.77%	12	4.33%	24	1.80%
13	4.23%	13	6.25%	13	5.21%	26	3.44%
14	1.41%	14	4.93%	14	3.13%	28	3.93%
15	2.03%	15	3.62%	15	2.81%	30	0.98%
16	1.41%	16	2.96%	16	2.17%	32	0.82%
17	1.25%	17	2.80%	17	2.00%	34	0.98%
18	0.47%	18	2.63%	18	1.52%	36	0.33%
19	0.47%	19	1.97%	19	1.20%	38	0.33%
20	0.78%	20	1.15%	20	0.96%	40	0.16%
21	0.00%	21	0.82%	21	0.40%	42	0.33%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.82%	23	0.40%	46	0.16%
24	0.00%	24	0.49%	24	0.24%	48	0.00%
25	0.00%	25	0.49%	25	0.24%	50	0.16%
26	0.00%	26	0.49%	26	0.24%	52	0.33%
27	0.00%	27	0.16%	27	0.08%	54	0.82%
28	0.00%	28	0.33%	28	0.16%	56	1.15%
29	0.00%	29	0.16%	29	0.08%	58	0.82%
30	0.00%	30	0.00%	30	0.00%	60	0.66%
31	0.00%	31	0.33%	31	0.16%	62	0.16%
32	0.00%	32	0.00%	32	0.00%	64	0.66%
33	0.00%	33	0.16%	33	0.08%	66	0.49%
34	0.00%	34	0.00%	34	0.00%	68	0.33%
35	0.00%	35	0.00%	35	0.00%	70	0.66%
36	0.00%	36	0.00%	36	0.00%	72	0.33%
37	0.00%	37	0.00%	37	0.00%	74	0.16%
38	0.00%	38	0.00%	38	0.00%	76	0.16%
39	0.00%	39	0.00%	39	0.00%	78	0.16%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.16%

**Table A.180. D519 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.20%	3	3.96%	3	0.78%	6	0.72%
4	0.33%	4	8.32%	4	1.58%	8	1.81%
5	0.47%	5	5.61%	5	1.27%	10	3.27%
6	1.52%	6	3.69%	6	1.86%	12	4.57%
7	5.83%	7	4.21%	7	5.58%	14	5.36%
8	10.71%	8	4.81%	8	9.79%	16	6.31%
9	13.70%	9	5.08%	9	12.36%	18	6.93%
10	21.56%	10	5.37%	10	19.03%	20	7.15%
11	21.78%	11	5.18%	11	19.19%	22	6.86%
12	10.55%	12	5.32%	12	9.73%	24	6.98%
13	5.36%	13	6.10%	13	5.47%	26	7.54%
14	3.13%	14	6.71%	14	3.69%	28	7.66%
15	1.95%	15	6.34%	15	2.63%	30	6.95%
16	1.06%	16	5.66%	16	1.78%	32	5.78%
17	0.54%	17	6.34%	17	1.45%	34	5.65%
18	0.36%	18	5.64%	18	1.18%	36	5.55%
19	0.32%	19	4.67%	19	1.00%	38	4.37%
20	0.26%	20	3.31%	20	0.73%	40	2.45%
21	0.12%	21	1.53%	21	0.34%	42	1.09%
22	0.07%	22	0.90%	22	0.20%	44	0.51%
23	0.03%	23	0.29%	23	0.07%	46	0.27%
24	0.03%	24	0.25%	24	0.07%	48	0.19%
25	0.02%	25	0.17%	25	0.04%	50	0.10%
26	0.01%	26	0.17%	26	0.04%	52	0.07%
27	0.02%	27	0.12%	27	0.04%	54	0.06%
28	0.02%	28	0.05%	28	0.03%	56	0.12%
29	0.01%	29	0.03%	29	0.01%	58	0.25%
30	0.01%	30	0.05%	30	0.01%	60	0.23%
31	0.00%	31	0.03%	31	0.01%	62	0.23%
32	0.01%	32	0.00%	32	0.01%	64	0.20%
33	0.00%	33	0.00%	33	0.00%	66	0.17%
34	0.01%	34	0.02%	34	0.01%	68	0.17%
35	0.01%	35	0.00%	35	0.01%	70	0.17%
36	0.00%	36	0.03%	36	0.01%	72	0.09%
37	0.00%	37	0.00%	37	0.00%	74	0.05%
38	0.01%	38	0.02%	38	0.01%	76	0.04%
39	0.00%	39	0.02%	39	0.00%	78	0.02%
40	0.00%	40	0.00%	40	0.00%	80	0.01%
41	0.00%	41	0.00%	41	0.00%	82	0.02%

**Table A.181. D519 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.46%	12	12.56%
4	0.93%	4	0.00%	4	0.92%	8	0.46%	15	12.09%
5	2.78%	5	0.00%	5	2.76%	10	1.38%	18	9.30%
6	1.39%	6	0.00%	6	1.38%	12	2.76%	21	8.37%
7	4.17%	7	0.00%	7	4.15%	14	3.23%	24	8.84%
8	10.19%	8	0.00%	8	10.14%	16	7.37%	27	7.91%
9	19.44%	9	0.00%	9	19.35%	18	11.06%	30	5.58%
10	18.98%	10	0.00%	10	18.89%	20	9.68%	33	6.05%
11	16.20%	11	0.00%	11	16.13%	22	6.45%	36	5.58%
12	10.19%	12	0.00%	12	10.14%	24	11.06%	39	6.51%
13	7.87%	13	100.00%	13	8.29%	26	8.76%	42	3.72%
14	2.31%	14	0.00%	14	2.30%	28	5.99%	45	3.26%
15	2.31%	15	0.00%	15	2.30%	30	9.68%	48	1.86%
16	1.39%	16	0.00%	16	1.38%	32	5.99%	51	1.40%
17	0.93%	17	0.00%	17	0.92%	34	3.23%	54	0.47%
18	0.00%	18	0.00%	18	0.00%	36	2.30%	57	1.40%
19	0.93%	19	0.00%	19	0.92%	38	1.38%	60	1.40%
20	0.00%	20	0.00%	20	0.00%	40	1.84%	63	0.47%
21	0.00%	21	0.00%	21	0.00%	42	1.38%	66	0.47%
22	0.00%	22	0.00%	22	0.00%	44	0.92%	69	0.47%
23	0.00%	23	0.00%	23	0.00%	46	1.38%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.46%	75	1.40%
