# DEVELOPMENT OF RAILROAD AT-GRADE CROSSING PRIORITIZATION INDICES

BY

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## TABLE OF CONTENTS

# LIST OF TABLES

Table Page

## LIST OF FIGURES

Figure Page

# CHAPTER I

# INTRODUCTION

Oklahoma has approximately 4600 at-grade railroad crossings (Appendix B, Figure 10) composed of several class one and class three rail lines throughout the state. With the initiation of federal-aid funding for railroad at-grade intersections in 1976, the national incident rates associated with at-grade crossings began to decline (Appendix B, Figure 11). The current incident rates experienced in the state are comparable to current rates in other states based on the total number of crossings (Appendix B, Figure 12). Oklahoma currently has approximately 4300 at-grade railroad crossings in rural areas. (Appendix B, Figure 13). The focus will remain on a reduction in the total number of incidences throughout the state.

Oklahoma's formula for prioritizing at-grade railroad crossings is made up of three components. The first component is the expression of the level of warning available to the motorist. The second is a factor that defines the most recent incident experience recorded at each crossing (a performance factor); and the last component is an element describing the "probability of conflict", and is a composite of several interacting conditions (ie: train frequency, crossing angle, and level of motor vehicle usage at each crossing).

The earlier ranking formula used through June 1977 was abandoned because the Oklahoma Department of Transportation had no way of obtaining and maintaining traffic counts at all public grade crossings. The original formula used the following elements, "trains x ADT x protection factor", where the ADT was estimated for traffic volume rather than utilizing weighing of associated elements that contribute to the operational problems at a crossing.

## The Current Prioritization Formula

A review of the current prioritization formula utilized by the State of Oklahoma yielded several observations that could have been easily overlooked without a thorough investigation. The primary importance placed on the level of warning and incident factor follows the overall logic associated with railroad grade crossing safety. Locations that have a relatively high number of incidents or relatively high potential for incident are the locations targeted for warning device improvements. With this reasoning in mind, the original developers of the priority index currently being considered for revision established the basic structure of the formula as a correlation in which the primary components would be level of warning and the incident factor. After a review of several prioritization concepts developed and utilized by various agencies throughout the nation, the author has decided to maintain the basic formula structure. The focus will be on the development of additional geometric considerations involving data recently collected on all of the public at-grade railroad crossings in the State of Oklahoma, the relative significance of those modifications will directly related to the probability of conflict component.

$$PI = 0.1(P_f)(A_f)(T_f + C_f + (S_f \times E_f)) \qquad (1)$$

### Warning Factor ($P_f$)

This factor was considered a primary factor in the formulation because the level of warning available to the motorist greatly influences his reactions to hazard perception at a railroad crossing. Warning is divided into two major sections, the first being "active" and the second "passive". In the coding system, differentiation was made between each type of control; however, when the formula was developed and in the computer program, all locations having a low level of warning (less than 2 Reflectorized Crossbucks) where forced internally to have a $P_f = 10$. This latter, internal adjustment was because all crossings in the state are required to conform to the MUTCD minimum requirements at each crossing; it is noted that when you encounter these passive device categories, the degree of hazard compounds rapidly as the availability of signing decreases. Active warning devices include gated, cantilevelered, pedestal, wig wag, and traffic control signals.

| Type of Control | Factor |
|---|---|
| Gates | 0.5 |
| Cantilever over Traffic Lanes | 03 |
| Flashers/Cantilever not over Lanes | 04 |
| Wig Wag Signal | 05 |
| Traffic Control Signal | 06 |
| Flagman | 07 |
| 2 Reflectorized X' Bucks | 10 |
| 2 Non-Reflectorized X' Bucks | 20* |
| 1 Reflectorized X' Buck | 30* |
| 1 Non-Reflectorized X' Buck | 45* |
| No Control | 50* |

* Note: In calculating the P.I., all crossings having a Warning factor higher than 10 are "forced" to be 10 (the minimum level of protection to conform to the MUTCD standard is 1 reflectorized X' Buck per roadway approach with associated warning signs and pavement markings where applicable).

## Incident Factor ($A_f$)

Likewise, this factor is primary in the formulation. Originally the concept of using raw numbers of crashes was tried, and it was found that the reporting of two property damage accidents over the time period would double the Priority Index for the crossing under study. Therefore, the standard practice of treating fatal and injury accidents equally was followed, and a weighting value was attached to the fatal and/or injury collisions along with a separate lower value for a property damage collision. This, in effect, tempered the incident factors influence on the overall Priority Index.

$$A_f = 1 + 0.4\ (\text{Number Fatal} + \text{Number Injury Accidents}) + 0.1\ (\text{number Property Damage Accidents}) \qquad (2)$$

## Train Factor ($T_f$)

This factor is one which is a part of the overall expression of the crossing environment, and on its own is not a primary factor and becomes an additive in the "probability of conflict" element. There is a need to express the hazard relationship of the nighttime train frequency, and it was determined that the ratio of nighttime trains to daytrains would provide a reasonable additive to the total number of trains per day utilizing the crossing and a reasonable weighing value for this hazard influence.

$$Tf = \text{Total Number of Trains} + \frac{\text{Nighttime trains}}{\text{Daytime Trains}} + 5\ (\text{Passenger Trains}) \qquad (3)$$

## Crossing Factor ($C_f$)

This factor is a part of the overall expression of the crossing environment. The most important element within this factor is the crossing angle, which plays an important role in the difficulty of hazard perception on the part of the motorist. The more skewed the crossing with the roadway, the greater the demand on the motorist in determining the occupancy (or lack of occupancy) of the track; hence the greater chance of perception error, and a greater potential for a hazard.

$$C_f = \text{Crossing Angle} + \text{Number of Tracks} + \text{Surface Type} + \frac{\text{Number Lanes}}{2} \qquad (4)$$

Speed Factor ($S_f$)

This factor plays a role in the overall expression of the crossing environment and contributes to the "probability of conflict".

$S_f$ = Maximum Time Table Speed / 10 (5)

Exposure Factor ($E_f$)

This factor represents an expression of the exposure levels that can be anticipated at a crossing. Because the Oklahoma Department of Transportation has no way of obtaining ADT's at all public grade crossings, an alternate method of expressing exposure had to be developed and incorporated into the formula. (Appendix B, Figure 14). It was determined that a very useable expression could be applied by using the functional street classification. (Appendix B, Figure 15). After several calibration efforts, this element has provided us with a reasonable alternate to the lacking ADT's, and is giving a decent expression of exposure at crossings having well defined service classifications.

Ef = Functional Street Classification + Number School of Buses + Number of Cargo Trucks + Engineering Factor (6)

## Statement of The Problem

The current prioritization formula does not incorporate considerations for sight distance or approach grade criteria. Past incident experiences have led to observations that establish a need for consideration of these items. (Appendix B, Figure 16 & 17). The current angle calculations are not angle specific and have created some concerns when the crossing orientation angle in question is near the limits utilized by the current angle coding system. The hazardous material transported via rail has not been included in the previous prioritization. Environmental and safety concerns for areas within close proximity of the railroad have led to a need for consideration of this item.

## The Proposed Prioritization Formula

The level of warning and incidence factors will continue to be utilized in the same manner as the previous revision of the Oklahoma priority index for railroad at-grade crossing safety improvements.

### Proposed Train Factors

The elements included in the evaluation of the probability of conflict include the train factor, crossing factor, speed factor and the exposure factor. The train factor includes the number of daytime trains, the number of nighttime trains, the proportion of nighttime to daytime trains, an element that will allow for the inclusion of passenger train data which currently not a consideration in the State of Oklahoma, and the inclusion of recently collected data involving the number of hazardous material train car loads transported annually on specific rail line segments within the State of Oklahoma.

## Proposed Speed Factor

The speed factor utilized in the formula is based on the maximum train speed allowed at each specific at-grade crossing based on Federal Railroad Administration track classification, track configuration, and other items that impair train speed restrictions(i.e. yard limits, city ordinances if applicable, or geometric restrictions). The train speed may actually be considered a train factor but has been utilized as a separate speed factor in the formula because of the corporation developed between the speed factor and the exposure factor.

## Proposed Exposure Factor

The exposure factor is composed of elements that are directly related to the amount of motor vehicle exposure that can be expected to occur at a particular at-grade crossing. Those elements included an inventory of the number of school bus crossings scheduled on a daily (school day) basis, an evaluation of the roadway conducted by the Oklahoma Department of Transportation Planning Division referred to as the functional classification, a code system based on the estimated percentage of cargo trucks expected to utilize the at-grade crossing, and an engineering factor that will allow consideration for extenuating circumstances that may not fall into one of the specific categories of data already established (i.e. demographic considerations, track sight distance, limited access, and industrial or residential development).

## Proposed Crossing Factor

The proposed crossing factor (Appendix A, Figure 6) contains elements which address the number of tracks crossing the roadway at each at-grade crossing, the type of roadway surface, the number of roadway lanes, the inclusion of new data collected for the roadway approach grades and the sight distance outlined by the Federal Highway Administration. (FHWA Railroad, 1986).

# CHAPTER II

# REVIEW OF LITERATURE

## Historical Review of the Prioritization Formulae

Through a literature review the 13 hazard potential models listed in (Appendix A, Table 1) were determined to be used nationwide. Information obtained for 7 of these models--the Coleman-Stewart, Peabody-Dimmick, New Hampshire, Oregon, Utah, City of Detroit, and DOT--provided full documentation on their development, testing, verification, and application. The information found for the remaining 6 was limited to the basic format and the variables they used. Idaho and Mississippi have dropped their original models and now use the DOT model. Ohio, Wisconsin, and North Dakota use modified versions of their original models. Since no states ever used the Contra Costa County model, it could also be dismissed. Of the 7 remaining models, only 6 differ in their basic forms, as the City of Detroit and Utah models use the same formulation.(FAGHRI, 1986).

There are several advantages of using a prioritization index to rank crossings. A mathematical prioritization index enhances objectivity. It can be calculated by computer, thus facilitating conditions change, a computerized data base can be updated and the prioritization index recalculated.

The prioritization indices or accident prediction formulae commonly used are the Peabody Dimmick Formula, the New Hampshire Index, the National Cooperative Highway Research Program Report 50 Formula (NCHRP 50), and the U.S. DOT Accident Prediction Formula. Several states have developed their own formulae. (FHWA railroad, 1986).

A review of the Peabody Dimmick Formula (Appendix A,Figure 1) published in 1941, based on five years of accident data from 3,563 rural crossings in 29 states is sometimes referred to as the Bureau of Public Roads formula. (FHWA railroad, 1986). This formula was used to determine the predicted number of accidents over a five year period and was the basis of several modern accident prediction analysis. The current procedures for prioritization in the State of Oklahoma utilizes actual accident data and are not based on prediction methods. The New Hampshire Index (Appendix A, Figure 2) and the NCHRP 50 (Appendix A, Figure 3) were also reviewed in an effort to gain an understanding of how prioritization formulas were previously developed even though both of these methods were also based on accident prediction techniques. The U.S. DOT accident Prediction Equations were a culmination of previous prediction processes combined with actual accident information in a manner that would allow for the production of an accident prediction value directly related to actual accident data.

The DOT accident prediction formula combines two independent calculations to produce an accident prediction value. The basic formula provides an initial prediction of accidents on the basis of a crossing's characteristics, similar to other formulae such as the Peabody-Dimmick formula and New Hampshire Index. The second calculation utilizes the actual accident history at a crossing over a determined number of years to produce an accident prediction value. This procedure assumes that future accidents per year at a crossing will be the same as the average historical accident rate over the time period used in the calculation. (FHWA Railroad, 1986).

A study conducted by the National Transportation and Safety Board states that in the number of cases, it was determined that motor vehicle drivers had difficulty crossing safely because obstructions (vegetation, fixed structures, standing/stored railroad cars, terrain, or track curvature) limited the driver's sight distance and, therefore, limited the visibility of the train. (NTSB, 1986).

## Review of Prioritization Elements

During the five year funding administration period conducted by the author, there has been opportunity to discuss crossing safety with other professionals, motorists who regularly cross at the particular at-grade locations being reviewed and numerous railroad employees.

Many of the comments were in regard to sight distance, or lack of sight distance as well as the usual comments regarding the ride quality at the crossings.

It is interesting to note that very few of the prioritization formulas in existence take sight distance into consideration as a parameter when computing priority indices.

Sight distance criteria is probably not included in formulas for determining priority or ranking because it generally is not readily available. Now that Oklahoma has sight distance as an inventory item, consideration should be given to using it in the priority index formula. The State of New Mexico Railroad Safety Program and Railroad Facility Adjustments Policy (NEW MEXICO, June 1992) included the New Mexico Safety Index Rating (Appendix A, Figure 4) which is similar to the Oklahoma prioritization formula in that it is based an actual verified incident data. The New Mexico prioritization formula also has provisions that include sight distance factors which was helpful in developing the sight distance criteria to be included in the revision of the prioritization formula addressed in this study.

## Sight Distance

Available sight distances help to determine the safe speed at which a vehicle may approach a crossing. There are three sight distances to consider: 1) the distance ahead to the crossing; 2) the distance to and along the track(s) on which a train might be approaching the crossing in either direction; and, 3) the distance along the track(s) in either direction from a vehicle stopped at the crossing.

In the first case, the distance ahead to the crossing, a driver must determine whether a train is occupying the crossing or there is an active traffic control device indicating the approach or presence of a train. In such a event, the vehicle must be stopped short of the crossing and the available sight distance may be a determining factor limiting the speed of an approaching vehicle.

The minimum safe sight distance along the highway for certain selected vehicle speeds are shown in the bottom of Table 1.

The second sight distance situation utilizes a so called "sight triangle" in the quadrants on the vehicle approach side of the track. The triangle is formed by the following: 1) the distance of the vehicle driver from the track; 2) the distance of the train from the crossing; and, 3) the unobstructed sight line from the driver to the front of the train. The sight triangle is depicted in (Appendix A, Figure 6). The relationships between vehicle speed, maximum train table speed, distance along the highway, and distance along the railroad are shown in Table 1 for several selected highway speeds and train speeds.

In the case of a vehicle stopped at a crossing, the driver needs to see both ways along the tracks to determine whether a train is approaching and estimate its speed. The driver needs to have a sight distance along the tracks that will permit sufficient time to accelerate and clear the crossing prior to the arrival of a train, even though the train might come into view as the vehicle is beginning its departure process.

(Appendix A, Figure 7) illustrates this maneuver. These sight distances, for a range of train speeds, are given in the column for vehicle speed equal to zero in Table 1.

| | Vehicle Speed (mph) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
| | Distance Along Railroad From Crossing (ft) | | | | | | | |
| Train Speed (mph) | | | | | | | | |
| 10 | 240 | 145 | 105 | 100 | 105 | 115 | 125 | 135 |
| 20 | 480 | 290 | 210 | 200 | 210 | 225 | 245 | 270 |
| 30 | 720 | 435 | 310 | 300 | 310 | 340 | 370 | 405 |
| 40 | 960 | 580 | 415 | 395 | 415 | 450 | 490 | 540 |
| 50 | 1200 | 725 | 520 | 495 | 520 | 565 | 615 | 675 |
| 60 | 1440 | 870 | 620 | 595 | 620 | 675 | 735 | 810 |
| 70 | 1680 | 1015 | 725 | 690 | 725 | 790 | 860 | 940 |
| 80 | 1920 | 1160 | 830 | 790 | 830 | 900 | 980 | 1075 |
| 90 | 2160 | 1305 | 930 | 890 | 930 | 1010 | 1105 | 1210 |
| | Distance Along Highway From Crossing (ft) | | | | | | | |
| | n/a | 70 | 135 | 225 | 340 | 490 | 660 | 865 |

Table 1

The following assumption were made for the calculations in Table 1: 1) a 65 foot truck crossing a single track at 90 degrees; 2) flat terrain. Adjustments should be made for unusual vehicle lengths and acceleration capabilities, multiple tracks, skewed crossings, and grades. (TRAFFIC, 1983).

## Approach Grade

The ideal crossing geometry is a 90 degree intersection of track and highway with slight ascending grades on both highway approaches to reduce the flow of surface water toward the crossing. Few crossings have this ideal geometry because of topography or limitations of right-of-way for both the highway and the railroad. Every effort should be made to construct new crossings in this manner.

The sight distance criteria outlined earlier led to the development of stopping distances to the stop line (15 feet from the track) are listed in Table 1. In calculating these distances, a level grade is assumed. If this is not the case, an allowance should be made for the positive or negative effects of grade. (FHWA Railroad, 1986).

The research conducted on the effect of approach grades on the overall effectiveness of railroad warning devices is very limited. It is desirable that the intersection of highway and railroad be made as level as possible from the standpoint of sight distance, rideability, and braking and acceleration distances. Drainage would be improved if the crossing were located at the peak of a long vertical curve on the highway. Vertical curves should be of sufficient length to insure an adequate view of the crossing.

For this reason, the approach grade data was requested in the recent inventory conducted on all the public at-grade crossings in the State of Oklahoma.

The safety considerations include the obvious vertical sight distance restrictions placed on an at-grade crossing that either lies on or near the crest or sag of a vertical curve and the clearance restrictions that may be a factor for low clearance vehicles.

Track maintenance can result in raising the track as new ballast is added to the track structure. Unless the highway profile is properly adjusted, this practice results in a "humped" crossing that may adversely affect safety and operation of highway traffic over the railroad. Humped crossings can be of particular concern for vehicles with low underclearances, e.g. "low-boy" trucks. It is possible for these trucks to become caught on the tracks, obviously causing a hazard. (FHWA Railroad, 1986)

## Crossing Angle

The crossing angle continues to play a role in the selection of at-grade crossings for safety improvements. If the intersection between the tracks and the highway cannot be made at right angles, the variation from 90 degrees should be minimized. This layout enhances the driver's view of the crossing and tracks and reduces conflicting vehicular movements from crossroads and driveways. To the extent practical, crossings should not be located on either highway or railroad curves. Roadway curvature inhibits a driver's view of a crossing ahead and a driver's attention may be directed toward negotiating the curve rather than looking for a train. Railroad curvature inhibits a driver's view down the tracks from both a stopped position at the crossing and on the approach to the crossing. Those crossings that are located on both highway and railroad curves present maintenance problems and poor rideability for highway traffic due to conflicting superelevations. Similar difficulties arise when superelevation of the track is opposite to the grade of the highway.

The geometric design of a highway-rail grade crossing involves the elements of alignment, profile, and cross section of both the highway and the railroad facility. All of these elements affect sight distance of the motor vehicle operator at crossing equipped with either passive or active warning devices. The requirements may vary with the type of warning devices used. There is little or nothing the highway designer can do to alter railroad track design; therefore, the railroad facility must be treated as a design constraint and the highway approach alignment, profile, and cross section must be designed to overcome this constraint. (Clements, 1987).

The federal highway administration is aware of some of the safety problems that are associated with at-grade crossing surfaces and have included revisions in the a Federal Aid Safety Funding program to address these types of problems. Examples of qualifying safety concerns are as follows: 1) a crossing with an accident history that is related to surface condition, 2) a crossing that needs to be reconstructed because it is a part of a larger project, and 3) a crossing with special geometric problems. (FHWA Notebook, 1988).

The American Association of State Highway and Transportation Officials have also referenced the problems associated with crossing geometrics. If the approach grade creates a severe distraction of if the crossing surface is in poor condition, the driver's attention may be devoted to choosing the smoothest path over the crossing. This effort may well reduce the attention given to observance of the warning devices or to the primary hazard of the crossing, which is the approaching train. Information regarding various surface types that may be used can be found in "Railroad-Highway Grade Crossing Surfaces". (AASHTO, 1990).

## Reflectivity

It was brought our attention that there might be a need for collecting data on the reflectivity of crossbucks, however, the reflectivity value was not collected as a part of the grade crossing inventory.

None of the formula reviewed gave consideration to the condition of the crossbuck, however, some formula do, however give different values for reflectorized crossbucks. The manual on Uniform Traffic Control Devices States that: the railroad crossing sign, a regulatory sign, commonly identified as the "crossbuck" sign, as a minimum shall be white reflectorized sheeting or equal, with the words RAILROAD CROSSING in black lettering. As a minimum, one crossbuck sign shall be used on each roadway approach to every grade crossing, alone or in combination with other traffic control device. If there are two or more tracks between the signs, the number of tracks shall be indicated on an auxiliary sign of inverted T shape mounted below the crossbuck. (MUTCD, 1988).

Another section of the MUTCD addresses the requirements of the regulatory and warning signs to read as follows: regulatory and warning signs, unless excepted in the standards covering a particular sign or group of signs, shall be reflectorized or illuminated to show the same shape and color by day and night. (MUTCD, 1988). A specific reference to the level or amount of reflectivity required for these types of signs appears to have been avoided in the MUTCD at this point in time. Direct measurement of reflectivity, while possible, would add a disproportionate cost to the inventory.

Similarly none of the formula reviewed gave consideration to the condition of the controls and the control of any specific category is given the same factor, regardless of condition. The MUTCD simply states that: the typical flashing light signal assembly on a side of the roadway location includes a standard crossbuck sign and, where there is more than one track, an auxiliary "number of tracks" sign, all of which indicate to vehicle operators and pedestrians at all times the location of a grade crossing. (MUTCD, 1988).

## Hazardous Material

The procedures currently utilized by most agencies involving crossing prioritization do not address the quantity of hazardous material transported via rail. Most of the consideration given to hazardous material are focused an truck transports and the possibility of a grade crossing collision involving a truck carrying hazardous cargo. It would appear that some additional consideration should be given to the environmental concerns prevalent along a high volume rail line with a large volume of hazardous material cargo. A few states have included an evaluation of high volume rail lines on which significant amounts of hazardous material are routed. The Florida Department of Transportation for example has included provisions in their corridor or systems approach for rail segments where freight trains carry hazardous material in an environment that presents an unacceptable risk of a catastrophic event. (FHWA Railroad, 1986).

# CHAPTER III

# METHODOLOGY

## Development of a Neutral Data Base

### Preliminary Analysis of Existing Data

The process of selecting a database from the recently collected data to be utilized in the evaluation of proposed changes in the prioritization formula began by selecting specific segments of an existing database to be included in the analysis. Because of the increasing number of data sets with similar priority indices as the list progressed, the decision was made to increase the overall size of the data segments pulled from the lower end of the priority indices. Further evaluation of the total number of data sets promulgated the decision to concentrate on four or five particular segments of data for the analysis. (Figure 1).

### Establishment of Data Segment Structure

Iterations were conducted to determine how many of the total number of crossings or data sets should be included in each data segment. The number of data sets in each data segment would need to increase by a factor of two in an effort to broaden the segments progressively as the range of priority index values decreased. The range of priority index values within the data segments had to be established in a mannner that utilized more data sets per segment as the priority index values decreased to effectively evaluate later changes in the prioritization formula. After the number of segments and the number of the data sets to be utilized for each segment was determined, the reference points were selected in an effort to provide a proper distribution throughout the total data base with spacing between the data segments proportional to the size of each respective data segment.

The final distribution and size of the data segments was structured to allow for an effective evaluation of the coefficients needed to establish the desirable magnitudes of influence for each formula element, factor, and component. The magnitude of influence would be determined by evaluating the number of data sets changing between segments A, B, C & D, respectively.

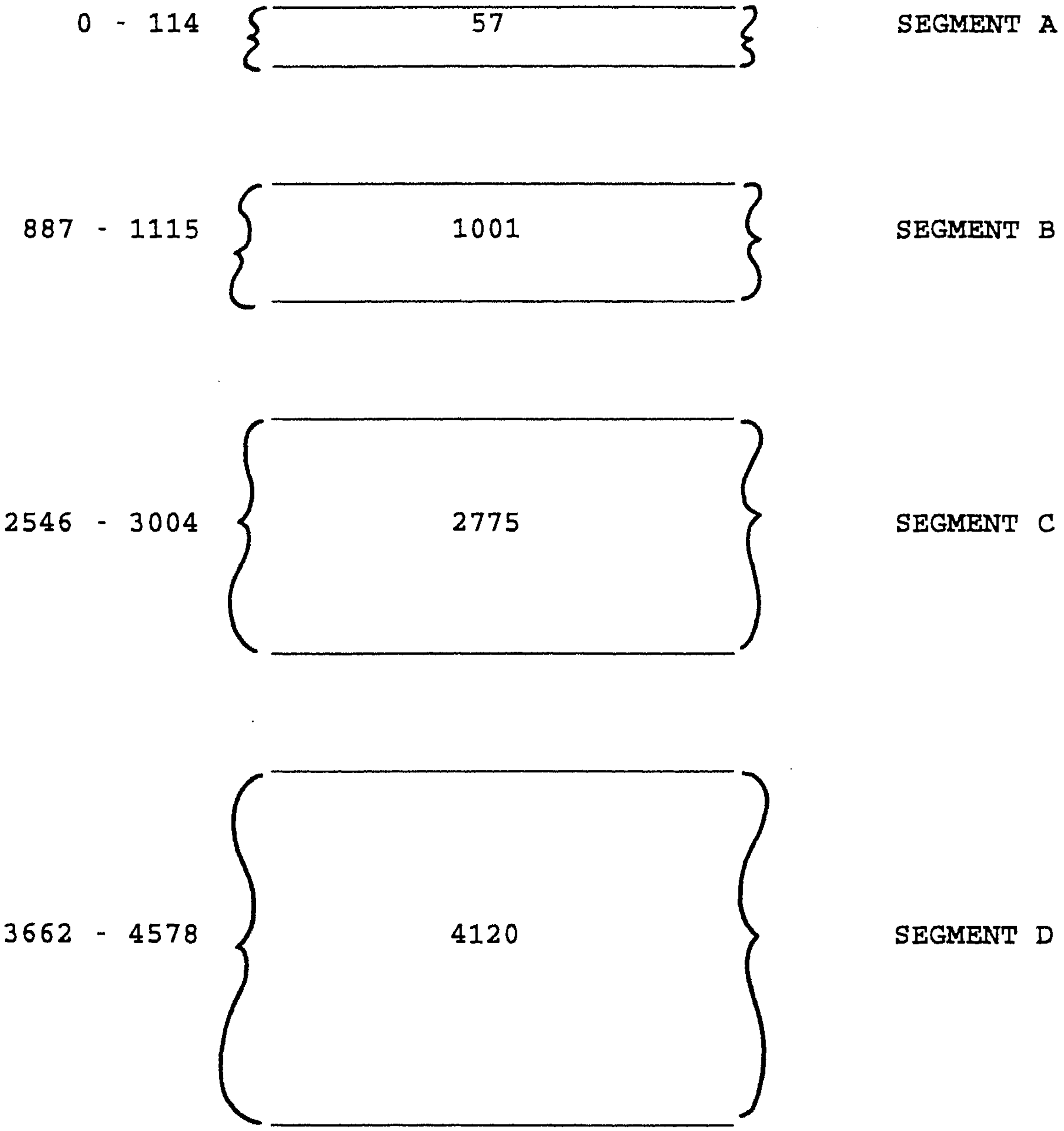

Figure 1. Graphical Illustration of Data Set Segments

The first and last data segments were easily established, with the data sets to be used for the evaluation selected shortly thereafter. The data segments to be pulled from the middle of the listing were a little more difficult to establish in a manner that would provide a distribution that effectively established the data segments over the entire data base. Because of the increasing limits of the segments the second and third data segments had to be established at points equidistant from the mid points of the first and last data segments. After the midpoints of the first and last data segments had been established, the data points between the midpoint of those segments were divided into thirds to establish the midpoints of the second and third data segments. The midpoints of each segment were named evaluation points for future reference and the limits of the second and third data segments were established around the second and third evaluation points respectively.

## Addition of Recently Collected Data

The data recently collected in the statewide at-grade crossing inventory update provided new data to be included in the priority index and a current update of data for the elements included in the existing data base. The revised data was compared with the original data elements and updated accordingly. The new data elements were included in a spreadsheet generated from the actual field data collected, combined with the hazardous train car load data, and the existing data that was not selected for revision. The hazardous train car load data was collected utilizing a questionnaire that was distributed to the Class I railroads operating in the State of Oklahoma.

## Development of the Data Segments

The data selected from each segment was randomly selected from data sets where information on the new elements to be evaluated was currently available. The decision was promulgated to utilize twenty data sets within each data segment as a representative sample of that perspective segment. The sets were selected from an even distribution within each segment with the exception of the extreme data points of the total data set. Three tenths of a percent of the total data set was excluded at the beginning and end of the total data because of the extremity of the priority indices of those sets relative to the entire data base. The effect on the data segment distribution because of the removal of the extreme data points was considered minute because of the relatively small number of data sets actually excluded.

## Characteristics of the Neutral Data Base Established

The range of the Priority indices establish in each segment are listed in the neutral data table.

## Table 2
## Neutral Data

| Equation Points | Segment Percentage | | Analysis Segment | Ranges of Segment PI | Ranges of Segment PI * Utilized | Ranges of PI Between Segments | # of Data Sets/Segment | Data Sets |
|---|---|---|---|---|---|---|---|---|
| 57 | 2.5 | 114 | 0–114 | 698.67 – 87.00 | 194.40 – 88.65 | 88.65 – 35.34 | 20 | 1A – 20A |
| 1001 | 5.0 | 229 | 887–1115 | 35.50 – 31.50 | 35.34 – 31.50 | 17.00 – 31.50 | 20 | 21B – 40B |
| 2775 | 10.0 | 458 | 2546–3004 | 17.00 – 14.00 | 17.00 – 14.00 | 10.20 – 14.00 | 20 | 41C – 60C |
| 4120 | 20.0 | 916 | 3662–4578 | 10.29 – 0.34 | 10.20 – 1.10 | | 20 | 61D – 80D |

* Based on the Exclusion of 0.3 % of the data points at the beginning and end of the total data set.

The priority indices actually used in the evaluation are also listed and illustrate the impact the exclusion of the extreme data points had on the limits of the first and last data segments. The segments established included broad enough ranges in the priority indices both within each respective data segment and between each respective data segment to allow for a successful priority factor evaluation utilizing relative performance methodology.

## Methodology of Data Analysis

The data to be utilized for the analysis was down loaded into a LOTUS spreadsheet from various sources. (Appendix C). The existing data was down loaded from the department IBM mainframe, the field data collected was down loaded from a PARADOX spreadsheet, and the hazardous material train car load data was entered manually. After the data base had been down loaded, the spreadsheet was designed to accommodate the various iterations needed to develop the proper coefficients utilized to develop the proper weighting for the new data elements within the revised formula. The addition of the new data elements also had an effect on some of the existing data elements and formula factors which had to be reweighted by developing some additional coefficients.

### Crossing Angle Element

The crossing angle element included in the crossing factor was redesigned to utilize the actual crossing angle collected in the new field data. This analysis was conducted on the assumption that the value developed should fall within the limits of the code values being utilized in the previous formula. The analysis included several computer iterations to develop the proper coefficient needed to obtain values within the limits of the previous code values while utilizing the actual angle of the railroad crossing with respect to the roadway alignment. This element was chosen for the first analysis because it was determined that the changes made to the crossing angle element would not have a substantial effect on the overall prioritization process and would be limited to changes that occurred only within the specific data segments.

### Approach Grade Element

The approach grade element was developed utilizing the new field data and would be included as a new element in the crossing factor. This analysis involved several additional computer iterations because it was a totally new data element to be included in the prioritization formula. The analysis was particularly time consuming because of the various combinations of approach grades possible at an at-grade crossing. A preliminary analysis yielded that four combinations of approach grade scenarios existed because of the possibility of a positive or negative approach grade on either approach A or approach B. A loop was developed that would isolate each of the four scenarios and compute the appropriate grade element for each at-grade crossing. The element computed was assigned several coefficients during various iterations in an effort to provide a broad spectrum of values that could be adopted to a suitable range for inclusion into the priority index crossing factor. The value range would be selected after the other elements had been developed and the appropriate weighting would then be determined.

## Sight Distance Element

The sight distance element was developed utilizing the distance criteria included in the Federal Highway Administration Railroad Highway Grade Crossing Handbook. (FHWA Railroad, 1986). The sight distance criteria listed in that publication includes the minimum sight distance requirements for various combinations of motor vehicle and train speeds. The actual sight distance measurements were collected in the new field data and entered into a spreadsheet along with the minimum sight distance criteria mentioned above. The percent adequacy for each respective sight distance quadrant was calculated by dividing the measured sight distance by the minimum desirable sight distance for each train crossing location based on train and motor vehicle speed. The sight distance element was calculated utilizing an average of the percent adequacy for all four sight distance quadrants at each grade crossing. The element computed was analyzed exactly like the approach grade element had been analyzed previously and a broad spectrum of values was established for further analysis after the remaining elements had been developed and the appropriate coefficients selected.

## Hazardous Material Element

The hazardous material train car load element was developed utilizing the data collected via questionnaire and would be included as a new element in the train factor. This analysis was a combination of the analysis used for the crossing angle element, the approach grade element, and the sight distance element. The analysis involved several computer iterations because it was a totally new element, however, a defined range of values already existed because of the effect the new element would have on the daytime and nighttime train elements. The element computed was developed specifically for a value range that would not distort the existing train factor value.

## Crossing Factor

The crossing factor analysis consisted of combining the culmination of the new crossing factor elements developed during the analysis process and the previously defined crossing factor element into a monogamous crossing factor. The addition of the approach grade element, the sight distance element, and the revised crossing angle element had a substantial effect on the crossing factor values. It was determined that some of the crossing factor elements that were not recently revised would not have the significance in the new crossing factor that they had in the crossing factor before the revisions were developed. The number of tracks element, the roadway surface element, and the element regarding the number of roadway lanes were evaluated for modifications needed to reasonably substantiate each element in the new crossing factor.

### Train Factor

The train factor values had been significantly reduced in the new formula because of the modifications to the crossing factor. The addition of the Hazardous material train car load element had not created the impact on the train factor that the changes in the crossing factor elements had for the crossing factor. The train factor was evaluated for modifications needed to weight the overall effect needed for the train factor to have a similar effect in the new prioritization formula after the crossing factor modifications had been included.

### Speed Factor

The speed factor values were effected in a manner slightly similar to the train factor values in that they did not have the significance that they had in the original formula. In the case of the speed factor, however, the exposure factor values were also effected because of their product relationship with the speed factor values in the overall prioritization formula. The speed factor was evaluated for the modifications needed to weight the overall effect the product of the speed factor and the exposure factor would have in the new prioritization formula after these changes in the crossing factor and train factor had been included.

## Overview of the Analysis Methodology

The analysis for each of the factor elements and formula factors mentioned earlier in this chapter were conducted in a similar manner. The data segments defined in the analysis were a major component of the analysis of both the factors and the elements. The individual elements were restructured or added to the formula factors by conducting several computer iterations. The effect of those changes were evaluated by analyzing the number of data sets that were redistributed between the data segments established from the data structure developed earlier in the chapter. A method of determining what weighted effect the data set redistribution had on the outcome of the priority index calculation was also developed. This entailed the calculation of a percentage of the number of data sets redistributed during each iteration versus the total number of data set redistributions possible. A redistribution from one data segment to an adjacent data segment yielded a redistribution value of one. Similarly a redistribution to a data segment two segments away yielded a redistribution value of two, while a three segment jump yielded a redistribution value of three. By this method each individual element to be changed was evaluated and a redistribution percentage calculated to determine the magnitude of the effect the changes would have in the recalculation of overall priority index. The effect of the changes that the individual elements caused on the redistribution of the priority index resulted in a need to evaluate the formula factors as well. The formula factors were evaluated utilizing methods similar to those used during the evaluation of the individual elements. The analysis became more complex because of the number of elements effected by changes in the formula factors. After the formula factors and the individual elements had been weighted to acceptable levels, the analysis of the entire priority formula began. These analysis were obviously the most complex analysis carried out because of the various combination and effects generated by the changes in the individual elements and the formula factors.

# CHAPTER IV

# FINDINGS

## General Overview

The formulation of the entire methodology transpired from several years of direct experience in utilizing the current priority formula used to select potentially hazardous at-grade railroad crossing for federal-aid safety improvements. The improvements were conducted over a five year period with approximately 20 million dollars appropriated from the Federal Highway Administration. Those improvements included distributions involving priority locations, locations with active warning devices that were considered to have a relatively significant number of incidence, and for the development and implementation of the Oklahoma rail highway safety corridor improvement program. Some additional consideration was given to locations with active warning devices in need of signal lens upgrade from 8 inch to 12 inch lenses, the addition of advanced warning signs and pavement markings at all public locations statewide where a maintenance agreement could be established with the local entity having jurisdiction over the roadway, and passive locations in need of crossbuck sign replacements because of reflectivity concerns.

## Railroad Safety Improvement Projects

The corridor safety improvement program developed over the time period specified has been touted as one of the most aggressive and effective programs of its kind in the nation. The signal upgrade projects have resulted in the reinstallation of the entire signal system in most cases despite concerted efforts to reutilize as much of the existing signal equipment as possible. The signal lens upgrade projects have resulted in the upgrade of over eight hundred signalized locations reutilizing virtually all of the existing signal equipment excluding the lenses. The passive warning device upgrades have been mostly concentrated on the installation of advanced warning signs and pavement markings. The locations receiving crossbuck passive sign installations were selected based on their viability as test sight locations for the research needed to launch a statewide crossbuck program in the future.

