new 433 HW

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```
library(readr)
## Warning: package 'readr' was built under R version 3.6.2
X<-read.csv("AL20.csv")
head(X)
     STATE_CODE_001 STRUCTURE_NUMBER_008 RECORD_TYPE_005A ROUTE_PREFIX_005B
## 1
                   1
                          0000000000S702
                                                                              6
## 2
                   1
                          0000000000S703
## 3
                   1
                          0000000000M0022
                                                                              8
## 4
                   1
                                                                              4
                                 883039900
                                                                              3
## 5
                   1
                                1014002450
## 6
                   1
                                1331700710
     SERVICE_LEVEL_005C ROUTE_NUMBER_005D DIRECTION_005E HIGHWAY_DISTRICT_002
                                                          0
## 1
                                       4007
                       1
                                       4003
                                                          0
                                                                                 9
## 2
## 3
                       1
                                          0
                                                          0
                                                                                 0
                                                                                 2
## 4
                       1
                                         88
                                                          0
                                                                                 2
## 5
                                        101
                                                          0
## 6
                       2
                                                          0
                                                                                 2
     COUNTY_CODE_003 PLACE_CODE_004
                                           FEATURES DESC 006A
## 1
                   53
                                                PERDIDO CREEK
                                    0
## 2
                   53
                                 3004
                                                PERDIDO CREEK
## 3
                  113
                                19000
                                                   UCHEE CREEK
## 4
                   59
                                    O LITTLE BEAR CR. DAM SPW
## 5
                   79
                                    0
                                               TENNESSEE RIVER
## 6
                   33
                                    0
                                               TENNESSEE RIVER
##
     CRITICAL_FACILITY_006B FACILITY_CARRIED_007
                                                               LOCATION_009
## 1
                          NA
                                  IRR BIA RTE 4007 11.4KM NW OF ATMORE AL
## 2
                          NA
                                  IRR BIA RTE 4003
                                                         ON LYNN MCGEE ROAD
## 3
                          NA
                                 101ST AIRBORNE RD 3.4 KM S OF SUNSHINE RD
## 4
                          NA
                                         CO. RD 88
                                                         LITTLE BEAR CR DAM
## 5
                          NA
                                            SR 101
                                                             ON WHEELER DAM
## 6
                          NA
                                            Res Rd
                                                              ON WILSON DAM
##
     MIN_VERT_CLR_010 KILOPOINT_011 BASE_HWY_NETWORK_012 LRS_INV_ROUTE_013A
## 1
                 99.99
                                1.500
                                                                              0
## 2
                 99.99
                                1.100
                                                          0
                                                                              0
## 3
                 99.99
                                0.000
                                                          0
                                                          0
## 4
                 99.99
                                0.000
## 5
                  4.52
                              39.429
                                                          0
## 6
                                0.000
                 99.99
     SUBROUTE_NO_013B LAT_016 LONG_017 DETOUR_KILOS_019 TOLL_020
```

```
0 31061094 87341348
                                                      3
## 1
## 2
                   0 31062020 87340890
                                                       3
                                                                3
## 3
                   NA 32174330 -845837
                                                                3
                                                      18
## 4
                  NA 34270600 87581200
                                                      16
                                                                3
                                                                3
## 5
                   NA 34481800 87225400
                                                      42
## 6
                  NA 34480000 87373000
                                                      6
                                                                3
    MAINTENANCE 021 OWNER 022 FUNCTIONAL CLASS 026 YEAR BUILT 027
                  62
                            62
                                                  9
## 1
## 2
                  62
                            62
                                                  9
                                                              2002
## 3
                  74
                            74
                                                  9
                                                              1942
                  67
                            67
                                                              1974
                  67
                            67
                                                  6
## 5
                                                              1937
## 6
                  67
                            67
                                                 17
                                                              1924
    TRAFFIC_LANES_ON_028A TRAFFIC_LANES_UND_028B ADT_029 YEAR_ADT_030
                         2
                                                0
                                                      50
                                                                  2019
## 2
                                                0
                                                      159
                                                                  2019
## 3
                         2
                                                0
                                                      375
                                                                  2017
## 4
                                                      430
                                                                  2017
## 5
                         2
                                                     5520
                                                                  2017
                         2
## 6
                                                     3620
                                                                  2018
    DESIGN_LOAD_031 APPR_WIDTH_MT_032 MEDIAN_CODE_033 DEGREES_SKEW_034
                   5
                                 9.7
## 2
                                                                      0
                   5
                                   6.5
                                                     0
## 3
                                  10.4
                                                     0
                                                                      0
## 4
                   5
                                                                     99
                                  11.6
                                  7.9
## 6
                   3
                                  7.9
                                                     0
## STRUCTURE_FLARED_035 RAILINGS_036A TRANSITIONS_036B APPR_RAIL_036C
## 1
                       0 1
                                            1
## 2
                        0
                                                       1
## 3
                        0
                                      0
                                                       0
                                                                      1
## 4
                                      1
                                                       1
                                                                      1
## 5
## 6
                        0
                                      1
                                                       1
## APPR_RAIL_END_036D HISTORY_037 NAVIGATION_038 NAV_VERT_CLR_MT_039
## 1
                      1
                         5
                                                 0
                                                                   0.0
## 2
                                  5
                                                 0
                                                                   0.0
## 3
                      1
                                  5
                                                 0
                                                                   0.0