25	0.00%	25	0.00%	25	0.00%	50	1.38%	78	0.47%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.46%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.47%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.46%		
36	0.00%	36	0.00%	36	0.00%	72	0.46%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.182. D519 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.44%	3	0.57%	3	0.55%
4	1.27%	4	1.10%	4	1.13%
5	1.27%	5	2.50%	5	2.24%
6	5.00%	6	4.26%	6	4.41%
7	10.09%	7	4.79%	7	5.88%
8	17.34%	8	6.47%	8	8.72%
9	18.57%	9	7.30%	9	9.63%
10	19.55%	10	8.84%	10	11.05%
11	15.58%	11	9.66%	11	10.88%
12	4.90%	12	9.59%	12	8.62%
13	1.91%	13	9.38%	13	7.84%
14	1.03%	14	8.54%	14	6.99%
15	0.83%	15	6.99%	15	5.72%
16	0.59%	16	6.12%	16	4.97%
17	0.54%	17	4.31%	17	3.53%
18	0.64%	18	3.41%	18	2.84%
19	0.24%	19	2.01%	19	1.65%
20	0.20%	20	1.55%	20	1.27%
21	0.00%	21	1.01%	21	0.80%
22	0.00%	22	0.65%	22	0.52%
23	0.00%	23	0.33%	23	0.26%
24	0.00%	24	0.14%	24	0.11%
25	0.00%	25	0.13%	25	0.10%
26	0.00%	26	0.06%	26	0.05%
27	0.00%	27	0.03%	27	0.02%
28	0.00%	28	0.11%	28	0.09%
29	0.00%	29	0.03%	29	0.02%
30	0.00%	30	0.01%	30	0.01%
31	0.00%	31	0.04%	31	0.03%
32	0.00%	32	0.01%	32	0.01%
33	0.00%	33	0.03%	33	0.02%
34	0.00%	34	0.03%	34	0.02%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.01%	39	0.01%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.183. D519 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	1.03%	3	0.69%	3	0.78%	6	0.52%
4	0.26%	4	2.76%	4	2.13%	8	1.55%
5	0.77%	5	6.13%	5	4.79%	10	4.90%
6	4.12%	6	8.64%	6	7.50%	12	9.79%
7	13.14%	7	8.89%	7	9.96%	14	10.05%
8	17.01%	8	9.67%	8	11.51%	16	13.40%
9	19.85%	9	10.36%	9	12.74%	18	17.53%
10	15.72%	10	11.49%	10	12.55%	20	12.37%
11	12.63%	11	10.88%	11	11.32%	22	11.86%
12	8.76%	12	7.08%	12	7.50%	24	6.96%
13	2.84%	13	6.13%	13	5.30%	26	4.64%
14	2.32%	14	6.22%	14	5.24%	28	2.06%
15	0.77%	15	3.80%	15	3.04%	30	1.80%
16	0.26%	16	2.33%	16	1.81%	32	0.26%
17	0.00%	17	1.64%	17	1.23%	34	0.52%
18	0.00%	18	1.30%	18	0.97%	36	0.00%
19	0.00%	19	0.60%	19	0.45%	38	0.00%
20	0.00%	20	0.26%	20	0.19%	40	0.00%
21	0.52%	21	0.09%	21	0.19%	42	0.00%
22	0.00%	22	0.26%	22	0.19%	44	0.00%
23	0.00%	23	0.35%	23	0.26%	46	0.00%
24	0.00%	24	0.09%	24	0.06%	48	0.00%
25	0.00%	25	0.09%	25	0.06%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.09%	27	0.06%	54	0.00%
28	0.00%	28	0.09%	28	0.06%	56	0.26%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.09%	30	0.06%	60	0.26%
31	0.00%	31	0.00%	31	0.00%	62	0.52%
32	0.00%	32	0.00%	32	0.00%	64	0.26%
33	0.00%	33	0.00%	33	0.00%	66	0.26%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.26%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.184. D519 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	26.82%	3	38.33%	3	34.45%	6	52.58%
4	29.80%	4	6.32%	4	14.24%	8	20.00%
5	14.40%	5	5.56%	5	8.54%	10	15.16%
6	8.44%	6	5.56%	6	6.53%	12	4.84%
7	3.15%	7	5.22%	7	4.52%	14	3.23%
8	1.66%	8	4.30%	8	3.41%	16	1.94%
9	2.98%	9	5.81%	9	4.86%	18	0.32%
10	3.48%	10	4.55%	10	4.19%	20	0.65%
11	3.48%	11	4.13%	11	3.91%	22	0.00%
12	2.15%	12	3.54%	12	3.07%	24	0.00%
13	1.82%	13	2.86%	13	2.51%	26	0.32%
14	1.66%	14	3.37%	14	2.79%	28	0.00%
15	0.17%	15	2.86%	15	1.95%	30	0.32%
16	0.00%	16	2.02%	16	1.34%	32	0.00%
17	0.00%	17	1.43%	17	0.95%	34	0.00%
18	0.00%	18	1.43%	18	0.95%	36	0.00%
19	0.00%	19	1.01%	19	0.67%	38	0.00%
20	0.00%	20	0.42%	20	0.28%	40	0.00%
21	0.00%	21	0.51%	21	0.34%	42	0.00%
22	0.00%	22	0.17%	22	0.11%	44	0.32%
23	0.00%	23	0.08%	23	0.06%	46	0.32%
24	0.00%	24	0.25%	24	0.17%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.08%	26	0.06%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.08%	31	0.06%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.08%	37	0.06%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.185. D520 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.30%	3	0.10%	6	0.00%