## Railroad Corridor Safety Improvements

The corridor improvement program has lead to the development of the procedures needed for projects of this nature, including every facet of development from conception to final installation. The most significant developments were associated with the permanent closure of 25-30 percent of the existing at-grade crossing locations required for federal-aid safety fund precipitation utilizing the corridor concept. Developments were conducted in the initial review stage that focused on potential problems associated with existing crossing locations and the equipment employed at those locations without mustering a significant amount of liability concerns with regard to the shortcomings of the existing locations and equipment. Significant developments were pioneered in how the information was presented to the local entities, and further developed by those entities within the guidelines of the federal aid safety funding program (Hitz, 1981) and the laws governing those types of improvements in the State of Oklahoma. (Oklahoma, 1991). Design considerations encountered during the finalization of the project development encompassed a large number of engineering fields. Roadways were redesigned to help relieve the inconvenience created by closing grade crossings. Traffic control signals were installed to insure the length of traffic signal que's would not allow motor vehicles to que over the railroad tracks and potentially trap vehicles in the path of an oncoming train. Various signing, striping, and miscellaneous traffic control items were included in all of the corridor improvements. Several drainage concerns either created by the initiation of the corridor project or existing as a result of serious drainage problems experienced by the local entity were also addressed.

The funding for most of the improvements were administered utilizing a 90/10 funding split where the railroad was responsible for 90 percent of the crossing surfaces, and the associated roadway and traffic control improvements. The local entity was responsible for 10 percent of the cost of the signal installation. The railroad occasionally agree to pay the signal improvement funding match on corridor projects in exchange for an agreement from the local entity to close 25-30 percent of the existing at-grade crossings. A certain amount of flexibility had to be included in the railroad safety funding program to accommodate the local entities needs when corridor safety projects were developed.

## General Assumptions and Observations

The development and findings that transpired during the administration of federal-aid grade crossing safety funding from federal fiscal year 1989 - 1990 through federal fiscal year 1994 - 1995 have endowed the author with several experiences that have promulgated much of the reasoning utilized in the priority formula analysis. The major components isolated for further review during these administrative processes include the relative crossing angle of the railroad tracks with the roadway, the roadway approach grades near the railroad tracks, the sight distance triangles near the railroad tracks as defined in the federal guidelines, (FHWA, Railroad, 1986) and the number of hazardous material train car loads passing over the roadway crossing on an annual basis. Reflectivity was not selected as a criteria for further analysis even though it was strongly suggested by several sheeting suppliers and some very prominent traffic experts to be an important factor. Further observation during the Federal-Aid Safety Funding revealed that most of the significant considerations for active warning device installations and crossing closure were related to geometric concerns. It was determined that reflectivity issues could be addressed by the implementation of a program addressing passive warning device installation and would not be directly related to active warning device installations or low cost sight triangle improvements upon which the main emphasis of the prioritization process revisions would be focused.

## Component Specific Observations

The components selected for inventory and further development were prioritized based on specific incident review observations made over the five year period. The sight distance criteria appeared to play a role in more of the incidents that occurred during the specified time period by specifically limiting the drivers perception of the oncoming train. (Appendix B, Figures 16 & 17). The approach grade appeared to also be a significant role player in several of the incidents reviewed either by a direct distraction from the oncoming train itself or an indirect distraction created by limited roadway visibility. The crossing angle coding values utilized in the previous prioritization formula had created some situations that raised questions about any type of angle data calculation that was not specific to the degree of the angle. (Appendix B, Figures 18 & 19). The consideration given to the hazardous material train car loadings arose from concerns by local entities that train derailments involving hazardous material created a significant risk for areas in close proximity to the train tracks. Some consideration was given to developing the approach grade criteria with the hazardous material criteria into the exposure factor, however, the data received from the questionnaire was more suitable for development into the train factor of the priority index. An observation was formulated that, lead to a prioritization with the sight distance criteria having the most impact on the overall prioritization index closely followed by the hazardous material train data having a less significant impact closely followed by the revised crossing angle criteria.

## Factor and Element Analysis

The actual weighting of the various elements to be altered or included in the final priority index formula were analyzed by computer analysis based on changes in the data sets which led to the redistribution of data sets between the four data segments identified during the development of the neutral data base. The data sets redistributed from one data segment to another data segment were recorded and a percentage assigned based on the actual redistribution versus the maximum redistribution possible. The redistribution percentages were manipulated by various computer iterations to desirable levels based on the observations developed over the five year period and the objectives established from those observations. The elements were manipulated in a logical manner that allowed for the proper development of each element, formula factor, and finally the overall priority index formula.

## Crossing Angle Element

The objective of the crossing angle element analysis was to develop a crossing factor element that would be specific to the angle of orientation between the roadway and the railroad tracks. This element was developed in a manner that would not have a significant impact on the crossing factor because it had been included in the previous crossing factor calculations and needed to be developed in a manner that would yield angle specific results similar to the previous coding ranges. The final component consisted of calculations based on a coefficient divided by the sine of the crossing orientation angle. The desirable coefficient of the element was determined to be five, which yielded results similar to the original results and angle specific. (Appendix C, Tables 4 & 5). The impact on the data sets was limited to changes which yielded a zero percent change in redistribution between data segments. This criteria met the objective established for developing an angle specific crossing angle element.

$$\mathit{AANGLE\ ELEMENT} = 5 \times \left(\frac{1}{\sin\theta}\right) \tag{7}$$

## Approach Grade Element

The objective of the approach grade element analysis was to develop a crossing factor element that would establish proper weighting for the four combinations of the approaches that were possible based on the existence of positive or negative grades on either roadway approach. Previous observations had illustrated the existence of more severe vertical sight distance problems on locations where the track crossed the roadway at a point that was near the top of a crest vertical curve or near the bottom of a sag vertical curve in the roadway. Further observations isolated the fact that a track crossing near the top of a crest vertical curve in the roadway has a much more common occurrence and created a situation where oncoming vehicle traffic could not be detected. Locations having similar approach grades on either side of the track were observed to be a less severe problem with approach grades equal to zero being the best case scenario. With these observations in mind, the approach grade element was calculated by disseminating between the four scenarios mentioned earlier. The value of the approach grade element for the two scenarios involving similar approach grades on either side of the railroad tracks was calculated by taking the absolute value of the difference between the approach grade values.

$$GRD = |A - B|; \quad (A \leq 0,\ B \geq 0),\ (A \geq 0, B \leq 0) \qquad (8)$$

The approach grade element value for the scenario involving a track crossing near the top of a crest vertical curve in the roadway was calculated by summing the individual absolute values of each approach grade.

$$GRD = |A| + |B|;\ (A>0,\ B<0) \tag{9}$$

The approach grade element value for the scenario involving a track crossing near the bottom of a sag vertical curve in the roadway was calculated by taking half of the value of the sum of the individual absolute values of each approach grade.

$$GRD = 0.5 \times (|A| + |B|);\ (A<0,\ B>0) \tag{10}$$

The grade element value for the roadway sag vertical curve scenario was determined to less detrimental to the detection of oncoming vehicles and occurred far less frequently than the roadway crest scenario. The coefficient needed for the implementation of the grade element into the crossing factor was determined to be within a range between two and five. (Appendix C, Tables 6 - 11). The final determination to be developed when both the approach grade element and the sight distance element were added to the crossing factor.

## Sight Distance Element

The objective of the sight distance element analysis was to develop a sight distance factor that would take into consideration the sight distance criteria outlined in the federal railroad grade crossing railbook for all four sight distance quadrants at a particular grade crossing location. (FHWA Railroad, 1986). This element was developed in a manner that would allow for an analysis of all four quadrants with a computation of the average percent adequacy based on the measured sight distance and minimum sight distance requirements outlined in the federal railroad grade crossing handbook. (FHWA Railroad, 1986). The observations made over the five year period of funding administration have isolated this particular criteria as a very important consideration in the driver perception near an at-grade crossing. (Appendix B, Figure 16 & 17). The sight distance element was calculated by utilizing the average of the sum of the percentage of measured sight distance versus minimum required sight distance for the northeast, northwest, southeast and southwest sight distance quadrants.

$$AVG\ \%\ SD = 0.25\ x \left[ \frac{NEMD}{NEMSD} + \frac{NWMD}{NWMSD} + \frac{SEMD}{SEMSD} + \frac{SWMD}{SWMSD} \right] \tag{11}$$

The coefficient needed for the implementation of the sight distance element into the crossing factor was determined to be within a range of ten to fifteen. (Appendix C, Tables 12 - 15). The final determination to be developed during the evaluation of the crossing factor itself.

## Hazardous Material Element

The objective of the hazardous material train car load element analysis was to develop a hazardous material element that could be included in the train factor without creating a significant effect on the daytime, nighttime, and the ratio of nighttime to daytime train elements. The value limits to be utilized were based on a train frequency equivalence ratio. The data recently collected for hazardous material had value ranges from 0 to 11,000 loads annually. An analysis of the nighttime and daytime train element illustrated a significant change in the train factor when the elements were reduced or increased by a value of five. A decision was made based on the train element data analysis, to restrict the hazardous material factor to a value approximately equal to a value of five. The hazardous material element values would be transferred into equivalent train frequency values by dividing the total number of annual hazardous material train car loads by 2000. (Appendix C, Table 16). The train factor was modified to include daytime trains, nighttime trains, the ratio of nighttime to daytime trains and the hazardous material element.

$$TF = D_T + N_T + \frac{N_T}{D_T} + \frac{H_M}{2000} \tag{12}$$

Crossing Factor

The objective of the crossing factor analysis was to develop a crossing factor formula that would include the new data elements, revise the existing data elements, to acceptable levels and provide an analysis of the effect of the new crossing factor on the overall prioritization formula. The inclusion of the angle element involving the actual crossing angle did not create changes that redistributed data sets between the specified data segments; and created very little effect on the crossing factor. The approach grade element and sight distance element were previously isolated as elements that should a relatively significant effect on not only the crossing factor but also on the overall prioritization formula. The approach grade analysis conducted earlier had resulted in the development of a realistic overall segment redistribution percentage range of 11.25 percent to 18.75 percent. (Appendix C, Tables 6 - 11). The sight distance analysis resulted in the development of a realistic overall redistribution percentage range of 11.25 percent to 15.00 percent. (Appendix C, Tables 12 - 15). It became very obvious that an overall redistribution percentage would have to be selected for these elements that would represent an approximate weighting for each element and establish the basis for computer iterations utilized to restructure the priority formula. The sight distance element had been established earlier as the most important element to be restructured followed closely by the approach grade element. Several computer iterations were conducted utilizing various combinations of coefficients for both the sight distance and approach grade elements. The iteration selected as the basis for the restructuring of the crossing factor included a redistribution percentage of 15 percent created by a coefficient of 15 for the sight distance element (Appendix C, Table 15) and a redistribution factor of 12.5 percent created by a coefficient of 2.25 for the approach grade element. (Appendix C, Table 11). Further observation revealed that the element regarding the number of tracks would need to be revised in an effort to maintain the influence of a multi-track scenario in the crossing factor. (Appendix B, Figure 20). The elements regarding the number of lanes and surface type had been determined to have a negligible roll in the original crossing factor because of their relationship with traffic volumes and functional classification. (Appendix B, Figures 21 & 22). This led to the observation that these items would be less important in the crossing factor with the addition of sight distance and approach grade criteria. The number of tracks element was evaluated and a redistribution percentage of 3.75 percent created by a coefficient of 2.00 was established. (Appendix C, Table 17). The overall redistribution percentage created by all the crossing factor element changes was calculated to be 17.50 percent and was considered a reasonable amount because of the significance of the sight distance element and approach grade changes. (Appendix C, Table 18). This completed the initial evaluation of the crossing factor. The crossing factor formula developed during the analysis was subject to a performance evaluation after the additional factors in the prioritization formula had been revised and evaluated.

$$CF = 5.0 \times \left(\frac{1}{\sin\theta}\right) + 2.0\,(TRK) + S + \frac{LN}{2} + 2.25 \times GRD + 15 \times \left(\frac{1}{A\%SD}\right)$$

where:

$\theta$ = crossing angle
TRK = number of tracks
S = roadway surface type
LN = number of roadway lanes
GRD = grade element
A%SD = sight distance element

Train Factor

The objective of the train factor analysis was to determine a coefficient that would allow the train factor to maintain an acceptable level of influence on the overall priority formula after the crossing factor coefficient had been established and the hazardous material element had been included in the train factor. It was determined that the train factor weighting would need to be increased to maintain an appropriate level of influence based on the 17.50 percent increase calculated for the revised crossing factor. (Appendix C, Table 18). Several computer iterations led to the selection of a coefficient of 5 which yielded a redistribution percentage of 8.75 percent or half of the redistribution percentage calculated for the revised crossing factor. (Appendix C, Table 19). This percentage redistribution would allow the train factor to remain a major component of the overall priority formula while allowing the crossing factor elements selected to play a major role in the prioritization process, to remain a more important component in the overall revised priority formula.

$$TF = 5 \times [(DT + NT) + (\frac{NT}{DT}) + (\frac{HAZMAT}{2000})] \tag{14}$$

where:

DT = daytime trains
NT = nighttime trains
HAZMAT = hazardous material rail car annual loads

Speed Factor

The objective of the speed factor analysis was to determine a coefficient that would maintain the effect of the speed factor on the overall priority formula after the crossing factor formula and train factor formula had been revised. The speed factor was uniquely associated with the exposure factor within the "probability of conflict" component of the overall prioritization formula because they were previously and consequently summed with the crossing factor and the train factor. The fact that the speed factor was multiplied by the exposure factor led to two interesting observations. The effect on the exposure factor by the revision of the crossing factor and train factor could be offset with the revision of the speed factor and speed factor revisions smaller in magnitude would have an effect similar to the train factor and crossing factor on the overall redistribution percentage. Several computer iterations led to the selection of a coefficient of 0.5 for the speed factor which yielded a redistribution percentage of 3.75 percent or approximately 20 percent of the redistribution percentage calculated for the revised crossing factor.

(Appendix C, Tables 20 & 21). This percentage redistribution would allow the speed factor and the exposure factor to maintain a significance in the overall priority formula similar to the amount developed for the revised train factor with regard to the revised crossing factor.

$$SF = \frac{TRAINSPEED}{2}$$

## General Information

The revisions conducted in an effort to include the new data elements were limited to the factors in the "probability of conflict" component. The incident component and warning component were not affected by the changes and will continue to function as they have in the previous prioritization formula. These components have been previously designed to have an influence to directly on all of the elements included in the "probability of conflict" component. The final computer iteration conducted for the complete revision of the overall prioritization formula led to a redistribution percentage of 3.75 percent. (Appendix C, Table 22). Final observations concluded that the sight distance, approach grade, crossing angle, and hazardous material elements had been successfully weighted based on the earlier limits established for each reflective criteria. The revised formulas are illustrated in their entirety. (Appendix A, Figure 6).

# CHAPTER V

## SUMMARY

The findings of the prioritization formula evaluations and revisions were developed in a manner that retained the basic structure of the 1977 revision of the formula. The warning factor and incident factor were not changed because they were considered to be effective in the description of the level of warning provided to the motorist and the performance of the existing level of warning respectively. The alterations developed during this report were focused primarily on the "probability of conflict" and the need for additional considerations to be incorporated into the calculations regarding that component. An early evaluation led to a prioritization of the elements to be included or revised in the prioritization formula. The sight distance element was selected as the primary element for revision based on past incident and administrative problems associated with lack of visibility or sight triangle obstructions. The sight triangle data collected for the development of the sight distance element was limited specifically to the scenario involving a motor vehicle approaching the crossing at the specified roadway speed limit. (Appendix A, Figure 7). The scenario involving a motor vehicle stopped at the crossing commonly referred to as "track sight distance" was not included in the data collection. (Appendix A, Figure 8).

The original assessment of the "track sight distance" revealed that a number of the at-grade crossing locations would not have track sight distance obstructions in areas where routine maintenance by the railroad included the clearance of vegetation and other obstructions from the railroad right-of-way. The time needed to collect the additional data needed for track sight distance evaluation was estimated to result in a 33 percent increase of the total crossing evaluation time and considered cost prohibitive. The track sight distance problems associated with vertical sight distance constraints, horizontal sight distance constraints, or obstructions will be addressed utilizing the engineering element incorporated into the revised formula for items or situations not addressed elsewhere within the formula.

The approach grade element was also considered a primary element for revision because of past incident experiences and the relationship between approach grades and sight distance criteria. The criteria set forth in the Railroad-Highway Grade Crossing Manual (FHWA Railroad, 1986) are based on the assumption that the approach grade is at or near zero and appropriate adjustments need to be included for locations where that is not the case. Other factors associated with driver perception were also considered in the development and inclusion of the approach grade element.

The crossing angle element was revised as a secondary element is an effort to develop an angle specific utilization of the recently collected data. The original weighting associated with various ranges of crossing angles created situations that disperportionaly assigned element values for angles lying near the extreme limits of the designated ranges.

The hazardous material element was developed in an effort to address environmental concerns generated from the transport of hazardous material via rail. The current population data associated with rail segments within the state was not readily available, therefore, the element was developed based on train frequency equivalence. Special considerations will be given to rail segments routed through highly populated areas by utilization of the engineering factor incorporated into the existing formula.

The reflectivity was not directly measured during the inventory or included in the prioritization formula. It was estimated that measuring the reflectivity would increase the time spent at a site from 15 percent to double the amount of time, depending on a variety of circumstances. The formula revisions were focused primarily on items that could not be easily addressed by system wide projects. The replacement of crossbuck signs, advanced warning pavement markings, and advanced warning signs were considered system projects that could be addressed without detailed information. These types of system projects would not require the level of engineering judgment needed for signal or geometric improvements.

The final prioritization formula developed during the report incorporated the elements mentioned earlier in a manner that allows for a complex evaluation of the criteria selected to be included in the overall prioritization of at-grade crossing locations for funding administration. The changes made to the 1977 revision of the formula created a need to revise some of the elements in the "probability of conflict" component. These elements were revised to accommodate the inclusion of the new elements while retaining an appropriate level of influence themselves. The increase in complexity of the formula resulted from the computerized development of the elements, factors, and coefficients. Previous revisions to the formula were conducted without the aid of the computer technology available today.

The final revisions resulted from an in depth review of several state and federal ranking indices. The final revision of the proposed formula was patterned after existing ranking indices that utilized actual accident data and incorporated the sight distance criteria developed by the federal highway administration (FHWA Railroad, 1986).

# CHAPTER VI

# CONCLUSIONS AND RECOMMENDATIONS

It appears that there is no one overpowering "right" model, but models developed to meet the needs of each individual agency. (PENNEY, 1994). Most of the prioritization methods required are driven in some manner available by vehicle ADT and accident prediction methodology. ODOT has previously concluded that ADT is not available on a continuing basis for a significantly large portion of its crossings. ODOT has opted alternatively to use functional classification in its formula, give consideration to more factors, and use actual accident experience. ODOT's formula works well and has been modified to take into account non-availability of vehicle traffic counts, by utilizing functional classification. One state, New Mexico, includes sight distance as a factor in its formula and Oklahoma now has sight distance data available which has been utilized in the revised formula.

The revised prioritization formula will establish the presence of the sight distance and approach grade criteria into the existing prioritization formula. The revised prioritization will be more focused on locations with geometric concerns that need the specific improvements available through federally funded safety improvements projects. These improvements will not be limited strictly to signalization because many of the concerns will be associated with the sight distance triangles which may be address through low cost projects to clear obstructions. The values will be extremely unique to each location because of the elimination of some abstract values utilized in the previous prioritization.

The revised formula will delineate areas that may need to be evaluated for environmental concerns associated with problems resulting from hazardous material spills. An increased awareness can be provided for areas with greater population along hazardous material routes and hazardous material routing can be evaluated in the future. Numerous hazardous index formulas have been developed to assess the relative potential hazard at a railroad grade crossing on the basis of various combinations of its characteristics. Although no single formula has universal acceptance, each has its own values in establishing an index, that when used with sound engineering judgment, provides a basis for a selection of the type of warning devices to be installed at a given crossing. (AASHTO, 1990).

The author would like to recommend that serious consideration be given to the utilization of the revised formula after it has been reviewed by a private consultant for validity and an unbiased opinion. The procedures associated with the utilization of the revised formula should be evaluated for any legal concerns that may be created after implementation.

The selection of locations will require a thorough working knowledge of the formula, its components, factors, and each individual element. Training for the utilization of the formula is recommended for any individual assigned the task of selecting locations for improvements. The revised formula should be evaluated periodically for modifications that will enhance the selection capabilities needed to eliminate problem areas arising in the future. The revised formula or any future revision of the formula should never be utilized without an on-site review of the selected location providing an opportunity to incorporate sound "engineering judgment" into all final decisions. Computer generated selection processes are not an acceptable substitute for engineering judgment.

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# APPENDIX A

# PRIORITIZATION EQUATIONS AND INFORMATION

Table 3

Nationally Recognized Models for Predicting Hazard Potential

Coleman-Stewart
Peabody-Dimmick
Mississippi
New Hampshire
Ohio
Wisconsin
Contra Costa County
Oregon
North Dakota Rating System
Idaho
Utah
DOT

Source: (Faghri, 1986)

$$A5 = 1.28\ ({}_{V}\,0.170)({}_{T}\,0.151) + K$$

where: A5 = Expected number of accidents in 5 years
V = AADT, Annual average daily traffic
T = Average daily train traffic
P = Protection coefficient
K = Additional parameter

Figure 2. Peabody-Dimmick Formula
(Bureau of Public Roads)

$$HI = (V)\ (T)\ (P_f)$$

where: HI = Hazard Index
V = AADT, Annual average daily traffic
T = Average daily train traffic
$P_f$ = Protection coefficient
= 1.00 for crossbuck
= 0.20 for flashing lights
= 0.11 for gates
= 0.34 for wig wag & bells
= 0.58 for all signs
= 1.50 for no signs / signals

Figure 3. New Hampshire Index

Automatic gates:

$$X = 0.00866 + 0.00036\ (ADT),$$

or

$$EA = \left(\frac{ADT}{100}\right) 0.00866 + 0.00036\ (ADT)$$

All other traffic control devices:

$$X = 0.00499 + 0.00036\ (ADT),$$

or

$$EA = \left(\frac{ADT}{100}\right) 0.00499 + 0.0036\ (ADT)$$

where: X = Probability of incidental vehicle and train arrival scaled by $10^{-3}$
ADT = Average daily traffic
EA = Expected number of accidents per year.

Figure 4. NCHRP 50 Hazard Index

Source: (Schoppert, 1986)

$$SIR = \frac{(\text{Train ADT} \times \text{HWY ADT} \times \text{Protection Factor})}{100} \text{ SDF} \times \text{TS} \times \text{AHF}$$

Protection Factor
Gates ------- .11
Lights------- .20
Wig Wags----- .34
Signs-------- .58
X-Bucks----- 1.00
None-------- 2.00

| SDF | Sight Distance Factor |
|---|---|
| 1.0 | No Restrictions |
| 1.2 | Restrictions 1 Quadrant |
| 1.5 | Restrictions more than one quadrant |
| TS | Train Speed |

AHF = Accident History Factor = 1 + (A, and/or B, and/or C)

A = 0.1 for each property damage accident
B = 0.2 for each injury accident
C = 0.3 for each Fatal Accident

Figure 5. New Mexico Safety Index Rating

$$PI = 0.1(WF)(IF)\left[TF + CF + (SF \times EF)\right]$$

where:
W = Warning Component
IF = Incident Component
$\left[TF + CF + (SF \times EF)\right]$ = "Probability of Conflict Component"

where:
TF = Train Factor
= $5\left[NT + DT + (NT/DT) + (HAZMAT/2000)\right]$

CF = Crossing Factor
= $5 \times (1/\text{SIN}\ \theta) + (2 \times TRK) + S + (LN/2) + (2.25 \times GRD) + 15(1/A\%SD)$

SF = Speed Factor
= $TS/2$

EF = Exposure Factor
= $FSC + SB + TCC + K$

where:
NT = Nighttime trains
DT = Daytime trains
HAZMAT = Annual hazardous material train car load
$\theta$ = Track crossing angle with the roadway
TRK = Number of tracks
S = Surface type
LN = Number of roadway lanes
GRD = Grade element
A%SD = Sight distance element
TS = Maximum train speed
FSC = Functional street classification
SB = Number of school buses
TCC = Number of cargo trucks
K = Engineering factor

Figure 6. Proposed Prioritization Formula

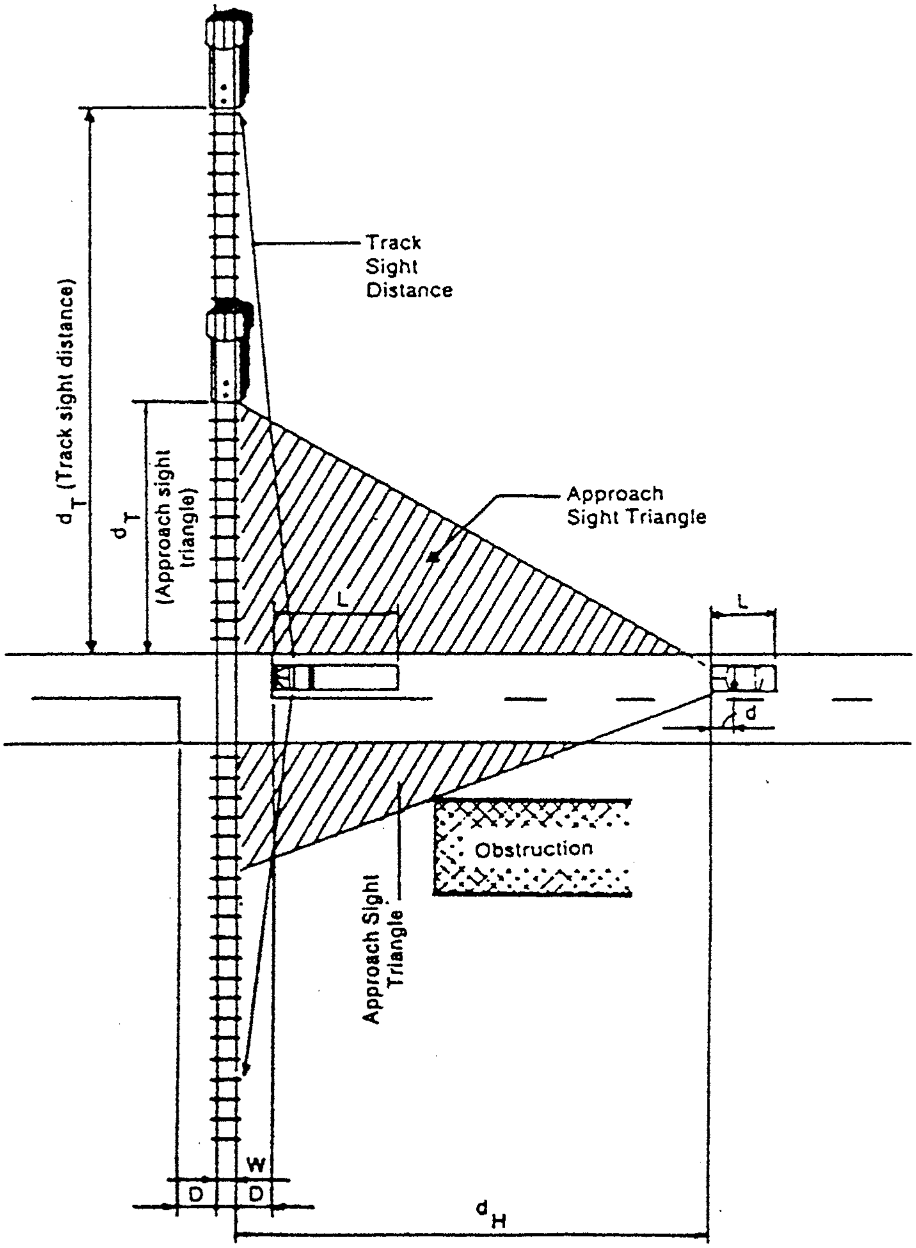


Figure 7.  Crossing Sight Distance

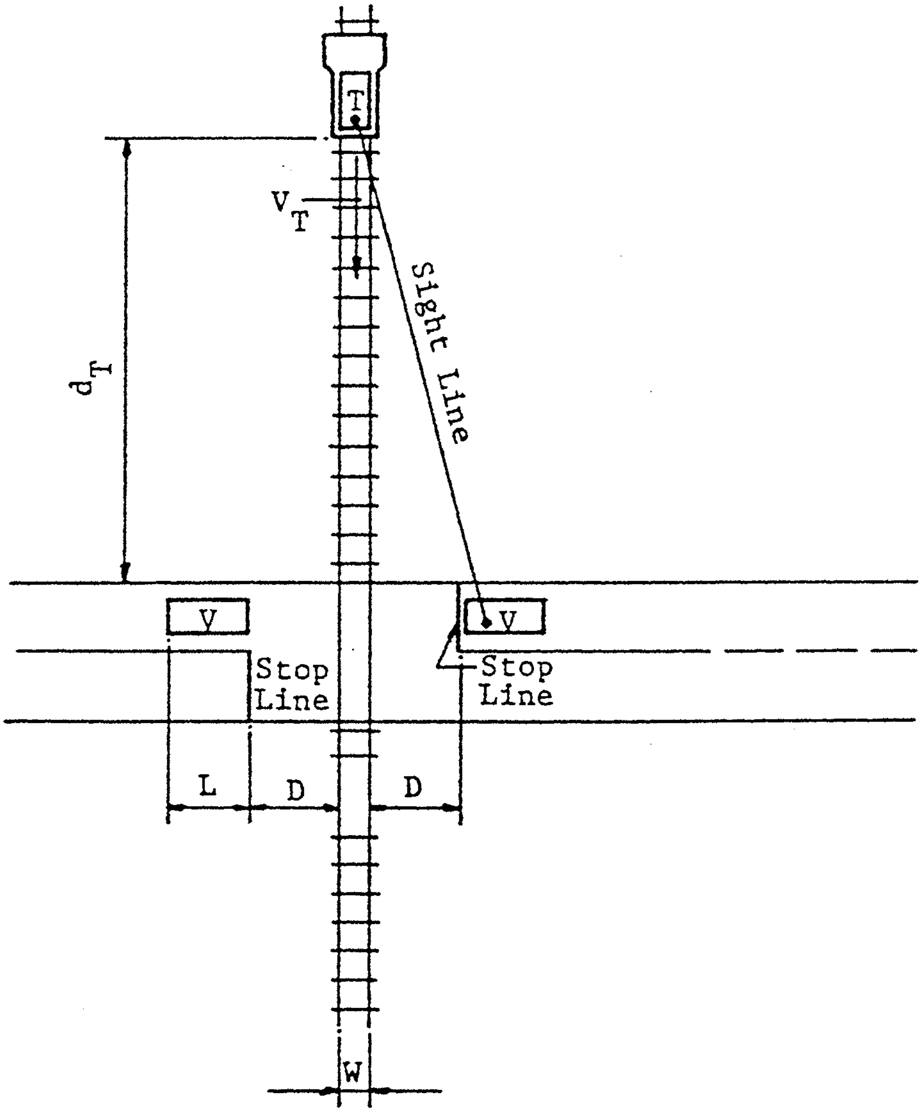


Figure 8. Sight Distance for a Vehicle Stopped at Crossing

April 12, 1993

Mr. E. A. Wilson
Public Works Engineer
Burlington Northern Railroad
6851 N.E. Loop 820, Suite 300
Fort Worth, Texas 76180-6612

Re: Hazardous Material Rail Shipments in the State of Oklahoma

Dear Mr. Wilson:

We are currently in the process of compiling information necessary to evaluate the routing and frequency of Hazardous Material Rail Shipments in the State of Oklahoma. We would like to ask that you please submit data for the most recent calendar year of any Hazardous Material rail shipments on major line segments operated by your Railroad in Oklahoma.

The information in which we are particularly interested includes: the STCC number, STCC description, number of car loads, number of intermodal loads, and the total number of loads. We would appreciate the information in a format similar to the example enclosed, including annual totals for each line segment.

Your immediate attention on this matter would be greatly appreciated. Our intent is to compile this information by May 31, 1993.

Further questions should be directed to Mr. Joe R. Kyle or Mr. Jack W. Webb of the Traffic Engineering Railroad Safety Section at (405) 521-2861.

Sincerely,

Jacques C. Mabry, P. E.
Chief Traffic Engineer

JCM:JWW:dsg

Enclosure

Figure 9. Hazardous Material (Response)

# APPENDIX B

# RAILROAD GRADE CROSSING STATISTICS

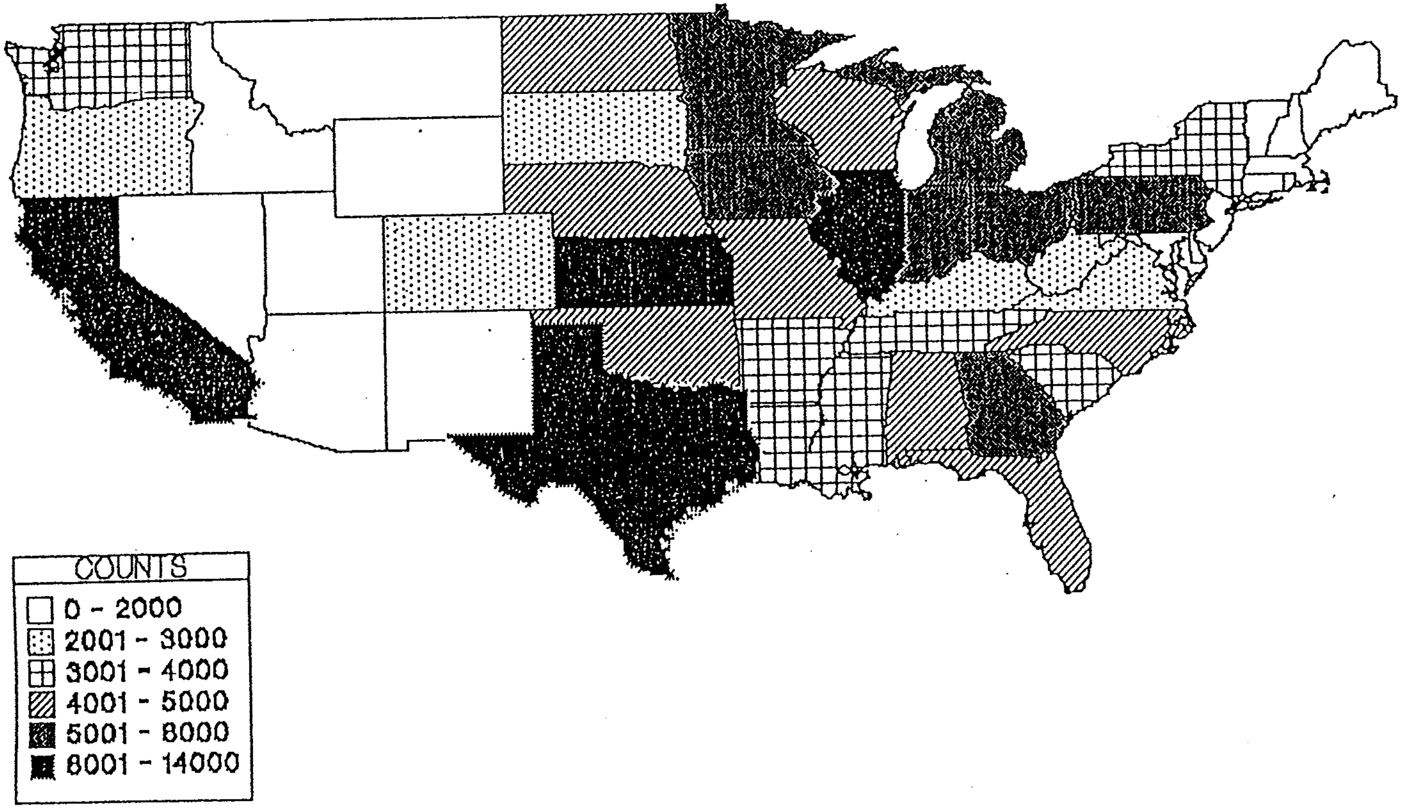
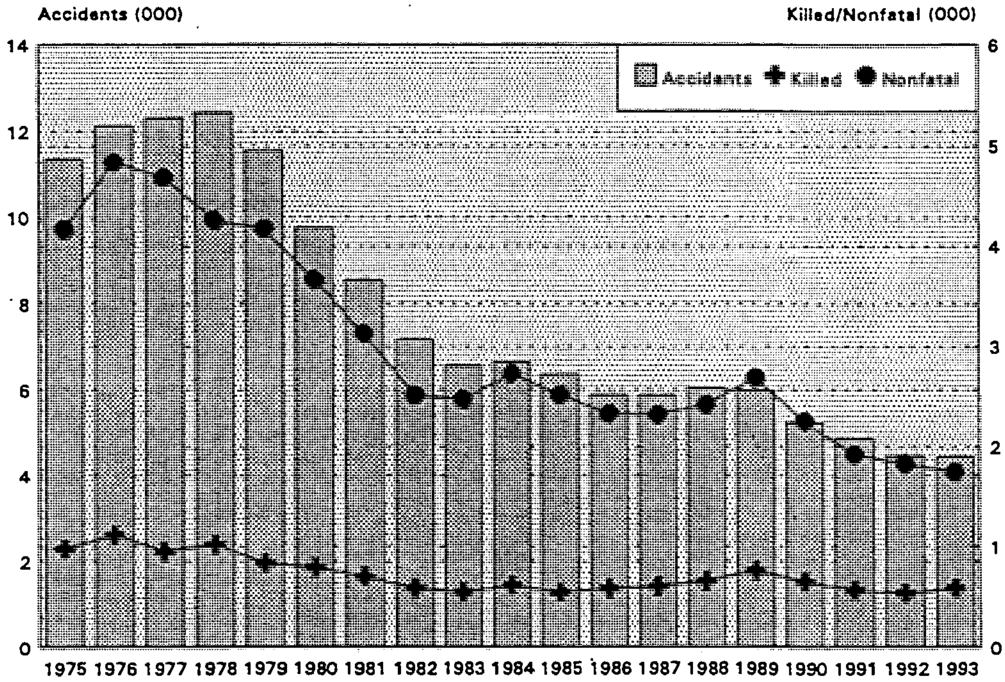


Figure 10. Number of Public Crossings by State, 1993
Source: (FRA, 1993).