                                  5
## 4
                                                 N
                                                                   0.0
## 5
                      0
                                                 1
                                                                  17.9
## 6
                     1
                                  1
                                                                  17.3
## NAV_HORR_CLR_MT_040 OPEN_CLOSED_POSTED_041 SERVICE_ON_042A
## 1
                     0.0
                                              Α
## 2
                     0.0
                                                              1
## 3
                     0.0
                                              Α
## 4
                     0.0
## 5
                    33.5
                                              Α
## 6
                    33.5
                                              Α
    SERVICE_UND_042B STRUCTURE_KIND_043A STRUCTURE_TYPE_043B APPR_KIND_044A
## 1
                   5
                                        5
                                                            5
## 2
                    5
                                        5
                                                                           0
                                                            1
## 3
                    5
                                        1
                                                                           0
                                                            4
## 4
                    9
                                        5
                                                            5
## 5
                    5
                                        3
                                                           10
```

```
## 6
                     6
     APPR_TYPE_044B MAIN_UNIT_SPANS_045 APPR_SPANS_046 HORR_CLR_MT_047
                   0
## 2
                   0
                                                         0
                                                                        9.7
## 3
                   0
                                                                        7.3
                                         3
                                                         0
## 4
                   0
                                         5
                                                         0
                                                                        8.6
                   2
## 5
                                                       143
                                                                        6.0
## 6
                  20
                                         8
                                                        78
                                                                        6.0
     MAX_SPAN_LEN_MT_048 STRUCTURE_LEN_MT_049 LEFT_CURB_MT_050A
## 1
                     14.7
                                            15.0
                                                                 0.0
## 2
                     12.9
                                            13.6
                                                                 0.3
## 3
                     18.3
                                            43.0
                                                                 0.6
## 4
                                            65.5
                                                                 0.0
                     14.0
## 5
                     53.3
                                          1981.2
                                                                 0.9
## 6
                     46.9
                                          1512.4
                                                                 1.7
     RIGHT_CURB_MT_050B ROADWAY_WIDTH_MT_051 DECK_WIDTH_MT_052
## 1
                     0.0
                                            9.7
                                                                9.7
## 2
                     0.3
                                            9.1
                                                                9.8
## 3
                     0.6
                                            7.3
                                                               9.0
                                                               10.5
## 4
                     0.0
                                            8.7
## 5
                     0.2
                                            6.1
                                                               7.8
                     0.5
                                            6.1
     VERT_CLR_OVER_MT_053 VERT_CLR_UND_REF_054A VERT_CLR_UND_054B
## 1
                     99.99
                                                 N
## 2
                     99.99
                                                 N
                                                                  0.00
## 3
                     99.99
                                                 N
                                                                  0.00
## 4
                     99.99
                                                 N
                                                                  0.00
## 5
                      4.52
                                                 N
                                                                  0.00
## 6
                     99.99
                                                 Н
                                                                 12.19
     LAT_UND_REF_055A LAT_UND_MT_055B LEFT_LAT_UND_MT_056 DECK_COND_058
## 1
                     N
                                      0
                                                            0
## 2
                     N
                                      0
                                                            0
                                                                            8
## 3
                     N
                                       0
                                                                            5
                                       0
                                                                            7
## 4
                     N
                                                            0
                     N
                                       0
                                                                            5
## 5
                                      6
## 6
                     Η
                                                            0
     SUPERSTRUCTURE_COND_059 SUBSTRUCTURE_COND_060 CHANNEL_COND_061
## 1
                             8
                                                     7
                                                                       6
## 2
                             8
                                                     7
                                                                       7
## 3
                             5
                                                     6
                                                                       6
                             7
## 4
                                                     7
                                                                       7
## 5
                             6
                                                                       9
## 6
                             5
                                                     5
     CULVERT_COND_062 OPR_RATING_METH_063 OPERATING_RATING_064
## 1
                                           2
## 2
                                           2
                     N
                                                               84.8
## 3
                     N
                                           2
                                                               51.7
## 4
                     N
                                           1
                                                               44.2
                     N
## 5
                                           1
                                                               40.0
                     N
                                                               58.4
## 6
                                           1
     INV_RATING_METH_065 INVENTORY_RATING_066 STRUCTURAL_EVAL_067
                        2
## 1
                                            32.7
## 2
                        2
                                            35.1
                                                                     7
## 3
                         2
                                            37.2
                                                                     5
```

```
26.6
## 4
                                                                     6
## 5
                                            23.9
                                                                     5
## 6
                                            35.0
     DECK_GEOMETRY_EVAL_068 UNDCLRENCE_EVAL_069 POSTING_EVAL_070
## 1
                           7
## 2
                                                 N
                                                                   5
## 3
                            5
                                                 N
                            5
## 4
                                                 N
                                                                   5
## 5
                            2
                                                                   5
## 6
                            2
                                                 9
     WATERWAY_EVAL_071 APPR_ROAD_EVAL_072 WORK_PROPOSED_075A
## 1
                      8
                                          8
                      7
## 2
                                           8
                                                              NA
                                           6