4	0.45%	4	0.00%	4	0.30%	8	1.79%
5	1.79%	5	0.30%	5	1.30%	10	2.98%
6	1.79%	6	0.00%	6	1.20%	12	3.57%
7	3.74%	7	0.00%	7	2.50%	14	3.57%
8	13.75%	8	1.50%	8	9.68%	16	3.27%
9	15.99%	9	12.31%	9	14.77%	18	2.68%
10	13.60%	10	15.62%	10	14.27%	20	5.65%
11	11.06%	11	16.82%	11	12.97%	22	10.71%
12	11.66%	12	18.92%	12	14.07%	24	20.24%
13	10.16%	13	18.62%	13	12.97%	26	14.29%
14	7.92%	14	6.61%	14	7.49%	28	11.31%
15	4.04%	15	6.31%	15	4.79%	30	5.36%
16	1.94%	16	2.10%	16	2.00%	32	5.06%
17	0.90%	17	0.60%	17	0.80%	34	2.08%
18	0.60%	18	0.00%	18	0.40%	36	3.57%
19	0.00%	19	0.00%	19	0.00%	38	2.08%
20	0.30%	20	0.00%	20	0.20%	40	1.19%
21	0.15%	21	0.00%	21	0.10%	42	0.30%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.30%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.15%	25	0.00%	25	0.10%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.186. D520 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	27.85%	3	13.90%
4	53.30%	4	31.74%	4	42.54%
5	28.54%	5	12.50%	5	20.54%
6	5.31%	6	6.02%	6	5.66%
7	2.79%	7	4.04%	7	3.41%
8	3.03%	8	3.53%	8	3.28%
9	2.47%	9	3.09%	9	2.78%
10	1.55%	10	2.34%	10	1.94%
11	0.95%	11	1.79%	11	1.37%
12	0.69%	12	1.51%	12	1.10%
13	0.33%	13	1.15%	13	0.74%
14	0.21%	14	1.01%	14	0.61%
15	0.14%	15	0.84%	15	0.49%
16	0.10%	16	0.63%	16	0.37%
17	0.12%	17	0.49%	17	0.30%
18	0.14%	18	0.37%	18	0.25%
19	0.10%	19	0.35%	19	0.23%
20	0.07%	20	0.28%	20	0.17%
21	0.08%	21	0.21%	21	0.15%
22	0.05%	22	0.12%	22	0.08%
23	0.01%	23	0.04%	23	0.02%
24	0.00%	24	0.01%	24	0.01%
25	0.00%	25	0.03%	25	0.02%
26	0.01%	26	0.03%	26	0.02%
27	0.00%	27	0.01%	27	0.00%
28	0.00%	28	0.01%	28	0.00%
29	0.00%	29	0.01%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.01%	31	0.00%
32	0.00%	32	0.01%	32	0.01%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.187. D520 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	4.16%
4	0.64%	4	0.00%	4	0.64%	8	12.92%
5	3.32%	5	0.00%	5	3.32%	10	21.61%
6	4.86%	6	0.00%	6	4.86%	12	11.57%
7	4.73%	7	0.00%	7	4.73%	14	6.46%
8	4.22%	8	0.00%	8	4.22%	16	4.80%
9	7.93%	9	0.00%	9	7.93%	18	5.12%
10	13.36%	10	0.00%	10	13.36%	20	3.77%
11	22.38%	11	0.00%	11	22.38%	22	3.13%
12	18.16%	12	0.00%	12	18.16%	24	3.26%
13	8.89%	13	0.00%	13	8.89%	26	3.90%
14	4.09%	14	0.00%	14	4.09%	28	3.52%
15	2.37%	15	0.00%	15	2.37%	30	3.20%
16	1.85%	16	0.00%	16	1.85%	32	2.94%
17	1.53%	17	0.00%	17	1.53%	34	2.75%
18	0.51%	18	0.00%	18	0.51%	36	1.60%
19	0.38%	19	0.00%	19	0.38%	38	1.28%
20	0.06%	20	0.00%	20	0.06%	40	1.41%
21	0.26%	21	0.00%	21	0.26%	42	0.96%
22	0.19%	22	0.00%	22	0.19%	44	0.70%
23	0.00%	23	0.00%	23	0.00%	46	0.51%
24	0.13%	24	0.00%	24	0.13%	48	0.06%
25	0.06%	25	0.00%	25	0.06%	50	0.19%
26	0.06%	26	0.00%	26	0.06%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.06%
28	0.00%	28	0.00%	28	0.00%	56	0.06%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.06%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.188. D520 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	19.93%	3	13.26%
4	23.20%	4	10.14%	4	14.51%
5	21.61%	5	12.25%	5	15.38%
6	6.34%	6	8.62%	6	7.86%
7	8.65%	7	5.72%	7	6.70%
8	8.36%	8	6.09%	8	6.85%
9	9.94%	9	6.01%	9	7.33%
10	9.22%	10	6.38%	10	7.33%
11	6.92%	11	5.51%	11	5.98%
12	3.89%	12	3.70%	12	3.76%
13	0.72%	13	3.19%	13	2.36%
14	0.72%	14	2.25%	14	1.74%
15	0.00%	15	2.03%	15	1.35%
16	0.00%	16	1.45%	16	0.96%
17	0.14%	17	1.52%	17	1.06%
18	0.00%	18	1.30%	18	0.87%
19	0.00%	19	1.09%	19	0.72%
20	0.00%	20	1.52%	20	1.01%
21	0.00%	21	0.43%	21	0.29%
22	0.00%	22	0.36%	22	0.24%
23	0.14%	23	0.22%	23	0.19%
24	0.00%	24	0.07%	24	0.05%
25	0.00%	25	0.14%	25	0.10%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.07%	27	0.05%