For accidents use scale on left axis, casualties use scale on right axis.

Figure 11. Summary of Accidents/Incidents and Casualties at Public Highway-Rail Crossings.

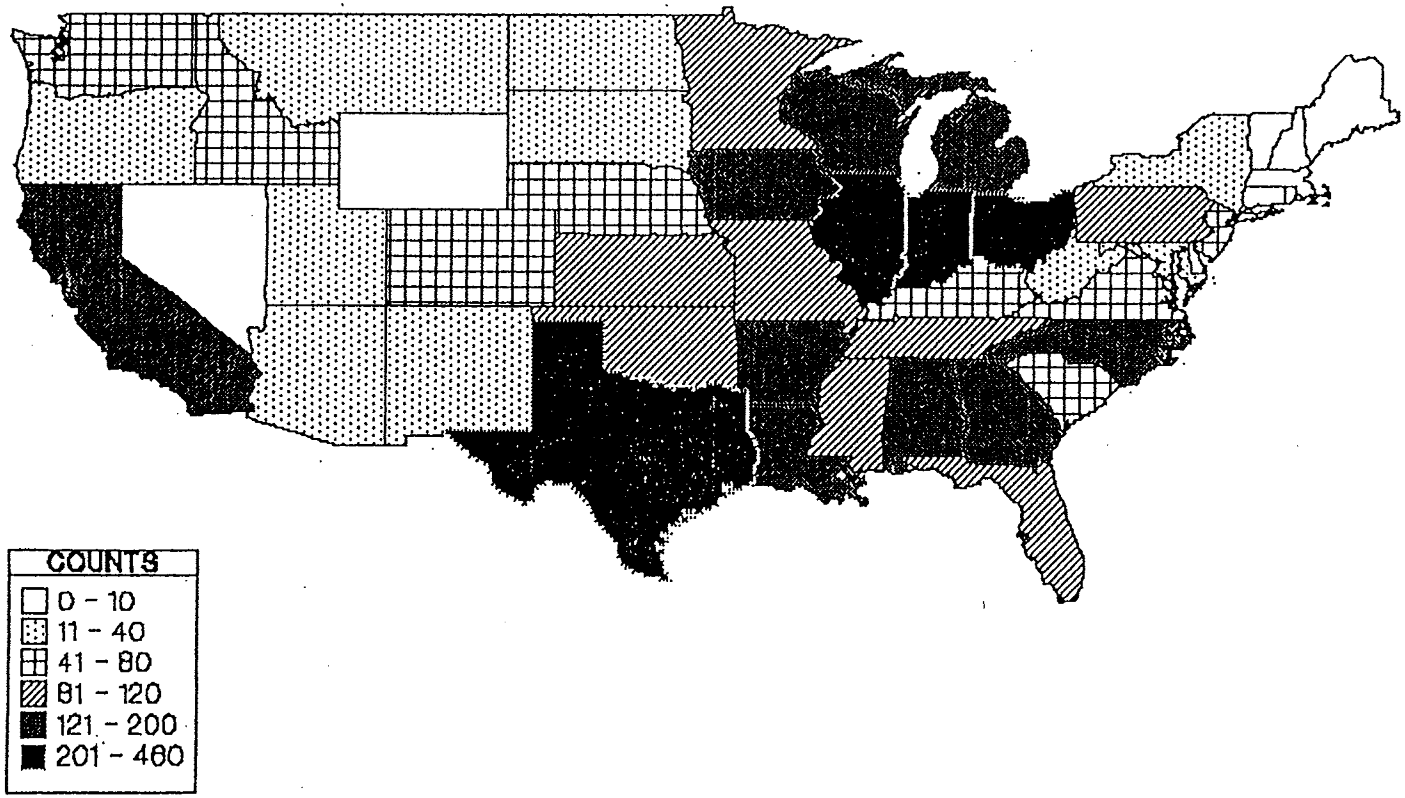


Figure 12. Motor Vehicle Accidents/Incidents at Public Highway-Rail Crossing, 1993 Source: (FRA, 1993).

| State | Urban | Rural | Total |
|---|---|---|---|
| Alabama | 1,910 | 2,199 | 4,109 |
| Alaska | 88 | 139 | 227 |
| Arizona | 474 | 478 | 952 |
| Arkansas | 1,301 | 2,043 | 3,344 |
| California | 5,882 | 2,193 | 8,075 |
| Colorado | 747 | 1,404 | 2,151 |
| Connecticut | 239 | 131 | 370 |
| Delaware | 61 | 194 | 255 |
| Dist of Columbia | 37 | --- | 37 |
| Florida | 2,374 | 1,714 | 4,088 |
| Georgia | 2,251 | 4,070 | 6,321 |
| Hawaii | --- | 6 | 6 |
| Idaho | 267 | 1,324 | 1,591 |
| Illinois | 3,942 | 6,399 | 10,341 |
| Indiana | 2,917 | 3,869 | 6,786 |
| Iowa | 1,632 | 3,674 | 5,306 |
| Kansas | 1,404 | 6,636 | 8,040 |
| Kentucky | 740 | 1,941 | 2,681 |
| Louisiana | 1,703 | 2,144 | 3,847 |
| Maine | 239 | 646 | 885 |
| Maryland | 528 | 172 | 700 |
| Massachusetts | 843 | 349 | 1,192 |
| Michigan | 2,380 | 3,436 | 5,816 |
| Minnesota | 1,494 | 3,825 | 5,319 |
| Mississippi | 1,138 | 1,892 | 3,030 |
| Missouri | 1,578 | 3,297 | 4,875 |
| Montana | 281 | 1,256 | 1,537 |
| Nebraska | 550 | 3,553 | 4,103 |
| Nevada | 62 | 193 | 255 |
| New Hampshire | 221 | 282 | 503 |
| New Jersey | 1,362 | 548 | 1,910 |
| New Mexico | 240 | 577 | 817 |
| New York | 1,523 | 1,791 | 3,314 |
| North Carolina | 2,023 | 2,871 | 4,894 |
| North Dakota | 252 | 4,453 | 4,705 |
| Ohio | 3,354 | 3,546 | 6,900 |
| Oklahoma | 317 | 4,337 | 4,654 |
| Oregon | 1,028 | 1,340 | 2,368 |
| Pennsylvania | 2,941 | 2,707 | 5,648 |
| Rhode Island | 123 | 5 | 128 |
| South Carolina | 1,136 | 2,113 | 3,249 |
| South Dakota | 261 | 1,880 | 2,141 |
| Tennessee | 1,555 | 1,864 | 3,419 |
| Texas | 6,808 | 6,141 | 12,949 |
| Utah | 554 | 466 | 1,020 |
| Vermont | 166 | 326 | 492 |
| Virginia | 934 | 1,281 | 2,215 |
| Washington | 1,390 | 1,633 | 3,023 |
| West Virginia | 436 | 1,583 | 2,019 |
| Wisconsin | 1,994 | 2,957 | 4,951 |
| Wyoming | 81 | 452 | 533 |
| Puerto Rico | --- | 24 | 24 |
| Unknown | --- | --- | --- |
| Total | 65,761 | 102,354 | 168,115 |

Figure 13. Total of Crossings by State and Location: Urban and Rural, 1993; Source: (FRA, 1993).

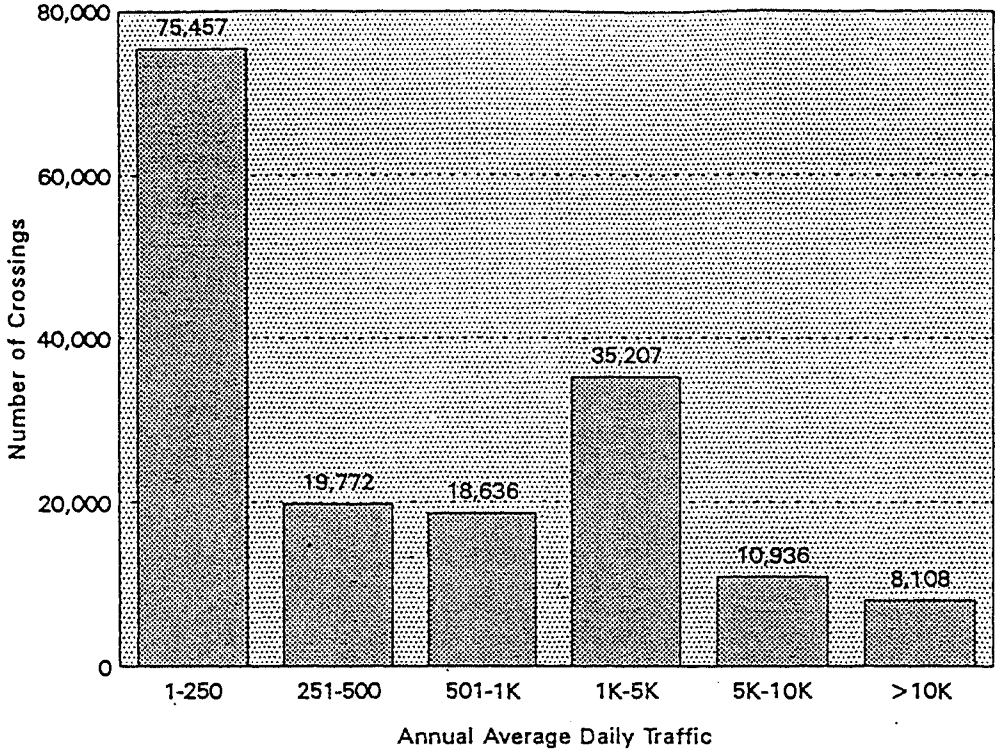
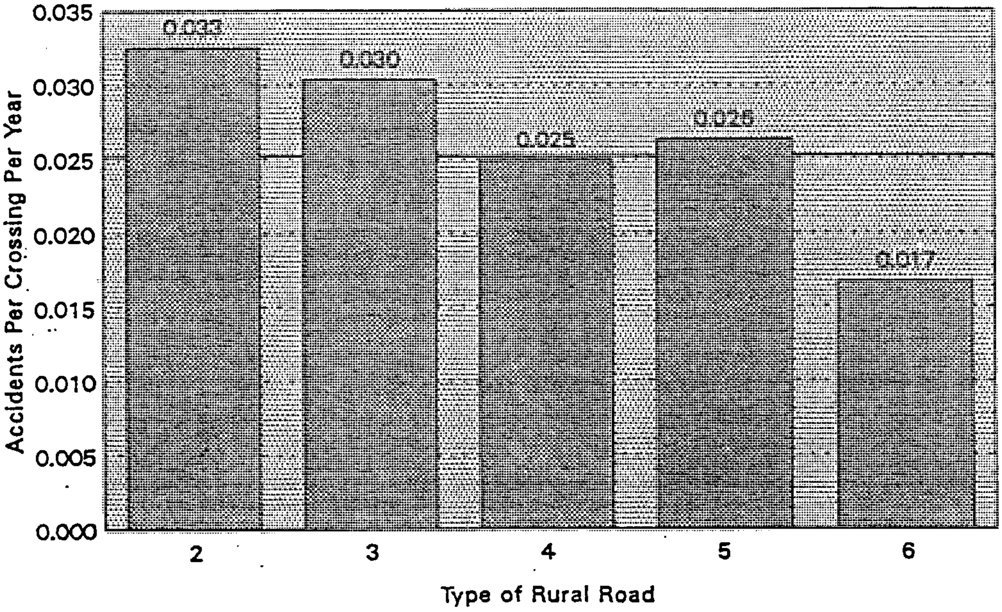


Figure 14. Crossing by Annual Average Daily Traffic
Source: (FRA, 1993).



National average .02522
1 = Interstate; 2 = Other freeway or expressway; 3 = Other principal arterial;
4 = Minor arterial; 5 = Collector; 6 = Local

Figure 15. Crossing Accident Rate by Type of Rural Road
Source: (FRA, 1993).

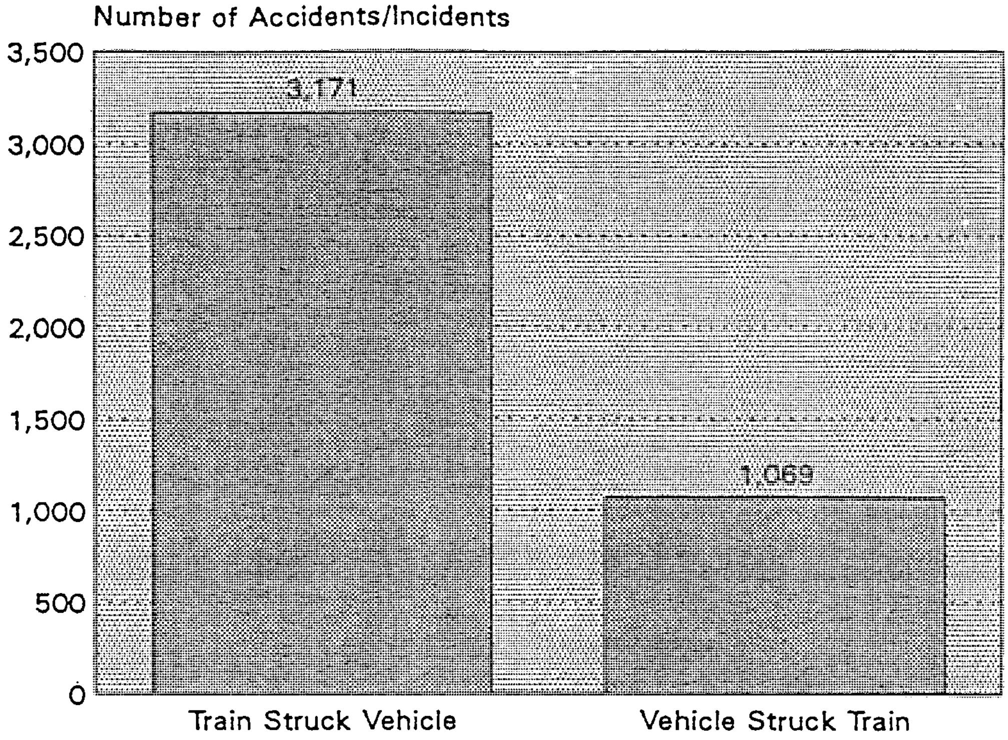


Figure 16. Motor Vehicle Accidents / Incidents Source: (FRA,1993).

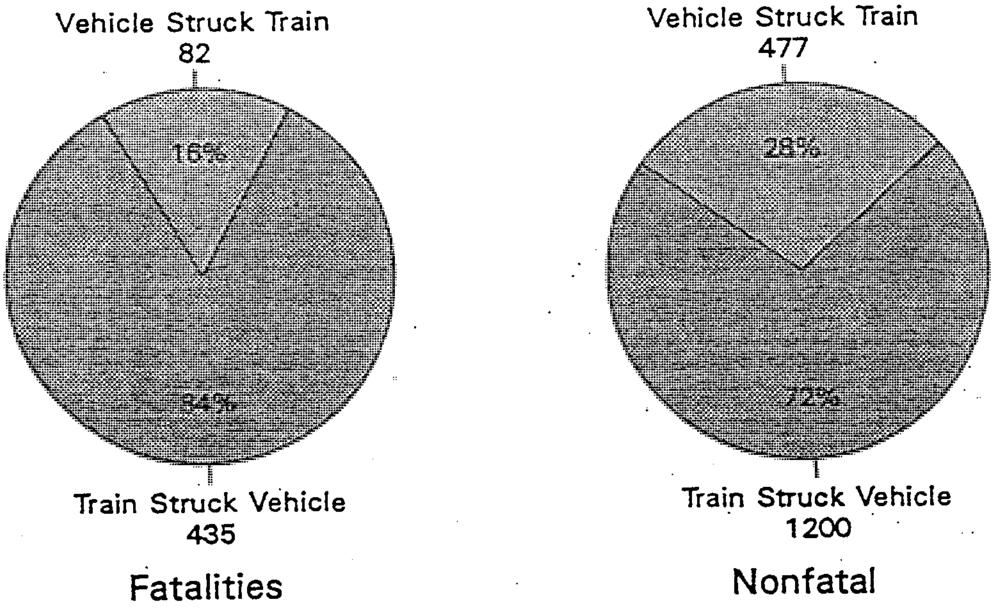
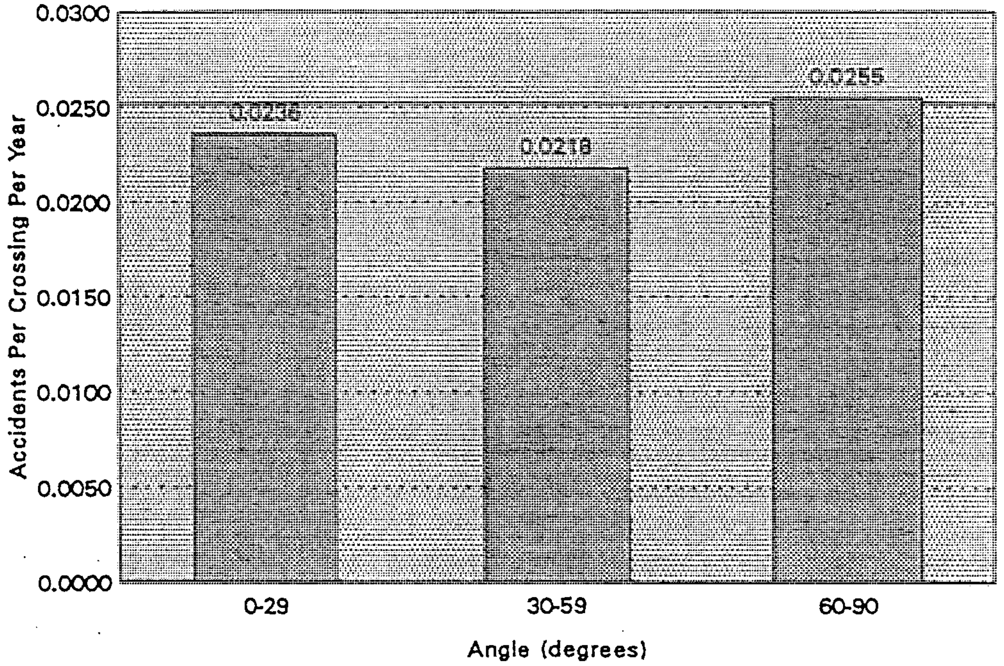


Figure 17. Casualties in Motor Vehicle Accidents / Incidents; Source: (FRA, 1993).



National average .02522

Figure 18. Crossing Accident Rate by Smallest Crossing Angle; Source: (FRA, 1993).

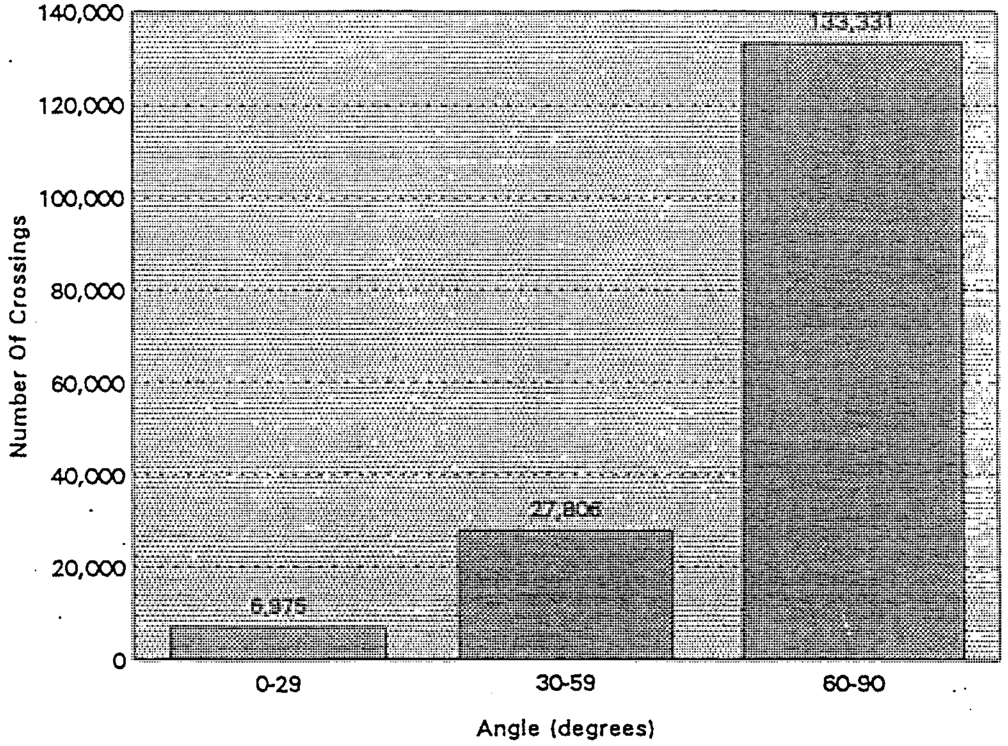
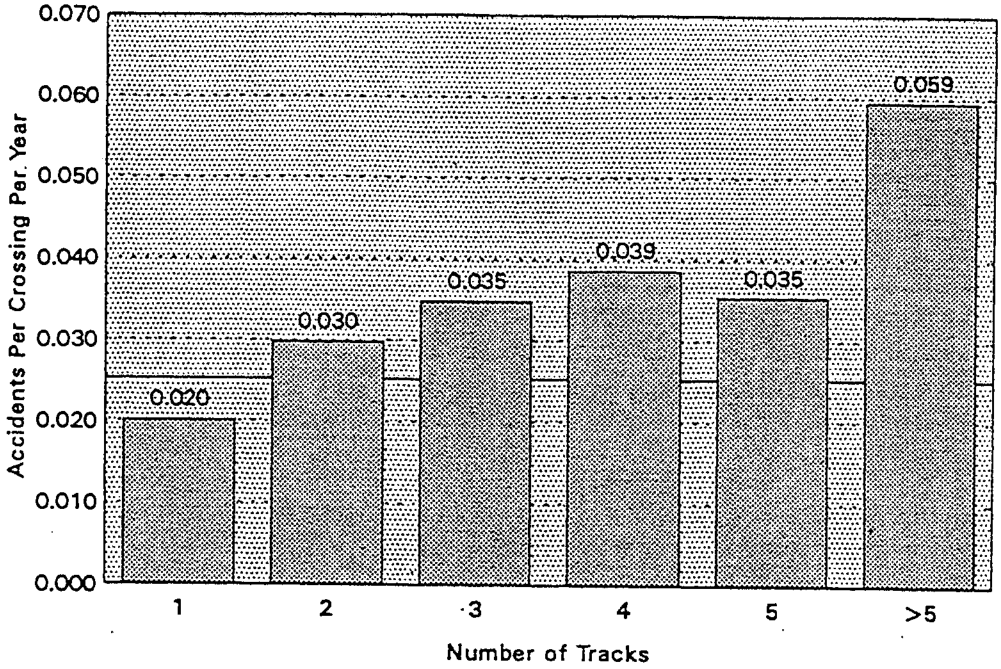
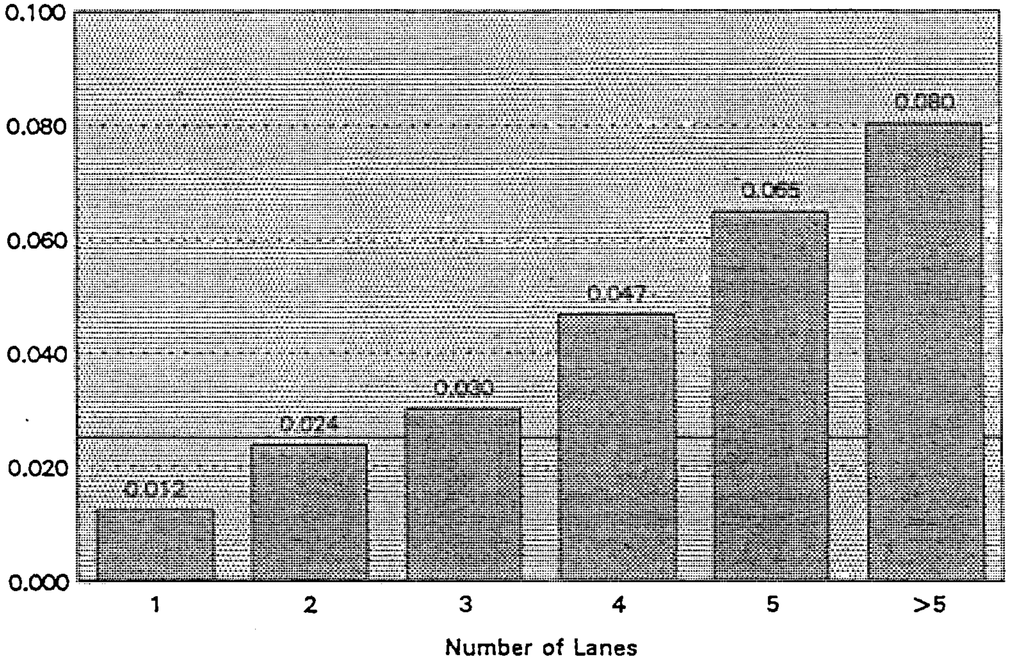


Figure 19. Crossing by Smallest Crossing Angle Source: (FRA, 1993).



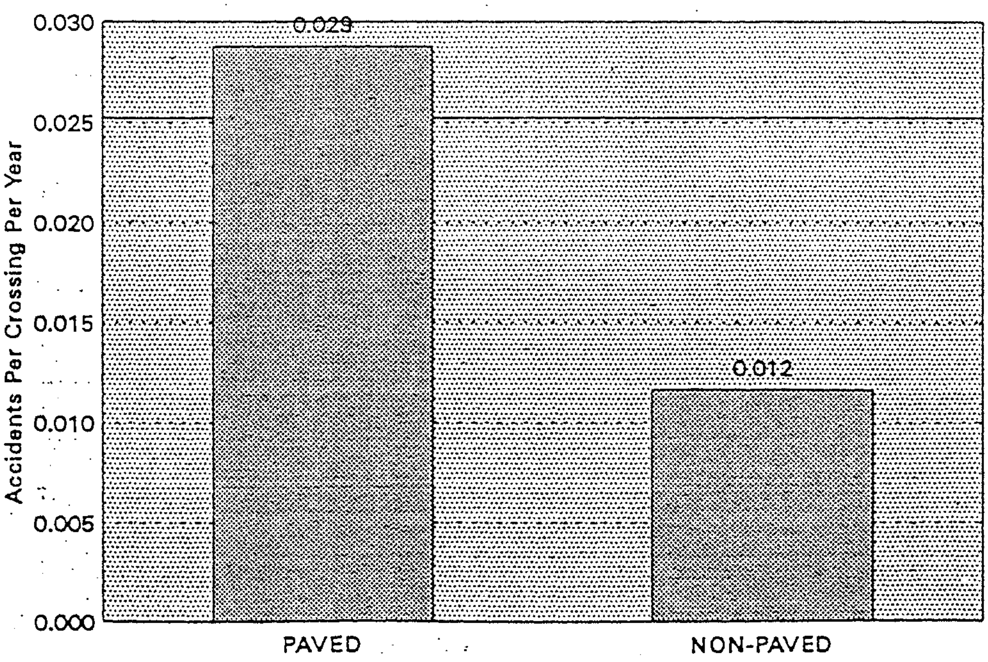
National average .02522

Figure 20. Crossing Accident Rate by Number of Tracks Source: (FRA, 1993).



National average .02522

Figure 21. Crossing Accident Rate by Number of Traffic Lanes; Source: (FRA, 1993).



National average .02522

Figure 22. Crossing Accident Rate by Paved or Non-paved Road Surface; Source: (FRA, 1993).

# APPENDIX C

# COMPUTER ITERATIONS

# Table 4

## Z * 1/sin θ

## Angle Element Computer Iteration; coefficient = 2.0

| HazMat | Angle | A% | B% | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SO | PI | TCC% | TCC | AI | TI | SI | EI | A | CI | RI | Cr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 66 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.6 | 6.5 | 2 | 55 | 1 | 6 | 198.01 | 1A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 6.69 | 167.72 | 2A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 6.06 | 166.89 | 3A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23028 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 6.99 | 166.72 | 4A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 12 | 145.97 | 5A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 9 | 137.20 | 6A | A |
| 9136 | 56 | 3 | 2.8 | 340 | 48 | 340 | 340 | 340 | 38 | 340 | 340 | 6 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 8.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 6.41 | 126.82 | 7A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 6.04 | 122.20 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 4 | 5 | 121.00 | 9A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 7.57 | 117.67 | 10A | A |
| 1875 | 76 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 7.06 | 112.80 | 11A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 6 | 107.70 | 12A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 54 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 16.1 | 106.29 | 13A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 6.02 | 105.03 | 14A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 8 | 101.27 | 15A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 6 | 98.70 | 16A | A |
| 1875 | 74 | 4.6 | -0.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 28 | 1 | 5.08 | 93.08 | 17A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 48 | 490 | 41 | 490 | 28 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 6 | 93.00 | 18A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 8 | 90.90 | 19A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 6.65 | 89.39 | 20A | A |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 6.1 | 41.87 | 21B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 6.02 | 41.21 | 22B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 85 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 6.41 | 38.42 | 23B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3560 | 6 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 6.0 | 2 | 24 | 4 | 7.36 | 36.11 | 24B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.8 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 7.09 | 36.09 | 25B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 50 | 490 | 490 | 490 | 66 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 6.36 | 35.67 | 26B | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 6.47 | 35.66 | 27B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 6 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 6.02 | 35.50 | 28B | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 5.12 | 35.26 | 29B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14066 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 28 | 1 | 6 | 35.10 | 30B | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 99 | 490 | 38 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 5 | 34.50 | 31B | B |
| 3034 | 63 | -0.4 | -5.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 5.24 | 33.37 | 32B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.6 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 7.31 | 33.34 | 33B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 10.8 | 33.28 | 34B | B |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 28 | 4 | 6.41 | 33.16 | 35B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 8 | 33.00 | 36B | B |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 6.08 | 32.47 | 37B | B |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 6.47 | 31.11 | 38B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 5.07 | 30.07 | 39B | B |
| 1188 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 6 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 6.38 | 28.43 | 40B | B |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 60.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 4.5 | 25.50 | 41C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.6 | 2.0 | 1 | 24 | 9 | 9.34 | 19.06 | 42C | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 30 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 5.13 | 18.13 | 43C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 5.55 | 17.89 | 44C | C |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 4.54 | 17.54 | 45C | C |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.8 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 5.88 | 17.38 | 46C | C |
| 1188 | 60 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 60 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 4.53 | 17.03 | 47C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 8 | 17.00 | 48C | C |
| 1875 | 26 | -0.4 | -0.8 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 8.26 | 16.90 | 49C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 188 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.62 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 7.05 | 16.82 | 50C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 5.24 | 16.74 | 51C | C |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 5.06 | 16.57 | 52C | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 5 | 16.50 | 53C | C |
| 1875 | 38 | 10.6 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 6.25 | 16.25 | 54C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 5.73 | 15.73 | 55C | C |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 6 | 1 | 6.02 | 15.34 | 56C | C |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 5.04 | 15.04 | 57C | C |
| 2378 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 6 | 14.46 | 58C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 6.83 | 14.02 | 59C | C |
| 3034 | 66 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 70 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 10.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 11 | 12.80 | 60C | C |
| 1875 | 60 | -3.4 | -1.4 | 490 | 65 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 6.14 | 10.66 | 61D | D |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 69 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 701 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 4.55 | 10.55 | 62D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 6 | 10.50 | 63D | D |
| 73 | 66 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 7 | 9.80 | 64D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | -2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 560.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 7 | 9.79 | 65D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.80 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 6 | 9.40 | 66D | D |
| 2 | 87 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 5.17 | 9.17 | 67D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 6 | 8.02 | 68D | D |
| 73 | 66 | 7.2 | -5.6 | 180 | 62 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 6.16 | 8.46 | 69D | D |
| 1188 | 46 | 1.6 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 7.78 | 8.43 | 70D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 8.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 5.06 | 8.06 | 71D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 5 | 7.92 | 72D | D |
| 10606 | 80 | 3.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 8.03 | 6.65 | 73D | D |
| 1188 | 75 | 2.6 | 2 | 490 | 103 | 490 | 38 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.8 | 0 | 0.16 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 4.57 | 6.26 | 74D | D |
| 1188 | 42 | 8 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 7.99 | 4.35 | 75D | D |
| 0 | 70 | 2.4 | 0.8 | 285 | 285 | 285 | 28 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 360.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 8.13 | 3.81 | 76D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 748 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 8.08 | 2.26 | 77D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 48 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 7 | 1.75 | 78D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 7 | 1.45 | 79D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 7 | 1.15 | 80D | D |

## Table 5

### 5 * 1/sin Θ

### Angle Element Computer Iteration; coefficient = 5.0

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SO | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | RI | Cr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 66 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 267 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.6 | 20 | 1.6 | 6.5 | 2 | 55 | 1 | 9.01 | 200.82 | 1A | A |
| 2378 | 46 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 10.7 | 179.43 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 11.5 | 177.04 | 4A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 9.15 | 174.00 | 3A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 60.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 15 | 153.77 | 5A | A |
| 3000 | 90 | 2.6 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 12 | 141.40 | 6A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 6 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 10 | 133.69 | 7A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 6 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 60.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 128.95 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 8 | 124.30 | 9A | A |
| 1875 | 51 | -0.6 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2800 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.6 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 11.4 | 121.38 | 10A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 48 | 265 | 50 | 265 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 10.2 | 114.09 | 11A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 6.3 | 4.9 | 7 | 4 | 14 | 113.27 | 15A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 9 | 113.10 | 12A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 19.1 | 111.84 | 13A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 9.06 | 109.29 | 14A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 88 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 9 | 105.00 | 16A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 9 | 99.00 | 18A | A |
| 1875 | 74 | 4.6 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 28 | 1 | 8.2 | 96.20 | 17A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 9 | 93.90 | 19A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 10.6 | 91.18 | 20A | A |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 9.26 | 50.07 | 21B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 18 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 9.04 | 42.42 | 22B | B |
| 1875 | 54 | 0.6 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 10.2 | 40.85 | 27B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 6.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 10.2 | 39.23 | 25B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 9.05 | 38.92 | 28B | B |
| 2378 | 71 | 5.6 | -2.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 8.29 | 36.43 | 29B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 6.81 | 36.42 | 32B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3560 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 6.0 | 2 | 24 | 4 | 10.9 | 36.13 | 24B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 85 | 490 | 61 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 10 | 37.51 | 23B | B |
| 3049 | 87 | 2.2 | -2.6 | 490 | 90 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.36 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 6.01 | 37.51 | 31B | B |
| 73 | 48 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 600 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20936 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 15 | 37.45 | 34B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.6 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 10.6 | 37.15 | 33B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 9.96 | 36.74 | 26B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14966 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 26 | 1 | 9 | 36.45 | 30B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 11 | 36.00 | 36B | B |
| 16 | 56 | 0 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 26 | 4 | 10 | 34.81 | 35B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 8.93 | 33.93 | 39B | B |
| 1188 | 74 | 5 | -4.2 | 265 | 29 | 265 | 29 | 265 | 265 | 265 | 265 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 9.2 | 33.72 | 37B | B |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4976 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 10.2 | 32.89 | 38B | B |
| 1188 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 6 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 12.2 | 32.26 | 40B | B |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 7.5 | 28.50 | 41C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.6 | 2.0 | 1 | 24 | 9 | 17.3 | 23.41 | 42C | C |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 66 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.67 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 10.2 | 21.70 | 46C | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 8.32 | 21.32 | 43C | C |
| 1875 | 36 | 10.6 | 0 | 490 | 76 | 490 | 49 | 490 | 76 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 11.1 | 21.12 | 54C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 8.83 | 20.96 | 44C | C |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 7.61 | 20.61 | 45C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 8.81 | 20.11 | 51C | C |
| 1188 | 80 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 7.56 | 20.06 | 47C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 66 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 11 | 20.00 | 48C | C |
| 73 | 78 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 36 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20936 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 8.15 | 19.97 | 52C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 9.84 | 19.84 | 56C | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 8.01 | 19.51 | 53C | C |
| 1875 | 28 | -0.4 | -0.8 | 575 | 36 | 575 | 575 | 575 | 575 | 575 | 96 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 14.7 | 19.46 | 49C | C |
| 73 | 78 | 2 | -7.2 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 8.11 | 18.11 | 57C | C |
| 73 | 77 | 0.6 | 4 | 445 | 445 | 445 | 166 | 445 | 46 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 10.1 | 17.74 | 50C | C |
| 1188 | 61 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 600 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 8 | 1 | 9.06 | 16.56 | 58C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 11.1 | 16.39 | 59C | C |
| 2378 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 6 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 9 | 15.66 | 58C | C |
| 3004 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 76 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4005 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 14 | 14.00 | 60C | C |
| 14 | 77 | 2.6 | -2.4 | 490 | 58 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 7.63 | 13.63 | 62D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 9 | 13.50 | 63D | D |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 8.43 | 12.43 | 67D | D |
| 1875 | 60 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 9.36 | 11.94 | 61D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 8.2 | 11.20 | 71D | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 600 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 10 | 11.00 | 64D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 9 | 10.60 | 66D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9 | 10.12 | 68D | D |
| 1188 | 46 | 1.6 | -0.4 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 12 | 10.10 | 70D | D |
| 10600 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.6 | 0 | 0.43 | 0.5 | 560.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 10 | 10.00 | 65D | D |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.6 | 0 | 0.46 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 9.30 | 9.76 | 69D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 8 | 9.24 | 72D | D |
| 1188 | 75 | 2.6 | 2 | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 7.66 | 7.19 | 74D | D |
| 10600 | 80 | 3.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 11.1 | 6.80 | 73D | D |
| 1188 | 42 | 6 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 6 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 12.5 | 4.57 | 75D | D |
| 0 | 70 | 2.6 | 0.6 | 265 | 265 | 265 | 26 | 265 | 265 | 265 | 265 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 11.3 | 3.77 | 76D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 6 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 11.2 | 2.42 | 77D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 10 | 1.90 | 78D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 10 | 1.60 | 79D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 10 | 1.30 | 80D | D |