## 3
                      8
                                                              38
## 4
                      9
                                           6
                                                              NA
## 5
                      8
                                           8
                                                              31
## 6
                      9
                                          3
     WORK_DONE_BY_075B IMP_LEN_MT_076 DATE_OF_INSPECT_090
                                    0.0
## 1
                                                          219
                     NA
## 2
                     NA
                                    0.0
                                                          219
## 3
                      1
                                   52.8
                                                         1019
                                                          618
## 5
                                 1981.2
                                                          619
                      1
## 6
                      1
                                 1512.4
     INSPECT_FREQ_MONTHS_091 FRACTURE_092A UNDWATER_LOOK_SEE_092B
                            24
                                          N
## 2
                            24
                                          N
                                                                  N
## 3
                            24
                                          N
                                                                  Y60
## 4
                            24
                                          N
                                                                  N
## 5
                            24
                                          Y24
## 6
                            24
                                          Y24
     SPEC_INSPECT_092C FRACTURE_LAST_DATE_093A UNDWATER_LAST_DATE_093B
## 1
## 2
                    N
                                               NA
                                                                         NA
## 3
                    N
                                               NA
                                                                       1017
## 4
                    N
                                               NA
                                                                         NA
## 5
                                              619
## 6
                    N
                                              618
     SPEC_LAST_DATE_093C BRIDGE_IMP_COST_094 ROADWAY_IMP_COST_095
## 1
                       NA
                                              0
                                                                     0
## 2
                                              0
                                                                     0
## 3
                       NA
                                              1
                                                                    1
## 4
                                             NA
                                                                   NA
## 5
                                          50000
                                                                 2000
                       NA
                                          35000
                                                                 2000
     TOTAL_IMP_COST_096 YEAR_OF_IMP_097 OTHER_STATE_CODE_098A
## 1
                       0
                                     2019
                                                               NA
## 2
                       0
                                     2019
                                                               NA
## 3
                       2
                                     2019
                                                               NA
                                                               NA
## 4
                      NA
                                       NA
## 5
                   60000
                                       NA
                                                               NA
                   45000
                                       NA
## OTHER_STATE_PCNT_098B OTHR_STATE_STRUC_NO_099 STRAHNET_HIGHWAY_100
## 1
                          0
```

```
## 2
                          0
                                                                          0
## 3
                         NA
                                                                          0
## 4
                         NA
                                                                          0
## 5
                         NA
                                                                          0
## 6
                         NA
     PARALLEL_STRUCTURE_101 TRAFFIC_DIRECTION_102 TEMP_STRUCTURE_103
## 2
                                                  2
                                                                     NA
## 3
                                                  2
                                                                     NA
## 4
                           N
                                                  2
                                                                     NA
## 5
                                                                     NA
                           N
                                                  2
## 6
                                                                     NA
     HIGHWAY_SYSTEM_104 FEDERAL_LANDS_105 YEAR_RECONSTRUCTED_106
## 1
                       0
                                          1
## 2
                       0
                                          1
                                                                  0
                                          0
## 3
                       0
                                                                  0
## 4
                       0
                                          0
                                                                  0
## 5
                                                               1962
                       0
## 6
                                          0
                                                               1958
     DECK_STRUCTURE_TYPE_107 SURFACE_TYPE_108A MEMBRANE_TYPE_108B
## 1
                            2
                                               6
                                                                   0
## 2
                                                                   0
## 3
                                                                   0
                            1
                                               1
## 4
                                                                   0
## 5
                                                                   0
                            1
                                               5
     DECK_PROTECTION_108C PERCENT_ADT_TRUCK_109 NATIONAL_NETWORK_110
## 1
                         1
                                                1
## 2
                                                                       0
                         8
                                                1
## 3
                         0
                                               35
                                                                       0
                                                5
## 4
                         0
                                                                       0
## 5
                                               10
## 6
                         0
                                                8
     PIER_PROTECTION_111 BRIDGE_LEN_IND_112 SCOUR_CRITICAL_113 FUTURE_ADT_114
## 1
                                          Y
                       NA
                                                                8
                                                                               59
## 2
                       NA
                                            Y
                                                                              200
                                                                8
## 3
                       NA
                                            Y
                                                                5
                                                                              400
## 4
                       NA
                                            Y
                                                                5
                                                                              600
## 5
                                            Y
                                                                             9000
## 6
                                            Y
                                                                5
                                                                             2500
                        1
     YEAR_OF_FUTURE_ADT_115 MIN_NAV_CLR_MT_116 FED_AGENCY SUBMITTED_BY
## 1
                        2039
                                               0
                                                           Y
                                                                       62
## 2
                        2039
                                               0
                                                           Y
                                                                       62
## 3
                        2039
                                              NA
                                                           Y
                                                                       74
## 4
                        2037
                                              NA
                                                                        67
                                                           Y
## 5
                        2037