28	0.14%	28	0.00%	28	0.05%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.189. D520 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	3.94%	3	2.00%	6	30.04%
4	25.09%	4	6.54%	4	15.70%	8	12.78%
5	27.56%	5	16.79%	5	22.11%	10	10.54%
6	3.88%	6	15.83%	6	9.93%	12	9.79%
7	3.40%	7	9.81%	7	6.64%	14	8.02%
8	5.63%	8	6.31%	8	5.97%	16	6.59%
9	8.96%	9	5.94%	9	7.43%	18	4.38%
10	9.46%	10	4.23%	10	6.81%	20	3.31%
11	7.41%	11	4.15%	11	5.76%	22	2.80%
12	4.54%	12	3.71%	12	4.12%	24	2.02%
13	2.82%	13	3.79%	13	3.31%	26	2.02%
14	0.98%	14	3.09%	14	2.05%	28	1.45%
15	0.21%	15	2.05%	15	1.14%	30	1.02%
16	0.05%	16	2.60%	16	1.34%	32	0.97%
17	0.00%	17	2.47%	17	1.25%	34	0.62%
18	0.00%	18	2.31%	18	1.17%	36	1.00%
19	0.00%	19	2.31%	19	1.17%	38	1.32%
20	0.00%	20	1.66%	20	0.84%	40	0.67%
21	0.00%	21	0.96%	21	0.49%	42	0.35%
22	0.00%	22	0.55%	22	0.28%	44	0.22%
23	0.00%	23	0.42%	23	0.21%	46	0.03%
24	0.00%	24	0.16%	24	0.08%	48	0.05%
25	0.00%	25	0.10%	25	0.05%	50	0.03%
26	0.00%	26	0.05%	26	0.03%	52	0.00%
27	0.00%	27	0.10%	27	0.05%	54	0.00%
28	0.00%	28	0.03%	28	0.01%	56	0.00%
29	0.00%	29	0.05%	29	0.03%	58	0.00%
30	0.00%	30	0.03%	30	0.01%	60	0.00%
31	0.00%	31	0.03%	31	0.01%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.190. D520 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	6.62%	3	0.60%	6	0.72%
4	0.08%	4	6.26%	4	0.64%	8	3.69%
5	0.40%	5	7.92%	5	1.08%	10	8.29%
6	0.53%	6	6.26%	6	1.05%	12	9.50%
7	0.59%	7	3.84%	7	0.88%	14	8.63%
8	1.10%	8	2.81%	8	1.26%	16	6.30%
9	4.50%	9	2.42%	9	4.31%	18	4.52%
10	13.27%	10	2.62%	10	12.29%	20	3.59%
11	24.96%	11	2.47%	11	22.90%	22	3.26%
12	28.54%	12	2.86%	12	26.19%	24	3.17%
13	17.34%	13	2.52%	13	15.99%	26	3.33%
14	6.58%	14	2.55%	14	6.21%	28	3.80%
15	1.70%	15	2.68%	15	1.79%	30	4.57%
16	0.36%	16	3.43%	16	0.64%	32	5.37%
17	0.06%	17	3.66%	17	0.39%	34	6.45%
18	0.01%	18	5.97%	18	0.55%	36	7.38%
19	0.00%	19	6.55%	19	0.60%	38	6.64%
20	0.00%	20	8.10%	20	0.74%	40	5.22%
21	0.00%	21	7.06%	21	0.65%	42	3.05%
22	0.00%	22	5.45%	22	0.50%	44	1.52%
23	0.00%	23	3.51%	23	0.32%	46	0.62%
24	0.00%	24	2.31%	24	0.21%	48	0.24%
25	0.00%	25	1.17%	25	0.11%	50	0.09%
26	0.00%	26	0.49%	26	0.05%	52	0.03%
27	0.00%	27	0.23%	27	0.02%	54	0.01%
28	0.00%	28	0.13%	28	0.01%	56	0.00%
29	0.00%	29	0.03%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.03%	31	0.00%	62	0.00%
32	0.00%	32	0.03%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.03%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.191. D520 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%	12	6.29%
4	0.00%	4	0.00%	4	0.00%	8	0.22%	15	5.59%
5	0.45%	5	0.00%	5	0.45%	10	0.89%	18	3.96%
6	0.45%	6	0.00%	6	0.45%	12	1.33%	21	3.73%
7	0.22%	7	0.00%	7	0.22%	14	2.22%	24	2.56%
8	1.34%	8	0.00%	8	1.34%	16	2.66%	27	3.96%
9	2.45%	9	0.00%	9	2.45%	18	3.99%	30	1.86%
10	7.35%	10	0.00%	10	7.35%	20	3.55%	33	2.80%
11	18.04%	11	0.00%	11	18.04%	22	4.66%	36	5.59%
12	27.17%	12	0.00%	12	27.17%	24	3.33%	39	10.49%
13	25.17%	13	0.00%	13	25.17%	26	4.21%	42	11.19%
14	11.36%	14	0.00%	14	11.36%	28	4.43%	45	9.32%
15	3.79%	15	0.00%	15	3.79%	30	4.43%	48	8.62%
16	1.78%	16	0.00%	16	1.78%	32	3.99%	51	5.36%
17	0.22%	17	0.00%	17	0.22%	34	6.21%	54	4.90%
18	0.00%	18	0.00%	18	0.00%	36	12.42%	57	7.46%
19	0.22%	19	0.00%	19	0.22%	38	10.86%	60	2.80%
20	0.00%	20	0.00%	20	0.00%	40	11.09%	63	1.17%
21	0.00%	21	0.00%	21	0.00%	42	8.20%	66	1.63%
22	0.00%	22	0.00%	22	0.00%	44	6.65%	69	0.47%
23	0.00%	23	0.00%	23	0.00%	46	2.44%	72	0.23%
24	0.00%	24	0.00%	24	0.00%	48	1.33%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.22%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.22%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.22%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.22%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.192. D520 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	1.41%	3	1.01%