## Table 6
### 2 * GRD
### Grade Element Computer Iteration; coefficient = 2.0

| HazMat | Angle | A% | B% | NW MS | NW MO | NE MS | NE MO | SE MS | SE MO | SW MS | SW MO | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 88 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.8 | 6.5 | 2 | 55 | 1 | 17.4 | 214.26 | 1A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 19.6 | 197.92 | 3A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 13.5 | 187.55 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 11.5 | 177.04 | 4A | A |
| 3009 | 90 | 2.6 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 25.2 | 158.86 | 6A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 15 | 153.77 | 5A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 27.4 | 140.22 | 12A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 8.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 10.6 | 135.21 | 7A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 128.95 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 10 | 126.50 | 9A | A |
| 1875 | 74 | 4.6 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 26 | 1 | 36.2 | 124.20 | 17A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.6 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 13 | 122.91 | 10A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.6 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 18.7 | 122.73 | 14A | A |
| 1875 | 76 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 490.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 10.2 | 114.09 | 11A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 29 | 113.90 | 19A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 14 | 113.27 | 15A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.6 | 7.0 | 4 | 9 | 1 | 19.1 | 111.84 | 13A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 625 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 11.4 | 110.04 | 16A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 82 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 11.4 | 103.80 | 18A | A |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 28.5 | 99.99 | 21B | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 14.6 | 92.98 | 20A | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 23 | 58.77 | 27B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 27.4 | 56.43 | 25B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 31 | 56.00 | 36B | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 25.1 | 55.23 | 29B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 29.7 | 54.73 | 39B | B |
| 3034 | 63 | -0.4 | -6.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 19 | 54.02 | 32B | B |
| 9136 | 62 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 20.2 | 51.24 | 28B | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 99 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 18 | 47.51 | 31B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 108 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 21 | 47.22 | 22B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 100 | 51 | 0 | 600 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 21 | 43.45 | 34B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 6 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 20.1 | 43.37 | 24B | B |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 29 | 42.85 | 52C | B |
| 1875 | 38 | 10.6 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 32.7 | 42.72 | 54C | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 14.4 | 41.11 | 33B | B |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.56 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 27.6 | 41.06 | 37B | B |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 29.4 | 40.90 | 40C | B |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 27.8 | 39.31 | 51C | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 15.4 | 38.36 | 26B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 10 | 37.51 | 23B | B |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 26.5 | 36.51 | 57C | C |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5600 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14986 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 26 | 1 | 9 | 36.45 | 30B | C |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 22.8 | 35.81 | 45C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 25.4 | 35.44 | 55C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 23 | 35.36 | 44C | C |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 26 | 4 | 10 | 34.61 | 35B | C |
| 1188 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 6 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 14.4 | 34.46 | 40B | C |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 126.0 | 20 | 1.2 | 6.3 | 2 | 25 | 4 | 10.2 | 32.89 | 36B | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 17.9 | 30.92 | 43C | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 9.5 | 30.50 | 41C | C |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 26.6 | 29.60 | 71D | C |
| 16 | 67 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 13 | 24.51 | 53C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 15.4 | 24.40 | 48C | C |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.58 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 18 | 24.00 | 62D | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 1 | 24 | 9 | 17.3 | 23.41 | 42C | C |
| 1188 | 80 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.08 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 8.38 | 20.88 | 47C | C |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 16.4 | 20.43 | 67D | C |
| 73 | 68 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 35 | 20.00 | 69D | C |
| 1875 | 26 | -0.4 | -0.8 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 15.5 | 19.78 | 49C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 16.5 | 19.66 | 50C | C |
| 2378 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 16.2 | 18.54 | 56C | D |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 25.2 | 18.48 | 60C | D |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 600 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 8 | 1 | 13.5 | 18.32 | 58C | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 24.8 | 16.92 | 84D | D |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 11.1 | 16.39 | 59C | D |
| 1875 | 69 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 13.4 | 13.54 | 81D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 9 | 13.50 | 83D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 13.8 | 12.52 | 66D | D |
| 1188 | 46 | 1.6 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 16 | 11.70 | 70D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.6 | 0 | 0.43 | 0.5 | 560.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 19.2 | 10.86 | 65D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9 | 10.12 | 68D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 6.4 | 9.42 | 72D | D |
| 1188 | 75 | 2.6 | 2 | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 8.88 | 7.56 | 74D | D |
| 10606 | 80 | 3.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 25.9 | 7.54 | 73D | D |
| 1188 | 42 | 6 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 6 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 26.5 | 5.37 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 26 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 360.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 15.3 | 3.97 | 76D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 33.6 | 3.54 | 77D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 40.4 | 3.42 | 78D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 36 | 490 | 26 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 31.2 | 2.36 | 80D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 10 | 1.80 | 79D | D |

## Table 7

### 2.5 * GRD

### Grade Element Computer Iteration; coefficient = 2.5

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 267 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.6 | 6.5 | 2 | 55 | 1 | 19.5 | 217.82 | 1A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 22.2 | 200.90 | 3A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 14.2 | 189.58 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 11.5 | 177.04 | 4A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 8.8 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 28.5 | 164.50 | 8A | A |
| 9136 | 90 | 8.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 32 | 154.50 | 12A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 15 | 153.77 | 5A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 11 | 135.59 | 7A | A |
| 1875 | 74 | 4.8 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 28 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 28 | 1 | 43.2 | 131.20 | 17A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6588 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 128.95 | 6A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 10.5 | 127.05 | 9A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 21.1 | 126.09 | 14A | A |
| 1875 | 51 | -0.6 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2800 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 13.4 | 123.30 | 10A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 34 | 118.90 | 19A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 48 | 265 | 50 | 265 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 10.2 | 114.09 | 11A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 14 | 113.27 | 15A | A |
| 1875 | 72 | 8.6 | -3 | 180 | 180 | 180 | 76 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 33.3 | 112.47 | 21B | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 19.1 | 111.84 | 13A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 62 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 12 | 111.30 | 16A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 12 | 106.00 | 18A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 164.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 15.6 | 90.43 | 20A | B |
| 1875 | 54 | 0.6 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 26.2 | 63.25 | 27B | B |
| 3034 | 90 | 5 | -6 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 36 | 61.00 | 36B | B |
| 1875 | 73 | 3.8 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.8 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 31.7 | 60.73 | 25B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 34.9 | 59.93 | 39B | B |
| 2378 | 71 | 5.6 | -2.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 29.3 | 59.43 | 29B | B |
| 3034 | 83 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 21.6 | 57.92 | 32B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 23 | 54.32 | 28B | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 89 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 20.5 | 50.01 | 31B | B |
| 73 | 78 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20936 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 34.2 | 48.57 | 52C | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 24 | 48.42 | 22B | B |
| 1875 | 38 | 10.6 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 38.1 | 48.12 | 54C | B |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 34.2 | 45.70 | 46C | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20036 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 22.5 | 44.95 | 34B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.98 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 22.4 | 44.89 | 24B | B |
| 16 | 63 | 8 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 32.6 | 44.11 | 51C | B |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 32.2 | 42.92 | 37B | B |
| 73 | 80 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 15.3 | 42.10 | 33B | B |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 265 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 31.1 | 41.11 | 57C | B |
| 1875 | 78 | 3.8 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 26.6 | 39.81 | 45C | B |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 84 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 29.3 | 39.34 | 55C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 26.8 | 38.96 | 44C | C |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 16.7 | 38.76 | 26B | C |
| 1875 | 58 | 4 | 4 | 490 | 50 | 490 | 85 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 10 | 37.51 | 23B | C |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14968 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 26 | 1 | 9 | 36.45 | 30B | C |
| 1188 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 13 | 35.01 | 40B | C |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 80.0 | 10 | 1 | 8.5 | 2.5 | 28 | 4 | 10 | 34.81 | 35B | C |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 31.2 | 34.20 | 71D | C |
| 1875 | 70 | 3.8 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 20.3 | 33.32 | 43C | C |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 10.2 | 32.89 | 38B | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 10 | 31.00 | 41C | C |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.58 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 20.8 | 26.83 | 62D | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 14.3 | 25.76 | 53C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 16.5 | 25.50 | 48C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 1 | 24 | 9 | 17.3 | 23.41 | 42C | C |
| 73 | 66 | 7.2 | -6.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 41.4 | 22.56 | 69D | C |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 18.4 | 22.43 | 67D | C |
| 1188 | 60 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 8.58 | 21.06 | 47C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 18.1 | 20.14 | 50C | C |
| 1875 | 26 | -0.4 | -0.8 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 15.7 | 19.86 | 49C | C |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.8 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 28 | 19.80 | 60C | D |
| 2378 | 90 | 3.8 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.8 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 18 | 19.26 | 58C | D |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 65 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 8 | 1 | 14.8 | 18.76 | 56C | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 28.5 | 18.40 | 64D | D |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 162 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 11.1 | 16.39 | 59C | D |
| 1875 | 69 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 14.4 | 13.94 | 61D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 18.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 9 | 13.50 | 63D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 15 | 13.00 | 66D | D |
| 1188 | 46 | 1.6 | -0.4 | 285 | 285 | 265 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 162 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 17 | 12.10 | 70D | D |
| 10006 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 21.5 | 10.81 | 65D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9 | 10.12 | 68D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 8.5 | 9.46 | 72D | D |
| 10006 | 80 | 3.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 29.8 | 7.72 | 73D | D |
| 1188 | 75 | 2.8 | 2 | 490 | 103 | 490 | 36 | 490 | 58 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.8 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9.18 | 7.84 | 74D | D |
| 1188 | 42 | 8 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 265 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 32.5 | 5.57 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 26 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 360.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 18.3 | 4.02 | 76D | D |
| 2378 | 74 | 7.8 | -3.8 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 748 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 39.2 | 3.82 | 77D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 48 | 3.80 | 78D | D |
| 1875 | 90 | 3.8 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 36.5 | 2.83 | 80D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 10 | 1.60 | 79D | D |

# Table 8
## 3 * GRD
## Grade Element Computer Iteration; coefficient = 3.0

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | FI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 66 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.78 | 10 | 309.8 | 20 | 1.6 | 6.5 | 2 | 55 | 1 | 21.8 | 220.96 | 1A | A |
| 18 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 24.8 | 209.86 | 3A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 850 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 14.9 | 191.61 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23028 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 11.3 | 177.04 | 4A | A |
| 3009 | 90 | 2.6 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 31.6 | 169.12 | 6A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.6 | 15.3 | 5.5 | 7 | 1 | 36.6 | 162.76 | 12A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 15 | 153.77 | 5A | A |
| 1875 | 74 | 4.6 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 28 | 1 | 50.2 | 138.20 | 17A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 8.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 11.2 | 135.97 | 7A | A |
| 3009 | 61 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 23.5 | 129.45 | 14A | A |
| 65 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 128.95 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 11 | 127.60 | 9A | A |
| 1875 | 72 | 6.8 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.8 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 36.1 | 124.95 | 21B | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 39 | 123.90 | 19A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 13.8 | 123.66 | 10A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 48 | 265 | 50 | 265 | 42 | 76 | 12478 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 490.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 10.2 | 114.09 | 11A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 14 | 113.27 | 15A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 60 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 6 | 1 | 12.6 | 112.56 | 16A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 19.1 | 111.84 | 13A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 12.8 | 106.20 | 18A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 16.6 | 93.88 | 20A | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 29.4 | 67.73 | 27B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 41 | 66.00 | 36B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 40.1 | 65.13 | 39B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 36 | 65.00 | 25B | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 33.5 | 63.83 | 29B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 24.2 | 61.82 | 32B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 6 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 25.8 | 57.40 | 28B | B |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 30.4 | 54.29 | 52C | B |
| 1875 | 38 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 43.5 | 53.52 | 54C | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 98 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 23 | 52.51 | 31B | B |
| 18 | 44 | 2 | -7.8 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.8 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 39 | 50.50 | 46C | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 27 | 49.62 | 22B | B |
| 18 | 83 | 5 | -4.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.8 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 37.4 | 48.91 | 51C | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 84 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 24 | 46.45 | 34B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 24.7 | 46.00 | 24B | B |
| 73 | 78 | 2 | -7.2 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 35.7 | 45.71 | 57C | B |
| 1188 | 74 | 5 | -4.2 | 265 | 29 | 265 | 29 | 265 | 265 | 265 | 265 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 36.8 | 44.76 | 37B | B |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 30.4 | 43.41 | 45C | B |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 84 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 33.2 | 43.24 | 55C | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 16.2 | 43.09 | 33B | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 30.2 | 42.56 | 44C | C |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 18.1 | 39.17 | 26B | C |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 35.6 | 38.80 | 71D | C |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 10 | 37.51 | 23B | C |
| 65 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14968 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 28 | 1 | 9 | 36.45 | 30B | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 22.7 | 35.72 | 43C | C |
| 1188 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 32 | 490 | 70 | 490 | 37 | 0 | 20 | 6 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 15.5 | 35.56 | 40B | C |
| 18 | 56 | 0 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 28 | 4 | 10 | 34.81 | 35B | C |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 10.2 | 32.89 | 36B | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 10.5 | 31.50 | 41C | C |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 23.2 | 29.23 | 82D | C |
| 18 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 15.5 | 27.01 | 53C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 87 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 17.6 | 26.60 | 48C | C |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 69 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 47.6 | 25.12 | 69D | C |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 16 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 20.4 | 24.43 | 67D | C |
| 65 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.6 | 2.0 | 1 | 24 | 9 | 17.3 | 23.41 | 42C | C |
| 1188 | 80 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 6.78 | 21.28 | 47C | C |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 8 | 2 | 2 | 3 | 40 | 1 | 4096 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 30.8 | 20.72 | 60C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 19.7 | 20.82 | 50C | C |
| 2378 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 19.8 | 19.96 | 58C | D |
| 1875 | 28 | -0.4 | -0.8 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 15.9 | 19.94 | 49C | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 32.2 | 19.86 | 84D | D |
| 1188 | 81 | 1 | -1.2 | 490 | 55 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 8 | 1 | 15.7 | 19.20 | 56C | D |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 11.1 | 16.39 | 59C | D |
| 1875 | 60 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 15.4 | 14.34 | 81D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 9 | 13.50 | 83D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 16.2 | 13.48 | 86D | D |
| 1188 | 46 | 1.6 | -0.4 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 18 | 12.50 | 70D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.6 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 23.8 | 10.97 | 65D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9 | 10.12 | 88D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 8.6 | 9.50 | 72D | D |
| 10606 | 80 | 3.6 | -3.8 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 33.3 | 7.91 | 73D | D |
| 1188 | 75 | 2.6 | 2 | 490 | 103 | 490 | 38 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9.46 | 7.73 | 74D | D |
| 1188 | 42 | 8 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 36.5 | 5.77 | 75D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 46.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 55.6 | 4.18 | 78D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 44.8 | 4.10 | 77D | D |
| 0 | 70 | 2.6 | 0.6 | 265 | 265 | 265 | 26 | 265 | 265 | 265 | 265 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 17.3 | 4.07 | 76D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 38 | 490 | 26 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 41.6 | 2.89 | 80D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 10 | 1.80 | 79D | D |

# Table 9
## 4 * GRD
## Grade Element Computer Iteration; coefficient = 4.0

| HazMat | Angle | A% | B% | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | FI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 66 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.8 | 6.5 | 2 | 56 | 1 | 25.8 | 227.70 | 1A | A |
| 18 | 76 | 1.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 30 | 221.84 | 3A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 16.3 | 195.67 | 2A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 45.8 | 179.34 | 12A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 103 | 180 | 58 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.8 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 38.4 | 178.36 | 6A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 11.5 | 177.04 | 4A | A |
| 1168 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.8 | 16.1 | 2 | 14 | 1 | 15 | 153.77 | 5A | A |
| 1875 | 74 | 4.8 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 26 | 1 | 64.2 | 152.20 | 17A | A |
| 1875 | 72 | 8.8 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 47.7 | 149.91 | 21B | A |
| 9136 | 58 | 3 | 2.8 | 340 | 48 | 340 | 340 | 340 | 38 | 340 | 340 | 8 | 150 | 8 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 11.6 | 136.73 | 7A | A |
| 3009 | 61 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 28.3 | 136.17 | 14A | A |
| 1168 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 49 | 133.90 | 19A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 60.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 128.95 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 38 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 12 | 126.70 | 9A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 14.6 | 124.45 | 10A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 13.8 | 115.08 | 16A | A |
| 1875 | 76 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 10.2 | 114.09 | 11A | A |
| 1168 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 14 | 113.27 | 15A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 19.1 | 111.84 | 13A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 48 | 490 | 41 | 490 | 28 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 13.8 | 108.00 | 18A | A |
| 73 | 40 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 61 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 18.8 | 94.78 | 20A | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 35.8 | 78.69 | 27B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 51 | 76.00 | 36B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 33 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 50.5 | 75.53 | 39B | B |
| 1875 | 73 | 3.8 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.8 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 44.8 | 73.83 | 25B | B |
| 2378 | 71 | 5.8 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 41.9 | 72.03 | 29B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 29.4 | 69.62 | 32B | B |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20936 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 49.8 | 65.73 | 52C | B |
| 1875 | 38 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 54.3 | 64.32 | 54C | B |
| 9136 | 82 | 5.8 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 8 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.8 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 31.4 | 63.56 | 28B | B |
| 18 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 48.8 | 60.10 | 46C | B |
| 18 | 63 | 5 | -4.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.8 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 47 | 58.51 | 51C | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 90 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 28 | 57.51 | 31B | B |
| 73 | 76 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 44.9 | 54.91 | 57C | B |
| 3034 | 63 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 108 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 33 | 52.02 | 22B | B |
| 1875 | 47 | 3.8 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 41 | 51.04 | 55C | B |
| 1875 | 76 | 3.8 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 38 | 51.01 | 45C | B |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 37.4 | 49.76 | 44C | B |
| 73 | 48 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20936 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 27 | 49.45 | 34B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 29.3 | 48.82 | 24B | B |
| 1168 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 46 | 48.44 | 37B | C |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 45 | 48.00 | 71D | C |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 18 | 45.07 | 33B | C |
| 1875 | 70 | 3.8 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 27.5 | 40.52 | 43C | C |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 20.8 | 39.96 | 26B | C |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 85 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 10 | 37.51 | 23B | C |
| 1168 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 16.6 | 36.66 | 40B | C |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14988 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 28 | 1 | 9 | 36.45 | 30B | C |
| 18 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 28 | 4 | 10 | 34.61 | 35B | C |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 26.4 | 34.43 | 62D | C |
| 1168 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 8 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4976 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 10.2 | 32.89 | 38B | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 11.5 | 32.50 | 41C | C |
| 73 | 68 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 60.8 | 30.24 | 69D | C |
| 18 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 18 | 29.51 | 53C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 68 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 19.8 | 28.80 | 48C | C |
| 2 | 87 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.76 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 24.4 | 28.43 | 67D | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 1 | 24 | 9 | 17.3 | 23.41 | 42C | C |
| 3034 | 66 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 466 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.8 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 36.4 | 22.96 | 60C | C |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 600 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 39.6 | 22.84 | 64D | C |
| 1168 | 60 | 6 | 5.8 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 9.18 | 21.68 | 47C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 188 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 22.9 | 21.56 | 50C | D |
| 2378 | 90 | 3.8 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 23.4 | 21.42 | 58C | D |
| 1875 | 28 | -0.4 | -0.8 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 18.3 | 20.10 | 49C | D |
| 1168 | 81 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 8 | 1 | 17.9 | 20.08 | 56C | D |
| 1168 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 11.1 | 16.39 | 59C | D |
| 1875 | 60 | -3.4 | -1.4 | 490 | 65 | 490 | 108 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 17.4 | 15.14 | 61D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.80 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 18.8 | 14.44 | 66D | D |
| 3000 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 18.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 9 | 13.50 | 63D | D |
| 1168 | 46 | 1.6 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 20 | 13.30 | 70D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 28.4 | 11.29 | 65D | D |
| 1168 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9 | 10.12 | 68D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 8.8 | 9.59 | 72D | D |
| 10606 | 60 | 3.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 40.7 | 8.28 | 73D | D |
| 1168 | 75 | 2.8 | 2 | 490 | 103 | 490 | 38 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.8 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 10.1 | 7.91 | 74D | D |
| 1168 | 42 | 8 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 44.5 | 6.17 | 75D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 70.8 | 4.94 | 78D | D |
| 2378 | 74 | 7.8 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 56 | 4.86 | 77D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 28 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 19.3 | 4.17 | 76D | D |
| 1875 | 90 | 3.8 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 52.4 | 3.42 | 80D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 8 | 1 | 10 | 1.60 | 79D | D |

# Table 10
## 5 * GRD
## Grade Element Computer Iteration; coefficient = 5.0

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | FI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 35.2 | 233.80 | 3A | A |
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.6 | 6.5 | 2 | 55 | 1 | 25.8 | 227.70 | 1A | A |
| 2376 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 17.7 | 199.73 | 2A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 8 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.06 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 55 | 195.90 | 12A | A |
| 3009 | 90 | 2.6 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 45 | 187.60 | 6A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23028 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 11.5 | 177.04 | 4A | A |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.8 | 4.0 | 3 | 2 | 1 | 57.3 | 174.87 | 21B | A |
| 1875 | 74 | 4.8 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 28 | 1 | 78.2 | 166.20 | 17A | A |
| 1166 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 15 | 153.77 | 5A | A |
| 1166 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 59 | 143.90 | 19A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 33.1 | 142.80 | 14A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 12 | 137.49 | 7A | A |
| 3040 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 13 | 129.80 | 9A | A |
| 65 | 76 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 6 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 128.95 | 8A | A |
| 1875 | 51 | -0.6 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 350 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.6 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 15.4 | 125.22 | 10A | A |
| 3034 | 90 | 0.4 | -0.6 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 15 | 117.60 | 16A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 46 | 265 | 50 | 265 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 10.2 | 114.09 | 11A | A |
| 1166 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 14 | 113.27 | 15A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 19.1 | 111.84 | 13A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 82 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 15 | 111.00 | 18A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 20.6 | 95.66 | 20A | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 61 | 86.00 | 36B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 60.9 | 85.93 | 39B | B |
| 1875 | 54 | 0.6 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 42.2 | 85.65 | 27B | B |
| 1875 | 73 | 3.6 | -6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 6.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 53.2 | 82.23 | 25B | B |
| 2376 | 71 | 5.6 | -2.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 6.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 50.3 | 80.43 | 29B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 34.6 | 77.42 | 32B | B |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 60 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20906 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 60.2 | 77.17 | 52C | B |
| 1875 | 36 | 10.6 | 0 | 490 | 76 | 490 | 49 | 490 | 76 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 65.1 | 75.12 | 54C | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 6 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 37 | 69.72 | 28B | B |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 66 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 58.2 | 69.70 | 46C | B |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 56.6 | 68.11 | 51C | B |
| 73 | 76 | 2 | -7.2 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 54.1 | 64.11 | 57C | B |
| 3040 | 67 | 2.2 | -2.8 | 490 | 99 | 490 | 30 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 33 | 62.51 | 31B | B |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 48.6 | 58.84 | 56C | B |
| 1875 | 76 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 45.6 | 58.81 | 45C | B |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 54.2 | 57.20 | 71D | B |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 44.6 | 56.96 | 44C | B |
| 3034 | 63 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 39 | 54.42 | 22B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 30 | 52.45 | 34B | B |
| 1166 | 74 | 5 | -4.2 | 265 | 20 | 265 | 29 | 265 | 265 | 265 | 265 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 56.2 | 52.12 | 37B | C |
| 1875 | 56 | 0 | -4.6 | 340 | 264 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 33.9 | 51.24 | 24B | C |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.6 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 19.6 | 47.05 | 33B | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 32.3 | 45.32 | 43C | C |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 66 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 23.5 | 40.79 | 26B | C |
| 14 | 77 | 2.6 | -2.4 | 490 | 50 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 33.6 | 39.83 | 82D | C |
| 1166 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 17.7 | 37.76 | 40B | C |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 61 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 16.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 10 | 37.51 | 23B | C |
| 65 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5600 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14966 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 28 | 1 | 9 | 36.45 | 30B | C |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 56 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.6 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 73.4 | 35.36 | 69D | C |
| 16 | 56 | 0 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 26 | 4 | 10 | 34.81 | 35B | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 12.5 | 33.50 | 41C | C |
| 1166 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 8 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 10.2 | 32.89 | 38B | C |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 16 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 28.4 | 32.43 | 67D | C |
| 16 | 67 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.86 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 20.5 | 32.01 | 53C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 66 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 22 | 31.00 | 48C | C |
| 73 | 66 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 47 | 25.80 | 84D | C |
| 3034 | 66 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 42 | 25.20 | 80C | C |
| 65 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 1 | 24 | 9 | 17.3 | 23.41 | 42C | C |
| 2376 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 6 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 27 | 22.66 | 58C | C |
| 73 | 77 | 0.6 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 26.1 | 22.54 | 50C | D |
| 1166 | 60 | 6 | 6.6 | 490 | 22 | 490 | 31 | 490 | 26 | 490 | 26 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 9.56 | 22.06 | 47C | D |
| 1166 | 61 | 1 | -1.2 | 490 | 35 | 490 | 56 | 490 | 28 | 490 | 28 | 0 | 800 | 8 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 6 | 1 | 20.1 | 20.96 | 56C | D |
| 1875 | 26 | -0.4 | -0.6 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 16.7 | 20.26 | 49C | D |
| 1166 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 11.1 | 18.39 | 59C | D |
| 1875 | 60 | -3.4 | -1.4 | 490 | 55 | 490 | 100 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 19.4 | 15.94 | 61D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 21 | 15.40 | 60D | D |
| 1166 | 46 | 1.6 | -0.4 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 22 | 14.10 | 70D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 9 | 13.50 | 63D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.6 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 33 | 11.61 | 65D | D |
| 1166 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9 | 10.12 | 68D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 9 | 9.88 | 72D | D |
| 10006 | 80 | 3.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 48.1 | 8.65 | 73D | D |
| 1166 | 75 | 2.6 | 2 | 490 | 100 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 10.7 | 8.09 | 74D | D |
| 1166 | 42 | 6 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 52.5 | 6.57 | 75D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 66 | 5.70 | 78D | D |
| 2376 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 67.2 | 5.22 | 77D | D |
| 0 | 70 | 2.6 | 0.6 | 265 | 265 | 265 | 26 | 265 | 265 | 265 | 265 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 360.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 21.3 | 4.27 | 76D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 36 | 490 | 26 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 63 | 3.95 | 80D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.63 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 10 | 1.80 | 79D | D |

# Table 11
## 2.25 * GRD
## Grade Element Computer Iteration; coefficient = 2.25

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK % | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.6 | 20 | 1.6 | 6.5 | 2 | 56 | 1 | 18.5 | 215.94 | 1A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 20.9 | 200.91 | 3A | A |
| 2378 | 46 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 6 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 13.9 | 186.56 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 11.5 | 177.04 | 4A | A |
| 3000 | 90 | 2.6 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 26.9 | 162.19 | 6A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 15 | 153.77 | 5A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.6 | 15.3 | 5.5 | 7 | 1 | 29.7 | 150.36 | 12A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 10.9 | 136.40 | 7A | A |
| 65 | 76 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 128.95 | 8A | A |
| 1875 | 74 | 4.6 | -0.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 26 | 1 | 30.7 | 127.70 | 17A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 10.3 | 126.76 | 9A | A |
| 3000 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 19.9 | 124.41 | 14A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 203 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2800 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 13.2 | 123.10 | 10A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 31.5 | 116.40 | 19A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 46 | 265 | 50 | 265 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 10.2 | 114.09 | 11A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 14 | 113.27 | 15A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.6 | 7.0 | 4 | 9 | 1 | 19.1 | 111.84 | 13A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 625 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 6 | 1 | 11.7 | 110.87 | 16A | A |
| 1875 | 72 | 0.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 30.9 | 106.23 | 21B | A |
| 9136 | 90 | 0 | 1.2 | 490 | 82 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 11.7 | 104.40 | 18A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 15.1 | 93.21 | 20A | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 24.6 | 61.01 | 27B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 6.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 29.6 | 58.56 | 25B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 33.5 | 56.50 | 36B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 32.3 | 57.33 | 39B | B |
| 2378 | 71 | 5.6 | -2.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 6 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 27.2 | 57.33 | 29B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 20.3 | 55.97 | 32B | B |
| 9136 | 62 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 6 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 21.6 | 52.76 | 28B | B |
| 3049 | 87 | 2.2 | -2.6 | 490 | 99 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 19.3 | 48.76 | 31B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 22.5 | 47.82 | 22B | B |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 36 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20936 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 31.6 | 45.71 | 52C | B |
| 1875 | 36 | 10.6 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 36.4 | 45.42 | 54C | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20936 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 21.7 | 44.20 | 34B | B |
| 1875 | 56 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3560 | 6 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 21.2 | 44.03 | 24B | B |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 31.6 | 43.30 | 46C | B |
| 1188 | 74 | 5 | -4.2 | 265 | 29 | 265 | 29 | 265 | 265 | 265 | 265 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 29.9 | 42.00 | 37B | B |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 30.2 | 41.71 | 51C | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.6 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 14.8 | 41.61 | 33B | B |
| 73 | 78 | 2 | -7.2 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 28.8 | 38.81 | 57C | B |
| 73 | 87 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 16 | 38.56 | 26B | B |
| 1875 | 76 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 24.7 | 37.71 | 45C | C |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 16.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 10 | 37.51 | 23B | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 27.4 | 37.39 | 55C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 24.6 | 37.16 | 44C | C |
| 65 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14966 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 26 | 1 | 9 | 36.45 | 30B | C |
| 1188 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 82 | 490 | 70 | 490 | 37 | 0 | 20 | 6 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 14.7 | 34.73 | 40B | C |
| 16 | 56 | 0 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 26 | 4 | 10 | 34.61 | 35B | C |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4976 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 6.3 | 2 | 25 | 4 | 10.2 | 32.89 | 38B | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 19.1 | 32.12 | 43C | C |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 26.9 | 31.90 | 71D | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 9.75 | 30.75 | 41C | C |
| 14 | 77 | 2.6 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 19.3 | 25.33 | 62D | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 13.6 | 25.13 | 53C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 86 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 16 | 24.95 | 48C | C |
| 65 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.6 | 2.0 | 1 | 24 | 6 | 17.3 | 23.41 | 42C | C |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 16 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 17.4 | 21.43 | 67D | C |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.6 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 36.2 | 21.28 | 69D | C |
| 1188 | 80 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 26 | 490 | 26 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.08 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 8.46 | 20.96 | 47C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 46 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 17.3 | 19.90 | 50C | C |
| 1875 | 26 | -0.4 | -0.6 | 575 | 36 | 575 | 575 | 575 | 575 | 575 | 96 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 6 | 15.6 | 19.82 | 49C | C |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 76 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 26.8 | 19.04 | 60C | D |
| 2378 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 6 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 17.1 | 18.90 | 58C | D |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 26 | 490 | 26 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 6 | 1 | 14 | 18.54 | 56C | D |
| 73 | 66 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 26.7 | 17.86 | 64D | D |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 162 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 11.1 | 16.39 | 59C | D |
| 1875 | 60 | -3.4 | -1.4 | 490 | 56 | 490 | 100 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 13.9 | 13.74 | 61D | D |
| 3000 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 9 | 13.50 | 63D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 14.4 | 12.76 | 66D | D |
| 1188 | 46 | 1.6 | -0.4 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 162 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 16.5 | 11.90 | 70D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 86 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.6 | 0 | 0.43 | 0.5 | 560.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 20.4 | 10.73 | 65D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9 | 10.12 | 68D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 8.45 | 9.44 | 72D | D |
| 10606 | 80 | 3.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 27.7 | 7.83 | 73D | D |
| 1188 | 75 | 2.6 | 2 | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 9.03 | 7.60 | 74D | D |
| 1188 | 42 | 6 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 6 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 30.5 | 5.47 | 75D | D |
| 0 | 70 | 2.6 | 0.6 | 265 | 265 | 265 | 26 | 265 | 265 | 265 | 265 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 360.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 15.6 | 3.99 | 76D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 6 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 36.4 | 3.86 | 77D | D |
| 1875 | 90 | 6.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 44.2 | 3.81 | 78D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 36 | 490 | 26 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 33.9 | 2.49 | 80D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 630 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 10 | 1.60 | 79D | D |

## Table 12

5 * 1/A&SD

## Sight Distance Element Computer Iteration; coef. = 5.0

| HazMat | Angle | A% | B% | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 33 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.6 | 15.3 | 3.5 | 7 | 1 | 10.6 | 287.75 | 12A | A |
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.6 | 20 | 1.6 | 6.5 | 2 | 56 | 1 | 15.6 | 211.31 | 1A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 65 | 211.00 | 18A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 6 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 15.7 | 193.93 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23028 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 16.5 | 188.54 | 4A | A |
| 16 | 78 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 15.4 | 188.26 | 3A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 2 | 14 | 1 | 20 | 166.77 | 5A | A |
| 3009 | 90 | 2.6 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 23.6 | 157.66 | 6A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 6 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 19 | 150.65 | 7A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 24 | 141.90 | 9A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 14.1 | 139.95 | 8A | A |
| 3000 | 61 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 24.1 | 130.29 | 14A | A |
| 1875 | 51 | -0.6 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 350 | 1 | 2800 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 19.7 | 129.32 | 10A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 6 | 1 | 18.4 | 124.77 | 16A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 6.5 | 4.9 | 7 | 4 | 19 | 123.27 | 15A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 58 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.6 | 7.0 | 4 | 9 | 1 | 25.5 | 123.26 | 13A | A |
| 1875 | 78 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 400.0 | 20 | 1.4 | 14.0 | 2.5 | 90 | 1 | 25.4 | 120.51 | 11A | A |
| 1188 | 60 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 97.5 | 109.99 | 47C | A |
| 1875 | 74 | 4.6 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 28 | 1 | 19.9 | 107.92 | 17A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 18 | 1 | 14 | 96.90 | 19A | A |
| 73 | 40 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 15.6 | 93.43 | 20A | B |
| 1188 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 46.2 | 66.29 | 40B | B |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.8 | 4.0 | 3 | 2 | 1 | 16.2 | 66.07 | 21B | B |
| 1875 | 36 | 10.6 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 49.7 | 59.70 | 54C | B |
| 3049 | 67 | 2.2 | -2.6 | 490 | 99 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 22.5 | 51.96 | 31B | B |
| 1875 | 54 | 0.6 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 16.5 | 49.66 | 27B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 61 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 16.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 45.5 | 48.16 | 23B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20936 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 25.2 | 47.74 | 34B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 13.6 | 45.92 | 32B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 108 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 14.8 | 44.72 | 22B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 6 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 14 | 44.42 | 26B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 6.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 15.2 | 44.23 | 25B | B |
| 2378 | 71 | 5.6 | -2.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 6 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 6.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 13.3 | 43.43 | 29B | B |
| 1188 | 61 | 1 | -1.2 | 490 | 35 | 490 | 56 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 6.3 | 3 | 6 | 1 | 76.2 | 43.41 | 50C | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 16.2 | 43.25 | 39B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.6 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 15.6 | 42.65 | 33B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 16.3 | 41.28 | 36B | B |
| 1875 | 56 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 6 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 16.1 | 41.10 | 24B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 24.2 | 41.01 | 28B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 6800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14986 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 26 | 1 | 14 | 38.70 | 30B | B |
| 73 | 78 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20936 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 24.2 | 37.58 | 52C | C |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 18.3 | 37.35 | 37B | C |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 26 | 4 | 15 | 36.81 | 35B | C |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 6.3 | 2 | 25 | 4 | 17.3 | 36.30 | 38B | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 12.5 | 33.50 | 41C | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 30 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.32 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 17.9 | 30.90 | 43C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 19.6 | 29.55 | 55C | C |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 66 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 15.9 | 27.43 | 46C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.6 | 2.0 | 1 | 24 | 9 | 24.5 | 27.28 | 42C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 6.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 18.1 | 27.13 | 48C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 13.6 | 25.98 | 44C | C |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 12.6 | 25.81 | 45C | C |
| 16 | 87 | 0 | -2.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 13.7 | 25.20 | 53C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 13.6 | 25.11 | 51C | C |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 13.1 | 23.11 | 57C | C |
| 1875 | 28 | -0.4 | -0.6 | 575 | 36 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 23.8 | 23.04 | 49C | C |
| 14 | 77 | 2.6 | -2.4 | 490 | 50 | 490 | 50 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 16.6 | 22.56 | 62D | C |
| 73 | 77 | 0.6 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 18.2 | 20.16 | 50C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 16.1 | 19.19 | 59C | C |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 14.9 | 18.88 | 67D | C |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.8 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 26 | 18.79 | 60C | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 14 | 18.50 | 63D | D |
| 2378 | 90 | 3.8 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 6 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.8 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 14 | 17.66 | 58C | D |
| 1875 | 60 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 21.8 | 16.92 | 61D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 13.2 | 16.20 | 71D | D |
| 1188 | 75 | 2.6 | 2 | 490 | 103 | 490 | 38 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.16 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 36 | 15.69 | 74D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.80 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 17.3 | 13.93 | 66D | D |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 56 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 19.7 | 13.68 | 69D | D |
| 73 | 66 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 15.7 | 13.30 | 64D | D |
| 1188 | 46 | 1.6 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 16.3 | 12.86 | 70D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 14.6 | 12.15 | 72D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 14 | 12.12 | 68D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 21.7 | 10.82 | 65D | D |
| 10606 | 80 | 3.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 16.1 | 7.05 | 73D | D |
| 1188 | 42 | 6 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 6 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 6 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 17.5 | 4.82 | 75D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 79.5 | 4.78 | 80D | D |
| 0 | 70 | 2.6 | 0.6 | 285 | 285 | 285 | 28 | 285 | 265 | 285 | 265 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 17.8 | 4.09 | 76D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 48 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 32 | 3.00 | 78D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 6 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 16.2 | 2.67 | 77D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 16 | 1.90 | 79D | D |