                                              NA
                                                                        67
## 6
                        2038
                                              NA
     BRIDGE_CONDITION LOWEST_RATING DECK_AREA
## 1
                     G
                                   7
                                         145.50
                                   7
## 2
                     G
                                         133.28
## 3
                     F
                                   5
                                         387.00
                     G
                                   7
## 4
                                         687.75
                     F
## 5
                                   5 15453.36
## 6
                    F
                                   5 12552.92
```

```
STATE_CODE_001 STRUCTURE_NUMBER_008 RECORD_TYPE_005A
          1 DAPTRARUCO25463
## 16150
## 16151
                    1
                          DAPTRARUC025465
## 16152
                   1
                          DAPTRARUC025690
                                                       1
                          DAPTRARUC040153
## 16153
                   1
                  1
## 16154
                          DAPTRARUC040156
## 16155
                  1
                          DAPTRARUC040161
        ROUTE_PREFIX_005B SERVICE_LEVEL_005C ROUTE_NUMBER_005D
                                       0
## 16151
                      8
                                        0
## 16152
## 16153
## 16154
                      8
## 16155
                                        Ω
        DIRECTION_005E HIGHWAY_DISTRICT_002 COUNTY_CODE_003 PLACE_CODE_004
## 16150
                             0
                                            45
## 16151
                    0
                                       0
                                                     45
                                                                27640
## 16152
                    0
                                       0
                                                     45
                                                                27640
## 16153
                                                     45
                                                                27640
## 16154
                    0
                                       0
                                                     45
                                                                27640
                    0
## 16155
                                       0
                                                     45
                                                                27640
            FEATURES_DESC_006A CRITICAL_FACILITY_006B FACILITY_CARRIED_007
## 16150 TRIB OF STEEP HEARD CRK
                                 NA RIFF ROAD #4
## 16151 TRIB OF CLAYBANK CRK
                                                NA
                                                      FORESTRY ACS TA31
## 16152
                  BOWLES CREEK
                                                NA
                                                      WEST PERIMETER RD
## 16153
                                                NA
                STEEPHEAD CRK
                                                              BAILY RD
## 16154
                CLAYBANK CREEK
                                                NA
                                                            FARRELL RD
## 16155
                HARRAND CREEK
                                                NA
                                                          LOWE FIELD RD
##
                 LOCATION_009 MIN_VERT_CLR_010 KILOPOINT_011
                        FK 99.99
## 16150
                    FK223712
                                       99.99
                                                        0
## 16151
## 16152 SW OF BR 24576 & 24577
                                       99.99
                                                        0
## 16153
                    FK181721
                                       99.99
                                                        0
                                      99.99
## 16154
                    FK203693
                              99.99
                                                        0
## 16155
                   FK191675
        BASE_HWY_NETWORK_012 LRS_INV_ROUTE_013A SUBROUTE_NO_013B LAT_016
                                                         NA 31235600
## 16150
                         0
## 16151
                                                          NA 31221920
## 16152
                         0
                                                          NA 31284811
## 16153
                                                          NA 31224598
## 16154
                                                          NA 31211649
                        0
## 16155
                                                          NA 31201799
        LONG 017 DETOUR KILOS 019 TOLL 020 MAINTENANCE 021 OWNER 022
##
## 16150 -854713
                   8
                                      3
                                                    74
                                                              74
                             0
                                      3
                                                    74
## 16151 -854247
                                                             74
## 16152 -854933
                             31
                                      3
                                                    74
                                                             74
## 16153 -854530
                              5
                                      3
                                                    74
                                                              74
## 16154 -854407
                              3
                                      3
                                                    74
                                                              74
                      5
5
## 16155 -854454
                                      3
        FUNCTIONAL_CLASS_026 YEAR_BUILT_027 TRAFFIC_LANES_ON_028A
## 16150
                         9
                            1990
## 16151
                         9
                                    1990
                                                            1
```

```
## 16152
                                      1976
## 16153
                                      1974
                                                              2
## 16154
                                      1976
## 16155
                          9
                                      1979
        TRAFFIC_LANES_UND_028B ADT_029 YEAR_ADT_030 DESIGN_LOAD_031
## 16150
                            0
                               20 2016
## 16151
                                   10
                                              2016
                                  100
## 16152
                                              2016
                            0
                                                                0
## 16153
                                  100
                                              2016
## 16154
                                  540
                                              2016
## 16155
                                  540
                                              2016
        APPR_WIDTH_MT_032 MEDIAN_CODE_033 DEGREES_SKEW_034
## 16150
              4.3
                            0
## 16151
                      4.4
## 16152
                      5.5
## 16153
                      7.5
## 16154
                     7.3
## 16155
                      6.7
        STRUCTURE_FLARED_035 RAILINGS_036A TRANSITIONS_036B APPR_RAIL_036C
                  0 1
## 16151
                           0
                                        0
                                                                       0
## 16152
## 16153
## 16154
## 16155
                           0
        APPR_RAIL_END_036D HISTORY_037 NAVIGATION_038 NAV_VERT_CLR_MT_039
## 16150
                        0 5 N
## 16151
                         0
                                    5
                                                                      0
## 16152
                        N
                                    5
                                                                      0
## 16153
## 16154
                        1
                                    5
                                                                      0
## 16155
                        1
                                    5
                                                  N
        NAV_HORR_CLR_MT_040 OPEN_CLOSED_POSTED_041 SERVICE_ON_042A
                         0
## 16151
                          0
## 16152
                          0
## 16153
## 16154
## 16155
                         0
        SERVICE_UND_042B STRUCTURE_KIND_043A STRUCTURE_TYPE_043B
##
## 16150
## 16151
                                                            22
## 16152
                                                            19
## 16153
## 16154
## 16155
                       5
                                          1
        APPR_KIND_044A APPR_TYPE_044B MAIN_UNIT_SPANS_045 APPR_SPANS_046
## 16150
## 16151
                     0
                                                       1
                                                                     0
## 16152
                     0
                                                       3
                                                                     0
## 16153
                                                       3
## 16154
## 16155
                     0
                                   0
        HORR_CLR_MT_047 MAX_SPAN_LEN_MT_048 STRUCTURE_LEN_MT_049
```

```
4.3
                                                                20.7
## 16150
                                          10.4