4	3.04%	4	5.88%	4	5.09%
5	9.58%	5	11.18%	5	10.73%
6	3.32%	6	11.58%	6	9.27%
7	3.13%	7	9.29%	7	7.56%
8	7.21%	8	8.73%	8	8.31%
9	9.49%	9	8.48%	9	8.76%
10	16.98%	10	8.07%	10	10.57%
11	18.50%	11	7.07%	11	10.28%
12	16.22%	12	6.22%	12	9.03%
13	8.35%	13	4.96%	13	5.91%
14	2.94%	14	4.18%	14	3.83%
15	0.85%	15	2.85%	15	2.29%
16	0.38%	16	2.63%	16	2.00%
17	0.00%	17	3.11%	17	2.24%
18	0.00%	18	1.67%	18	1.20%
19	0.00%	19	1.00%	19	0.72%
20	0.00%	20	0.96%	20	0.69%
21	0.00%	21	0.48%	21	0.35%
22	0.00%	22	0.11%	22	0.08%
23	0.00%	23	0.04%	23	0.03%
24	0.00%	24	0.07%	24	0.05%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.04%	26	0.03%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.193. D520 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	1.47%	3	1.10%	6	0.55%
4	0.00%	4	6.23%	4	4.67%	8	0.55%
5	1.10%	5	16.12%	5	12.36%	10	3.30%
6	0.00%	6	13.92%	6	10.44%	12	11.54%
7	0.00%	7	7.51%	7	5.63%	14	8.79%
8	5.49%	8	7.69%	8	7.14%	16	15.38%
9	11.54%	9	5.86%	9	7.28%	18	12.09%
10	37.91%	10	6.78%	10	14.56%	20	12.09%
11	24.18%	11	7.33%	11	11.54%	22	14.84%
12	12.64%	12	5.86%	12	7.55%	24	8.79%
13	4.95%	13	4.76%	13	4.81%	26	7.69%
14	1.65%	14	4.21%	14	3.57%	28	3.30%
15	0.55%	15	3.66%	15	2.88%	30	0.55%
16	0.00%	16	3.11%	16	2.34%	32	0.00%
17	0.00%	17	1.65%	17	1.24%	34	0.00%
18	0.00%	18	1.47%	18	1.10%	36	0.00%
19	0.00%	19	1.47%	19	1.10%	38	0.55%
20	0.00%	20	0.73%	20	0.55%	40	0.00%
21	0.00%	21	0.00%	21	0.00%	42	0.00%
22	0.00%	22	0.00%	22	0.00%	44	0.00%
23	0.00%	23	0.18%	23	0.14%	46	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.194. D520 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	56.86%	3	40.36%	6	0.00%
4	12.33%	4	9.24%	4	10.14%	8	1.52%
5	32.88%	5	2.52%	5	11.33%	10	0.00%
6	28.77%	6	2.52%	6	10.14%	12	1.52%
7	2.74%	7	1.40%	7	1.79%	14	3.03%
8	0.68%	8	3.92%	8	2.98%	16	6.06%
9	1.37%	9	6.16%	9	4.77%	18	7.58%
10	2.05%	10	9.24%	10	7.16%	20	3.03%
11	4.79%	11	3.08%	11	3.58%	22	3.03%
12	5.48%	12	0.00%	12	1.59%	24	1.52%
13	4.11%	13	0.00%	13	1.19%	26	4.55%
14	2.74%	14	0.56%	14	1.19%	28	7.58%
15	1.37%	15	0.00%	15	0.40%	30	6.06%
16	0.68%	16	0.00%	16	0.20%	32	4.55%
17	0.00%	17	0.56%	17	0.40%	34	7.58%
18	0.00%	18	0.84%	18	0.60%	36	3.03%
19	0.00%	19	1.68%	19	1.19%	38	9.09%
20	0.00%	20	0.84%	20	0.60%	40	10.61%
21	0.00%	21	0.28%	21	0.20%	42	12.12%
22	0.00%	22	0.28%	22	0.20%	44	1.52%
23	0.00%	23	0.00%	23	0.00%	46	6.06%
24	0.00%	24	0.00%	24	0.00%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.195. D522 Class4**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.00%
4	0.00%	4	0.00%	4	0.00%	8	0.07%
5	0.16%	5	0.00%	5	0.12%	10	0.37%
6	0.47%	6	0.00%	6	0.37%	12	0.37%
7	5.17%	7	0.00%	7	4.01%	14	0.37%
8	10.91%	8	0.18%	8	8.50%	16	2.00%
9	9.44%	9	4.19%	9	8.26%	18	3.93%
10	9.80%	10	12.93%	10	10.51%	20	12.98%
11	15.55%	11	27.87%	11	18.32%	22	17.88%
12	21.56%	12	21.31%	12	21.50%	24	17.66%
13	14.02%	13	14.94%	13	14.23%	26	12.91%
14	6.43%	14	6.19%	14	6.38%	28	15.50%
15	2.32%	15	5.65%	15	3.07%	30	7.49%
16	1.05%	16	4.74%	16	1.88%	32	4.15%
17	0.53%	17	1.64%	17	0.78%	34	1.78%
18	0.16%	18	0.36%	18	0.20%	36	0.52%
19	0.26%	19	0.00%	19	0.20%	38	0.22%
20	0.63%	20	0.00%	20	0.49%	40	0.67%
21	0.21%	21	0.00%	21	0.16%	42	0.67%
22	0.42%	22	0.00%	22	0.33%	44	0.22%
23	0.11%	23	0.00%	23	0.08%	46	0.22%
24	0.47%	24	0.00%	24	0.37%	48	0.00%
25	0.26%	25	0.00%	25	0.20%	50	0.00%
26	0.05%	26	0.00%	26	0.04%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.196. D522 Class5**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	17.35%	3	8.60%
4	42.16%	4	34.44%	4	38.33%
5	35.37%	5	16.01%	5	25.77%
6	7.79%	6	7.31%	6	7.55%
7	4.18%	7	4.49%	7	4.33%