# Table 13
## 10 * 1/A%SD
## Sight Distance Element Computer Iteration; coef. = 10.0

| HazMat | Angle | A% | B% | | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | | SB | X_ADT | DT | NT | | TRK | S | LN | CO | SPD | | FC | POP | | FAT | INJ | PDO | | GRD | PT | A%SD | | PI | TCC % | TCC | | AI | TI | SI | EI | A | CI | | PI | | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9136 | 90 | 9.2 | 0 | | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | | 4 | 300 | 6 | 6 | | 1 | 2 | 2 | 7 | 55 | | 1 | 50 | | 0 | 2 | 0 | | 9.2 | 0 | 0.05 | | 10 | 12.0 | 2 | | 1.8 | 15.3 | 5.5 | 7 | 1 | 203 | | 462.41 | | 12A | A |
| 9136 | 90 | 0 | 1.2 | | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | | 2 | 300 | 6 | 6 | | 1 | 2 | 2 | 7 | 55 | | 1 | 50 | | 0 | 2 | 2 | | 1.2 | 0 | 0.09 | | 10 | 12.0 | 2 | | 2 | 13.0 | 5.5 | 5 | 1 | 121 | | 323.00 | | 18A | A |
| 1875 | 86 | 3 | -1.2 | | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | | 32 | 7744 | 4 | 2 | | 1 | 2 | 2 | 7 | 20 | | 3 | 80561 | | 0 | 1 | 2 | | 4.2 | 0 | 0.76 | | 10 | 309.8 | 20 | | 1.6 | 6.5 | 2 | 55 | 1 | 22.1 | | 221.80 | | 1A | A |
| 2378 | 46 | 0 | -1.4 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 1 | 650 | 7 | 6 | | 1 | 2 | 2 | 7 | 70 | | 1 | 50 | | 1 | 3 | 3 | | 1.4 | 0 | 1.00 | | 10 | 26.0 | 3 | | 2.9 | 16.1 | 7 | 5 | 4 | 20.7 | | 208.43 | | 2A | A |
| 16 | 76 | 1.6 | -3.6 | | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | | 0 | 2750 | 2 | 3 | | 1 | 2 | 2 | 7 | 25 | | 4 | 23928 | | 0 | 3 | 1 | | 5.2 | 0 | 0.81 | | 10 | 110.0 | 20 | | 2.3 | 6.5 | 2.5 | 24 | 1 | 21.6 | | 202.52 | | 3A | A |
| 1875 | 42 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 2500 | 3 | 3 | | 1 | 2 | 2 | 7 | 45 | | 3 | 23928 | | 1 | 2 | 1 | | 0 | 0 | 1.00 | | 10 | 100.0 | 10 | | 2.3 | 7.0 | 4.5 | 13 | 4 | 21.5 | | 200.04 | | 4A | A |
| 1188 | 80 | 6 | 5.6 | | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | | 0 | 50 | 4 | 2 | | 1 | 1 | 1 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 0.4 | 0 | 0.06 | | 10 | 2.0 | 1 | | 1 | 6.5 | 3 | 2 | 1 | 187 | | 199.80 | | 47C | A |
| 1188 | 90 | 0 | 0 | | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | | 0 | 2000 | 14 | 2 | | 7 | 2 | 2 | 7 | 20 | | 4 | 45309 | | 0 | 3 | 4 | | 0 | 0 | 1.00 | | 10 | 80.0 | 10 | | 2.6 | 16.1 | 2 | 14 | 1 | 25 | | 179.77 | | 5A | A |
| 3009 | 90 | 2.6 | -4 | | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | | 7 | 1300 | 4 | 4 | | 4 | 2 | 2 | 7 | 40 | | 3 | 21732 | | 0 | 1 | 0 | | 6.6 | 0 | 0.43 | | 10 | 52.0 | 10 | | 1.4 | 9.0 | 4 | 20 | 1 | 35.2 | | 173.92 | | 6A | A |
| 9136 | 56 | 3 | 2.6 | | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | | 8 | 150 | 6 | 6 | | 1 | 2 | 2 | 7 | 45 | | 1 | 50 | | 1 | 1 | 1 | | 0.4 | 0 | 0.56 | | 10 | 6.0 | 1 | | 1.9 | 15.3 | 4.5 | 10 | 4 | 27.9 | | 167.80 | | 7A | A |
| 3049 | 90 | -3 | -4 | | 340 | 181 | 340 | 62 | 340 | 35 | 340 | 127 | | 21 | 250 | 4 | 4 | | 1 | 1 | 2 | 7 | 40 | | 1 | 50 | | 0 | 0 | 1 | | 1 | 0 | 0.31 | | 10 | 10.0 | 2 | | 1.1 | 9.0 | 4 | 24 | 1 | 40 | | 150.50 | | 9A | A |
| 3009 | 81 | 1.4 | -3.4 | | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | | 6 | 1200 | 4 | 4 | | 1 | 2 | 2 | 7 | 40 | | 4 | 21732 | | 0 | 1 | 0 | | 4.8 | 0 | 0.33 | | 10 | 48.0 | 5 | | 1.4 | 9.0 | 4 | 15 | 1 | 30.1 | | 151.29 | | 14A | A |
| 65 | 78 | 0 | 0 | | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | | 8 | 2000 | 2 | 0 | | 1 | 2 | 2 | 7 | 25 | | 1 | 6586 | | 0 | 3 | 0 | | 0 | 0 | 1.00 | | 10 | 80.0 | 10 | | 2.2 | 2.0 | 2.5 | 19 | 1 | 19.1 | | 150.96 | | 8A | A |
| 3034 | 90 | 0.4 | -0.8 | | 225 | 62 | 225 | 80 | 225 | 225 | 225 | 62 | | 3 | 825 | 4 | 4 | | 1 | 2 | 2 | 7 | 40 | | 1 | 1322 | | 0 | 2 | 3 | | 1.2 | 0 | 0.53 | | 10 | 33.0 | 4 | | 2.1 | 9.0 | 4 | 6 | 1 | 27.8 | | 144.54 | | 16A | A |
| 1875 | 51 | -0.8 | 0 | | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | | 1 | 2800 | 3 | 3 | | 1 | 2 | 4 | 2 | 45 | | 3 | 52267 | | 2 | 3 | 2 | | 0.8 | 0 | 0.60 | | 3 | 112.0 | 20 | | 3.2 | 7.0 | 4.5 | 24 | 4 | 28 | | 137.27 | | 10A | A |
| 3034 | 77 | 1 | 1 | | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | | 3 | 1063 | 3 | 3 | | 11 | 2 | 2 | 7 | 40 | | 1 | 45309 | | 0 | 2 | 0 | | 0 | 0 | 0.79 | | 10 | 42.5 | 5 | | 1.8 | 7.0 | 4 | 9 | 1 | 31.8 | | 134.89 | | 13A | A |
| 1188 | 30 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 4 | 300 | 6 | 2 | | 1 | 2 | 2 | 7 | 49 | | 1 | 50 | | 0 | 2 | 2 | | 0 | 0 | 1.00 | | 10 | 12.0 | 2 | | 2 | 8.3 | 4.9 | 7 | 4 | 24 | | 133.27 | | 15A | A |
| 1875 | 78 | 0 | 0 | | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | | 76 | 12476 | 14 | 0 | | 1 | 2 | 4 | 2 | 25 | | 3 | 80561 | | 1 | 0 | 0 | | 0 | 0 | 0.33 | | 3 | 490.0 | 20 | | 1.4 | 14.0 | 2.5 | 90 | 1 | 40.7 | | 126.93 | | 11A | A |
| 1875 | 74 | 4.6 | -9.4 | | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | | 26 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 14 | 0 | 0.43 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 28 | 1 | 31.6 | | 119.65 | | 17A | A |
| 1188 | 31 | -0.8 | 1.4 | | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | | 0 | 20 | 6 | 2 | | 1 | 1 | 1 | 7 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 1.1 | 0 | 0.14 | | 10 | 0.8 | 1 | | 1 | 10.3 | 4.9 | 2 | 4 | 84.3 | | 104.32 | | 40B | A |
| 1188 | 90 | 4.6 | -5.4 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 12 | 500 | 4 | 2 | | 1 | 2 | 2 | 7 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 10 | 0 | 1.00 | | 10 | 20.0 | 3 | | 1 | 6.5 | 4.9 | 16 | 1 | 19 | | 103.90 | | 19A | B |
| 1875 | 36 | 10.8 | 0 | | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | | 0 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 10.8 | 0 | 0.13 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 2 | 4 | 86.3 | | 98.29 | | 54C | B |
| 73 | 49 | 2 | 0 | | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | | 51 | 4600 | 3 | 3 | | 1 | 2 | 2 | 2 | 25 | | 3 | 20936 | | 0 | 1 | 1 | | 2 | 0 | 1.00 | | 3 | 184.0 | 20 | | 1.5 | 7.0 | 2.5 | 74 | 4 | 20.6 | | 95.66 | | 20A | B |
| 1875 | 72 | 6.6 | -3 | | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | | 0 | 50 | 4 | 0 | | 2 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 4 | 0 | | 9.6 | 0 | 0.72 | | 10 | 2.0 | 1 | | 2.6 | 4.0 | 3 | 2 | 1 | 23.1 | | 86.07 | | 21B | B |
| 1188 | 81 | 1 | -1.2 | | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | | 0 | 800 | 6 | 2 | | 1 | 2 | 2 | 3 | 30 | | 4 | 2197 | | 0 | 0 | 0 | | 2.2 | 0 | 0.07 | | 4 | 32.0 | 4 | | 1 | 8.3 | 3 | 6 | 1 | 143 | | 70.26 | | 56C | B |
| 3049 | 87 | 2.2 | -2.8 | | 490 | 99 | 490 | 39 | 490 | 490 | 490 | 50 | | 0 | 100 | 4 | 14 | | 1 | 1 | 2 | 7 | 40 | | 1 | 50 | | 0 | 0 | 0 | | 5 | 0 | 0.35 | | 10 | 4.0 | 1 | | 1 | 21.5 | 4 | 2 | 1 | 36.9 | | 66.42 | | 31B | B |
| 1875 | 56 | 4 | 4 | | 490 | 50 | 490 | 85 | 490 | 81 | 490 | 60 | | 34 | 450 | 4 | 0 | | 1 | 2 | 2 | 2 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 0 | 0 | 0.14 | | 3 | 16.0 | 2 | | 1 | 4.0 | 3 | 37 | 4 | 81 | | 58.81 | | 23B | B |
| 1875 | 54 | 0.8 | -5.6 | | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | | 0 | 300 | 3 | 3 | | 1 | 2 | 2 | 7 | 40 | | 1 | 444719 | | 1 | 0 | 0 | | 6.4 | 0 | 0.79 | | 10 | 12.0 | 2 | | 1.4 | 7.0 | 4 | 3 | 4 | 22.8 | | 58.47 | | 27B | B |
| 73 | 46 | 3 | 0 | | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | | 0 | 800 | 2 | 2 | | 5 | 2 | 2 | 7 | 25 | | 3 | 20935 | | 0 | 0 | 0 | | 3 | 0 | 0.49 | | 10 | 32.0 | 4 | | 1 | 5.0 | 2.5 | 7 | 4 | 35.5 | | 58.02 | | 34B | B |
| 73 | 76 | -0.4 | -11 | | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | | 0 | 50 | 2 | 2 | | 1 | 1 | 2 | 7 | 25 | | 1 | 20936 | | 0 | 0 | 1 | | 10.4 | 0 | 0.31 | | 10 | 2.0 | 1 | | 1.1 | 5.0 | 2.5 | 2 | 1 | 40.2 | | 55.20 | | 52C | B |
| 3034 | 63 | -0.4 | -5.6 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 30 | 4 | 4 | | 1 | 1 | 2 | 7 | 40 | | 1 | 50 | | 0 | 1 | 1 | | 5.2 | 0 | 1.00 | | 10 | 1.2 | 1 | | 1.5 | 9.0 | 4 | 2 | 1 | 18.6 | | 53.42 | | 32B | B |
| 1875 | 51 | 5.4 | -5 | | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | | 2 | 30 | 3 | 3 | | 1 | 1 | 1 | 7 | 45 | | 1 | 1560 | | 0 | 0 | 0 | | 10.4 | 0 | 0.54 | | 10 | 1.2 | 1 | | 1 | 7.0 | 4.5 | 4 | 4 | 27.8 | | 52.56 | | 39B | B |
| 9136 | 82 | 5.6 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 50 | 6 | 6 | | 2 | 1 | 2 | 7 | 55 | | 1 | 50 | | 0 | 0 | 1 | | 5.8 | 0 | 1.00 | | 10 | 2.0 | 1 | | 1.1 | 15.3 | 5.5 | 2 | 1 | 19 | | 49.92 | | 28B | B |
| 1875 | 73 | 3.6 | -5 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 4 | 100 | 2 | 2 | | 2 | 2 | 2 | 7 | 40 | | 1 | 183 | | 0 | 0 | 0 | | 8.6 | 0 | 1.00 | | 10 | 4.0 | 1 | | 1 | 5.0 | 4 | 6 | 1 | 20.2 | | 49.23 | | 25B | B |
| 2378 | 71 | 5.6 | -2.8 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 30 | 7 | 6 | | 1 | 1 | 2 | 7 | 70 | | 1 | 50 | | 0 | 0 | 0 | | 8.4 | 0 | 1.00 | | 10 | 1.2 | 1 | | 1 | 16.1 | 7 | 2 | 1 | 18.3 | | 48.43 | | 29B | B |
| 73 | 80 | -1.2 | -3 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 5 | 1400 | 2 | 2 | | 2 | 2 | 2 | 7 | 10 | | 3 | 15414 | | 0 | 0 | 1 | | 1.8 | 0 | 1.00 | | 10 | 56.0 | 10 | | 1.1 | 5.0 | 1 | 18 | 1 | 20.8 | | 48.15 | | 33B | B |
| 3034 | 83 | 2 | -4 | | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | | 16 | 1200 | 4 | 4 | | 1 | 2 | 2 | 3 | 40 | | 1 | 243 | | 0 | 0 | 0 | | 6 | 0 | 0.87 | | 4 | 48.0 | 5 | | 1 | 9.0 | 4 | 22 | 1 | 20.8 | | 47.02 | | 22B | B |
| 3034 | 90 | 5 | -5 | | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 500 | 4 | 4 | | 4 | 1 | 2 | 7 | 40 | | 1 | 243 | | 0 | 0 | 0 | | 10 | 0 | 0.95 | | 10 | 20.0 | 3 | | 1 | 9.0 | 4 | 4 | 1 | 21.5 | | 46.53 | | 36B | B |
| 73 | 57 | 0.3 | -2.4 | | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | | 20 | 3000 | 2 | 2 | | 1 | 2 | 2 | 2 | 25 | | 3 | 444719 | | 0 | 0 | 0 | | 2.7 | 0 | 0.35 | | 3 | 120.0 | 20 | | 1 | 5.0 | 2.5 | 43 | 4 | 38.4 | | 45.27 | | 26B | B |
| 1875 | 68 | 0 | -4.6 | | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | | 0 | 3580 | 6 | 0 | | 1 | 2 | 4 | 2 | 20 | | 4 | 444719 | | 0 | 2 | 1 | | 4.6 | 0 | 0.98 | | 3 | 143.2 | 20 | | 1.9 | 6.0 | 2 | 24 | 4 | 21.3 | | 44.06 | | 24B | B |
| 1188 | 74 | 6 | -4.2 | | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | | 12 | 100 | 4 | 2 | | 1 | 2 | 2 | 3 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 9.2 | 0 | 0.55 | | 4 | 4.0 | 1 | | 1 | 6.5 | 4.9 | 14 | 1 | 27.4 | | 40.98 | | 37B | C |
| 65 | 90 | 0 | 0 | | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | | 1 | 5600 | 2 | 0 | | 1 | 2 | 2 | 2 | 25 | | 7 | 14988 | | 0 | 1 | 1 | | 0 | 0 | 1.00 | | 3 | 232.0 | 20 | | 1.5 | 2.0 | 2.5 | 28 | 1 | 19 | | 40.95 | | 30B | C |
| 1875 | 70 | 3.6 | -1.2 | | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | | 1 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 4.8 | 0 | 0.52 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 3 | 1 | 27.5 | | 40.48 | | 43C | C |
| 1188 | 54 | -0.2 | -0.2 | | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | | 0 | 3200 | 6 | 2 | | 1 | 2 | 2 | 3 | 20 | | 5 | 4978 | | 0 | 0 | 2 | | 0 | 0 | 0.70 | | 4 | 128.0 | 20 | | 1.2 | 8.3 | 2 | 25 | 4 | 24.4 | | 39.72 | | 38B | C |
| 1875 | 47 | 3.6 | -4.2 | | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | | 0 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 7.8 | 0 | 0.51 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 2 | 4 | 29.3 | | 39.27 | | 55C | C |
| 16 | 56 | 0 | 0 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | | 16 | 1500 | 2 | 3 | | 1 | 2 | 2 | 3 | 25 | | 2 | 50 | | 0 | 0 | 0 | | 0 | 0 | 1.00 | | 4 | 60.0 | 10 | | 1 | 6.5 | 2.5 | 28 | 4 | 20 | | 38.61 | | 35B | C |
| 0 | 90 | 0 | 1 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 2000 | 1 | 0 | | 1 | 1 | 1 | 10 | 10 | | 10 | 12340 | | 0 | 0 | 0 | | 1 | 0 | 1.00 | | 10 | 80.0 | 10 | | 1 | 1.0 | 1 | 20 | 1 | 17.5 | | 38.50 | | 41C | C |
| 1875 | 90 | 2.2 | 0 | | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | | 0 | 200 | 2 | 2 | | 4 | 1 | 2 | 7 | 20 | | 1 | 1619 | | 0 | 0 | 0 | | 2.2 | 0 | 0.70 | | 10 | 8.0 | 1 | | 1 | 5.0 | 2 | 2 | 1 | 25.3 | | 34.26 | | 48C | C |
| 16 | 44 | 2 | -7.6 | | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | | 0 | 20 | 2 | 3 | | 1 | 1 | 2 | 7 | 25 | | 1 | 2493 | | 0 | 0 | 0 | | 9.6 | 0 | 0.87 | | 10 | 0.8 | 1 | | 1 | 6.5 | 2.5 | 2 | 4 | 21.7 | | 33.16 | | 46C | C |
| 14 | 77 | 2.8 | -2.4 | | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | | 2 | 20 | 2 | 0 | | 1 | 1 | 1 | 7 | 10 | | 1 | 791 | | 0 | 0 | 0 | | 5.2 | 0 | 0.56 | | 10 | 0.8 | 1 | | 1 | 2.0 | 1 | 4 | 1 | 25.5 | | 31.48 | | 62D | C |
| 65 | 22 | 0 | 0 | | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | | 0 | 2800 | 2 | 0 | | 1 | 2 | 2 | 2 | 10 | | 4 | 50 | | 0 | 2 | 0 | | 0 | 0 | 0.70 | | 3 | 112.0 | 20 | | 1.8 | 2.0 | 1 | 24 | 9 | 31.8 | | 31.11 | | 42C | C |
| 1875 | 77 | 3 | -4.2 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 50 | 3 | 1 | | 2 | 1 | 1 | 7 | 40 | | 1 | 50 | | 0 | 0 | 0 | | 7.2 | 0 | 1.00 | | 10 | 2.0 | 1 | | 1 | 4.3 | 4 | 2 | 1 | 18.6 | | 30.96 | | 44C | C |
| 16 | 87 | 0 | -2.5 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | | 0 | 50 | 2 | 3 | | 1 | 1 | 2 | 7 | 25 | | 1 | 50 | | 0 | 0 | 0 | | 2.5 | 0 | 0.88 | | 10 | 2.0 | 1 | | 1 | 6.5 | 2.5 | 2 | 1 | 19.4 | | 30.90 | | 53C | C |
| 1875 | 78 | 3.6 | -4 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 30 | 2 | 2 | | 1 | 1 | 1 | 7 | 40 | | 1 | 50 | | 0 | 0 | 0 | | 7.8 | 0 | 1.00 | | 10 | 1.2 | 1 | | 1 | 5.0 | 4 | 2 | 1 | 17.6 | | 30.81 | | 45C | C |
| 16 | 63 | 5 | -4.6 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 40 | 2 | 3 | | 1 | 1 | 2 | 7 | 25 | | 1 | 2493 | | 0 | 0 | 0 | | 9.6 | 0 | 1.00 | | 10 | 1.6 | 1 | | 1 | 6.5 | 2.5 | 2 | 1 | 16.6 | | 30.11 | | 51C | C |
| 73 | 76 | 2 | -7.2 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | | 0 | 50 | 2 | 2 | | 1 | 1 | 2 | 7 | 25 | | 1 | 50 | | 0 | 0 | 0 | | 9.2 | 0 | 1.00 | | 10 | 2.0 | 1 | | 1 | 5.0 | 2.5 | 2 | 1 | 16.1 | | 28.11 | | 57C | C |
| 1875 | 26 | -0.4 | -0.8 | | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | | 0 | 1000 | 3 | 3 | | 1 | 2 | 2 | 3 | 45 | | 1 | 444719 | | 0 | 0 | 0 | | 0.4 | 0 | 0.56 | | 4 | 40.0 | 5 | | 1 | 7.0 | 4.5 | 6 | 8 | 32.5 | | 26.81 | | 49C | C |
| 2 | 67 | 2 | -2 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | | 0 | 100 | 2 | 0 | | 1 | 1 | 2 | 7 | 10 | | 1 | 50 | | 0 | 0 | 0 | | 4 | 0 | 0.78 | | 10 | 4.0 | 1 | | 1 | 2.0 | 1 | 2 | 1 | 21.3 | | 25.34 | | 67D | C |
| 1188 | 75 | 2.6 | 2 | | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | | 0 | 20 | 4 | 2 | | 1 | 1 | 1 | 2 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 0.6 | 0 | 0.16 | | 3 | 0.8 | 1 | | 1 | 6.5 | 4.9 | 2 | 1 | 64.3 | | 24.19 | | 74D | C |
| 3034 | 86 | 3 | -2.8 | | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | | 0 | 486 | 4 | 4 | | 6 | 2 | 2 | 3 | 40 | | 1 | 4095 | | 0 | 0 | 0 | | 5.6 | 0 | 0.42 | | 4 | 19.4 | 2 | | 1 | 9.0 | 4 | 3 | 1 | 37.9 | | 23.57 | | 60C | C |
| 3009 | 90 | 0 | 0 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 400 | 2 | 0 | | 1 | 2 | 2 | 7 | 5 | | 3 | 21732 | | 0 | 0 | 0 | | 0 | 0 | 1.00 | | 10 | 16.0 | 2 | | 1 | 2.0 | 0.5 | 5 | 1 | 19 | | 23.50 | | 63D | D |
| 73 | 77 | 0.6 | 4 | | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | | 1 | 4000 | 2 | 2 | | 1 | 2 | 4 | 2 | 20 | | 1 | 444719 | | 0 | 0 | 0 | | 3.2 | 0 | 0.62 | | 3 | 160.0 | 20 | | 1 | 5.0 | 2 | 22 | 1 | 26.3 | | 22.58 | | 50C | D |
| 1188 | 45 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 250 | 2 | 1 | | 1 | 2 | 2 | 3 | 49 | | 1 | 182 | | 0 | 1 | 0 | | 0 | 0 | 1.00 | | 4 | 10.0 | 2 | | 1.4 | 3.5 | 4.9 | 3 | 4 | 21.1 | | 21.99 | | 59C | D |
| 1875 | 69 | -3.4 | -1.4 | | 490 | 55 | 490 | 100 | 490 | 490 | 490 | 133 | | 0 | 450 | 3 | 3 | | 1 | 2 | 2 | 3 | 45 | | 1 | 444719 | | 0 | 0 | 0 | | 2 | 0 | 0.40 | | 4 | 18.0 | 2 | | 1 | 7.0 | 4.5 | 3 | 1 | 34.3 | | 21.90 | | 61D | D |
| 0 | 74 | 6.2 | -3 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 150 | 1 | 0 | | 1 | 1 | 2 | 7 | 10 | | 1 | 50 | | 0 | 0 | 0 | | 9.2 | 0 | 1.00 | | 10 | 6.0 | 1 | | 1 | 1.0 | 1 | 2 | 1 | 18.2 | | 21.20 | | 71D | D |
| 2378 | 90 | 3.6 | 0 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 20 | 7 | 6 | | 1 | 2 | 2 | 3 | 70 | | 1 | 50 | | 0 | 0 | 0 | | 3.6 | 0 | 1.00 | | 4 | 0.8 | 1 | | 1 | 16.1 | 7 | 2 | 1 | 19 | | 19.86 | | 58C | D |
| 73 | 66 | 7.2 | -5.6 | | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | | 0 | 300 | 2 | 2 | | 1 | 2 | 2 | 3 | 20 | | 3 | 444719 | | 0 | 0 | 0 | | 12.8 | 0 | 0.48 | | 4 | 12.0 | 2 | | 1 | 5.0 | 2 | 5 | 1 | 30 | | 18.01 | | 69D | D |
| 1875 | 90 | -1.6 | -4 | | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | | 0 | 250 | 3 | 3 | | 1 | 2 | 2 | 3 | 35 | | 1 | 2424 | | 0 | 0 | 0 | | 2.4 | 0 | 0.60 | | 4 | 10.0 | 2 | | 1 | 7.0 | 3.5 | 3 | 1 | 25.6 | | 17.25 | | 66D | D |
| 73 | 66 | 3.4 | -4 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | | 0 | 800 | 2 | 2 | | 2 | 2 | 2 | 3 | 25 | | 1 | 50 | | 0 | 0 | 0 | | 7.4 | 0 | 0.87 | | 4 | 32.0 | 4 | | 1 | 5.0 | 2.5 | 5 | 1 | 21.5 | | 15.59 | | 64D | D |
| 1188 | 46 | 1.6 | -0.4 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | | 0 | 50 | 2 | 1 | | 2 | 2 | 2 | 3 | 49 | | 1 | 182 | | 0 | 0 | 0 | | 2 | 0 | 0.79 | | 4 | 2.0 | 1 | | 1 | 3.5 | 4.9 | 2 | 4 | 24.7 | | 15.20 | | 70D | D |
| 1875 | 90 | -1.6 | -2 | | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 10 | 2 | 2 | | 1 | 1 | 2 | 3 | 40 | | 1 | 50 | | 0 | 0 | 1 | | 0.2 | 0 | 0.76 | | 4 | 0.4 | 1 | | 1.1 | 5.0 | 4 | 2 | 1 | 21.2 | | 15.06 | | 72D | D |
| 1188 | 90 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 50 | 4 | 2 | | 1 | 2 | 2 | 3 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 0 | 0 | 1.00 | | 4 | 2.0 | 1 | | 1 | 6.5 | 4.9 | 2 | 1 | 19 | | 14.12 | | 68D | D |
| 10606 | 86 | 2 | -2.6 | | 340 | 17 | 340 | 150 | 340 | 340 | 340 | 66 | | 17 | 14500 | 17 | 15 | | 1 | 2 | 4 | 1 | 25 | | 3 | 367302 | | 0 | 1 | 0 | | 4.8 | 0 | 0.43 | | 0.5 | 580.0 | 20 | | 1.4 | 32.9 | 2.5 | 40 | 1 | 33.3 | | 11.83 | | 65D | D |
| 1875 | 90 | 3.6 | -7 | | 490 | 40 | 490 | 36 | 490 | 28 | 490 | 35 | | 0 | 20 | 3 | 3 | | 2 | 2 | 2 | 1 | 45 | | 1 | 50 | | 0 | 0 | 0 | | 10.6 | 0 | 0.07 | | 0.5 | 0.8 | 1 | | 1 | 7.0 | 4.5 | 2 | 1 | 149 | | 8.25 | | 80D | D |
| 10606 | 80 | 3.6 | -3.6 | | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | | 0 | 3300 | 17 | 15 | | 2 | 2 | 4 | 1 | 40 | | 3 | 367302 | | 0 | 0 | 0 | | 7.4 | 0 | 1.00 | | 0.5 | 132.0 | 20 | | 1 | 32.9 | 4 | 23 | 1 | 21.1 | | 7.30 | | 73D | D |
| 1188 | 42 | 6 | 0 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | | 0 | 2300 | 5 | 15 | | 2 | 2 | 2 | 1 | 40 | | 4 | 367302 | | 0 | 0 | 0 | | 8 | 0 | 1.00 | | 0.5 | 92.0 | 10 | | 1 | 23.0 | 4 | 14 | 4 | 22.5 | | 5.07 | | 75D | D |
| 0 | 70 | 2.6 | 0.8 | | 285 | 285 | 285 | 28 | 285 | 285 | 285 | 285 | | 0 | 9500 | 2 | 3 | | 2 | 2 | 4 | 1 | 25 | | 3 | 26017 | | 0 | 0 | 0 | | 2 | 0 | 0.77 | | 0.5 | 360.0 | 20 | | 1 | 6.5 | 2.5 | 23 | 1 | 24.2 | | 4.41 | | 76D | D |
| 1875 | 90 | 5.2 | -10 | | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | | 0 | 1200 | 3 | 3 | | 2 | 2 | 2 | 1 | 35 | | 1 | 2424 | | 0 | 0 | 0 | | 15.2 | 0 | 0.23 | | 0.5 | 48.0 | 5 | | 1 | 7.0 | 3.5 | 6 | 1 | 53.9 | | 4.10 | | 78D | D |
| 2378 | 74 | 7.8 | -3.6 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 350 | 7 | 6 | | 3 | 2 | 2 | 1 | 70 | | 1 | 746 | | 0 | 0 | 0 | | 11.2 | 0 | 1.00 | | 0.5 | 14.0 | 2 | | 1 | 16.1 | 7 | 3 | 1 | 21.2 | | 2.92 | | 77D | D |
| 1875 | 90 | 0 | 0 | | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | | 0 | 830 | 3 | 3 | | 2 | 2 | 2 | 1 | 25 | | 2 | 444719 | | 0 | 0 | 0 | | 0 | 0 | 0.83 | | 0.5 | 33.2 | 4 | | 1 | 7.0 | 2.5 | 6 | 1 | 22.1 | | 2.20 | | 79D | D |

# Table 14

## 12 * 1/A&SD

## Sight Distance Element Computer Iteration; coef. = 12.0

| HazMat | Angle | A% | B% | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC% | TCC | AI | TI | SI | EI | A | CI | FI | Gr# | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 36 | 490 | 27 | 4 | 300 | 8 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.06 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 24.2 | 532.27 | 12A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 14.3 | 367.80 | 18A | A |
| 1186 | 80 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 26 | 490 | 26 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 22.3 | 235.86 | 47C | A |
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.6 | 20 | 1.6 | 6.5 | 2 | 55 | 1 | 24.7 | 226.00 | 1A | A |
| 2376 | 46 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 18.1 | 7 | 5 | 4 | 22.7 | 214.23 | 2A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 24 | 208.22 | 3A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 23.5 | 204.64 | 4A | A |
| 1186 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 18.1 | 2 | 14 | 1 | 27 | 184.97 | 5A | A |
| 3009 | 90 | 2.6 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 39.9 | 180.42 | 6A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 31.4 | 174.39 | 7A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 46.4 | 168.54 | 9A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 45.1 | 159.69 | 14A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6566 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 21.1 | 155.35 | 8A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 62 | 225 | 69 | 225 | 225 | 225 | 62 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 31.6 | 152.45 | 16A | A |
| 1875 | 51 | -0.6 | 0 | 490 | 203 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 31.3 | 140.45 | 10A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 34.4 | 139.26 | 13A | A |
| 1186 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 26 | 137.27 | 15A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 48 | 265 | 50 | 265 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 46.8 | 129.50 | 11A | A |
| 1875 | 74 | 4.6 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 26 | 1 | 36.3 | 124.34 | 17A | A |
| 1186 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 98.7 | 118.73 | 40B | A |
| 1875 | 36 | 10.6 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 104 | 113.72 | 54C | B |
| 1186 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 21 | 105.90 | 19A | B |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 22.6 | 96.56 | 20A | B |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 65 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 3 | 2 | 1 | 25.9 | 93.27 | 21B | B |
| 1186 | 61 | 1 | -1.2 | 490 | 35 | 490 | 65 | 490 | 28 | 490 | 26 | 0 | 600 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 8 | 1 | 170 | 81.00 | 56C | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 99 | 490 | 59 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 42.7 | 72.20 | 31B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 85 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 95.2 | 63.07 | 23B | B |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 36 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 46.6 | 62.25 | 52C | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 600 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 39.6 | 62.14 | 34B | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 25.3 | 61.99 | 27B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 20.6 | 56.42 | 32B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 31.3 | 56.29 | 39B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 8 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 21 | 52.12 | 28B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 163 | 0 | 0 | 0 | 8.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 22.2 | 51.23 | 25B | B |
| 2376 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 20.3 | 50.43 | 29B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 22.8 | 50.36 | 33B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 23.6 | 48.83 | 36B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 22.9 | 47.95 | 22B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 66 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 44.1 | 46.96 | 26B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3560 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 23.4 | 45.26 | 24B | B |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 31.3 | 44.31 | 43C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 33.2 | 43.15 | 55C | C |
| 1186 | 74 | 5 | -4.2 | 265 | 29 | 265 | 29 | 265 | 265 | 265 | 265 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 31 | 42.43 | 37B | C |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5600 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14986 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 28 | 1 | 21 | 41.85 | 30B | C |
| 1186 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 8 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4976 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 27.3 | 41.06 | 38B | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 19.5 | 40.50 | 41C | C |
| 16 | 56 | 0 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 28 | 4 | 22 | 39.41 | 35B | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 66 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 28.1 | 37.11 | 48C | C |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 66 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 24 | 35.46 | 46C | C |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 29.1 | 35.06 | 82D | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 21.7 | 33.18 | 53C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 20.6 | 32.96 | 44C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 1 | 24 | 9 | 34.5 | 32.85 | 42C | C |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 19.6 | 32.81 | 45C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.8 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 20.6 | 32.11 | 51C | C |
| 73 | 76 | 2 | -7.2 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 20.1 | 30.11 | 57C | C |
| 1875 | 26 | -0.4 | -0.6 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 96 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 36.1 | 28.04 | 49C | C |
| 2 | 87 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 23.9 | 27.92 | 67D | C |
| 1186 | 75 | 2.8 | 2 | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 75.7 | 27.50 | 74D | C |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 21 | 25.50 | 63D | C |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 42.7 | 25.48 | 60C | D |
| 1875 | 69 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 39.2 | 23.90 | 61D | D |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 168 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.62 | 3 | 100.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 29.5 | 23.54 | 50C | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 20.2 | 23.20 | 71D | D |
| 1186 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 4.9 | 3 | 4 | 23.1 | 23.11 | 59C | D |
| 2376 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 21 | 20.46 | 58C | D |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 34.1 | 19.66 | 69D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.80 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 29 | 18.58 | 68D | D |
| 73 | 66 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 23.8 | 16.51 | 64D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 400 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 23.9 | 16.22 | 72D | D |
| 1186 | 46 | 1.6 | -0.4 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 40 | 0 | 60 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 27.2 | 16.21 | 70D | D |
| 1186 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 21 | 14.92 | 66D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.6 | 0 | 0.43 | 0.5 | 560.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 36 | 11.96 | 65D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 177 | 9.64 | 80D | D |
| 10606 | 60 | 3.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 23.1 | 7.40 | 73D | D |
| 1186 | 42 | 8 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 24.5 | 5.17 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 265 | 265 | 265 | 26 | 265 | 265 | 265 | 265 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 26.8 | 4.54 | 76D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 62.7 | 4.53 | 78D | D |
| 2376 | 74 | 7.8 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 360 | 7 | 6 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 23.2 | 3.02 | 77D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 630 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 24.5 | 2.32 | 79D | D |