## 16151
                      4.4
                                          10.4
                                                                10.4
## 16152
                      5.5
                                          3.0
                                                                11.3
## 16153
                      7.5
                                                                31.1
                                          10.4
## 16154
                      8.7
                                          10.4
                                                                62.2
## 16155
                      8.7
                                          10.4
                                                                31.1
         LEFT_CURB_MT_050A RIGHT_CURB_MT_050B ROADWAY_WIDTH_MT_051
                       0.0
                                            0.0
## 16150
                                                                  4.3
## 16151
                        0.3
                                            0.3
                                                                  4.4
## 16152
                        0.0
                                                                  0.0
                                            0.0
## 16153
                        0.3
                                            0.3
                                                                  7.5
## 16154
                        0.3
                                            0.3
                                                                  8.7
## 16155
                        0.3
                                            0.3
                                                                  8.7
         DECK_WIDTH_MT_052 VERT_CLR_OVER_MT_053 VERT_CLR_UND_REF_054A
##
## 16150
                       5.2
                                            99.99
## 16151
                        5.0
                                            99.99
                                                                        N
## 16152
                        0.0
                                            99.99
                                                                        N
## 16153
                        8.1
                                            99.99
                                                                        N
## 16154
                        9.3
                                            99.99
                                                                        N
## 16155
                        9.3
                                            99.99
                                                                        N
##
         VERT_CLR_UND_054B LAT_UND_REF_055A LAT_UND_MT_055B
## 16150
                          0
## 16151
                          0
                                                             0
                                            N
## 16152
                          0
                                                             0
                          0
## 16153
## 16154
                          0
## 16155
                          0
                                            N
                                                             0
         LEFT_LAT_UND_MT_056 DECK_COND_058 SUPERSTRUCTURE_COND_059
                                           7
## 16150
                            0
## 16151
                            0
                                           7
                                                                     7
## 16152
                            0
                                           N
                                                                     N
## 16153
                            0
                                           6
                                                                     5
## 16154
                                           7
## 16155
                            0
                                           6
         SUBSTRUCTURE_COND_060 CHANNEL_COND_061 CULVERT_COND_062
## 16150
                              7
                                                7
                              7
## 16151
                                                7
## 16152
                              N
                                                6
                                                                  6
## 16153
                              6
                              7
## 16154
                                                7
## 16155
                                                7
         OPR_RATING_METH_063 OPERATING_RATING_064 INV_RATING_METH_065
##
## 16150
                            5
                                                 NA
## 16151
                            5
                                                 NA
                                                                        5
## 16152
                            5
                                                 NA
                                                                        5
                                                                        5
## 16153
                            5
                                                 NA
## 16154
                            5
                                                 NA
## 16155
                            5
                                                 NA
         INVENTORY_RATING_066 STRUCTURAL_EVAL_067 DECK_GEOMETRY_EVAL_068
## 16150
                            NA
## 16151
                            NA
                                                                           6
## 16152
                            NA
                                                                           N
## 16153
                            NA
                                                                           6
## 16154
                            NA
                                                                           5
```

```
5
## 16155
                            NA
         UNDCLRENCE_EVAL_069 POSTING_EVAL_070 WATERWAY_EVAL_071
## 16150
## 16151
                                               5
                                                                  7
                            N
                                                                  7
## 16152
                            N
                                               5
## 16153
                            N
                                               5
                                                                  7
## 16154
## 16155
                                               5
                            N
         APPR_ROAD_EVAL_072 WORK_PROPOSED_075A WORK_DONE_BY_075B
## 16150
                           6
                                               38
## 16151
                            6
## 16152
                           8
                                               38
                                                                   1
                            6
                                               38
## 16153
                            6
## 16154
                                               38
## 16155
                            6
                                               38
         IMP_LEN_MT_076 DATE_OF_INSPECT_090 INSPECT_FREQ_MONTHS_091
##
## 16150
                    28.4
                                          818
## 16151
                    17.1
                                          818
                                                                     24
## 16152
                    18.0
                                          818
                                                                     24
                                                                     24
## 16153
                    39.5
                                          818
## 16154
                    72.6
                                          818
                                                                     24
## 16155
                                          818
         FRACTURE_092A UNDWATER_LOOK_SEE_092B SPEC_INSPECT_092C
##
## 16150
## 16151
                    N
                                                                N
## 16152
                                            N
                                                                N
## 16153
                    N
                                            N
                                                                N
## 16154
                    N
                                            N
## 16155
                    N
                                            N
                                                                N
         FRACTURE_LAST_DATE_093A UNDWATER_LAST_DATE_093B SPEC_LAST_DATE_093C
## 16150
                                NA
                                                         NA
                                                                               NA
## 16151
                                NA
                                                         NA
                                                                               NA
## 16152
                                NA
                                                         NA
                                                                               NA
## 16153
                                NA
                                                         NA
                                                                               NA
## 16154
                                NA
                                                                               NA
## 16155
                                NA
                                                                               NA
         BRIDGE_IMP_COST_094 ROADWAY_IMP_COST_095 TOTAL_IMP_COST_096
## 16150
                            1
                                                   1