8	3.36%	8	3.90%	8	3.63%
9	2.51%	9	3.28%	9	2.89%
10	1.83%	10	2.87%	10	2.35%
11	1.14%	11	2.23%	11	1.68%
12	0.67%	12	1.57%	12	1.12%
13	0.35%	13	1.15%	13	0.75%
14	0.17%	14	1.12%	14	0.64%
15	0.15%	15	0.89%	15	0.52%
16	0.16%	16	0.77%	16	0.46%
17	0.09%	17	0.57%	17	0.33%
18	0.04%	18	0.55%	18	0.29%
19	0.02%	19	0.57%	19	0.29%
20	0.01%	20	0.37%	20	0.19%
21	0.01%	21	0.22%	21	0.11%
22	0.00%	22	0.16%	22	0.08%
23	0.01%	23	0.07%	23	0.04%
24	0.00%	24	0.03%	24	0.01%
25	0.00%	25	0.04%	25	0.02%
26	0.00%	26	0.02%	26	0.01%
27	0.00%	27	0.02%	27	0.01%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.01%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.197. D522 Class6**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	5.00%
4	0.20%	4	0.00%	4	0.20%	8	21.69%
5	0.72%	5	0.00%	5	0.72%	10	15.97%
6	1.16%	6	0.00%	6	1.16%	12	6.63%
7	2.35%	7	0.00%	7	2.35%	14	5.09%
8	4.80%	8	0.00%	8	4.80%	16	3.71%
9	11.77%	9	0.00%	9	11.77%	18	3.73%
10	21.07%	10	0.00%	10	21.07%	20	3.86%
11	24.80%	11	0.00%	11	24.80%	22	3.81%
12	12.81%	12	0.00%	12	12.81%	24	3.31%
13	6.08%	13	0.00%	13	6.08%	26	4.25%
14	4.15%	14	0.00%	14	4.15%	28	4.92%
15	3.36%	15	0.00%	15	3.36%	30	4.23%
16	2.62%	16	0.00%	16	2.62%	32	3.54%
17	1.21%	17	0.00%	17	1.21%	34	3.66%
18	1.01%	18	0.00%	18	1.01%	36	2.45%
19	1.36%	19	0.00%	19	1.36%	38	1.26%
20	0.42%	20	0.00%	20	0.42%	40	0.67%
21	0.10%	21	0.00%	21	0.10%	42	0.54%
22	0.00%	22	0.00%	22	0.00%	44	0.37%
23	0.00%	23	0.00%	23	0.00%	46	0.40%
24	0.00%	24	0.00%	24	0.00%	48	0.32%
25	0.00%	25	0.00%	25	0.00%	50	0.37%
26	0.00%	26	0.00%	26	0.00%	52	0.10%
27	0.00%	27	0.00%	27	0.00%	54	0.05%
28	0.00%	28	0.00%	28	0.00%	56	0.07%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.198. D522 Class8**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	34.08%	3	22.69%
4	25.38%	4	9.06%	4	14.51%
5	24.97%	5	8.44%	5	13.97%
6	13.05%	6	5.42%	6	7.97%
7	9.38%	7	3.79%	7	5.66%
8	7.75%	8	4.20%	8	5.38%
9	11.01%	9	5.99%	9	7.67%
10	5.50%	10	5.17%	10	5.28%
11	1.73%	11	5.37%	11	4.16%
12	1.02%	12	4.71%	12	3.48%
13	0.00%	13	3.12%	13	2.08%
14	0.20%	14	2.30%	14	1.60%
15	0.00%	15	1.89%	15	1.26%
16	0.00%	16	2.20%	16	1.47%
17	0.00%	17	1.79%	17	1.19%
18	0.00%	18	0.97%	18	0.65%
19	0.00%	19	0.72%	19	0.48%
20	0.00%	20	0.26%	20	0.17%
21	0.00%	21	0.20%	21	0.14%
22	0.00%	22	0.20%	22	0.14%
23	0.00%	23	0.10%	23	0.07%
24	0.00%	24	0.00%	24	0.00%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.199. D522 Class9**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	6.71%	3	3.40%	6	17.67%
4	25.72%	4	10.31%	4	17.92%	8	16.45%
5	27.32%	5	18.61%	5	22.91%	10	17.12%
6	3.91%	6	19.95%	6	12.03%	12	16.70%
7	2.63%	7	10.47%	7	6.60%	14	11.83%
8	5.50%	8	6.00%	8	5.75%	16	5.42%
9	10.78%	9	5.34%	9	8.03%	18	3.75%
10	12.59%	10	4.82%	10	8.66%	20	3.18%
11	7.68%	11	3.80%	11	5.72%	22	2.76%
12	2.25%	12	2.79%	12	2.52%	24	1.60%
13	0.75%	13	2.05%	13	1.41%	26	1.26%
14	0.41%	14	1.91%	14	1.17%	28	0.78%
15	0.24%	15	1.49%	15	0.87%	30	0.38%
16	0.15%	16	1.43%	16	0.80%	32	0.44%
17	0.02%	17	1.50%	17	0.77%	34	0.32%
18	0.04%	18	0.97%	18	0.51%	36	0.08%
19	0.00%	19	0.68%	19	0.34%	38	0.08%
20	0.00%	20	0.48%	20	0.24%	40	0.11%
21	0.00%	21	0.22%	21	0.11%	42	0.06%
22	0.00%	22	0.20%	22	0.10%	44	0.02%
23	0.00%	23	0.09%	23	0.05%	46	0.00%
24	0.00%	24	0.07%	24	0.04%	48	0.00%
25	0.00%	25	0.02%	25	0.01%	50	0.02%
26	0.00%	26	0.04%	26	0.02%	52	0.00%
27	0.00%	27	0.04%	27	0.02%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.02%	29	0.01%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.200. D522 Class10**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	5.60%	3	0.68%	6	0.86%
4	0.03%	4	13.85%	4	1.71%	8	3.89%
5	0.11%	5	11.68%	5	1.51%	10	7.00%
6	0.26%	6	4.29%	6	0.75%	12	9.33%
7	0.47%	7	2.56%	7	0.73%	14	8.79%