# Table 15

## 15 * 1/A%SD

## Sight Distance Element Computer Iteration; coef. = 15.0

| HazMat | Angle | A% | B% | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SS | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 33 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 5.5 | 7 | 1 | 300 | 637.06 | 12A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 5.5 | 5 | 1 | 177 | 435.00 | 18A | A |
| 1188 | 80 | 6 | 3.8 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 3 | 2 | 1 | 277 | 289.80 | 47C | A |
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.78 | 10 | 309.8 | 20 | 1.6 | 6.5 | 2 | 55 | 1 | 26.7 | 232.29 | 1A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 28.0 | 3 | 2.9 | 16.1 | 7 | 5 | 4 | 25.7 | 222.93 | 2A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 27.7 | 218.77 | 3A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23028 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 4.5 | 13 | 4 | 26.5 | 211.54 | 4A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.8 | 18.1 | 2 | 14 | 1 | 30 | 192.77 | 5A | A |
| 3000 | 90 | 2.6 | -4 | 180 | 103 | 180 | 58 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 4 | 20 | 1 | 46.8 | 190.17 | 6A | A |
| 9136 | 56 | 3 | 2.8 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.58 | 10 | 6.0 | 1 | 1.9 | 15.3 | 4.5 | 10 | 4 | 36.8 | 184.56 | 7A | A |
| 3040 | 90 | -3 | -4 | 340 | 181 | 340 | 62 | 340 | 33 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 4 | 24 | 1 | 56 | 177.10 | 9A | A |
| 3000 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 4 | 15 | 1 | 54.1 | 172.28 | 14A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 4 | 8 | 1 | 37.2 | 164.31 | 16A | A |
| 65 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6566 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 24.1 | 161.95 | 8A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 4 | 9 | 1 | 38.2 | 148.11 | 13A | A |
| 1875 | 61 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 4.5 | 24 | 4 | 36.3 | 145.21 | 10A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 4.9 | 7 | 4 | 29 | 143.27 | 15A | A |
| 1188 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 4.9 | 2 | 4 | 120 | 140.35 | 40B | A |
| 1875 | 36 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 127 | 136.87 | 54C | A |
| 1875 | 76 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12478 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 400.0 | 20 | 1.4 | 14.0 | 2.5 | 99 | 1 | 56 | 133.35 | 11A | A |
| 1875 | 74 | 4.8 | -0.4 | 490 | 73 | 490 | 490 | 490 | 200 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 28 | 1 | 43.4 | 131.37 | 17A | B |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 4.9 | 16 | 1 | 24 | 108.90 | 19A | B |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 65 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.8 | 4.0 | 3 | 2 | 1 | 30 | 104.07 | 21B | B |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 164.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 25.6 | 97.93 | 20A | B |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 3 | 8 | 1 | 210 | 97.11 | 56C | B |
| 3040 | 87 | 2.2 | -2.8 | 490 | 80 | 490 | 30 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 4 | 2 | 1 | 51.4 | 80.87 | 31B | B |
| 73 | 78 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20936 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 56.2 | 72.82 | 52C | B |
| 1875 | 66 | 4 | 4 | 490 | 50 | 490 | 85 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 16.0 | 2 | 1 | 4.0 | 3 | 37 | 4 | 117 | 69.47 | 23B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20936 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 45.8 | 68.31 | 34B | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 4 | 3 | 4 | 29.1 | 67.27 | 27B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 4.5 | 4 | 4 | 36.9 | 61.88 | 39B | B |
| 3034 | 83 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 4 | 2 | 1 | 23.8 | 60.92 | 32B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 5.5 | 2 | 1 | 24 | 55.42 | 28B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.8 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 4 | 6 | 1 | 25.2 | 54.23 | 25B | B |
| 73 | 80 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 25.8 | 53.85 | 33B | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 6.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 7 | 2 | 1 | 23.3 | 53.43 | 29B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 4 | 4 | 1 | 26.8 | 51.79 | 36B | B |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 38 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 3 | 1 | 37.1 | 50.06 | 43C | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 69 | 490 | 490 | 490 | 66 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 52.6 | 49.54 | 26B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 108 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 4 | 22 | 1 | 26.3 | 49.33 | 22B | B |
| 1875 | 47 | 3.8 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 3 | 2 | 4 | 39 | 48.98 | 55C | C |
| 1875 | 56 | 0 | -4.8 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 2 | 24 | 4 | 26.5 | 47.05 | 24B | C |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 4.9 | 14 | 1 | 36.4 | 44.81 | 37B | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 22.5 | 43.50 | 41C | C |
| 65 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5600 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14988 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 26 | 1 | 24 | 43.20 | 30B | C |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 2 | 25 | 4 | 31.5 | 43.13 | 38B | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 6.0 | 1 | 1 | 5.0 | 2 | 2 | 1 | 32.4 | 41.39 | 48C | C |
| 16 | 58 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 28 | 4 | 25 | 40.61 | 35B | C |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 34.4 | 40.41 | 62D | C |
| 16 | 44 | 2 | -7.8 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2403 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 27.4 | 38.90 | 46C | C |
| 16 | 87 | 0 | -2.8 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 25.1 | 36.80 | 53C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 4 | 2 | 1 | 23.6 | 35.96 | 44C | C |
| 1875 | 78 | 3.8 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 4 | 2 | 1 | 22.6 | 35.81 | 45C | C |
| 16 | 83 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2403 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 23.6 | 35.11 | 51C | C |
| 65 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 1 | 24 | 9 | 38.7 | 34.96 | 42C | C |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 23.1 | 33.11 | 57C | C |
| 1188 | 75 | 2.8 | 2 | 490 | 103 | 490 | 38 | 490 | 58 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 92.8 | 32.86 | 74D | C |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 27.8 | 31.79 | 67D | C |
| 1875 | 28 | -0.4 | -0.8 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 4.5 | 6 | 9 | 41.5 | 30.19 | 49C | C |
| 3000 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 0.5 | 5 | 1 | 24 | 28.50 | 63D | C |
| 3034 | 88 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 78 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.8 | 0 | 0.42 | 4 | 10.4 | 2 | 1 | 9.0 | 4 | 3 | 1 | 49.9 | 28.35 | 60C | D |
| 1875 | 69 | -3.4 | -1.4 | 490 | 58 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 4.5 | 3 | 1 | 46.7 | 26.89 | 61D | D |
| 0 | 74 | 8.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 23.2 | 26.20 | 71D | D |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 34.3 | 24.99 | 50C | D |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.3 | 4.9 | 3 | 4 | 26.1 | 24.79 | 59C | D |
| 73 | 68 | 7.2 | -5.8 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 40.3 | 22.14 | 69D | D |
| 2378 | 90 | 3.8 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.8 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 7 | 2 | 1 | 24 | 21.86 | 58C | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.80 | 4 | 10.0 | 2 | 1 | 7.0 | 3.5 | 3 | 1 | 33.9 | 20.56 | 66D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.78 | 4 | 0.4 | 1 | 1.1 | 5.0 | 4 | 2 | 1 | 27.8 | 17.97 | 72D | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 27.2 | 17.86 | 64D | D |
| 1188 | 46 | 1.8 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 4.9 | 2 | 4 | 31.1 | 17.74 | 70D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 4.9 | 2 | 1 | 24 | 16.12 | 68D | D |
| 10606 | 86 | 2 | -2.8 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 2.5 | 40 | 1 | 44.9 | 12.45 | 65D | D |
| 1875 | 90 | 3.8 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 4.5 | 2 | 1 | 219 | 11.73 | 80D | D |
| 10606 | 80 | 3.8 | -3.8 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 4 | 23 | 1 | 26.1 | 7.55 | 73D | D |
| 1188 | 42 | 8 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 4 | 14 | 4 | 27.5 | 5.32 | 75D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 48 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 3.5 | 6 | 1 | 75.9 | 5.19 | 78D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 28 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 360.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 30.7 | 4.73 | 76D | D |
| 2378 | 74 | 7.8 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 7 | 3 | 1 | 26.2 | 3.17 | 77D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 2.5 | 6 | 1 | 26.1 | 2.50 | 79D | D |

# Table 16

TF= NT +DT + (NT/DT) + (HAZMAT/2000)

Train Factor with Hazardous Material Element Computer Iteration; coefficient = 0.0005

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SS | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | FI | Cr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 66 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.78 | 10 | 309.8 | 20 | 1.6 | 7.4 | 2 | 55 | 1 | 9.01 | 202.32 | 1A | A |
| 2376 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 17.3 | 7 | 5 | 4 | 10.7 | 182.87 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23938 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.9 | 4.5 | 15 | 4 | 11.5 | 179.19 | 4A | A |
| 16 | 76 | 1.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 2.5 | 24 | 1 | 9.15 | 174.02 | 3A | A |
| 1166 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.8 | 18.7 | 2 | 14 | 1 | 15 | 155.32 | 5A | A |
| 3000 | 90 | 2.4 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 8.8 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 10.5 | 4 | 20 | 1 | 12 | 143.51 | 6A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 48 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 8 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 19.9 | 4.5 | 10 | 4 | 10 | 142.37 | 7A | A |
| 85 | 76 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 2.5 | 19 | 1 | 9.11 | 129.04 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 161 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 10.5 | 4 | 24 | 1 | 8 | 125.96 | 9A | A |
| 1875 | 51 | -0.6 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.9 | 4.5 | 24 | 4 | 11.4 | 122.28 | 10A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 19.9 | 5.5 | 7 | 1 | 9 | 121.32 | 12A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 8.5 | 4 | 9 | 1 | 10.1 | 114.57 | 13A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 48 | 265 | 50 | 265 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 490.0 | 20 | 1.4 | 14.9 | 2.5 | 99 | 1 | 10.2 | 114.49 | 11A | A |
| 1166 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 8 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.9 | 4.9 | 7 | 4 | 14 | 114.45 | 15A | A |
| 3000 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 10.5 | 4 | 15 | 1 | 9.06 | 111.39 | 14A | A |
| 3034 | 90 | 0.4 | -0.6 | 225 | 82 | 225 | 86 | 225 | 225 | 225 | 82 | 3 | 625 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 10.5 | 4 | 8 | 1 | 9 | 108.19 | 16A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 82 | 490 | 48 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 17.8 | 5.5 | 5 | 1 | 9 | 108.14 | 18A | A |
| 1875 | 74 | 4.8 | -8.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.9 | 3 | 28 | 1 | 8.2 | 97.14 | 17A | A |
| 1166 | 90 | 4.8 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 7.1 | 4.9 | 16 | 1 | 9 | 94.49 | 19A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 2.5 | 74 | 4 | 10.8 | 91.20 | 20A | A |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 76 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.8 | 4.9 | 3 | 2 | 1 | 9.26 | 52.51 | 21B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 8 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 19.9 | 5.5 | 2 | 1 | 9.05 | 43.95 | 28B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 10.5 | 4 | 22 | 1 | 9.04 | 43.02 | 22B | B |
| 1875 | 54 | 0.8 | -5.0 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 8.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.9 | 4 | 3 | 4 | 10.2 | 42.16 | 27B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 10.5 | 4 | 2 | 1 | 8.61 | 40.89 | 32B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.8 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.9 | 4 | 6 | 1 | 10.2 | 40.17 | 25B | B |
| 2376 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 17.3 | 7 | 2 | 1 | 8.29 | 39.82 | 29B | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 99 | 490 | 30 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 23.0 | 4 | 2 | 1 | 8.01 | 39.03 | 31B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 264 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3560 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.8 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 6.9 | 2 | 24 | 4 | 10.9 | 38.67 | 24B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 61 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.9 | 3 | 37 | 4 | 10 | 37.79 | 23B | B |
| 3034 | 90 | 6 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 10.5 | 4 | 4 | 1 | 11 | 37.52 | 36B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 600 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 2.5 | 7 | 4 | 15 | 37.49 | 34B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 1 | 18 | 1 | 10.8 | 37.19 | 33B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 66 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 2.5 | 43 | 4 | 9.96 | 36.75 | 26B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5600 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14966 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 2.5 | 26 | 1 | 9 | 36.47 | 30B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.9 | 4.5 | 4 | 4 | 8.93 | 34.87 | 39B | B |
| 16 | 56 | 0 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 2.5 | 26 | 4 | 10 | 34.62 | 35B | B |
| 1166 | 74 | 5 | -4.2 | 265 | 29 | 265 | 29 | 265 | 265 | 265 | 265 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 48 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.56 | 4 | 4.0 | 1 | 1 | 7.1 | 4.9 | 14 | 1 | 9.2 | 33.96 | 37B | B |
| 1166 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 8 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4976 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.9 | 2 | 25 | 4 | 10.2 | 33.17 | 38B | B |
| 1166 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 48 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.8 | 4.9 | 2 | 4 | 12.2 | 32.85 | 40B | B |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 60.0 | 10 | 1 | 1.0 | 1 | 20 | 1 | 7.5 | 28.50 | 41C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 1 | 24 | 9 | 17.3 | 23.43 | 42C | C |
| 1875 | 70 | 3.8 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.9 | 3 | 3 | 1 | 8.32 | 22.26 | 43C | C |
| 1875 | 36 | 10.4 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.9 | 3 | 2 | 4 | 11.1 | 22.06 | 54C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.3 | 4 | 2 | 1 | 8.83 | 21.90 | 44C | C |
| 16 | 44 | 2 | -7.8 | 180 | 180 | 180 | 180 | 180 | 86 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 2.5 | 2 | 4 | 10.2 | 21.71 | 46C | C |
| 1875 | 78 | 3.8 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.8 | 4 | 2 | 1 | 7.81 | 21.56 | 45C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 68 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.9 | 2 | 2 | 1 | 11 | 20.94 | 48C | C |
| 1875 | 47 | 3.8 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.9 | 3 | 2 | 4 | 9.84 | 20.77 | 55C | C |
| 1166 | 80 | 6 | 5.8 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 7.1 | 3 | 2 | 1 | 7.58 | 20.67 | 47C | C |
| 16 | 60 | 6 | -4.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.8 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 8.81 | 20.12 | 51C | C |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 2.5 | 2 | 1 | 8.15 | 20.01 | 52C | C |
| 1875 | 26 | -0.4 | -0.6 | 575 | 36 | 575 | 575 | 575 | 575 | 575 | 96 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.9 | 4.5 | 8 | 9 | 14.7 | 19.84 | 49C | C |
| 16 | 67 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.86 | 10 | 2.0 | 1 | 1 | 6.5 | 2.5 | 2 | 1 | 8.01 | 19.51 | 53C | C |
| 73 | 78 | 2 | -7.2 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 2.5 | 2 | 1 | 8.11 | 18.15 | 57C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.62 | 3 | 160.0 | 20 | 1 | 5.0 | 2 | 22 | 1 | 10.1 | 17.75 | 50C | C |
| 1166 | 81 | 1 | -1.2 | 490 | 35 | 490 | 56 | 490 | 28 | 490 | 28 | 0 | 600 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.9 | 3 | 6 | 1 | 9.06 | 16.80 | 56C | C |
| 1166 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 4.1 | 4.9 | 3 | 4 | 11.1 | 16.72 | 59C | C |
| 2376 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.8 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 17.3 | 7 | 2 | 1 | 9 | 16.13 | 58C | C |
| 3000 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 3.5 | 0.5 | 5 | 1 | 9 | 15.00 | 63D | C |
| 3034 | 66 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 76 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 10.5 | 4 | 3 | 1 | 14 | 14.61 | 60C | D |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 1 | 4 | 1 | 7.63 | 13.64 | 62D | D |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 1 | 2 | 1 | 8.43 | 12.43 | 67D | D |
| 1875 | 60 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.9 | 4.5 | 3 | 1 | 9.36 | 12.32 | 61D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 8.0 | 1 | 1 | 1.0 | 1 | 2 | 1 | 8.2 | 11.20 | 71D | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 600 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 2.5 | 5 | 1 | 10 | 11.02 | 64D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.9 | 3.5 | 3 | 1 | 9 | 10.98 | 66D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 150 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 38.2 | 2.5 | 40 | 1 | 10 | 10.37 | 65D | D |
| 1166 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 7.1 | 4.9 | 2 | 1 | 9 | 10.36 | 68D | D |
| 1166 | 46 | 1.6 | -0.4 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 40 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 4.1 | 4.9 | 2 | 4 | 12 | 10.34 | 70D | D |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 60 | 180 | 180 | 180 | 68 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 2 | 5 | 1 | 9.39 | 9.77 | 69D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.9 | 4 | 2 | 1 | 8 | 9.65 | 72D | D |
| 1166 | 75 | 2.6 | 2 | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 7.1 | 4.9 | 2 | 1 | 7.08 | 7.37 | 74D | D |
| 10606 | 80 | 3.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 38.2 | 4 | 23 | 1 | 11.1 | 7.06 | 73D | D |
| 1166 | 42 | 8 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.8 | 4 | 14 | 4 | 12.5 | 4.80 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 265 | 265 | 265 | 28 | 265 | 265 | 265 | 265 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 2.5 | 23 | 1 | 11.3 | 3.77 | 76D | D |
| 2376 | 74 | 7.8 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 17.3 | 7 | 3 | 1 | 11.2 | 2.48 | 77D | D |
| 1875 | 90 | 6.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.9 | 3.5 | 6 | 1 | 10 | 1.96 | 78D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 630 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.9 | 2.5 | 6 | 1 | 10 | 1.65 | 79D | D |
| 1875 | 90 | 3.8 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.9 | 4.5 | 2 | 1 | 10 | 1.36 | 80D | D |

# Table 17
## 2 * TRK
## Number of Tracks Competer Iteration; coefficient = 2.0

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | FI | Cr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.6 | 6.5 | 10 | 55 | 1 | 10 | 906.42 | 1A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 12.5 | 24 | 1 | 10.2 | 728.30 | 3A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23028 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 22.5 | 13 | 4 | 12.5 | 717.54 | 4A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 8.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 20 | 20 | 1 | 16 | 596.00 | 6A | A |
| 2378 | 46 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 35 | 5 | 4 | 11.7 | 588.33 | 2A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 12.5 | 19 | 1 | 10.1 | 549.15 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 20 | 24 | 1 | 9 | 547.80 | 9A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2800 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.80 | 3 | 112.0 | 20 | 3.2 | 7.0 | 22.5 | 24 | 4 | 12.4 | 537.06 | 10A | A |
| 1875 | 76 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 12.5 | 99 | 1 | 11.2 | 530.31 | 11A | A |
| 9136 | 56 | 3 | 2.8 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 22.5 | 10 | 4 | 11 | 477.59 | 7A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 20 | 15 | 1 | 10.1 | 448.69 | 14A | A |
| 1188 | 60 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.6 | 16.1 | 10 | 14 | 1 | 22 | 463.17 | 5A | A |
| 1875 | 74 | 4.6 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 28 | 1 | 9.2 | 433.20 | 17A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 12.5 | 74 | 4 | 11.6 | 424.63 | 20A | A |
| 1188 | 90 | 4.8 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 24.5 | 16 | 1 | 10 | 408.50 | 19A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 27.5 | 7 | 1 | 10 | 392.10 | 12A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 24.5 | 7 | 4 | 15 | 389.87 | 15A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 20 | 8 | 1 | 10 | 375.90 | 16A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.6 | 7.0 | 20 | 9 | 1 | 30.1 | 390.84 | 13A | A |
| 9136 | 60 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 27.5 | 5 | 1 | 10 | 321.00 | 18A | A |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 20 | 22 | 1 | 10 | 183.82 | 22B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 15 | 37 | 4 | 11 | 171.01 | 23B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.36 | 3 | 120.0 | 20 | 1 | 5.0 | 12.5 | 43 | 4 | 11 | 166.04 | 26B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14088 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 12.5 | 28 | 1 | 10 | 162.90 | 30B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 264 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3560 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 10 | 24 | 4 | 11.9 | 148.14 | 24B | B |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 12.5 | 28 | 4 | 11 | 147.01 | 35B | B |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 24.5 | 14 | 1 | 10.2 | 143.88 | 37B | B |
| 1875 | 73 | 3.8 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 20 | 6 | 1 | 12.2 | 137.23 | 25B | B |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 8 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 10 | 25 | 4 | 11.2 | 129.37 | 38B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 5 | 18 | 1 | 12.8 | 118.56 | 33B | B |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.8 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 15 | 2 | 1 | 11.3 | 117.87 | 21B | B |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 5 | 20 | 1 | 6.5 | 109.50 | 41C | B |
| 1875 | 54 | 0.6 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 20 | 3 | 4 | 11.2 | 109.45 | 27B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20936 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 12.5 | 7 | 4 | 20 | 112.45 | 34B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 22.5 | 4 | 4 | 9.93 | 108.93 | 39B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 20 | 4 | 1 | 15 | 104.00 | 36B | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 35 | 2 | 1 | 9.29 | 95.43 | 29B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.8 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 27.5 | 2 | 1 | 11 | 89.52 | 28B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 20 | 2 | 1 | 9.81 | 87.92 | 32B | B |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 5 | 24 | 9 | 18.3 | 75.79 | 42C | B |
| 1188 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 24.5 | 2 | 4 | 13.2 | 72.46 | 40B | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 106 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 10 | 22 | 1 | 11.1 | 70.84 | 50C | C |
| 3049 | 87 | 2.2 | -2.8 | 490 | 90 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 20 | 2 | 1 | 9.01 | 70.51 | 31B | C |
| 1875 | 28 | -0.4 | -0.6 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.58 | 4 | 40.0 | 5 | 1 | 7.0 | 22.5 | 6 | 9 | 15.7 | 60.06 | 49C | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | ← 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.6 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 3 | 1 | 9.32 | 58.32 | 43C | C |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 600 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 15 | 8 | 1 | 10.1 | 55.36 | 56C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 20 | 2 | 1 | 10.6 | 54.96 | 44C | C |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 20 | 2 | 1 | 8.81 | 53.81 | 45C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 24.5 | 3 | 4 | 12.1 | 49.86 | 59C | C |
| 1875 | 36 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 2 | 4 | 12.1 | 46.12 | 54C | C |
| 1188 | 80 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 15 | 2 | 1 | 6.56 | 45.06 | 47C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 2 | 4 | 10.8 | 44.84 | 55C | C |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20906 | 0 | 0 | -1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 12.5 | 2 | 1 | 9.15 | 43.07 | 52C | C |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 66 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 12.5 | 2 | 4 | 11.2 | 42.70 | 46C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.8 | 1 | 1 | 6.5 | 12.5 | 2 | 1 | 9.81 | 41.11 | 51C | C |
| 16 | 67 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 12.5 | 2 | 1 | 9.01 | 40.51 | 53C | C |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 12.5 | 2 | 1 | 9.11 | 39.11 | 57C | C |
| 2378 | 90 | 3.8 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.8 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 35 | 2 | 1 | 10 | 38.46 | 58C | C |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 12.5 | 40 | 1 | 11 | 38.07 | 65D | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 10 | 2 | 1 | 15 | 40.00 | 48C | C |
| 1875 | 80 | -5.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 22.5 | 3 | 1 | 10.4 | 33.94 | 81D | D |
| 3034 | 66 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.8 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 20 | 3 | 1 | 20 | 35.80 | 60C | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 12.5 | 5 | 1 | 12 | 31.80 | 64D | D |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 5 | 4 | 1 | 8.83 | 30.83 | 62D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.80 | 4 | 10.0 | 2 | 1 | 7.0 | 17.5 | 3 | 1 | 10 | 27.80 | 66D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 24.5 | 2 | 1 | 10 | 26.20 | 68D | D |
| 1188 | 46 | 1.6 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 40 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 24.5 | 2 | 4 | 14 | 26.58 | 70D | D |
| 73 | 68 | 7.2 | -5.8 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 56 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 10 | 5 | 1 | 10.4 | 28.18 | 69D | D |
| 10606 | 80 | 3.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 20 | 23 | 1 | 13.1 | 25.30 | 73D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 2.5 | 5 | 1 | 10 | 24.50 | 63D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 20 | 2 | 1 | 9 | 23.76 | 72D | D |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 5 | 2 | 1 | 9.43 | 21.43 | 67D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 5 | 2 | 1 | 9.2 | 20.20 | 71D | D |
| 1188 | 75 | 2.8 | 2 | 490 | 103 | 490 | 36 | 490 | 58 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.8 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 24.5 | 2 | 1 | 8.88 | 19.25 | 74D | D |
| 1188 | 42 | 6 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 20 | 14 | 4 | 14.5 | 15.87 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 26 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 12.5 | 23 | 1 | 13.3 | 15.37 | 76D | D |
| 2378 | 74 | 7.8 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 748 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 35 | 3 | 1 | 14.2 | 8.77 | 77D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 17.5 | 6 | 1 | 12 | 8.20 | 78D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 12.5 | 6 | 1 | 12 | 4.70 | 79D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 22.5 | 2 | 1 | 12 | 3.20 | 80D | D |

# Table 18
## CHAPTER 4, EQUATION 13
## Crossing Factor with Crossing Angle, Sight Distance, Approach Grade, and Number of Tracks Element Revisions Computer Iteration