                                                                       2
## 16151
## 16152
                            1
                                                                       2
                                                   1
## 16153
                                                                        2
## 16154
                            1
                                                   1
                                                                       2
## 16155
                            1
                                                   1
##
         YEAR_OF_IMP_097 OTHER_STATE_CODE_098A OTHER_STATE_PCNT_098B
## 16150
                     2018
                                               NA
## 16151
                     2018
                                               NA
                                                                      NA
## 16152
                                               NA
                                                                      NA
                     2018
## 16153
                                               NA
                                                                      NA
                     2018
## 16154
                     2018
                                               NA
                                                                      NA
## 16155
                     2018
                                               NA
##
         OTHR_STATE_STRUC_NO_099 STRAHNET_HIGHWAY_100 PARALLEL_STRUCTURE_101
## 16150
                                                       0
## 16151
                                                       0
                                                                                N
## 16152
                                                       0
                                                                                N
```

```
## 16153
                                                       0
                                                                                N
## 16154
                                                       0
                                                                                N
## 16155
                                                       0
                                                                                N
         TRAFFIC_DIRECTION_102 TEMP_STRUCTURE_103 HIGHWAY_SYSTEM_104
## 16150
## 16151
                              3
                                                                       0
## 16152
                                                  NA
                                                                       0
                               2
## 16153
                                                  NA
                                                                       0
## 16154
                                                  NA
## 16155
                               2
                                                  NA
                                                                       0
         FEDERAL_LANDS_105 YEAR_RECONSTRUCTED_106 DECK_STRUCTURE_TYPE_107
## 16150
                          0
                                                   0
## 16151
                          0
                                                   0
                                                                             2
                          0
                                                   0
                                                                             N
## 16152
## 16153
                          0
                                                   0
                                                                             2
                                                                             2
## 16154
                          0
## 16155
                          0
                                                   0
         SURFACE_TYPE_108A MEMBRANE_TYPE_108B DECK_PROTECTION_108C
## 16150
                          0
## 16151
                          0
                                                                     0
## 16152
                          N
                                              N
                                                                     N
## 16153
                          0
                                                                     0
## 16154
                          6
                                               1
## 16155
                          6
                                              1
         PERCENT_ADT_TRUCK_109 NATIONAL_NETWORK_110 PIER_PROTECTION_111
##
## 16150
                              5
## 16151
                              1
                                                     0
                                                                         NA
## 16152
                             20
                                                     0
                                                                         NA
                                                     0
## 16153
                             20
                                                                         NA
## 16154
                             20
                                                                         NA
## 16155
                             20
                                                     0
                                                                         NA
         BRIDGE_LEN_IND_112 SCOUR_CRITICAL_113 FUTURE_ADT_114
## 16150
                          Y
                                               5
## 16151
                           Y
                                                8
                                                              15
                           Y
## 16152
                                                8
                                                              100
## 16153
                           Y
                                                8
                                                              150
## 16154
                           Y
                                               5
## 16155
                           Y
                                               8
                                                              600
         YEAR_OF_FUTURE_ADT_115 MIN_NAV_CLR_MT_116 FED_AGENCY SUBMITTED_BY
## 16150
                            2036
                                                               Y
                                                  NA
                                                                            74
## 16151
                            2036
                                                                Y
                                                                            74
                                                                            74
                                                                Y
## 16152
                            2036
                                                   NA
## 16153
                            2036
                                                   NA
                                                                Y
                                                                            74
## 16154
                            2036
                                                   NA
                                                                Y
                                                                            74
## 16155
                            2036
                                                                Y
                                                                            74
         BRIDGE_CONDITION LOWEST_RATING DECK_AREA
##
## 16150
                         G
                                        7
                                             107.64
## 16151
                         G
                                        7
                                              52.00
                         F
## 16152
                                        6
                                              62.15
## 16153
                         F
                                        5
                                             251.91
                         F
## 16154
                                        6
                                             578.46
                         F
## 16155
                                             289.23
```

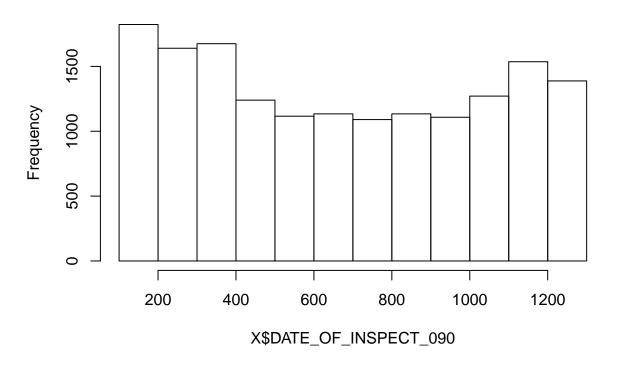
str(X)

```
'data.frame':
                   16155 obs. of 123 variables:
   $ STATE_CODE_001
                        : int 1 1 1 1 1 1 1 1 1 ...
  $ STRUCTURE_NUMBER_008
                          : Factor w/ 16101 levels "0000000000000702",..: 1 2 3 15009 124 2845 8757 1
  $ RECORD_TYPE_005A
                           : int 1 1 1 1 1 1 1 1 1 ...
##
   $ ROUTE_PREFIX_005B
                           : int
                                 6 6 8 4 3 6 4 4 6 5 ...
## $ SERVICE_LEVEL_005C
                           : int 1111121180 ...
                           : Factor w/ 964 levels "?????","0","0000A",..: 615 614 2 925 61 2 2 2 2 2
## $ ROUTE_NUMBER_005D
## $ DIRECTION_005E
                           : int 0000000000...
                           : int 9 9 0 2 2 2 10 10 1 10 ...
## $ HIGHWAY DISTRICT 002
## $ COUNTY_CODE_003
                           : int 53 53 113 59 79 33 127 127 95 75 ...
## $ PLACE CODE 004
                           : int 0 3004 19000 0 0 0 0 0 0 48808 ...
## $ FEATURES_DESC_006A
                           : Factor w/ 5572 levels "_","_15TH STREET & RAMP",..: 3738 3738 5066 2867
## $ CRITICAL_FACILITY_006B : logi NA NA NA NA NA NA ...
                          : Factor w/ 8032 levels "__CR 27","_11TH AVE RAMP",..: 5006 5005 95 2347 6
## $ FACILITY_CARRIED_007
## $ LOCATION_009
                           : Factor w/ 14885 levels "_","_.1 mile s. us 72",..: 6535 13638 9079 13371
## $ MIN_VERT_CLR_010
                           : num 99.99 99.99 99.99 4.52 ...