8	1.68%	8	2.58%	8	1.79%	16	6.56%
9	8.52%	9	2.62%	9	7.81%	18	5.01%
10	24.14%	10	2.49%	10	21.51%	20	4.50%
11	36.78%	11	2.71%	11	32.65%	22	4.22%
12	23.50%	12	2.45%	12	20.94%	24	3.87%
13	3.80%	13	3.07%	13	3.71%	26	4.00%
14	0.43%	14	3.59%	14	0.81%	28	4.34%
15	0.13%	15	5.13%	15	0.74%	30	6.26%
16	0.05%	16	8.19%	16	1.04%	32	10.76%
17	0.04%	17	10.02%	17	1.25%	34	12.27%
18	0.02%	18	9.47%	18	1.16%	36	5.97%
19	0.02%	19	5.75%	19	0.71%	38	1.73%
20	0.02%	20	2.33%	20	0.30%	40	0.43%
21	0.01%	21	0.86%	21	0.11%	42	0.14%
22	0.00%	22	0.25%	22	0.03%	44	0.04%
23	0.00%	23	0.17%	23	0.02%	46	0.02%
24	0.00%	24	0.08%	24	0.01%	48	0.01%
25	0.00%	25	0.06%	25	0.01%	50	0.00%
26	0.00%	26	0.03%	26	0.00%	52	0.00%
27	0.00%	27	0.04%	27	0.01%	54	0.00%
28	0.00%	28	0.06%	28	0.01%	56	0.00%
29	0.00%	29	0.04%	29	0.01%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.01%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.01%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.0%

**Table A.201. D522 Class11**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.00%	3	0.00%	6	0.09%	12	10.66%
4	0.28%	4	0.00%	4	0.28%	8	0.28%	15	16.24%
5	0.09%	5	0.00%	5	0.09%	10	1.11%	18	14.52%
6	0.18%	6	0.00%	6	0.18%	12	3.60%	21	6.70%
7	0.74%	7	0.00%	7	0.74%	14	3.32%	24	3.45%
8	1.57%	8	0.00%	8	1.57%	16	5.72%	27	4.06%
9	7.20%	9	0.00%	9	7.20%	18	6.92%	30	4.16%
10	22.51%	10	0.00%	10	22.51%	20	10.15%	33	5.89%
11	25.00%	11	0.00%	11	25.00%	22	11.35%	36	7.11%
12	19.93%	12	0.00%	12	19.93%	24	7.75%	39	5.18%
13	7.75%	13	0.00%	13	7.75%	26	7.75%	42	3.86%
14	4.61%	14	0.00%	14	4.61%	28	9.04%	45	3.76%
15	3.04%	15	0.00%	15	3.04%	30	8.03%	48	3.55%
16	2.03%	16	0.00%	16	2.03%	32	5.81%	51	3.55%
17	2.03%	17	0.00%	17	2.03%	34	5.81%	54	2.64%
18	1.29%	18	0.00%	18	1.29%	36	2.77%	57	2.34%
19	0.92%	19	0.00%	19	0.92%	38	2.86%	60	0.91%
20	0.46%	20	0.00%	20	0.46%	40	2.49%	63	0.61%
21	0.18%	21	0.00%	21	0.18%	42	1.75%	66	0.61%
22	0.00%	22	0.00%	22	0.00%	44	1.11%	69	0.20%
23	0.18%	23	0.00%	23	0.18%	46	0.92%	72	0.00%
24	0.00%	24	0.00%	24	0.00%	48	0.92%	75	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.18%	78	0.00%
26	0.00%	26	0.00%	26	0.00%	52	0.09%	81	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%	84	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.09%	90	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.09%	93	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	102	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%		

**Table A.202. D522 Class12**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)	
Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.32%	3	0.25%
4	8.02%	4	1.28%	4	2.80%
5	7.70%	5	4.55%	5	5.26%
6	1.79%	6	5.06%	6	4.32%
7	1.96%	7	6.02%	7	5.10%
8	5.78%	8	8.74%	8	8.07%
9	28.92%	9	8.70%	9	13.27%
10	30.10%	10	9.31%	10	14.00%
11	14.01%	11	8.82%	11	9.99%
12	1.51%	12	9.27%	12	7.52%
13	0.20%	13	9.02%	13	7.03%
14	0.00%	14	8.20%	14	6.35%
15	0.00%	15	6.78%	15	5.25%
16	0.00%	16	4.50%	16	3.48%
17	0.00%	17	3.47%	17	2.68%
18	0.00%	18	2.61%	18	2.02%
19	0.00%	19	1.72%	19	1.33%
20	0.00%	20	0.87%	20	0.67%
21	0.00%	21	0.44%	21	0.34%
22	0.00%	22	0.20%	22	0.16%
23	0.00%	23	0.09%	23	0.07%
24	0.00%	24	0.02%	24	0.02%
25	0.00%	25	0.00%	25	0.00%
26	0.00%	26	0.00%	26	0.00%
27	0.00%	27	0.00%	27	0.00%
28	0.00%	28	0.00%	28	0.00%
29	0.00%	29	0.00%	29	0.00%
30	0.00%	30	0.00%	30	0.00%
31	0.00%	31	0.00%	31	0.00%
32	0.00%	32	0.00%	32	0.00%
33	0.00%	33	0.00%	33	0.00%
34	0.00%	34	0.00%	34	0.00%
35	0.00%	35	0.00%	35	0.00%
36	0.00%	36	0.00%	36	0.00%
37	0.00%	37	0.00%	37	0.00%
38	0.00%	38	0.00%	38	0.00%
39	0.00%	39	0.00%	39	0.00%
40	0.00%	40	0.00%	40	0.00%
41	0.00%	41	0.00%	41	0.00%