| HazMat | Angle | A % | B % | | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | | SB | X_ADT | DT | NT | | TRK | # | LN | CO | SPD | | FC | POP | | FAT | INJ | PDO | | GRD | PT | A%SD | | PI | TCC % | TCC | | AI | TI | SI | EI | A | CI | | PI | | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9136 | 90 | 0.2 | 0 | | 400 | 27 | 400 | 12 | 400 | 33 | 400 | 27 | | 4 | 300 | 6 | 6 | | 1 | 2 | 2 | 7 | 55 | | 1 | 50 | | 0 | 2 | 0 | | 0.2 | 0 | 0.05 | | 10 | 12.0 | 2 | | 1.8 | 15.3 | 5.5 | 7 | 1 | 322 | | 876.12 | | 12A | A |
| 9136 | 90 | 0 | 1.2 | | 400 | 62 | 400 | 46 | 400 | 41 | 400 | 26 | | 2 | 300 | 6 | 6 | | 1 | 2 | 2 | 7 | 55 | | 1 | 50 | | 0 | 2 | 2 | | 1.2 | 0 | 0.09 | | 10 | 12.0 | 2 | | 2 | 13.0 | 5.5 | 5 | 1 | 181 | | 442.40 | | 18A | A |
| 1188 | 80 | 8 | 5.8 | | 400 | 22 | 400 | 31 | 400 | 28 | 400 | 28 | | 0 | 50 | 4 | 2 | | 1 | 1 | 1 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 0.4 | 0 | 0.06 | | 10 | 2.0 | 1 | | 1 | 6.5 | 3 | 2 | 1 | 279 | | 291.70 | | 47C | A |
| 1875 | 86 | 3 | -1.2 | | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | | 32 | 7744 | 4 | 2 | | 1 | 2 | 2 | 7 | 20 | | 3 | 80561 | | 0 | 1 | 2 | | 4.2 | 0 | 0.76 | | 10 | 309.8 | 20 | | 1.8 | 6.5 | 2 | 55 | 1 | 30.1 | | 249.01 | | 1A | A |
| 16 | 76 | 1.6 | -3.6 | | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | | 0 | 2750 | 2 | 3 | | 1 | 2 | 2 | 7 | 25 | | 4 | 23928 | | 0 | 3 | 1 | | 5.2 | 0 | 0.81 | | 10 | 110.0 | 20 | | 2.3 | 6.5 | 2.5 | 24 | 1 | 40.4 | | 245.98 | | 3A | A |
| 2376 | 48 | 0 | -1.4 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 1 | 650 | 7 | 8 | | 1 | 2 | 2 | 7 | 70 | | 1 | 50 | | 1 | 3 | 3 | | 1.4 | 0 | 1.00 | | 10 | 26.0 | 3 | | 2.9 | 16.1 | 7 | 5 | 4 | 29.9 | | 234.98 | | 2A | A |
| 3009 | 90 | 2.6 | -4 | | 180 | 103 | 180 | 58 | 180 | 111 | 180 | 40 | | 7 | 1300 | 4 | 4 | | 4 | 2 | 2 | 7 | 40 | | 3 | 21732 | | 0 | 1 | 0 | | 8.8 | 0 | 0.43 | | 10 | 52.0 | 10 | | 1.4 | 9.0 | 4 | 20 | 1 | 65.7 | | 216.56 | | 6A | A |
| 1875 | 42 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 2500 | 3 | 3 | | 1 | 2 | 2 | 7 | 45 | | 3 | 23928 | | 1 | 2 | 1 | | 0 | 0 | 1.00 | | 10 | 100.0 | 10 | | 2.3 | 7.0 | 4.5 | 13 | 4 | 27.5 | | 213.84 | | 4A | A |
| 1188 | 90 | 0 | 0 | | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | | 0 | 2000 | 14 | 2 | | 7 | 2 | 2 | 7 | 20 | | 4 | 45309 | | 0 | 3 | 4 | | 0 | 0 | 1.00 | | 10 | 80.0 | 10 | | 2.8 | 16.1 | 2 | 14 | 1 | 37 | | 210.97 | | 5A | A |
| 3009 | 61 | 1.4 | -3.4 | | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | | 6 | 1200 | 4 | 4 | | 1 | 2 | 2 | 7 | 40 | | 4 | 21732 | | 0 | 1 | 0 | | 4.8 | 0 | 0.33 | | 10 | 48.0 | 5 | | 1.4 | 9.0 | 4 | 15 | 1 | 65.9 | | 188.61 | | 14A | A |
| 9136 | 56 | 3 | 2.8 | | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | | 8 | 150 | 6 | 6 | | 1 | 2 | 2 | 7 | 45 | | 1 | 50 | | 1 | 1 | 1 | | 0.4 | 0 | 0.56 | | 10 | 6.0 | 1 | | 1.9 | 15.3 | 4.5 | 10 | 4 | 38.7 | | 188.17 | | 7A | A |
| 3040 | 90 | -3 | -4 | | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | | 21 | 250 | 4 | 4 | | 1 | 1 | 2 | 7 | 40 | | 1 | 50 | | 0 | 0 | 1 | | 1 | 0 | 0.31 | | 10 | 10.0 | 2 | | 1.1 | 9.0 | 4 | 24 | 1 | 59.3 | | 180.88 | | 9A | A |
| 3034 | 90 | 0.4 | -0.8 | | 225 | 62 | 225 | 80 | 225 | 225 | 225 | 62 | | 3 | 625 | 4 | 4 | | 1 | 2 | 2 | 7 | 40 | | 1 | 1322 | | 0 | 2 | 3 | | 1.2 | 0 | 0.53 | | 10 | 33.0 | 4 | | 2.1 | 9.0 | 4 | 6 | 1 | 40.9 | | 172.08 | | 16A | A |
| 3034 | 77 | 1 | 1 | | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | | 3 | 1063 | 3 | 3 | | 11 | 2 | 2 | 7 | 40 | | 1 | 45309 | | 0 | 2 | 0 | | 0 | 0 | 0.79 | | 10 | 42.5 | 5 | | 1.8 | 7.0 | 4 | 9 | 1 | 49.2 | | 165.91 | | 13A | A |
| 1875 | 72 | 6.8 | -3 | | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | | 0 | 50 | 4 | 0 | | 2 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 4 | 0 | | 9.8 | 0 | 0.72 | | 10 | 2.0 | 1 | | 2.8 | 4.0 | 3 | 2 | 1 | 53.8 | | 165.43 | | 21B | A |
| 85 | 78 | 0 | 0 | | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | | 8 | 2000 | 2 | 0 | | 1 | 2 | 2 | 7 | 25 | | 1 | 6586 | | 0 | 3 | 0 | | 0 | 0 | 1.00 | | 10 | 80.0 | 10 | | 2.2 | 2.0 | 2.5 | 19 | 1 | 25.1 | | 164.15 | | 8A | A |
| 1875 | 74 | 4.8 | -8.4 | | 490 | 73 | 490 | 490 | 490 | 200 | 490 | 64 | | 26 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 14 | 0 | 0.43 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 26 | 1 | 75.9 | | 163.87 | | 17A | A |
| 1875 | 38 | 10.8 | 0 | | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | | 0 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 10.8 | 0 | 0.13 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 2 | 4 | 152 | | 162.17 | | 54C | A |
| 1875 | 51 | -0.8 | 0 | | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | | 1 | 2600 | 3 | 3 | | 1 | 2 | 4 | 2 | 45 | | 3 | 52267 | | 2 | 3 | 2 | | 0.8 | 0 | 0.80 | | 3 | 112.0 | 20 | | 3.2 | 7.0 | 4.5 | 24 | 4 | 30.1 | | 147.90 | | 10A | A |
| 1188 | 30 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 4 | 300 | 6 | 2 | | 1 | 2 | 2 | 7 | 49 | | 1 | 50 | | 0 | 2 | 2 | | 0 | 0 | 1.00 | | 10 | 12.0 | 2 | | 2 | 6.3 | 4.9 | 7 | 4 | 30 | | 145.27 | | 15A | A |
| 1188 | 31 | -0.8 | 1.4 | | 490 | 73 | 490 | 82 | 490 | 70 | 490 | 37 | | 0 | 20 | 8 | 2 | | 1 | 1 | 1 | 7 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 1.1 | 0 | 0.14 | | 10 | 0.8 | 1 | | 1 | 10.3 | 4.9 | 2 | 4 | 124 | | 145.82 | | 40B | B |
| 1875 | 76 | 0 | 0 | | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | | 76 | 12476 | 14 | 0 | | 1 | 2 | 4 | 2 | 25 | | 3 | 80561 | | 1 | 0 | 0 | | 0 | 0 | 0.33 | | 3 | 499.0 | 20 | | 1.4 | 14.0 | 2.5 | 99 | 1 | 57 | | 130.77 | | 11A | B |
| 1188 | 90 | 4.8 | -5.4 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 12 | 500 | 4 | 2 | | 1 | 2 | 2 | 7 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 10 | 0 | 1.00 | | 10 | 20.0 | 3 | | 1 | 6.5 | 4.9 | 16 | 1 | 47.5 | | 132.40 | | 19A | B |
| 73 | 49 | 2 | 0 | | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | | 51 | 4600 | 3 | 3 | | 1 | 2 | 2 | 2 | 25 | | 3 | 20035 | | 0 | 1 | 1 | | 2 | 0 | 1.00 | | 3 | 184.0 | 20 | | 1.5 | 7.0 | 2.5 | 74 | 4 | 31.1 | | 100.41 | | 20A | B |
| 73 | 78 | -0.4 | -11 | | 225 | 120 | 225 | 73 | 225 | 60 | 225 | 38 | | 0 | 50 | 2 | 2 | | 1 | 1 | 2 | 7 | 25 | | 1 | 20035 | | 0 | 0 | 1 | | 10.4 | 0 | 0.31 | | 10 | 2.0 | 1 | | 1.1 | 5.0 | 2.5 | 2 | 1 | 80.8 | | 99.66 | | 52C | B |
| 1188 | 61 | 1 | -1.2 | | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | | 0 | 800 | 6 | 2 | | 1 | 2 | 2 | 5 | 30 | | 4 | 2197 | | 0 | 0 | 0 | | 2.2 | 0 | 0.07 | | 4 | 32.0 | 4 | | 1 | 6.3 | 3 | 8 | 1 | 216 | | 99.49 | | 56C | B |
| 3049 | 87 | 2.2 | -2.8 | | 490 | 98 | 490 | 30 | 490 | 490 | 490 | 50 | | 0 | 100 | 4 | 14 | | 1 | 1 | 2 | 7 | 40 | | 1 | 50 | | 0 | 0 | 0 | | 3 | 0 | 0.35 | | 10 | 4.0 | 1 | | 1 | 21.5 | 4 | 2 | 1 | 63.6 | | 93.12 | | 31B | B |
| 1875 | 54 | 0.8 | -5.6 | | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | | 0 | 300 | 3 | 3 | | 1 | 2 | 2 | 7 | 40 | | 1 | 444719 | | 1 | 0 | 0 | | 6.4 | 0 | 0.79 | | 10 | 12.0 | 2 | | 1.4 | 7.0 | 4 | 3 | 4 | 44.5 | | 88.63 | | 27B | B |
| 1875 | 51 | 5.4 | -5 | | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | | 2 | 30 | 3 | 3 | | 1 | 1 | 1 | 7 | 45 | | 1 | 1560 | | 0 | 0 | 0 | | 10.4 | 0 | 0.54 | | 10 | 1.2 | 1 | | 1 | 7.0 | 4.5 | 4 | 4 | 61.3 | | 86.28 | | 39B | B |
| 73 | 46 | 3 | 0 | | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | | 0 | 800 | 2 | 2 | | 5 | 2 | 2 | 7 | 25 | | 3 | 20035 | | 0 | 0 | 0 | | 3 | 0 | 0.49 | | 10 | 32.0 | 4 | | 1 | 5.0 | 2.5 | 7 | 4 | 57.6 | | 80.06 | | 34B | B |
| 3034 | 63 | -0.4 | -5.6 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 30 | 4 | 4 | | 1 | 1 | 2 | 7 | 40 | | 1 | 50 | | 0 | 1 | 1 | | 5.2 | 0 | 1.00 | | 10 | 1.2 | 1 | | 1.5 | 9.0 | 4 | 2 | 1 | 36.3 | | 79.97 | | 32B | B |
| 3034 | 90 | 5 | -5 | | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 500 | 4 | 4 | | 4 | 1 | 2 | 7 | 40 | | 1 | 243 | | 0 | 0 | 0 | | 10 | 0 | 0.95 | | 10 | 20.0 | 3 | | 1 | 9.0 | 4 | 4 | 1 | 53.3 | | 78.29 | | 36B | B |
| 1875 | 73 | 3.6 | -5 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 4 | 100 | 2 | 2 | | 2 | 2 | 2 | 7 | 40 | | 1 | 183 | | 0 | 0 | 0 | | 6.8 | 0 | 1.00 | | 10 | 4.0 | 1 | | 1 | 5.0 | 4 | 6 | 1 | 48.6 | | 75.58 | | 25B | B |
| 2376 | 71 | 5.6 | -2.8 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 30 | 7 | 8 | | 1 | 1 | 2 | 7 | 70 | | 1 | 50 | | 0 | 0 | 0 | | 8.4 | 0 | 1.00 | | 10 | 1.2 | 1 | | 1 | 16.1 | 7 | 2 | 1 | 43.2 | | 73.33 | | 29B | B |
| 9136 | 82 | 6.6 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 50 | 6 | 8 | | 2 | 1 | 2 | 7 | 55 | | 1 | 50 | | 0 | 0 | 1 | | 5.6 | 0 | 1.00 | | 10 | 2.0 | 1 | | 1.1 | 15.3 | 5.5 | 2 | 1 | 38.8 | | 71.48 | | 28B | B |
| 1875 | 56 | 4 | 4 | | 490 | 50 | 490 | 65 | 490 | 81 | 490 | 60 | | 34 | 450 | 4 | 0 | | 1 | 2 | 2 | 2 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 0 | 0 | 0.14 | | 3 | 16.0 | 2 | | 1 | 4.0 | 3 | 37 | 4 | 118 | | 69.77 | | 23B | B |
| 1875 | 47 | 3.6 | -4.2 | | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | | 0 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 7.8 | 0 | 0.51 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 2 | 4 | 57.5 | | 67.53 | | 55C | B |
| 1875 | 70 | 3.6 | -1.2 | | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | | 1 | 20 | 4 | 0 | | 1 | 1 | 2 | 7 | 30 | | 1 | 50 | | 0 | 0 | 0 | | 4.8 | 0 | 0.52 | | 10 | 0.8 | 1 | | 1 | 4.0 | 3 | 3 | 1 | 48.9 | | 61.86 | | 43C | B |
| 16 | 44 | 2 | -7.6 | | 180 | 180 | 180 | 180 | 180 | 86 | 180 | 180 | | 0 | 20 | 2 | 3 | | 1 | 1 | 2 | 7 | 25 | | 1 | 2493 | | 0 | 0 | 0 | | 9.6 | 0 | 0.87 | | 10 | 0.8 | 1 | | 1 | 6.5 | 2.5 | 2 | 4 | 50 | | 61.50 | | 46C | B |
| 73 | 80 | -1.2 | -3 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 5 | 1400 | 2 | 2 | | 2 | 2 | 2 | 7 | 10 | | 3 | 15414 | | 0 | 0 | 1 | | 1.6 | 0 | 1.00 | | 10 | 56.0 | 10 | | 1.1 | 5.0 | 1 | 18 | 1 | 31.8 | | 60.31 | | 33B | B |
| 16 | 83 | 6 | -4.6 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 40 | 2 | 3 | | 1 | 1 | 2 | 7 | 25 | | 1 | 2493 | | 0 | 0 | 0 | | 9.6 | 0 | 1.00 | | 10 | 1.6 | 1 | | 1 | 6.5 | 2.5 | 2 | 1 | 48.2 | | 57.71 | | 51C | C |
| 3004 | 83 | 2 | -4 | | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | | 16 | 1200 | 4 | 4 | | 1 | 2 | 2 | 3 | 40 | | 1 | 243 | | 0 | 0 | 0 | | 6 | 0 | 0.67 | | 4 | 48.0 | 5 | | 1 | 9.0 | 4 | 22 | 1 | 40.9 | | 56.13 | | 22B | C |
| 73 | 78 | 2 | -7.2 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | | 0 | 50 | 2 | 2 | | 1 | 1 | 2 | 7 | 25 | | 1 | 50 | | 0 | 0 | 0 | | 9.2 | 0 | 1.00 | | 10 | 2.0 | 1 | | 1 | 5.0 | 2.5 | 2 | 1 | 44.8 | | 54.81 | | 57C | C |
| 1875 | 77 | 3 | -4.2 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 50 | 3 | 1 | | 2 | 1 | 1 | 7 | 40 | | 1 | 50 | | 0 | 0 | 0 | | 7.2 | 0 | 1.00 | | 10 | 2.0 | 1 | | 1 | 4.3 | 4 | 2 | 1 | 41.8 | | 54.16 | | 44C | C |
| 1875 | 76 | 3.6 | -4 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 30 | 2 | 2 | | 1 | 1 | 1 | 7 | 40 | | 1 | 50 | | 0 | 0 | 0 | | 7.6 | 0 | 1.00 | | 10 | 1.2 | 1 | | 1 | 5.0 | 4 | 2 | 1 | 40.7 | | 53.71 | | 45C | C |
| 1875 | 58 | 0 | -4.6 | | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | | 0 | 3580 | 8 | 0 | | 1 | 2 | 4 | 2 | 20 | | 4 | 444719 | | 0 | 2 | 1 | | 4.6 | 0 | 0.96 | | 3 | 143.2 | 20 | | 1.9 | 8.0 | 2 | 24 | 4 | 37.9 | | 53.52 | | 24B | C |
| 1188 | 74 | 5 | -4.2 | | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | | 12 | 100 | 4 | 2 | | 1 | 2 | 2 | 3 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 9.2 | 0 | 0.55 | | 4 | 4.0 | 1 | | 1 | 6.5 | 4.9 | 14 | 1 | 58.1 | | 53.29 | | 37B | C |
| 14 | 77 | 2.8 | -2.4 | | 400 | 50 | 400 | 50 | 400 | 400 | 400 | 400 | | 2 | 20 | 2 | 0 | | 1 | 1 | 1 | 7 | 10 | | 1 | 791 | | 0 | 0 | 0 | | 5.2 | 0 | 0.56 | | 10 | 0.8 | 1 | | 1 | 2.0 | 1 | 4 | 1 | 47.1 | | 53.11 | | 62D | C |
| 73 | 57 | 0.5 | -2.4 | | 490 | 59 | 490 | 490 | 490 | 68 | 400 | 72 | | 20 | 3000 | 2 | 2 | | 1 | 2 | 2 | 2 | 25 | | 3 | 444719 | | 0 | 0 | 0 | | 2.7 | 0 | 0.35 | | 3 | 120.0 | 20 | | 1 | 5.0 | 2.5 | 43 | 4 | 59.7 | | 51.66 | | 26B | C |
| 1875 | 90 | 2.2 | 0 | | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | | 0 | 200 | 2 | 2 | | 4 | 1 | 2 | 7 | 20 | | 1 | 1619 | | 0 | 0 | 0 | | 2.2 | 0 | 0.70 | | 10 | 8.0 | 1 | | 1 | 5.0 | 2 | 2 | 1 | 41.3 | | 50.34 | | 48C | C |
| 0 | 74 | 8.2 | -3 | | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | | 0 | 150 | 1 | 0 | | 1 | 1 | 2 | 7 | 10 | | 1 | 50 | | 0 | 0 | 0 | | 0.2 | 0 | 1.00 | | 10 | 8.0 | 1 | | 1 | 1.0 | 1 | 2 | 1 | 44.8 | | 47.90 | | 71D | C |
| 0 | 90 | 0 | 1 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 2000 | 1 | 0 | | 1 | 1 | 1 | 10 | 10 | | 10 | 12340 | | 0 | 0 | 0 | | 1 | 0 | 1.00 | | 10 | 80.0 | 10 | | 1 | 1.0 | 1 | 20 | 1 | 25.8 | | 46.75 | | 41C | C |
| 85 | 90 | 0 | 0 | | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | | 1 | 5800 | 2 | 0 | | 1 | 2 | 2 | 2 | 25 | | 7 | 14986 | | 0 | 1 | 1 | | 0 | 0 | 1.00 | | 3 | 232.0 | 20 | | 1.5 | 2.0 | 2.5 | 28 | 1 | 25 | | 43.65 | | 30B | C |
| 1188 | 54 | -0.2 | -0.2 | | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | | 0 | 3200 | 8 | 2 | | 1 | 2 | 2 | 3 | 20 | | 5 | 4078 | | 0 | 0 | 2 | | 0 | 0 | 0.70 | | 4 | 128.0 | 20 | | 1.2 | 8.3 | 2 | 25 | 4 | 32.5 | | 43.61 | | 36B | C |
| 16 | 87 | 0 | -2.5 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | | 0 | 50 | 2 | 3 | | 1 | 1 | 2 | 7 | 25 | | 1 | 50 | | 0 | 0 | 0 | | 2.5 | 0 | 0.88 | | 10 | 2.0 | 1 | | 1 | 6.5 | 2.5 | 2 | 1 | 31.7 | | 43.22 | | 53C | C |
| 2 | 67 | 2 | -2 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | | 0 | 100 | 2 | 0 | | 1 | 1 | 2 | 7 | 10 | | 1 | 50 | | 0 | 0 | 0 | | 4 | 0 | 0.76 | | 10 | 4.0 | 1 | | 1 | 2.0 | 1 | 2 | 1 | 37.8 | | 41.79 | | 67D | C |
| 16 | 56 | 0 | 0 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | | 16 | 1500 | 2 | 3 | | 1 | 2 | 2 | 3 | 25 | | 2 | 50 | | 0 | 0 | 0 | | 0 | 0 | 1.00 | | 4 | 60.0 | 10 | | 1 | 6.5 | 2.5 | 26 | 4 | 26 | | 41.01 | | 35B | C |
| 3004 | 86 | 3 | -2.6 | | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | | 0 | 480 | 4 | 4 | | 6 | 2 | 2 | 3 | 40 | | 1 | 4005 | | 0 | 0 | 0 | | 5.6 | 0 | 0.42 | | 4 | 19.4 | 2 | | 1 | 9.0 | 4 | 3 | 1 | 68.5 | | 35.79 | | 60C | C |
| 85 | 22 | 0 | 0 | | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | | 0 | 2800 | 2 | 0 | | 1 | 2 | 2 | 2 | 10 | | 4 | 50 | | 0 | 2 | 0 | | 0 | 0 | 0.70 | | 3 | 112.0 | 20 | | 1.8 | 2.0 | 1 | 24 | 9 | 39.7 | | 35.50 | | 42C | C |
| 73 | 68 | 7.2 | -5.6 | | 180 | 32 | 180 | 58 | 180 | 180 | 180 | 58 | | 0 | 300 | 2 | 2 | | 1 | 2 | 2 | 3 | 20 | | 3 | 444719 | | 0 | 0 | 0 | | 12.8 | 0 | 0.48 | | 4 | 12.0 | 2 | | 1 | 5.0 | 2 | 5 | 1 | 70.1 | | 34.06 | | 69D | C |
| 1188 | 75 | 2.8 | 2 | | 490 | 103 | 490 | 36 | 490 | 56 | 400 | 151 | | 0 | 20 | 4 | 2 | | 1 | 1 | 1 | 2 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 0.8 | 0 | 0.18 | | 3 | 0.8 | 1 | | 1 | 6.5 | 4.9 | 2 | 1 | 95 | | 33.39 | | 74D | D |
| 1875 | 28 | -0.4 | -0.8 | | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | | 0 | 1000 | 3 | 3 | | 1 | 2 | 2 | 3 | 45 | | 1 | 444719 | | 0 | 0 | 0 | | 0.4 | 0 | 0.56 | | 4 | 40.0 | 5 | | 1 | 7.0 | 4.5 | 6 | 9 | 43.4 | | 30.95 | | 49C | D |
| 3009 | 90 | 0 | 0 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 400 | 2 | 0 | | 1 | 2 | 2 | 7 | 5 | | 3 | 21732 | | 0 | 0 | 0 | | 0 | 0 | 1.00 | | 10 | 16.0 | 2 | | 1 | 2.0 | 0.5 | 5 | 1 | 25 | | 29.50 | | 63D | D |
| 1875 | 69 | -3.4 | -1.4 | | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | | 0 | 450 | 3 | 3 | | 1 | 2 | 2 | 3 | 45 | | 1 | 444719 | | 0 | 0 | 0 | | 2 | 0 | 0.40 | | 4 | 18.0 | 2 | | 1 | 7.0 | 4.5 | 3 | 1 | 52.2 | | 29.09 | | 61D | D |
| 73 | 77 | 0.8 | 4 | | 445 | 445 | 445 | 188 | 445 | 48 | 445 | 445 | | 1 | 4000 | 3 | 2 | | 1 | 2 | 4 | 2 | 20 | | 1 | 444719 | | 0 | 0 | 0 | | 3.2 | 0 | 0.62 | | 3 | 160.0 | 20 | | 1 | 5.0 | 2 | 22 | 1 | 42.5 | | 27.45 | | 50C | D |
| 1188 | 43 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 250 | 2 | 1 | | 1 | 2 | 2 | 3 | 49 | | 1 | 182 | | 0 | 1 | 0 | | 0 | 0 | 1.00 | | 4 | 10.0 | 2 | | 1.4 | 3.5 | 4.9 | 3 | 4 | 27.1 | | 25.35 | | 59C | D |
| 73 | 88 | 3.4 | -4 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | | 0 | 800 | 2 | 2 | | 2 | 2 | 2 | 3 | 25 | | 1 | 50 | | 0 | 0 | 0 | | 7.4 | 0 | 0.87 | | 4 | 32.0 | 4 | | 1 | 5.0 | 2.5 | 5 | 1 | 45.9 | | 25.34 | | 64D | D |
| 2376 | 90 | 3.6 | 0 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 20 | 7 | 8 | | 1 | 2 | 2 | 3 | 70 | | 1 | 50 | | 0 | 0 | 0 | | 3.6 | 0 | 1.00 | | 4 | 0.8 | 1 | | 1 | 16.1 | 7 | 2 | 1 | 33.1 | | 25.30 | | 58C | D |
| 1875 | 90 | -1.6 | -4 | | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | | 0 | 250 | 3 | 3 | | 1 | 2 | 2 | 3 | 35 | | 1 | 2424 | | 0 | 0 | 0 | | 2.4 | 0 | 0.60 | | 4 | 10.0 | 2 | | 1 | 7.0 | 3.5 | 3 | 1 | 40.3 | | 23.14 | | 66D | D |
| 1188 | 48 | 1.6 | -0.4 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | | 0 | 50 | 2 | 1 | | 2 | 2 | 2 | 3 | 49 | | 1 | 182 | | 0 | 0 | 0 | | 2 | 0 | 0.79 | | 4 | 2.0 | 1 | | 1 | 3.5 | 4.9 | 2 | 1 | 37.8 | | 20.34 | | 70D | D |
| 1875 | 90 | -1.8 | -2 | | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 10 | 2 | 2 | | 1 | 1 | 2 | 3 | 40 | | 1 | 50 | | 0 | 0 | 1 | | 0.2 | 0 | 0.76 | | 4 | 0.4 | 1 | | 1.1 | 5.0 | 4 | 2 | 1 | 20.3 | | 18.61 | | 72D | D |
| 1188 | 90 | 0 | 0 | | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | 0 | 50 | 4 | 2 | | 1 | 2 | 2 | 3 | 49 | | 1 | 50 | | 0 | 0 | 0 | | 0 | 0 | 1.00 | | 4 | 2.0 | 1 | | 1 | 6.5 | 4.9 | 2 | 1 | 25 | | 16.32 | | 68D | D |
| 10006 | 86 | 2 | -2.6 | | 340 | 17 | 340 | 150 | 340 | 340 | 340 | 68 | | 17 | 14500 | 17 | 15 | | 1 | 2 | 4 | 1 | 25 | | 3 | 367302 | | 0 | 1 | 0 | | 4.8 | 0 | 0.43 | | 0.5 | 560.0 | 20 | | 1.4 | 32.9 | 2.5 | 40 | 1 | 56.3 | | 13.24 | | 65D | D |
| 1875 | 90 | 3.8 | -7 | | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | | 0 | 20 | 3 | 3 | | 2 | 2 | 2 | 1 | 45 | | 1 | 50 | | 0 | 0 | 0 | | 10.8 | 0 | 0.07 | | 0.5 | 0.8 | 1 | | 1 | 7.0 | 4.5 | 2 | 1 | 244 | | 13.02 | | 80D | D |
| 10606 | 80 | 3.8 | -3.6 | | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | | 0 | 3300 | 17 | 15 | | 2 | 2 | 4 | 1 | 40 | | 3 | 367302 | | 0 | 0 | 0 | | 7.4 | 0 | 1.00 | | 0.5 | 132.0 | 20 | | 1 | 32.9 | 4 | 23 | 1 | 44.7 | | 8.48 | | 73D | D |
| 1875 | 90 | 5.2 | -10 | | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | | 0 | 1200 | 3 | 3 | | 2 | 2 | 2 | 1 | 35 | | 1 | 2424 | | 0 | 0 | 0 | | 15.2 | 0 | 0.23 | | 0.5 | 48.0 | 5 | | 1 | 7.0 | 3.5 | 6 | 1 | 112 | | 7.00 | | 78D | D |
| 1188 | 42 | 8 | 0 | | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | | 0 | 2300 | 5 | 15 | | 2 | 2 | 2 | 1 | 40 | | 4 | 367302 | | 0 | 0 | 0 | | 8 | 0 | 1.00 | | 0.5 | 92.0 | 10 | | 1 | 23.0 | 4 | 14 | 4 | 47.5 | | 6.32 | | 75D | D |
| 0 | 70 | 2.8 | 0.8 | | 285 | 285 | 285 | 26 | 285 | 285 | 285 | 285 | | 0 | 9500 | 2 | 3 | | 2 | 2 | 4 | 1 | 25 | | 3 | 26017 | | 0 | 0 | 0 | | 2 | 0 | 0.77 | | 0.5 | 380.0 | 20 | | 1 | 6.5 | 2.5 | 23 | 1 | 37.2 | | 5.06 | | 76D | D |
| 2376 | 74 | 7.6 | -3.6 | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | 0 | 350 | 7 | 8 | | 3 | 2 | 2 | 1 | 70 | | 1 | 748 | | 0 | 0 | 0 | | 11.2 | 0 | 1.00 | | 0.5 | 14.0 | 2 | | 1 | 16.1 | 7 | 3 | 1 | 54.4 | | 4.58 | | 77D | D |
| 1875 | 90 | 0 | 0 | | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | | 0 | 630 | 3 | 3 | | 2 | 2 | 2 | 1 | 25 | | 2 | 444719 | | 0 | 0 | 0 | | 0 | 0 | 0.83 | | 0.5 | 33.2 | 4 | | 1 | 7.0 | 2.5 | 6 | 1 | 30.1 | | 2.60 | | 79D | D |

# Table 19

## TF = 5 * [(NT + DT) + (HAZMAT/2000)]

## Train Factor Computer Iteraion; coefficient = 5.0

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SS | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 86.7 | 7 | 5 | 4 | 10.7 | 363.92 | 2A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.8 | 83.7 | 2 | 14 | 1 | 15 | 329.38 | 5A | A |
| 9136 | 56 | 3 | 2.8 | 340 | 48 | 340 | 340 | 340 | 38 | 340 | 340 | 6 | 150 | 8 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 99.5 | 4.5 | 10 | 4 | 10 | 293.82 | 7A | A |
| 9136 | 90 | 0.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 8 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 99.5 | 5.5 | 7 | 1 | 9 | 264.81 | 12A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 39.7 | 4.5 | 13 | 4 | 11.5 | 252.22 | 4A | A |
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.8 | 37.2 | 2 | 55 | 1 | 9.01 | 249.92 | 1A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 87.8 | 5.5 | 5 | 1 | 9 | 248.68 | 18A | A |
| 16 | 76 | 1.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 32.5 | 2.5 | 24 | 1 | 9.15 | 233.89 | 3A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 103 | 180 | 58 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.8 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 52.5 | 4 | 20 | 1 | 12 | 202.33 | 6A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 62 | 225 | 69 | 225 | 225 | 225 | 62 | 3 | 625 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 52.8 | 4 | 8 | 1 | 9 | 196.53 | 16A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 44.8 | 4.9 | 7 | 4 | 14 | 185.87 | 15A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 42.8 | 4 | 9 | 1 | 19.1 | 175.89 | 13A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 52.8 | 4 | 24 | 1 | 8 | 172.28 | 9A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 52.5 | 4 | 15 | 1 | 9.06 | 170.22 | 14A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 203 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2800 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 39.7 | 4.5 | 24 | 4 | 11.4 | 152.78 | 10A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 416 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 10.2 | 2.5 | 19 | 1 | 9.11 | 147.01 | 8A | A |
| 1875 | 76 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 74.7 | 2.5 | 99 | 1 | 10.2 | 139.58 | 11A | A |
| 9136 | 82 | 5.8 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.8 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 99.5 | 5.5 | 2 | 1 | 9.05 | 131.51 | 28B | A |
| 3049 | 87 | 2.2 | -2.8 | 490 | 99 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 115.1 | 4 | 2 | 1 | 8.01 | 131.13 | 31B | A |
| 1188 | 90 | 4.8 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 35.5 | 4.9 | 16 | 1 | 9 | 122.87 | 19A | A |
| 1875 | 74 | 4.8 | -8.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 24.7 | 3 | 28 | 1 | 8.2 | 118.89 | 17A | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 86.7 | 7 | 2 | 1 | 8.29 | 108.95 | 29B | B |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 35.2 | 2.5 | 74 | 4 | 10.6 | 103.86 | 20A | B |
| 1875 | 72 | 8.8 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.8 | 0 | 0.72 | 10 | 2.0 | 1 | 2.8 | 24.7 | 3 | 2 | 1 | 9.26 | 103.86 | 21B | B |
| 3004 | 83 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 52.8 | 4 | 2 | 1 | 8.61 | 100.79 | 32B | B |
| 1875 | 54 | 0.8 | -5.8 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 39.7 | 4 | 3 | 4 | 10.2 | 86.81 | 27B | B |
| 3034 | 60 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 52.8 | 4 | 4 | 1 | 11 | 79.59 | 38B | B |
| 1188 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 82 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 54.2 | 4.9 | 2 | 4 | 12.2 | 78.23 | 40B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 39.7 | 4.5 | 4 | 4 | 8.93 | 66.62 | 39B | B |
| 1875 | 73 | 3.8 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.8 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 29.7 | 4 | 6 | 1 | 10.2 | 63.92 | 25B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 52.8 | 4 | 22 | 1 | 9.04 | 59.85 | 22B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 25.2 | 1 | 18 | 1 | 10.8 | 59.35 | 33B | B |
| 1875 | 58 | 0 | -4.8 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.8 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 44.7 | 2 | 24 | 4 | 10.9 | 59.04 | 24B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 25.2 | 2.5 | 7 | 4 | 15 | 57.63 | 34B | B |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 8 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4976 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 44.8 | 2 | 25 | 4 | 10.2 | 50.31 | 36B | B |
| 1188 | 80 | 6 | 5.8 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 35.5 | 3 | 2 | 1 | 7.58 | 49.06 | 47C | B |
| 16 | 44 | 2 | -7.8 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.8 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 32.5 | 2.5 | 2 | 4 | 10.2 | 47.74 | 46C | B |
| 16 | 83 | 8 | -4.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.8 | 1 | 1 | 32.5 | 2.5 | 2 | 1 | 8.81 | 46.15 | 51C | B |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 32.5 | 2.5 | 2 | 1 | 8.01 | 45.56 | 53C | B |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 35.5 | 4.9 | 14 | 1 | 9.2 | 45.31 | 37B | B |
| 1875 | 78 | 3.8 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 29.7 | 4 | 2 | 1 | 7.81 | 45.30 | 45C | C |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 80.0 | 10 | 1 | 32.5 | 2.5 | 26 | 4 | 10 | 45.03 | 36B | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 87 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 29.7 | 2 | 2 | 1 | 11 | 44.69 | 48C | C |
| 2378 | 90 | 3.2 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.8 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 86.7 | 7 | 2 | 1 | 9 | 43.86 | 58C | C |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 24.7 | 3 | 37 | 4 | 10 | 43.72 | 23B | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 26.4 | 4 | 2 | 1 | 8.83 | 42.99 | 44C | C |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 88 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 25.2 | 2.5 | 43 | 4 | 9.98 | 42.79 | 26B | C |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 25.2 | 2.5 | 2 | 1 | 8.15 | 42.17 | 52C | C |
| 1875 | 70 | 3.8 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 24.7 | 3 | 3 | 1 | 8.32 | 42.01 | 43C | C |
| 1875 | 36 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 24.7 | 3 | 2 | 4 | 11.1 | 41.81 | 54C | C |
| 1875 | 47 | 3.8 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 24.7 | 3 | 2 | 4 | 9.84 | 40.52 | 55C | C |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14986 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 10.2 | 2.5 | 28 | 1 | 9 | 40.15 | 30B | C |
| 73 | 76 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 25.2 | 2.5 | 2 | 1 | 8.11 | 38.29 | 57C | C |
| 1875 | 28 | -0.4 | -0.8 | 575 | 38 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 39.7 | 4.5 | 6 | 9 | 14.7 | 32.54 | 49C | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 5.0 | 1 | 20 | 1 | 7.5 | 32.50 | 41C | C |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 52.8 | 4 | 3 | 1 | 14 | 31.44 | 60C | C |
| 1188 | 81 | 1 | -1.2 | 490 | 55 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 600 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 44.8 | 3 | 8 | 1 | 9.06 | 31.08 | 56C | C |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 17.5 | 0.5 | 5 | 1 | 9 | 29.02 | 63D | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 10.2 | 1 | 24 | 9 | 17.3 | 27.84 | 42C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 20.5 | 4.9 | 3 | 4 | 11.1 | 25.89 | 59C | C |
| 1875 | 69 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 39.7 | 4.5 | 3 | 1 | 9.36 | 25.02 | 61D | D |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.62 | 3 | 100.0 | 20 | 1 | 25.2 | 2 | 22 | 1 | 10.1 | 23.79 | 50C | D |
| 1875 | 90 | -1.8 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 39.7 | 3.5 | 3 | 1 | 9 | 23.86 | 66D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 35.5 | 4.9 | 2 | 1 | 9 | 21.71 | 68D | D |
| 14 | 77 | 2.8 | -2.4 | 490 | 50 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 10.0 | 1 | 4 | 1 | 7.83 | 21.67 | 62D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 156 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 560.0 | 20 | 1.4 | 190.9 | 2.5 | 40 | 1 | 10 | 21.07 | 65D | D |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 10.0 | 1 | 2 | 1 | 8.43 | 20.44 | 67D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 29.7 | 4 | 2 | 1 | 8 | 20.10 | 72D | D |
| 73 | 66 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 600 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 25.2 | 2.5 | 5 | 1 | 10 | 19.08 | 64D | D |
| 73 | 66 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 56 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 25.2 | 2 | 5 | 1 | 9.39 | 17.83 | 69D | D |
| 1188 | 46 | 1.8 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 20.5 | 4.9 | 2 | 4 | 12 | 16.89 | 70D | D |
| 1188 | 75 | 2.8 | 2 | 490 | 103 | 490 | 38 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 35.5 | 4.9 | 2 | 1 | 7.88 | 15.88 | 74D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 0.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 5.0 | 1 | 2 | 1 | 8.2 | 15.20 | 71D | D |
| 10606 | 80 | 3.8 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 190.9 | 4 | 23 | 1 | 11.1 | 14.70 | 73D | D |
| 1188 | 42 | 8 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 118.0 | 4 | 14 | 4 | 12.5 | 9.32 | 75D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 86.7 | 7 | 3 | 1 | 11.2 | 5.94 | 77D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 28 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 20017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 32.5 | 2.5 | 23 | 1 | 11.3 | 5.07 | 76D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 39.7 | 3.5 | 6 | 1 | 10 | 3.53 | 78D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 630 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 39.7 | 2.5 | 8 | 1 | 10 | 3.23 | 79D | D |
| 1875 | 90 | 3.8 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 39.7 | 4.5 | 2 | 1 | 10 | 2.93 | 80D | D |

# Table 20

## SF = TRAIN SPEED / 2

## Speed Factor Computer Iteraion; coefficient = 0.5

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SS | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SO | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 267 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.8 | 6.5 | 10 | 55 | 1 | 9.01 | 904.82 | 1A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23028 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 8.5 | 12.5 | 24 | 1 | 9.15 | 726.00 | 3A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 22.5 | 13 | 4 | 11.5 | 715.24 | 4A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.8 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 20 | 20 | 1 | 12 | 589.40 | 6A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 35 | 5 | 4 | 10.7 | 585.43 | 2A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 8586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 2.0 | 12.5 | 19 | 1 | 9.11 | 548.96 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 20 | 24 | 1 | 8 | 548.70 | 9A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2800 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.80 | 3 | 112.0 | 20 | 3.2 | 7.0 | 22.5 | 24 | 4 | 11.4 | 536.10 | 10A | A |
| 1875 | 78 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 12.5 | 99 | 1 | 10.2 | 529.89 | 11A | A |
| 9136 | 56 | 3 | 2.8 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 8 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 22.5 | 10 | 4 | 10 | 475.89 | 7A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 20 | 15 | 1 | 9.06 | 445.29 | 14A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 60.0 | 10 | 2.8 | 16.1 | 10 | 14 | 1 | 15 | 444.97 | 5A | A |
| 1875 | 74 | 4.8 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 28 | 1 | 8.2 | 432.20 | 17A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20936 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 7.0 | 12.5 | 74 | 4 | 10.8 | 424.18 | 20A | A |
| 1188 | 90 | 4.8 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 24.5 | 18 | 1 | 9 | 407.50 | 19A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 27.5 | 7 | 1 | 9 | 390.30 | 12A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 24.5 | 7 | 4 | 14 | 387.87 | 15A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 223 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 20 | 8 | 1 | 9 | 373.80 | 16A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 20 | 9 | 1 | 19.1 | 371.04 | 13A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 82 | 490 | 48 | 490 | 41 | 490 | 28 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 27.5 | 5 | 1 | 9 | 319.00 | 18A | A |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 228 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 20 | 22 | 1 | 9.04 | 183.22 | 22B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 15 | 37 | 4 | 10 | 170.71 | 23B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 12.5 | 43 | 4 | 9.96 | 165.74 | 26B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14988 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 12.5 | 28 | 1 | 9 | 162.45 | 30B | B |
| 1875 | 58 | 0 | -4.8 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.8 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 10 | 24 | 4 | 10.9 | 147.57 | 24B | B |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 12.5 | 28 | 4 | 10 | 146.81 | 35B | B |
| 1188 | 74 | 5 | -4.2 | 285 | 20 | 285 | 20 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 24.5 | 14 | 1 | 9.2 | 143.48 | 37B | B |
| 1875 | 73 | 3.8 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 20 | 6 | 1 | 10.2 | 135.23 | 25B | B |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 8 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4976 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 10 | 25 | 4 | 10.2 | 126.89 | 38B | B |
| 73 | 80 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 5 | 18 | 1 | 10.8 | 118.36 | 33B | B |
| 1875 | 72 | 6.8 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.8 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 15 | 2 | 1 | 9.26 | 112.47 | 21B | B |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 5 | 20 | 1 | 7.5 | 108.50 | 41C | B |
| 1875 | 54 | 0.8 | -5.8 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 8.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 20 | 3 | 4 | 10.2 | 108.05 | 27B | B |
| 73 | 48 | 3 | 0 | 180 | 85 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20936 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 12.5 | 7 | 4 | 15 | 107.45 | 34B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 22.5 | 4 | 4 | 8.90 | 105.93 | 39B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 20 | 4 | 1 | 11 | 100.00 | 36B | B |
| 2378 | 71 | 5.8 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 35 | 2 | 1 | 8.29 | 94.43 | 29B | B |
| 9136 | 82 | 5.8 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 6 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.8 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 27.5 | 2 | 1 | 9.05 | 87.32 | 28B | B |
| 3034 | 63 | -0.4 | -5.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 20 | 2 | 1 | 8.61 | 86.42 | 32B | B |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2800 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 5 | 24 | 9 | 17.3 | 75.25 | 42C | B |
| 1188 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 8 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 24.5 | 2 | 4 | 12.2 | 71.48 | 40B | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 168 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 10 | 22 | 1 | 10.1 | 70.54 | 50C | C |
| 3049 | 87 | 2.2 | -2.8 | 490 | 99 | 490 | 50 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 20 | 2 | 1 | 8.01 | 69.51 | 31B | C |
| 1875 | 26 | -0.4 | -0.8 | 575 | 36 | 575 | 575 | 575 | 575 | 575 | 98 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 22.5 | 8 | 9 | 14.7 | 62.86 | 49C | C |
| 1875 | 70 | 3.8 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 3 | 1 | 8.32 | 57.32 | 43C | C |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 85 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 15 | 8 | 1 | 9.06 | 54.96 | 56C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 20 | 2 | 1 | 8.63 | 52.96 | 44C | C |
| 1875 | 78 | 3.8 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 20 | 2 | 1 | 7.81 | 52.61 | 45C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 24.5 | 3 | 4 | 11.1 | 49.32 | 59C | C |
| 1875 | 38 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 2 | 4 | 11.1 | 45.12 | 54C | C |
| 1188 | 80 | 0 | 5.8 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 15 | 2 | 1 | 7.56 | 44.08 | 47C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 15 | 2 | 4 | 9.84 | 43.84 | 55C | C |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 38 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20936 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 12.5 | 2 | 1 | 8.15 | 41.97 | 52C | C |
| 16 | 44 | 2 | -7.8 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 12.5 | 2 | 4 | 10.2 | 41.70 | 46C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.8 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 12.5 | 2 | 1 | 8.61 | 40.11 | 51C | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 12.5 | 2 | 1 | 8.01 | 39.51 | 53C | C |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 285 | 288 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 12.5 | 2 | 1 | 8.11 | 38.11 | 57C | C |
| 2378 | 90 | 3.8 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 35 | 2 | 1 | 9 | 38.06 | 58C | C |
| 10608 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 12.5 | 40 | 1 | 10 | 38.00 | 65D | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 88 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 6.0 | 1 | 1 | 5.0 | 10 | 2 | 1 | 11 | 36.00 | 48C | C |
| 1875 | 60 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 22.5 | 3 | 1 | 9.36 | 33.54 | 61D | D |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.8 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 20 | 3 | 1 | 14 | 33.20 | 60C | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 12.5 | 5 | 1 | 10 | 31.00 | 64D | D |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 5 | 4 | 1 | 7.63 | 29.63 | 62D | D |
| 1875 | 90 | -1.8 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 7.0 | 17.5 | 3 | 1 | 9 | 27.40 | 66D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 24.5 | 2 | 1 | 9 | 25.80 | 68D | D |
| 1188 | 46 | 1.6 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 24.5 | 2 | 4 | 12 | 25.78 | 70D | D |
| 73 | 86 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 10 | 5 | 1 | 9.30 | 25.76 | 69D | D |
| 10608 | 80 | 3.8 | -3.8 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 20 | 23 | 1 | 11.1 | 25.20 | 73D | D |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 18.0 | 2 | 1 | 2.0 | 2.5 | 5 | 1 | 9 | 23.50 | 63D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.78 | 4 | 0.4 | 1 | 1.1 | 5.0 | 20 | 2 | 1 | 8 | 23.32 | 72D | D |
| 2 | 87 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 5 | 2 | 1 | 8.43 | 20.43 | 67D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 5 | 2 | 1 | 8.2 | 19.20 | 71D | D |
| 1188 | 75 | 2.8 | 2 | 490 | 103 | 490 | 38 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.8 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 24.5 | 2 | 1 | 7.66 | 18.95 | 74D | D |
| 1188 | 42 | 8 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 20 | 14 | 4 | 12.5 | 15.77 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 28 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 12.5 | 23 | 1 | 11.3 | 15.27 | 76D | D |
| 2378 | 74 | 7.8 | -3.8 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 748 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 35 | 3 | 1 | 11.2 | 8.82 | 77D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 48 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 7.0 | 17.5 | 6 | 1 | 10 | 6.10 | 78D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 630 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 12.5 | 6 | 1 | 10 | 4.80 | 79D | D |
| 1875 | 90 | 3.8 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 22.5 | 2 | 1 | 10 | 3.10 | 80D | D |