## $ KILOPOINT_011
                           : num 1.5 1.1 0 0 39.4 ...
## $ BASE_HWY_NETWORK_012
                           : int 0000000000...
                           : Factor w/ 1567 levels "","0","000AL00000",..: 2 2 1 1 1 1 227 227 1 1199
## $ LRS_INV_ROUTE_013A
## $ SUBROUTE_NO_013B
                           : int O O NA NA NA NA O O NA O ...
##
   $ LAT_016
                           : int
                                  31061094 31062020 32174330 34270600 34481800 34480000 33543030 3344
## $ LONG_017
                           : int
                                  87341348 87340890 -845837 87581200 87225400 87373000 87171770 87213
## $ DETOUR_KILOS_019
                           : int 3 3 18 16 42 6 2 13 199 158 ...
## $ TOLL_020
                           : int
                                  3 3 3 3 3 3 3 3 3 . . .
                           : int 62 62 74 67 67 67 2 2 67 4 ...
## $ MAINTENANCE_021
## $ OWNER 022
                           : int 62 62 74 67 67 67 2 2 67 4 ...
## $ FUNCTIONAL_CLASS_026
                           : int 99986179999...
## $ YEAR BUILT 027
                                  1999 2002 1942 1974 1937 1924 1898 1900 1939 1900 ...
                           : int
## $ TRAFFIC_LANES_ON_028A : int 2 2 2 2 2 1 1 2 1 ...
## $ TRAFFIC_LANES_UND_028B : int 0 0 0 0 0 2 0 0 0 0 ...
## $ ADT_029
                                  50 159 375 430 5520 3620 400 150 350 15 ...
                           : int
## $ YEAR_ADT_030
                                  2019 2019 2017 2017 2017 2018 1991 1991 2018 2007 ...
## $ DESIGN_LOAD_031
                           : Factor w/ 10 levels "0", "1", "2", "3", ...: 6 6 5 6 5 4 2 3 5 2 ...
                                  9.7 6.5 10.4 11.6 7.9 7.9 5.2 4.9 6.1 3 ...
## $ APPR_WIDTH_MT_032
                           : num
## $ MEDIAN_CODE_033
                           : int
                                  0 0 0 0 0 0 0 0 0 0 ...
## $ DEGREES_SKEW_034
                           : int
                                  30 0 0 99 0 0 0 0 0 0 ...
## $ STRUCTURE FLARED 035
                          : int 0000000000...
                           : Factor w/ 3 levels "0","1","N": 2 2 1 2 2 2 1 1 2 1 ...
## $ RAILINGS_036A
                           : Factor w/ 3 levels "0", "1", "N": 2 2 1 2 1 2 1 1 1 1 ...
## $ TRANSITIONS_036B
## $ APPR_RAIL_036C
                           : Factor w/ 3 levels "0", "1", "N": 2 2 2 2 1 2 1 1 1 1 ...
                           : Factor w/ 3 levels "0","1","N": 2 2 2 2 1 2 1 1 1 1 ...
## $ APPR_RAIL_END_036D
## $ HISTORY_037
                           : int 5555412555 ...
## $ NAVIGATION 038
                           : Factor w/ 3 levels "0","1","N": 1 1 1 3 2 2 1 1 1 1 ...
## $ NAV VERT CLR MT 039
                           : num 0 0 0 0 17.9 17.3 0 0 0 0 ...
## $ NAV HORR CLR MT 040
                           : num 0 0 0 0 33.5 33.5 0 0 0 0 ...
## $ OPEN_CLOSED_POSTED_041 : Factor w/ 7 levels "A", "B", "D", "E", ...: 1 1 1 1 1 1 6 5 1 6 ...
## $ SERVICE ON 042A
                           : int 1 1 1 1 5 5 1 1 1 1 ...
## $ SERVICE_UND_042B
                           : int 5559565555...
## $ STRUCTURE KIND 043A
                           : int 5515343314 ...
## $ STRUCTURE_TYPE_043B
                           : int
                                  5 1 4 5 10 3 10 10 4 10 ...
## $ APPR_KIND_044A
                           : int 0000313300...
## $ APPR_TYPE_044B
                           : int 00002202000...
```

```
## $ MAIN UNIT SPANS 045
                            : int 1 1 3 5 2 8 1 1 1 2 ...
## $ APPR_SPANS_046
                            : int 0000143784500...
## $ HORR CLR MT 047
                                   9.7 9.7 7.3 8.6 6 6 3.7 3.7 7.3 4.4 ...
                                   14.7 12.9 18.3 14 53.3 46.9 30.5 25.6 18.3 7.9 ...
## $ MAX_SPAN_LEN_MT_048
                            : num
## $ STRUCTURE LEN MT 049
                            : num
                                   15 13.6 43 65.5 1981.2 ...
## $ LEFT CURB MT 050A
                                   0 0.3 0.6 0 0.9 1.7 0 0 0.3 0 ...
                            : num
## $ RIGHT CURB MT 050B
                            : num
                                   0 0.3 0.6 0 0.2 0.5 0 0 0.3 0 ...
## $ ROADWAY_WIDTH_MT_051
                            : num
                                   9.7 9.1 7.3 8.7 6.1 6.1 3.7 3.7 7 4.4 ...
                            : num 9.7 9.8 9 10.5 7.8 8.3 3.7 3.7 8.2 4.8 ...