**Table A.203. D522 Class13**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	0.71%	3	0.54%	6	0.27%
4	0.00%	4	2.28%	4	1.71%	8	0.54%
5	0.27%	5	6.93%	5	5.26%	10	4.29%
6	0.54%	6	9.25%	6	7.07%	12	12.06%
7	1.21%	7	8.40%	7	6.60%	14	9.52%
8	10.32%	8	6.79%	8	7.67%	16	13.67%
9	42.09%	9	9.12%	9	17.36%	18	20.78%
10	32.44%	10	10.28%	10	15.82%	20	17.69%
11	11.53%	11	10.63%	11	10.86%	22	10.59%
12	1.61%	12	8.18%	12	6.53%	24	6.03%
13	0.00%	13	6.48%	13	4.86%	26	2.95%
14	0.00%	14	6.30%	14	4.73%	28	1.34%
15	0.00%	15	4.69%	15	3.52%	30	0.27%
16	0.00%	16	3.44%	16	2.58%	32	0.00%
17	0.00%	17	2.68%	17	2.01%	34	0.00%
18	0.00%	18	2.14%	18	1.61%	36	0.00%
19	0.00%	19	0.80%	19	0.60%	38	0.00%
20	0.00%	20	0.54%	20	0.40%	40	0.00%
21	0.00%	21	0.18%	21	0.13%	42	0.00%
22	0.00%	22	0.09%	22	0.07%	44	0.00%
23	0.00%	23	0.00%	23	0.00%	46	0.00%
24	0.00%	24	0.04%	24	0.03%	48	0.00%
25	0.00%	25	0.00%	25	0.00%	50	0.00%
26	0.00%	26	0.04%	26	0.03%	52	0.00%
27	0.00%	27	0.00%	27	0.00%	54	0.00%
28	0.00%	28	0.00%	28	0.00%	56	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%
30	0.00%	30	0.00%	30	0.00%	60	0.00%
31	0.00%	31	0.00%	31	0.00%	62	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%
34	0.00%	34	0.00%	34	0.00%	68	0.00%
35	0.00%	35	0.00%	35	0.00%	70	0.00%
36	0.00%	36	0.00%	36	0.00%	72	0.00%
37	0.00%	37	0.00%	37	0.00%	74	0.00%
38	0.00%	38	0.00%	38	0.00%	76	0.00%
39	0.00%	39	0.00%	39	0.00%	78	0.00%
40	0.00%	40	0.00%	40	0.00%	80	0.00%
41	0.00%	41	0.00%	41	0.00%	82	0.00%

**Table A.204. D522 Class15**

Steering Axle		Single Axle (Dual wheel)		Single Axle (All)		Tandem Axle		Tridem Axle		Quads	
Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency	Bin	Frequency
3	0.00%	3	56.15%	3	37.11%	6	0.58%	9	0.00%	12	0.82%
4	18.11%	4	14.79%	4	15.92%	8	0.58%	12	40.00%	15	4.10%
5	27.81%	5	5.24%	5	12.89%	10	0.00%	15	0.00%	18	4.92%
6	12.24%	6	1.83%	6	5.36%	12	2.31%	18	0.00%	21	9.02%
7	2.30%	7	1.05%	7	1.47%	14	2.31%	21	0.00%	24	13.11%
8	2.04%	8	4.32%	8	3.55%	16	4.62%	24	20.00%	27	5.74%
9	4.08%	9	5.10%	9	4.76%	18	5.20%	27	0.00%	30	4.10%
10	6.63%	10	7.20%	10	7.01%	20	5.78%	30	0.00%	33	1.64%
11	5.87%	11	3.14%	11	4.07%	22	6.94%	33	0.00%	36	3.28%
12	10.20%	12	0.26%	12	3.63%	24	8.09%	36	0.00%	39	1.64%
13	3.57%	13	0.13%	13	1.30%	26	10.40%	39	0.00%	42	6.56%
14	3.83%	14	0.00%	14	1.30%	28	5.78%	42	0.00%	45	4.10%
15	2.04%	15	0.00%	15	0.69%	30	5.78%	45	20.00%	48	4.10%
16	0.77%	16	0.00%	16	0.26%	32	6.36%	48	0.00%	51	3.28%
17	0.26%	17	0.00%	17	0.09%	34	4.62%	51	0.00%	54	2.46%
18	0.00%	18	0.13%	18	0.09%	36	6.94%	54	0.00%	57	1.64%
19	0.00%	19	0.13%	19	0.09%	38	2.31%	57	0.00%	60	2.46%
20	0.00%	20	0.39%	20	0.26%	40	4.62%	60	0.00%	63	4.92%
21	0.00%	21	0.00%	21	0.00%	42	4.05%	63	0.00%	66	0.82%
22	0.00%	22	0.13%	22	0.09%	44	5.78%	66	20.00%	69	3.28%
23	0.26%	23	0.00%	23	0.09%	46	2.89%	69	0.00%	72	5.74%
24	0.00%	24	0.00%	24	0.00%	48	2.31%	72	0.00%	75	2.46%
25	0.00%	25	0.00%	25	0.00%	50	0.00%	75	0.00%	78	0.82%
26	0.00%	26	0.00%	26	0.00%	52	0.00%	78	0.00%	81	2.46%
27	0.00%	27	0.00%	27	0.00%	54	1.16%	81	0.00%	84	2.46%
28	0.00%	28	0.00%	28	0.00%	56	0.58%	84	0.00%	87	0.00%
29	0.00%	29	0.00%	29	0.00%	58	0.00%	87	0.00%	90	2.46%
30	0.00%	30	0.00%	30	0.00%	60	0.00%	90	0.00%	93	0.82%
31	0.00%	31	0.00%	31	0.00%	62	0.00%	93	0.00%	96	0.00%
32	0.00%	32	0.00%	32	0.00%	64	0.00%	96	0.00%	99	0.00%
33	0.00%	33	0.00%	33	0.00%	66	0.00%	99	0.00%	102	0.82%
34	0.00%	34	0.00%	34	0.00%	68	0.00%	102	0.00%		
35	0.00%	35	0.00%	35	0.00%	70	0.00%	105	0.00%		
36	0.00%	36	0.00%	36	0.00%	72	0.00%	108	0.00%		
37	0.00%	37	0.00%	37	0.00%	74	0.00%	111	0.00%		
38	0.00%	38	0.00%	38	0.00%	76	0.00%	114	0.00%		
39	0.00%	39	0.00%	39	0.00%	78	0.00%	117	0.00%		
40	0.00%	40	0.00%	40	0.00%	80	0.00%	120	0.00%		
41	0.00%	41	0.00%	41	0.00%	82	0.00%	123	0.00%		