House Prices: Advanced Regression Techniques

June 1, 2017

## Step 1 - Colleting data

"House Prices: Advanced Regression Techniques" is a competition in the kaggle website, it is recommended as the "training session" for data science students who just have completed some classes in machine learning basics, and have some experienc with R or Python, to expand their skill sets before they are formally trying a featured competition in kaggle.

The data gaven in this competition has already been seperated into the training data set, and test data set. There are 79 explanatory variables, including the number of bedrooms, lot size, lot shape, etc., describing almost every aspect of residential homes in Ames, Iowa. The goal is developing the prediction model to predict the final price of each home.

# load the requried library  
library(Amelia)

## Loading required package: Rcpp

## ##   
## ## Amelia II: Multiple Imputation  
## ## (Version 1.7.4, built: 2015-12-05)  
## ## Copyright (C) 2005-2017 James Honaker, Gary King and Matthew Blackwell  
## ## Refer to http://gking.harvard.edu/amelia/ for more information  
## ##

library(GGally)  
library(labeling)  
library(ggplot2)  
library(corrplot)  
library(randomForest)

## randomForest 4.6-12

## Type rfNews() to see new features/changes/bug fixes.

##   
## Attaching package: 'randomForest'

## The following object is masked from 'package:ggplot2':  
##   
## margin

library(caret)

## Loading required package: lattice

library(gbm)

## Loading required package: survival

##   
## Attaching package: 'survival'

## The following object is masked from 'package:caret':  
##   
## cluster

## Loading required package: splines

## Loading required package: parallel

## Loaded gbm 2.1.3

# read the data to R  
train.data<-read.csv("train.csv")  
test.data<-read.csv("test.csv")

## Step 2 - Exploring and preparing the data

The first thing is to investigate the data to get familiar with it, and do some exploratory data analysis.