##
   $ DECK_WIDTH_MT_052
## $ VERT_CLR_OVER_MT_053
                            : num 99.99 99.99 99.99 4.52 ...
  $ VERT_CLR_UND_REF_054A
                           : Factor w/ 3 levels "H", "N", "R": 2 2 2 2 2 1 2 2 2 2 ...
##
   $ VERT_CLR_UND_054B
                            : num 0 0 0 0 0 ...
                            : Factor w/ 3 levels "H", "N", "R": 2 2 2 2 2 1 2 2 2 2 ...
   $ LAT_UND_REF_055A
## $ LAT_UND_MT_055B
                            : num 0 0 0 0 0 6 0 0 0 99.9 ...
## $ LEFT_LAT_UND_MT_056
                            : num 0000000000...
                            : Factor w/ 11 levels "0","1","2","3",...: 9 9 6 8 6 6 7 5 8 6 ...
## $ DECK_COND_058
## $ SUPERSTRUCTURE_COND_059: Factor w/ 11 levels "0","1","2","3",...: 9 9 6 8 7 6 5 5 8 5 ...
## $ SUBSTRUCTURE_COND_060 : Factor w/ 11 levels "0","1","2","3",...: 8 8 7 8 6 6 6 5 8 5 ...
                            : Factor w/ 11 levels "0", "1", "2", "3", ...: 7 8 7 8 10 9 8 7 7 6 ...
## $ CHANNEL_COND_061
                            : Factor w/ 9 levels "1", "3", "4", "5", ...: 9 9 9 9 9 9 9 9 9 9 ...
## $ CULVERT COND 062
## $ OPR_RATING_METH_063
                            : int 2 2 2 1 1 1 1 5 1 1 ...
                            : num 44.5 84.8 51.7 44.2 40 58.4 2.7 0 47.7 2.7 ...
## $ OPERATING RATING 064
                            : Factor w/ 8 levels "0","1","2","3",..: 3 3 3 2 2 2 2 6 2 2 ...
## $ INV_RATING_METH_065
## $ INVENTORY RATING 066
                            : num 32.7 35.1 37.2 26.6 23.9 35 1.8 0 28.8 1.8 ...
                            : Factor w/ 10 levels "*", "0", "2", "3", ...: 8 8 6 7 6 6 3 2 8 3 ...
## $ STRUCTURAL EVAL 067
## $ DECK_GEOMETRY_EVAL_068 : Factor w/ 10 levels "0","2","3","4",...: 7 6 5 5 2 2 2 1 4 6 ...
## $ UNDCLRENCE_EVAL_069
                            : Factor w/ 10 levels "0","2","3","4",..: 10 10 10 10 10 9 10 10 10 10 ...
## $ POSTING_EVAL_070
                            : int 5555550050 ...
                            : Factor w/ 10 levels "0","2","3","4",..: 8 7 8 9 8 9 7 8 6 4 ...
## $ WATERWAY_EVAL_071
                            : int 8866832285 ...
## $ APPR_ROAD_EVAL_072
## $ WORK_PROPOSED_075A
                            : int
                                   NA NA 38 NA 31 31 31 NA 31 ...
## $ WORK_DONE_BY_075B
                            : int NA NA 1 NA 1 1 1 1 NA 1 ...
## $ IMP_LEN_MT_076
                                   0 0 52.8 NA 1981.2 ...
                            : num
## $ DATE_OF_INSPECT_090
                                   219 219 1019 618 619 618 1019 113 1218 619 ...
                            : int
## $ INSPECT FREQ MONTHS 091: int 24 24 24 24 24 24 24 24 24 24 ...
                            : Factor w/ 6 levels "N ","Y01","Y03",..: 1 1 1 1 6 6 6 6 1 6 ...
## $ FRACTURE 092A
## $ UNDWATER_LOOK_SEE_092B : Factor w/ 5 levels "N ","Y12","Y24",..: 1 1 5 1 1 1 1 1 1 1 ...
## $ SPEC_INSPECT_092C
                            : Factor w/ 6 levels "N ","Y01","Y03",..: 1 1 1 1 1 3 3 1 5 ...
## $ FRACTURE LAST DATE 093A: int NA NA NA NA 619 618 1019 213 NA 619 ...
## $ UNDWATER_LAST_DATE_093B: int NA NA 1017 NA NA NA NA NA NA NA NA NA ...
## $ SPEC LAST DATE 093C
                            : int NA NA NA NA NA NA 120 113 NA 619 ...
## $ BRIDGE IMP COST 094
                                   0 0 1 NA 50000 35000 511 480 NA 230 ...
                            : int
                            : int 0 0 1 NA 2000 2000 51 48 NA 23 ...
## $ ROADWAY_IMP_COST_095
## $ TOTAL_IMP_COST_096
                            : int
                                   0 0 2 NA 60000 45000 562 528 NA 253 ...
## $ YEAR_OF_IMP_097
                            : int
                                   2019 2019 2019 NA NA NA 2020 2020 NA 2020 ...
## $ OTHER_STATE_CODE_098A
                            : int
                                   NA NA NA NA NA NA NA NA NA ...
   $ OTHER_STATE_PCNT_098B : int 0 0 NA NA NA NA 0 0 NA 0 ...
  $ OTHR_STATE_STRUC_NO_099: Factor w/ 32 levels "
                                                                  ",..: 1 1 1 1 1 1 2 2 1 2 ...
    [list output truncated]
```

hist(X\$DATE_OF_INSPECT_090)

Histogram of X\$DATE_OF_INSPECT_090



Github repository

https://github.com/JialuoLi/New-repo