# Table 21

## SF = TRAIN SPEED / 5

Speed Factor Computer Iteraion; coefficient = 0.2

| HazMat | Angle | A % | B % | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC % | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1875 | 66 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.78 | 10 | 309.8 | 20 | 1.8 | 6.5 | 4 | 56 | 1 | 9.01 | 376.82 | 1A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 16.1 | 14 | 5 | 4 | 10.7 | 280.93 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23926 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 7.0 | 9 | 13 | 4 | 11.5 | 311.59 | 4A | A |
| 16 | 76 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23926 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 6.5 | 5 | 24 | 1 | 9.15 | 312.00 | 3A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.8 | 16.1 | 4 | 14 | 1 | 15 | 226.57 | 5A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 100 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 9.0 | 6 | 20 | 1 | 12 | 253.40 | 6A | A |
| 9136 | 56 | 3 | 2.6 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 8 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 15.3 | 9 | 10 | 4 | 10 | 219.19 | 7A | A |
| 85 | 78 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 60.0 | 10 | 2.2 | 2.0 | 5 | 19 | 1 | 9.11 | 233.45 | 8A | A |
| 3049 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 9.0 | 8 | 24 | 1 | 8 | 229.90 | 9A | A |
| 1875 | 51 | -0.8 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 359 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52207 | 2 | 3 | 2 | 0.8 | 0 | 0.60 | 3 | 112.0 | 20 | 3.2 | 7.0 | 9 | 24 | 4 | 11.4 | 225.06 | 10A | A |
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 8 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.05 | 10 | 12.0 | 2 | 1.8 | 15.3 | 11 | 7 | 1 | 9 | 182.40 | 12A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 7.0 | 8 | 9 | 1 | 19.1 | 176.84 | 13A | A |
| 1875 | 76 | 0 | 0 | 265 | 233 | 265 | 48 | 265 | 50 | 265 | 42 | 76 | 12476 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 14.0 | 5 | 99 | 1 | 10.2 | 218.04 | 11A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 8.3 | 9.8 | 7 | 4 | 14 | 181.87 | 15A | A |
| 3009 | 61 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 9.0 | 6 | 15 | 1 | 9.06 | 193.29 | 14A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 9.0 | 6 | 6 | 1 | 9 | 172.20 | 16A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 82 | 490 | 46 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 13.0 | 11 | 5 | 1 | 9 | 154.00 | 18A | A |
| 1875 | 74 | 4.8 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 4.0 | 6 | 26 | 1 | 8.2 | 180.20 | 17A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 6.5 | 9.8 | 18 | 1 | 9 | 172.30 | 19A | A |
| 73 | 40 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 164.0 | 20 | 1.5 | 7.0 | 5 | 74 | 4 | 10.8 | 174.43 | 20A | A |
| 1875 | 72 | 8.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 4.0 | 6 | 2 | 1 | 9.26 | 65.67 | 21B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 8 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 15.3 | 11 | 2 | 1 | 9.05 | 51.02 | 26B | B |
| 3034 | 63 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 226 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 9.0 | 8 | 22 | 1 | 9.04 | 77.62 | 22B | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 7.0 | 8 | 3 | 4 | 10.2 | 57.65 | 27B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 9.0 | 8 | 2 | 1 | 8.81 | 50.42 | 32B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 5.0 | 6 | 6 | 1 | 10.2 | 63.23 | 25B | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 16.1 | 14 | 2 | 1 | 8.29 | 52.43 | 29B | B |
| 3049 | 87 | 2.2 | -2.8 | 490 | 99 | 490 | 30 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 21.5 | 8 | 2 | 1 | 8.01 | 45.51 | 31B | B |
| 1875 | 56 | 0 | -4.6 | 340 | 284 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 8.0 | 4 | 24 | 4 | 10.9 | 65.49 | 24B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 65 | 490 | 61 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 4.0 | 6 | 37 | 4 | 10 | 70.81 | 23B | B |
| 3034 | 60 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 9.0 | 8 | 4 | 1 | 11 | 52.00 | 36B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 5.0 | 5 | 7 | 4 | 15 | 54.95 | 34B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.8 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 5.0 | 2 | 18 | 1 | 10.8 | 56.95 | 33B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 66 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 5.0 | 5 | 43 | 4 | 9.96 | 66.90 | 28B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5800 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14968 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 2.0 | 5 | 28 | 1 | 9 | 67.95 | 30B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 7.0 | 9 | 4 | 4 | 8.93 | 51.93 | 39B | B |
| 16 | 56 | 0 | 0 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 6.5 | 5 | 26 | 4 | 10 | 62.61 | 35B | B |
| 1188 | 74 | 3 | -4.2 | 265 | 29 | 265 | 29 | 265 | 265 | 265 | 265 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.55 | 4 | 4.0 | 1 | 1 | 6.5 | 9.8 | 14 | 1 | 9.2 | 61.16 | 37B | B |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 8.3 | 4 | 25 | 4 | 10.2 | 56.89 | 38B | B |
| 1188 | 31 | -0.8 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 6 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 10.3 | 9.8 | 2 | 4 | 12.2 | 42.06 | 40B | B |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 80.0 | 10 | 1 | 1.0 | 2 | 20 | 1 | 7.5 | 48.50 | 41C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 2.0 | 2 | 24 | 9 | 17.3 | 36.37 | 42C | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 39 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.32 | 10 | 0.8 | 1 | 1 | 4.0 | 6 | 3 | 1 | 8.32 | 30.32 | 43C | C |
| 1875 | 38 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 4.0 | 6 | 2 | 4 | 11.1 | 27.12 | 54C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 4.3 | 6 | 2 | 1 | 8.63 | 28.96 | 44C | C |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 66 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 6.5 | 5 | 2 | 4 | 10.2 | 26.70 | 46C | C |
| 1875 | 76 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.6 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 5.0 | 8 | 2 | 1 | 7.81 | 28.81 | 45C | C |
| 1875 | 60 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 66 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 5.0 | 4 | 2 | 1 | 11 | 24.00 | 48C | C |
| 1875 | 47 | 3.8 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 4.0 | 6 | 2 | 4 | 9.84 | 25.84 | 55C | C |
| 1188 | 60 | 8 | 5.6 | 490 | 22 | 490 | 31 | 490 | 28 | 490 | 28 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 6.5 | 6 | 2 | 1 | 7.56 | 26.06 | 47C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.6 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 6.5 | 5 | 2 | 1 | 8.61 | 25.11 | 51C | C |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 58 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 5.0 | 5 | 2 | 1 | 8.15 | 25.47 | 52C | C |
| 1875 | 28 | -0.4 | -0.8 | 575 | 36 | 575 | 575 | 575 | 575 | 575 | 96 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 7.0 | 9 | 6 | 9 | 14.7 | 30.26 | 49C | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 6.5 | 8 | 2 | 1 | 8.01 | 24.51 | 53C | C |
| 73 | 78 | 2 | -7.2 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 5.0 | 5 | 2 | 1 | 8.11 | 23.11 | 57C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.82 | 3 | 160.0 | 20 | 1 | 5.0 | 4 | 22 | 1 | 10.1 | 30.94 | 50C | C |
| 1188 | 81 | 1 | -1.2 | 490 | 35 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 8.3 | 6 | 6 | 1 | 9.06 | 26.16 | 56C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 40 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 3.5 | 9.8 | 3 | 4 | 11.1 | 24.62 | 59C | C |
| 2378 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 16.1 | 14 | 2 | 1 | 9 | 21.26 | 58C | C |
| 3009 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 16.0 | 2 | 1 | 2.0 | 1 | 5 | 1 | 9 | 16.00 | 63D | C |
| 3034 | 66 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 486 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 9.0 | 8 | 3 | 1 | 14 | 18.80 | 60C | D |
| 14 | 77 | 2.8 | -2.4 | 490 | 50 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 2.0 | 2 | 4 | 1 | 7.63 | 17.63 | 62D | D |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 2.0 | 2 | 2 | 1 | 8.43 | 14.43 | 67D | D |
| 1875 | 69 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 7.0 | 9 | 3 | 1 | 9.36 | 17.34 | 61D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 1.0 | 2 | 2 | 1 | 8.2 | 13.20 | 71D | D |
| 75 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 5.0 | 5 | 5 | 1 | 10 | 18.00 | 64D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.80 | 4 | 10.0 | 2 | 1 | 7.0 | 7 | 3 | 1 | 9 | 14.80 | 66D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 150 | 340 | 340 | 340 | 66 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.8 | 0 | 0.43 | 0.5 | 580.0 | 20 | 1.4 | 32.9 | 5 | 40 | 1 | 10 | 17.00 | 65D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 6.5 | 9.8 | 2 | 1 | 9 | 14.04 | 68D | D |
| 1188 | 46 | 1.6 | -0.4 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 3.5 | 9.8 | 2 | 4 | 12 | 14.02 | 70D | D |
| 73 | 68 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 5.0 | 4 | 5 | 1 | 9.39 | 13.76 | 69D | D |
| 1875 | 90 | -1.8 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 5.0 | 8 | 2 | 1 | 8 | 12.76 | 72D | D |
| 1188 | 75 | 2.8 | 2 | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 6.5 | 9.8 | 2 | 1 | 7.66 | 10.13 | 74D | D |
| 10606 | 80 | 3.8 | -3.8 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 32.9 | 8 | 23 | 1 | 11.1 | 11.40 | 73D | D |
| 1188 | 42 | 8 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 23.0 | 8 | 14 | 4 | 12.5 | 7.37 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 26 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 380.0 | 20 | 1 | 6.5 | 5 | 23 | 1 | 11.3 | 6.64 | 76D | D |
| 2378 | 74 | 7.8 | -3.8 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 16.1 | 14 | 3 | 1 | 11.2 | 3.47 | 77D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 46.0 | 5 | 1 | 7.0 | 7 | 6 | 1 | 10 | 2.95 | 78D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 7.0 | 5 | 8 | 1 | 10 | 2.35 | 79D | D |
| 1875 | 90 | 3.8 | -7 | 490 | 40 | 490 | 38 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 7.0 | 9 | 2 | 1 | 10 | 1.75 | 80D | D |

## Table 22

## CHAPTER 4, EQUATIONS 13, 14, AND 15

## Proposed Prioritization Formula Final Computer Iteration

| HazMat | Angle | A% | B% | NW MS | NW MD | NE MS | NE MD | SE MS | SE MD | SW MS | SW MD | SB | X_ADT | DT | NT | TRK | S | LN | CO | SPD | FC | POP | FAT | INJ | PDO | GRD | PT | A%SD | PI | TCC% | TCC | AI | TI | SI | EI | A | CI | PI | Gr # | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9136 | 90 | 9.2 | 0 | 490 | 27 | 490 | 12 | 490 | 35 | 490 | 27 | 4 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 0 | 9.2 | 0 | 0.06 | 10 | 12.0 | 2 | 1.8 | 90.5 | 27.5 | 7 | 1 | 322 | 1104.83 | 12A | A |
| 1875 | 86 | 3 | -1.2 | 340 | 70 | 340 | 340 | 340 | 340 | 340 | 287 | 32 | 7744 | 4 | 2 | 1 | 2 | 2 | 7 | 20 | 3 | 80561 | 0 | 1 | 2 | 4.2 | 0 | 0.76 | 10 | 309.8 | 20 | 1.8 | 37.2 | 10 | 56 | 1 | 39.1 | 1002.11 | 1A | A |
| 16 | 78 | 1.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 77 | 340 | 340 | 0 | 2750 | 2 | 3 | 1 | 2 | 2 | 7 | 25 | 4 | 23928 | 0 | 3 | 1 | 5.2 | 0 | 0.81 | 10 | 110.0 | 20 | 2.3 | 32.5 | 12.5 | 24 | 1 | 40.4 | 857.88 | 3A | A |
| 2378 | 48 | 0 | -1.4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 1 | 650 | 7 | 8 | 1 | 2 | 2 | 7 | 70 | 1 | 50 | 1 | 3 | 3 | 1.4 | 0 | 1.00 | 10 | 26.0 | 3 | 2.9 | 86.7 | 35 | 5 | 4 | 29.9 | 845.46 | 2A | A |
| 1875 | 42 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 2500 | 3 | 3 | 1 | 2 | 2 | 7 | 45 | 3 | 23928 | 1 | 2 | 1 | 0 | 0 | 1.00 | 10 | 100.0 | 10 | 2.3 | 39.7 | 22.5 | 13 | 4 | 27.5 | 827.22 | 4A | A |
| 9136 | 90 | 0 | 1.2 | 490 | 62 | 490 | 48 | 490 | 41 | 490 | 26 | 2 | 300 | 6 | 6 | 1 | 2 | 2 | 7 | 55 | 1 | 50 | 0 | 2 | 2 | 1.2 | 0 | 0.09 | 10 | 12.0 | 2 | 2 | 87.8 | 27.5 | 5 | 1 | 181 | 812.06 | 18A | A |
| 3009 | 90 | 2.8 | -4 | 180 | 103 | 180 | 56 | 180 | 111 | 180 | 40 | 7 | 1300 | 4 | 4 | 4 | 2 | 2 | 7 | 40 | 3 | 21732 | 0 | 1 | 0 | 6.6 | 0 | 0.43 | 10 | 52.0 | 10 | 1.4 | 52.5 | 20 | 20 | 1 | 65.7 | 725.50 | 6A | A |
| 9136 | 56 | 3 | 2.8 | 340 | 46 | 340 | 340 | 340 | 36 | 340 | 340 | 8 | 150 | 6 | 6 | 1 | 2 | 2 | 7 | 45 | 1 | 50 | 1 | 1 | 1 | 0.4 | 0 | 0.56 | 10 | 6.0 | 1 | 1.9 | 90.5 | 22.5 | 10 | 4 | 38.7 | 690.10 | 7A | A |
| 1188 | 90 | 0 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 0 | 2000 | 14 | 2 | 7 | 2 | 2 | 7 | 20 | 4 | 45309 | 0 | 3 | 4 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.8 | 83.7 | 10 | 14 | 1 | 37 | 677.78 | 5A | A |
| 3040 | 90 | -3 | -4 | 340 | 181 | 340 | 82 | 340 | 35 | 340 | 127 | 21 | 250 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 1 | 1 | 0 | 0.31 | 10 | 10.0 | 2 | 1.1 | 52.6 | 20 | 24 | 1 | 59.3 | 651.06 | 9A | A |
| 85 | 76 | 0 | 0 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 415 | 8 | 2000 | 2 | 0 | 1 | 2 | 2 | 7 | 25 | 1 | 6586 | 0 | 3 | 0 | 0 | 0 | 1.00 | 10 | 80.0 | 10 | 2.2 | 10.2 | 12.5 | 19 | 1 | 25.1 | 600.21 | 8A | A |
| 1875 | 51 | -0.6 | 0 | 490 | 293 | 490 | 490 | 490 | 42 | 490 | 350 | 1 | 2600 | 3 | 3 | 1 | 2 | 4 | 2 | 45 | 3 | 52267 | 2 | 3 | 2 | 0.8 | 0 | 0.80 | 3 | 112.0 | 20 | 3.2 | 39.7 | 22.5 | 24 | 4 | 39.1 | 594.00 | 10A | A |
| 3009 | 81 | 1.4 | -3.4 | 225 | 43 | 225 | 43 | 225 | 41 | 225 | 173 | 6 | 1200 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 4 | 21732 | 0 | 1 | 0 | 4.8 | 0 | 0.33 | 10 | 48.0 | 5 | 1.4 | 52.5 | 20 | 15 | 1 | 65.9 | 585.74 | 14A | A |
| 1875 | 76 | 0 | 0 | 285 | 233 | 285 | 48 | 285 | 50 | 285 | 42 | 78 | 12478 | 14 | 0 | 1 | 2 | 4 | 2 | 25 | 3 | 80561 | 1 | 0 | 0 | 0 | 0 | 0.33 | 3 | 499.0 | 20 | 1.4 | 74.7 | 12.5 | 90 | 1 | 57 | 575.06 | 11A | A |
| 3034 | 90 | 0.4 | -0.8 | 225 | 82 | 225 | 89 | 225 | 225 | 225 | 82 | 3 | 825 | 4 | 4 | 1 | 2 | 2 | 7 | 40 | 1 | 1322 | 0 | 2 | 3 | 1.2 | 0 | 0.53 | 10 | 33.0 | 4 | 2.1 | 52.6 | 20 | 8 | 1 | 40.9 | 532.41 | 16A | A |
| 1875 | 74 | 4.6 | -9.4 | 490 | 73 | 490 | 490 | 490 | 209 | 490 | 64 | 26 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 14 | 0 | 0.43 | 10 | 0.8 | 1 | 1 | 24.7 | 15 | 28 | 1 | 75.9 | 520.56 | 17A | A |
| 1188 | 30 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 4 | 300 | 6 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 2 | 2 | 0 | 0 | 1.00 | 10 | 12.0 | 2 | 2 | 44.6 | 24.5 | 7 | 4 | 30 | 492.27 | 15A | A |
| 3034 | 77 | 1 | 1 | 225 | 225 | 225 | 200 | 225 | 225 | 225 | 59 | 3 | 1063 | 3 | 3 | 11 | 2 | 2 | 7 | 40 | 1 | 45309 | 0 | 2 | 0 | 0 | 0 | 0.79 | 10 | 42.5 | 5 | 1.8 | 42.6 | 20 | 9 | 1 | 49.2 | 489.16 | 13A | A |
| 1188 | 90 | 4.6 | -5.4 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 12 | 500 | 4 | 2 | 1 | 2 | 2 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 10 | 0 | 1.00 | 10 | 20.0 | 3 | 1 | 35.5 | 24.5 | 16 | 1 | 47.5 | 474.97 | 19A | A |
| 73 | 49 | 2 | 0 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 51 | 4600 | 3 | 3 | 1 | 2 | 2 | 2 | 25 | 3 | 20935 | 0 | 1 | 1 | 2 | 0 | 1.00 | 3 | 184.0 | 20 | 1.5 | 35.2 | 12.5 | 74 | 4 | 31.1 | 446.09 | 20A | A |
| 1188 | 80 | 6 | 5.6 | 490 | 22 | 490 | 31 | 490 | 26 | 490 | 26 | 0 | 50 | 4 | 2 | 1 | 1 | 1 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 0.4 | 0 | 0.06 | 10 | 2.0 | 1 | 1 | 35.5 | 15 | 2 | 1 | 279 | 344.87 | 47C | B |
| 1875 | 72 | 6.6 | -3 | 180 | 180 | 180 | 75 | 180 | 85 | 180 | 180 | 0 | 50 | 4 | 0 | 2 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 4 | 0 | 9.6 | 0 | 0.72 | 10 | 2.0 | 1 | 2.6 | 24.7 | 15 | 2 | 1 | 53.6 | 281.62 | 21B | B |
| 1188 | 31 | -0.6 | 1.4 | 490 | 73 | 490 | 92 | 490 | 70 | 490 | 37 | 0 | 20 | 6 | 2 | 1 | 1 | 1 | 7 | 49 | 1 | 50 | 0 | 0 | 0 | 1.1 | 0 | 0.14 | 10 | 0.8 | 1 | 1 | 54.2 | 24.5 | 2 | 4 | 124 | 226.90 | 40B | B |
| 3049 | 87 | 2.2 | -2.6 | 490 | 99 | 490 | 39 | 490 | 490 | 490 | 50 | 0 | 100 | 4 | 14 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 5 | 0 | 0.35 | 10 | 4.0 | 1 | 1 | 115.1 | 20 | 2 | 1 | 63.6 | 218.74 | 31B | B |
| 3034 | 83 | 2 | -4 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 106 | 16 | 1200 | 4 | 4 | 1 | 2 | 2 | 3 | 40 | 1 | 243 | 0 | 0 | 0 | 6 | 0 | 0.87 | 4 | 48.0 | 5 | 1 | 52.6 | 20 | 22 | 1 | 40.6 | 213.36 | 22B | B |
| 9136 | 82 | 5.6 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 6 | 6 | 2 | 1 | 2 | 7 | 55 | 1 | 50 | 0 | 0 | 1 | 5.6 | 0 | 1.00 | 10 | 2.0 | 1 | 1.1 | 90.5 | 27.5 | 2 | 1 | 38.6 | 212.47 | 28B | B |
| 1875 | 56 | 4 | 4 | 490 | 50 | 490 | 85 | 490 | 81 | 490 | 60 | 34 | 450 | 4 | 0 | 1 | 2 | 2 | 2 | 30 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0.14 | 3 | 18.0 | 2 | 1 | 24.7 | 15 | 37 | 4 | 118 | 209.17 | 23B | B |
| 1875 | 38 | 10.8 | 0 | 490 | 78 | 490 | 49 | 490 | 78 | 490 | 49 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 10.8 | 0 | 0.13 | 10 | 0.8 | 1 | 1 | 24.7 | 15 | 2 | 4 | 152 | 206.86 | 54C | B |
| 1875 | 54 | 0.8 | -5.6 | 340 | 340 | 340 | 340 | 340 | 197 | 340 | 204 | 0 | 300 | 3 | 3 | 1 | 2 | 2 | 7 | 40 | 1 | 444719 | 1 | 0 | 0 | 6.4 | 0 | 0.79 | 10 | 12.0 | 2 | 1.4 | 39.7 | 20 | 3 | 4 | 44.5 | 201.79 | 27B | B |
| 2378 | 71 | 5.6 | -2.8 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 7 | 8 | 1 | 1 | 2 | 7 | 70 | 1 | 50 | 0 | 0 | 0 | 8.4 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 86.7 | 35 | 2 | 1 | 43.2 | 199.85 | 29B | B |
| 1875 | 73 | 3.6 | -5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 4 | 100 | 2 | 2 | 2 | 2 | 2 | 7 | 40 | 1 | 183 | 0 | 0 | 0 | 8.6 | 0 | 1.00 | 10 | 4.0 | 1 | 1 | 29.7 | 20 | 6 | 1 | 46.6 | 196.27 | 25B | B |
| 3034 | 63 | -0.4 | -5.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 4 | 4 | 1 | 1 | 2 | 7 | 40 | 1 | 50 | 0 | 1 | 1 | 5.2 | 0 | 1.00 | 10 | 1.2 | 1 | 1.5 | 52.6 | 20 | 2 | 1 | 36.3 | 193.34 | 32B | B |
| 1875 | 51 | 5.4 | -5 | 490 | 37 | 490 | 35 | 490 | 490 | 490 | 490 | 2 | 30 | 3 | 3 | 1 | 1 | 1 | 7 | 45 | 1 | 1560 | 0 | 0 | 0 | 10.4 | 0 | 0.54 | 10 | 1.2 | 1 | 1 | 39.7 | 22.5 | 4 | 4 | 61.3 | 190.97 | 30B | B |
| 73 | 57 | 0.3 | -2.4 | 490 | 59 | 490 | 490 | 490 | 68 | 490 | 72 | 20 | 3000 | 2 | 2 | 1 | 2 | 2 | 2 | 25 | 3 | 444719 | 0 | 0 | 0 | 2.7 | 0 | 0.35 | 3 | 120.0 | 20 | 1 | 25.2 | 12.5 | 43 | 4 | 50.7 | 186.72 | 26B | B |
| 3034 | 90 | 5 | -5 | 180 | 144 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 500 | 4 | 4 | 4 | 1 | 2 | 7 | 40 | 1 | 243 | 0 | 0 | 0 | 10 | 0 | 0.95 | 10 | 20.0 | 3 | 1 | 52.6 | 20 | 4 | 1 | 53.3 | 185.87 | 36B | B |
| 1875 | 58 | 0 | -4.6 | 340 | 264 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3580 | 8 | 0 | 1 | 2 | 4 | 2 | 20 | 4 | 444719 | 0 | 2 | 1 | 4.6 | 0 | 0.96 | 3 | 143.2 | 20 | 1.9 | 44.7 | 10 | 24 | 4 | 37.9 | 183.87 | 24B | B |
| 1188 | 74 | 5 | -4.2 | 285 | 29 | 285 | 29 | 285 | 285 | 285 | 285 | 12 | 100 | 4 | 2 | 1 | 2 | 2 | 3 | 49 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 0.56 | 4 | 4.0 | 1 | 1 | 35.5 | 24.5 | 14 | 1 | 58.1 | 174.84 | 37B | B |
| 85 | 90 | 0 | 0 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 575 | 1 | 5600 | 2 | 0 | 1 | 2 | 2 | 2 | 25 | 7 | 14988 | 0 | 1 | 1 | 0 | 0 | 1.00 | 3 | 232.0 | 20 | 1.5 | 10.2 | 12.5 | 28 | 1 | 25 | 173.35 | 30B | B |
| 73 | 46 | 3 | 0 | 180 | 55 | 180 | 180 | 180 | 64 | 180 | 51 | 0 | 800 | 2 | 2 | 5 | 2 | 2 | 7 | 25 | 3 | 20935 | 0 | 0 | 0 | 3 | 0 | 0.49 | 10 | 32.0 | 4 | 1 | 25.2 | 12.5 | 7 | 4 | 57.6 | 170.24 | 34B | B |
| 16 | 56 | 0 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 16 | 1500 | 2 | 3 | 1 | 2 | 2 | 3 | 25 | 2 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 60.0 | 10 | 1 | 32.5 | 12.5 | 28 | 4 | 26 | 163.43 | 35B | B |
| 73 | 60 | -1.2 | -3 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 5 | 1400 | 2 | 2 | 2 | 2 | 2 | 7 | 10 | 3 | 15414 | 0 | 0 | 1 | 1.6 | 0 | 1.00 | 10 | 56.0 | 10 | 1.1 | 25.2 | 5 | 18 | 1 | 31.8 | 161.71 | 33B | C |
| 1188 | 54 | -0.2 | -0.2 | 180 | 73 | 180 | 180 | 180 | 180 | 180 | 73 | 0 | 3200 | 6 | 2 | 1 | 2 | 2 | 3 | 20 | 5 | 4978 | 0 | 0 | 2 | 0 | 0 | 0.70 | 4 | 128.0 | 20 | 1.2 | 44.6 | 10 | 25 | 4 | 32.5 | 157.04 | 38B | C |
| 1188 | 81 | 1 | -1.2 | 490 | 36 | 490 | 55 | 490 | 28 | 490 | 28 | 0 | 800 | 6 | 2 | 1 | 2 | 2 | 3 | 30 | 4 | 2197 | 0 | 0 | 0 | 2.2 | 0 | 0.07 | 4 | 32.0 | 4 | 1 | 44.6 | 15 | 8 | 1 | 216 | 152.41 | 58C | C |
| 73 | 76 | -0.4 | -11 | 225 | 120 | 225 | 73 | 225 | 50 | 225 | 36 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 20935 | 0 | 0 | 1 | 10.4 | 0 | 0.31 | 10 | 2.0 | 1 | 1.1 | 25.2 | 12.5 | 2 | 1 | 80.6 | 143.86 | 52C | C |
| 0 | 90 | 0 | 1 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 2000 | 1 | 0 | 1 | 1 | 1 | 10 | 10 | 10 | 12340 | 0 | 0 | 0 | 1 | 0 | 1.00 | 10 | 60.0 | 10 | 1 | 5.0 | 5 | 20 | 1 | 25.8 | 130.75 | 41C | C |
| 1875 | 70 | 3.6 | -1.2 | 490 | 490 | 490 | 490 | 490 | 36 | 490 | 4 | 1 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 4.8 | 0 | 0.52 | 10 | 0.8 | 1 | 1 | 24.7 | 15 | 3 | 1 | 48.9 | 118.55 | 43C | C |
| 1875 | 47 | 3.6 | -4.2 | 340 | 240 | 340 | 54 | 340 | 340 | 340 | 66 | 0 | 20 | 4 | 0 | 1 | 1 | 2 | 7 | 30 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 0.51 | 10 | 0.8 | 1 | 1 | 24.7 | 15 | 2 | 4 | 57.5 | 112.22 | 56C | C |
| 1875 | 78 | 3.6 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 30 | 2 | 2 | 1 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.8 | 0 | 1.00 | 10 | 1.2 | 1 | 1 | 29.7 | 20 | 2 | 1 | 40.7 | 110.40 | 45C | C |
| 1875 | 77 | 3 | -4.2 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 3 | 1 | 2 | 1 | 1 | 7 | 40 | 1 | 50 | 0 | 0 | 0 | 7.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 26.4 | 20 | 2 | 1 | 41.8 | 108.19 | 44C | C |
| 16 | 44 | 2 | -7.6 | 180 | 180 | 180 | 180 | 180 | 88 | 180 | 180 | 0 | 20 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.8 | 0 | 0.87 | 10 | 0.8 | 1 | 1 | 32.5 | 12.5 | 2 | 4 | 50 | 107.54 | 46C | C |
| 16 | 63 | 5 | -4.6 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 40 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 2493 | 0 | 0 | 0 | 9.8 | 0 | 1.00 | 10 | 1.6 | 1 | 1 | 32.5 | 12.5 | 2 | 1 | 46.2 | 103.75 | 51C | C |
| 73 | 78 | 2 | -7.2 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 50 | 2 | 2 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 2.0 | 1 | 1 | 25.2 | 12.5 | 2 | 1 | 44.8 | 94.99 | 57C | C |
| 85 | 22 | 0 | 0 | 575 | 490 | 575 | 490 | 575 | 490 | 575 | 142 | 0 | 2600 | 2 | 0 | 1 | 2 | 2 | 2 | 10 | 4 | 50 | 0 | 2 | 0 | 0 | 0 | 0.70 | 3 | 112.0 | 20 | 1.8 | 10.2 | 5 | 24 | 9 | 30.7 | 91.78 | 42C | C |
| 1875 | 90 | 2.2 | 0 | 180 | 180 | 180 | 180 | 180 | 57 | 180 | 68 | 0 | 200 | 2 | 2 | 4 | 1 | 2 | 7 | 20 | 1 | 1619 | 0 | 0 | 0 | 2.2 | 0 | 0.70 | 10 | 8.0 | 1 | 1 | 29.7 | 10 | 2 | 1 | 41.3 | 91.02 | 48C | C |
| 16 | 87 | 0 | -2.5 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 92 | 0 | 50 | 2 | 3 | 1 | 1 | 2 | 7 | 25 | 1 | 50 | 0 | 0 | 0 | 2.5 | 0 | 0.88 | 10 | 2.0 | 1 | 1 | 32.5 | 12.5 | 2 | 1 | 31.7 | 89.26 | 53C | C |
| 1875 | 28 | -0.4 | -0.6 | 575 | 36 | 575 | 575 | 575 | 575 | 575 | 96 | 0 | 1000 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 0.4 | 0 | 0.56 | 4 | 40.0 | 5 | 1 | 39.7 | 22.5 | 6 | 9 | 43.4 | 87.23 | 49C | C |
| 73 | 77 | 0.8 | 4 | 445 | 445 | 445 | 166 | 445 | 48 | 445 | 445 | 1 | 4000 | 2 | 2 | 1 | 2 | 4 | 2 | 20 | 1 | 444719 | 0 | 0 | 0 | 3.2 | 0 | 0.62 | 3 | 160.0 | 20 | 1 | 25.2 | 10 | 22 | 1 | 42.5 | 86.31 | 50C | C |
| 14 | 77 | 2.8 | -2.4 | 490 | 59 | 490 | 59 | 490 | 490 | 490 | 490 | 2 | 20 | 2 | 0 | 1 | 1 | 1 | 7 | 10 | 1 | 791 | 0 | 0 | 0 | 5.2 | 0 | 0.56 | 10 | 0.8 | 1 | 1 | 10.0 | 5 | 4 | 1 | 47.1 | 77.14 | 62D | C |
| 2378 | 90 | 3.6 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 20 | 7 | 8 | 1 | 2 | 2 | 3 | 70 | 1 | 50 | 0 | 0 | 0 | 3.6 | 0 | 1.00 | 4 | 0.8 | 1 | 1 | 86.7 | 35 | 2 | 1 | 33.1 | 75.90 | 58C | C |
| 3034 | 86 | 3 | -2.6 | 340 | 72 | 340 | 340 | 340 | 79 | 340 | 78 | 0 | 488 | 4 | 4 | 6 | 2 | 2 | 3 | 40 | 1 | 4095 | 0 | 0 | 0 | 5.6 | 0 | 0.42 | 4 | 19.4 | 2 | 1 | 52.6 | 20 | 3 | 1 | 68.5 | 72.42 | 80C | C |
| 1188 | 45 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 250 | 2 | 1 | 1 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 1 | 0 | 0 | 0 | 1.00 | 4 | 10.0 | 2 | 1.4 | 20.5 | 24.5 | 3 | 4 | 27.1 | 67.78 | 59C | D |
| 1875 | 69 | -3.4 | -1.4 | 490 | 55 | 490 | 109 | 490 | 490 | 490 | 133 | 0 | 450 | 3 | 3 | 1 | 2 | 2 | 3 | 45 | 1 | 444719 | 0 | 0 | 0 | 2 | 0 | 0.40 | 4 | 18.0 | 2 | 1 | 39.7 | 22.5 | 3 | 1 | 52.2 | 63.76 | 81D | D |
| 0 | 74 | 6.2 | -3 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 150 | 1 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 9.2 | 0 | 1.00 | 10 | 6.0 | 1 | 1 | 5.0 | 5 | 2 | 1 | 44.9 | 59.90 | 71D | D |
| 73 | 68 | 7.2 | -5.6 | 180 | 52 | 180 | 59 | 180 | 180 | 180 | 58 | 0 | 300 | 2 | 2 | 1 | 2 | 2 | 3 | 20 | 3 | 444719 | 0 | 0 | 0 | 12.8 | 0 | 0.48 | 4 | 12.0 | 2 | 1 | 25.2 | 10 | 5 | 1 | 70.1 | 58.13 | 69D | D |
| 2 | 67 | 2 | -2 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 18 | 0 | 100 | 2 | 0 | 1 | 1 | 2 | 7 | 10 | 1 | 50 | 0 | 0 | 0 | 4 | 0 | 0.78 | 10 | 4.0 | 1 | 1 | 10.0 | 5 | 2 | 1 | 37.8 | 57.79 | 67D | D |
| 3000 | 90 | 0 | 0 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 400 | 2 | 0 | 1 | 2 | 2 | 7 | 5 | 3 | 21732 | 0 | 0 | 0 | 0 | 0 | 1.00 | 10 | 18.0 | 2 | 1 | 17.5 | 2.5 | 5 | 1 | 25 | 55.02 | 83D | D |
| 1188 | 75 | 2.8 | 2 | 490 | 103 | 490 | 36 | 490 | 56 | 490 | 151 | 0 | 20 | 4 | 2 | 1 | 1 | 1 | 2 | 49 | 1 | 50 | 0 | 0 | 0 | 0.6 | 0 | 0.18 | 3 | 0.8 | 1 | 1 | 35.5 | 24.5 | 2 | 1 | 95 | 53.84 | 74D | D |
| 73 | 86 | 3.4 | -4 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 240 | 0 | 800 | 2 | 2 | 2 | 2 | 2 | 3 | 25 | 1 | 50 | 0 | 0 | 0 | 7.4 | 0 | 0.87 | 4 | 32.0 | 4 | 1 | 25.2 | 12.5 | 5 | 1 | 45.9 | 53.42 | 84D | D |
| 1875 | 90 | -1.6 | -4 | 180 | 43 | 180 | 180 | 180 | 180 | 180 | 30 | 0 | 250 | 3 | 3 | 1 | 2 | 2 | 3 | 35 | 1 | 2424 | 0 | 0 | 0 | 2.4 | 0 | 0.60 | 4 | 10.0 | 2 | 1 | 39.7 | 17.5 | 3 | 1 | 40.3 | 53.01 | 66D | D |
| 10606 | 86 | 2 | -2.6 | 340 | 17 | 340 | 159 | 340 | 340 | 340 | 68 | 17 | 14500 | 17 | 15 | 1 | 2 | 4 | 1 | 25 | 3 | 367302 | 0 | 1 | 0 | 4.6 | 0 | 0.43 | 0.5 | 560.0 | 20 | 1.4 | 190.9 | 12.5 | 40 | 1 | 56.3 | 52.31 | 65D | D |
| 1188 | 90 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 50 | 4 | 2 | 1 | 2 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 1.00 | 4 | 2.0 | 1 | 1 | 35.5 | 24.5 | 2 | 1 | 25 | 43.79 | 68D | D |
| 1875 | 90 | -1.6 | -2 | 490 | 12 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 10 | 2 | 2 | 1 | 1 | 2 | 3 | 40 | 1 | 50 | 0 | 0 | 1 | 0.2 | 0 | 0.76 | 4 | 0.4 | 1 | 1.1 | 29.7 | 20 | 2 | 1 | 29.3 | 43.56 | 72D | D |
| 1188 | 46 | 1.6 | -0.4 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 40 | 0 | 50 | 2 | 1 | 2 | 2 | 2 | 3 | 49 | 1 | 182 | 0 | 0 | 0 | 2 | 0 | 0.79 | 4 | 2.0 | 1 | 1 | 20.5 | 24.5 | 2 | 4 | 37.8 | 42.81 | 70D | D |
| 10606 | 80 | 3.6 | -3.6 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 0 | 3300 | 17 | 15 | 2 | 2 | 4 | 1 | 40 | 3 | 367302 | 0 | 0 | 0 | 7.4 | 0 | 1.00 | 0.5 | 132.0 | 20 | 1 | 190.9 | 20 | 23 | 1 | 44.7 | 34.78 | 73D | D |
| 1188 | 42 | 6 | 0 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 0 | 2300 | 5 | 15 | 2 | 2 | 2 | 1 | 40 | 4 | 367302 | 0 | 0 | 0 | 8 | 0 | 1.00 | 0.5 | 92.0 | 10 | 1 | 118.0 | 20 | 14 | 4 | 47.5 | 22.27 | 75D | D |
| 0 | 70 | 2.8 | 0.8 | 285 | 285 | 285 | 28 | 285 | 285 | 285 | 285 | 0 | 9500 | 2 | 3 | 2 | 2 | 4 | 1 | 25 | 3 | 26017 | 0 | 0 | 0 | 2 | 0 | 0.77 | 0.5 | 360.0 | 20 | 1 | 32.5 | 12.5 | 23 | 1 | 37.2 | 17.86 | 76D | D |
| 1875 | 90 | 3.6 | -7 | 490 | 40 | 490 | 36 | 490 | 28 | 490 | 35 | 0 | 20 | 3 | 3 | 2 | 2 | 2 | 1 | 45 | 1 | 50 | 0 | 0 | 0 | 10.6 | 0 | 0.07 | 0.5 | 0.8 | 1 | 1 | 39.7 | 22.5 | 2 | 1 | 244 | 16.45 | 80D | D |
| 1875 | 90 | 5.2 | -10 | 180 | 46 | 180 | 41 | 180 | 34 | 180 | 43 | 0 | 1200 | 3 | 3 | 2 | 2 | 2 | 1 | 35 | 1 | 2424 | 0 | 0 | 0 | 15.2 | 0 | 0.23 | 0.5 | 48.0 | 5 | 1 | 39.7 | 17.5 | 6 | 1 | 112 | 12.84 | 78D | D |
| 2378 | 74 | 7.6 | -3.6 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 0 | 350 | 7 | 8 | 3 | 2 | 2 | 1 | 70 | 1 | 746 | 0 | 0 | 0 | 11.2 | 0 | 1.00 | 0.5 | 14.0 | 2 | 1 | 86.7 | 35 | 3 | 1 | 54.4 | 12.30 | 77D | D |
| 1875 | 90 | 0 | 0 | 415 | 415 | 415 | 132 | 415 | 415 | 415 | 415 | 0 | 830 | 3 | 3 | 2 | 2 | 2 | 1 | 25 | 2 | 444719 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0.5 | 33.2 | 4 | 1 | 39.7 | 12.5 | 6 | 1 | 30.1 | 7.24 | 79D | D |

# VITA

## Jack W. Webb

Candidate for the Degree of

Master of Science

Thesis: DEVELOPMENT OF RAILROAD AT-GRADE CROSSING PRIORITIZATION INDICES

Major Field: Civil Engineering

Biographical:

Personal Data: Born on May 16, 1962, the son of C.L. and Harriet Webb.

Education: Graduated from The University of Missouri-Rolla, receiving A Bachelor of Science in Civil Engineering degree, in December, 1988; Graduated Oklahoma City University receiving a Master of Business Administration, in May, 1990; Completed the requirements for a Master of Science degree in Civil Engineering at Oklahoma State University in May, 1995.

Professional Experience: Engineer in Training at the Oklahoma Department of Transportation from December 1987 thru February 1992 including a 12 month training program, 12 months of construction residency experience, and the remainder in the Rail-Highway Safety Division, Professional engineer assigned as the ODOT Rail-Highway Safety Engineer February 1992 thru present.

Professional Organizations: Toastmasters International, Oklahoma Operation Lifesaver, American Society of Civil Engineers; Registered Professional Engineer, State of Oklahoma, State of Missouri & State of Florida; Committee member of the National Committee for Uniform Traffic Control Devices.