# check the structure of the data  
str(train.data)

## 'data.frame': 1460 obs. of 81 variables:  
## $ Id : int 1 2 3 4 5 6 7 8 9 10 ...  
## $ MSSubClass : int 60 20 60 70 60 50 20 60 50 190 ...  
## $ MSZoning : Factor w/ 5 levels "C (all)","FV",..: 4 4 4 4 4 4 4 4 5 4 ...  
## $ LotFrontage : int 65 80 68 60 84 85 75 NA 51 50 ...  
## $ LotArea : int 8450 9600 11250 9550 14260 14115 10084 10382 6120 7420 ...  
## $ Street : Factor w/ 2 levels "Grvl","Pave": 2 2 2 2 2 2 2 2 2 2 ...  
## $ Alley : Factor w/ 2 levels "Grvl","Pave": NA NA NA NA NA NA NA NA NA NA ...  
## $ LotShape : Factor w/ 4 levels "IR1","IR2","IR3",..: 4 4 1 1 1 1 4 1 4 4 ...  
## $ LandContour : Factor w/ 4 levels "Bnk","HLS","Low",..: 4 4 4 4 4 4 4 4 4 4 ...  
## $ Utilities : Factor w/ 2 levels "AllPub","NoSeWa": 1 1 1 1 1 1 1 1 1 1 ...  
## $ LotConfig : Factor w/ 5 levels "Corner","CulDSac",..: 5 3 5 1 3 5 5 1 5 1 ...  
## $ LandSlope : Factor w/ 3 levels "Gtl","Mod","Sev": 1 1 1 1 1 1 1 1 1 1 ...  
## $ Neighborhood : Factor w/ 25 levels "Blmngtn","Blueste",..: 6 25 6 7 14 12 21 17 18 4 ...  
## $ Condition1 : Factor w/ 9 levels "Artery","Feedr",..: 3 2 3 3 3 3 3 5 1 1 ...  
## $ Condition2 : Factor w/ 8 levels "Artery","Feedr",..: 3 3 3 3 3 3 3 3 3 1 ...  
## $ BldgType : Factor w/ 5 levels "1Fam","2fmCon",..: 1 1 1 1 1 1 1 1 1 2 ...  
## $ HouseStyle : Factor w/ 8 levels "1.5Fin","1.5Unf",..: 6 3 6 6 6 1 3 6 1 2 ...  
## $ OverallQual : int 7 6 7 7 8 5 8 7 7 5 ...  
## $ OverallCond : int 5 8 5 5 5 5 5 6 5 6 ...  
## $ YearBuilt : int 2003 1976 2001 1915 2000 1993 2004 1973 1931 1939 ...  
## $ YearRemodAdd : int 2003 1976 2002 1970 2000 1995 2005 1973 1950 1950 ...  
## $ RoofStyle : Factor w/ 6 levels "Flat","Gable",..: 2 2 2 2 2 2 2 2 2 2 ...  
## $ RoofMatl : Factor w/ 8 levels "ClyTile","CompShg",..: 2 2 2 2 2 2 2 2 2 2 ...  
## $ Exterior1st : Factor w/ 15 levels "AsbShng","AsphShn",..: 13 9 13 14 13 13 13 7 4 9 ...  
## $ Exterior2nd : Factor w/ 16 levels "AsbShng","AsphShn",..: 14 9 14 16 14 14 14 7 16 9 ...  
## $ MasVnrType : Factor w/ 4 levels "BrkCmn","BrkFace",..: 2 3 2 3 2 3 4 4 3 3 ...  
## $ MasVnrArea : int 196 0 162 0 350 0 186 240 0 0 ...  
## $ ExterQual : Factor w/ 4 levels "Ex","Fa","Gd",..: 3 4 3 4 3 4 3 4 4 4 ...  
## $ ExterCond : Factor w/ 5 levels "Ex","Fa","Gd",..: 5 5 5 5 5 5 5 5 5 5 ...  
## $ Foundation : Factor w/ 6 levels "BrkTil","CBlock",..: 3 2 3 1 3 6 3 2 1 1 ...  
## $ BsmtQual : Factor w/ 4 levels "Ex","Fa","Gd",..: 3 3 3 4 3 3 1 3 4 4 ...  
## $ BsmtCond : Factor w/ 4 levels "Fa","Gd","Po",..: 4 4 4 2 4 4 4 4 4 4 ...  
## $ BsmtExposure : Factor w/ 4 levels "Av","Gd","Mn",..: 4 2 3 4 1 4 1 3 4 4 ...  
## $ BsmtFinType1 : Factor w/ 6 levels "ALQ","BLQ","GLQ",..: 3 1 3 1 3 3 3 1 6 3 ...  
## $ BsmtFinSF1 : int 706 978 486 216 655 732 1369 859 0 851 ...  
## $ BsmtFinType2 : Factor w/ 6 levels "ALQ","BLQ","GLQ",..: 6 6 6 6 6 6 6 2 6 6 ...  
## $ BsmtFinSF2 : int 0 0 0 0 0 0 0 32 0 0 ...  
## $ BsmtUnfSF : int 150 284 434 540 490 64 317 216 952 140 ...  
## $ TotalBsmtSF : int 856 1262 920 756 1145 796 1686 1107 952 991 ...  
## $ Heating : Factor w/ 6 levels "Floor","GasA",..: 2 2 2 2 2 2 2 2 2 2 ...  
## $ HeatingQC : Factor w/ 5 levels "Ex","Fa","Gd",..: 1 1 1 3 1 1 1 1 3 1 ...  
## $ CentralAir : Factor w/ 2 levels "N","Y": 2 2 2 2 2 2 2 2 2 2 ...  
## $ Electrical : Factor w/ 5 levels "FuseA","FuseF",..: 5 5 5 5 5 5 5 5 2 5 ...  
## $ X1stFlrSF : int 856 1262 920 961 1145 796 1694 1107 1022 1077 ...  
## $ X2ndFlrSF : int 854 0 866 756 1053 566 0 983 752 0 ...  
## $ LowQualFinSF : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ GrLivArea : int 1710 1262 1786 1717 2198 1362 1694 2090 1774 1077 ...  
## $ BsmtFullBath : int 1 0 1 1 1 1 1 1 0 1 ...  
## $ BsmtHalfBath : int 0 1 0 0 0 0 0 0 0 0 ...  
## $ FullBath : int 2 2 2 1 2 1 2 2 2 1 ...  
## $ HalfBath : int 1 0 1 0 1 1 0 1 0 0 ...  
## $ BedroomAbvGr : int 3 3 3 3 4 1 3 3 2 2 ...  
## $ KitchenAbvGr : int 1 1 1 1 1 1 1 1 2 2 ...  
## $ KitchenQual : Factor w/ 4 levels "Ex","Fa","Gd",..: 3 4 3 3 3 4 3 4 4 4 ...  
## $ TotRmsAbvGrd : int 8 6 6 7 9 5 7 7 8 5 ...  
## $ Functional : Factor w/ 7 levels "Maj1","Maj2",..: 7 7 7 7 7 7 7 7 3 7 ...  
## $ Fireplaces : int 0 1 1 1 1 0 1 2 2 2 ...  
## $ FireplaceQu : Factor w/ 5 levels "Ex","Fa","Gd",..: NA 5 5 3 5 NA 3 5 5 5 ...  
## $ GarageType : Factor w/ 6 levels "2Types","Attchd",..: 2 2 2 6 2 2 2 2 6 2 ...  
## $ GarageYrBlt : int 2003 1976 2001 1998 2000 1993 2004 1973 1931 1939 ...  
## $ GarageFinish : Factor w/ 3 levels "Fin","RFn","Unf": 2 2 2 3 2 3 2 2 3 2 ...  
## $ GarageCars : int 2 2 2 3 3 2 2 2 2 1 ...  
## $ GarageArea : int 548 460 608 642 836 480 636 484 468 205 ...  
## $ GarageQual : Factor w/ 5 levels "Ex","Fa","Gd",..: 5 5 5 5 5 5 5 5 2 3 ...  
## $ GarageCond : Factor w/ 5 levels "Ex","Fa","Gd",..: 5 5 5 5 5 5 5 5 5 5 ...  
## $ PavedDrive : Factor w/ 3 levels "N","P","Y": 3 3 3 3 3 3 3 3 3 3 ...  
## $ WoodDeckSF : int 0 298 0 0 192 40 255 235 90 0 ...  
## $ OpenPorchSF : int 61 0 42 35 84 30 57 204 0 4 ...  
## $ EnclosedPorch: int 0 0 0 272 0 0 0 228 205 0 ...  
## $ X3SsnPorch : int 0 0 0 0 0 320 0 0 0 0 ...  
## $ ScreenPorch : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ PoolArea : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ PoolQC : Factor w/ 3 levels "Ex","Fa","Gd": NA NA NA NA NA NA NA NA NA NA ...  
## $ Fence : Factor w/ 4 levels "GdPrv","GdWo",..: NA NA NA NA NA 3 NA NA NA NA ...  
## $ MiscFeature : Factor w/ 4 levels "Gar2","Othr",..: NA NA NA NA NA 3 NA 3 NA NA ...  
## $ MiscVal : int 0 0 0 0 0 700 0 350 0 0 ...  
## $ MoSold : int 2 5 9 2 12 10 8 11 4 1 ...  
## $ YrSold : int 2008 2007 2008 2006 2008 2009 2007 2009 2008 2008 ...  
## $ SaleType : Factor w/ 9 levels "COD","Con","ConLD",..: 9 9 9 9 9 9 9 9 9 9 ...  
## $ SaleCondition: Factor w/ 6 levels "Abnorml","AdjLand",..: 5 5 5 1 5 5 5 5 1 5 ...  
## $ SalePrice : int 208500 181500 223500 140000 250000 143000 307000 200000 129900 118000 ...

str(test.data)

## 'data.frame': 1459 obs. of 80 variables:  
## $ Id : int 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 ...  
## $ MSSubClass : int 20 20 60 60 120 60 20 60 20 20 ...  
## $ MSZoning : Factor w/ 5 levels "C (all)","FV",..: 3 4 4 4 4 4 4 4 4 4 ...  
## $ LotFrontage : int 80 81 74 78 43 75 NA 63 85 70 ...  
## $ LotArea : int 11622 14267 13830 9978 5005 10000 7980 8402 10176 8400 ...  
## $ Street : Factor w/ 2 levels "Grvl","Pave": 2 2 2 2 2 2 2 2 2 2 ...  
## $ Alley : Factor w/ 2 levels "Grvl","Pave": NA NA NA NA NA NA NA NA NA NA ...  
## $ LotShape : Factor w/ 4 levels "IR1","IR2","IR3",..: 4 1 1 1 1 1 1 1 4 4 ...  
## $ LandContour : Factor w/ 4 levels "Bnk","HLS","Low",..: 4 4 4 4 2 4 4 4 4 4 ...  
## $ Utilities : Factor w/ 1 level "AllPub": 1 1 1 1 1 1 1 1 1 1 ...  
## $ LotConfig : Factor w/ 5 levels "Corner","CulDSac",..: 5 1 5 5 5 1 5 5 5 1 ...  
## $ LandSlope : Factor w/ 3 levels "Gtl","Mod","Sev": 1 1 1 1 1 1 1 1 1 1 ...  
## $ Neighborhood : Factor w/ 25 levels "Blmngtn","Blueste",..: 13 13 9 9 22 9 9 9 9 13 ...  
## $ Condition1 : Factor w/ 9 levels "Artery","Feedr",..: 2 3 3 3 3 3 3 3 3 3 ...  
## $ Condition2 : Factor w/ 5 levels "Artery","Feedr",..: 3 3 3 3 3 3 3 3 3 3 ...  
## $ BldgType : Factor w/ 5 levels "1Fam","2fmCon",..: 1 1 1 1 5 1 1 1 1 1 ...  
## $ HouseStyle : Factor w/ 7 levels "1.5Fin","1.5Unf",..: 3 3 5 5 3 5 3 5 3 3 ...  
## $ OverallQual : int 5 6 5 6 8 6 6 6 7 4 ...  
## $ OverallCond : int 6 6 5 6 5 5 7 5 5 5 ...  
## $ YearBuilt : int 1961 1958 1997 1998 1992 1993 1992 1998 1990 1970 ...  
## $ YearRemodAdd : int 1961 1958 1998 1998 1992 1994 2007 1998 1990 1970 ...  
## $ RoofStyle : Factor w/ 6 levels "Flat","Gable",..: 2 4 2 2 2 2 2 2 2 2 ...  
## $ RoofMatl : Factor w/ 4 levels "CompShg","Tar&Grv",..: 1 1 1 1 1 1 1 1 1 1 ...  
## $ Exterior1st : Factor w/ 13 levels "AsbShng","AsphShn",..: 11 12 11 11 7 7 7 11 7 9 ...  
## $ Exterior2nd : Factor w/ 15 levels "AsbShng","AsphShn",..: 13 14 13 13 7 7 7 13 7 10 ...  
## $ MasVnrType : Factor w/ 4 levels "BrkCmn","BrkFace",..: 3 2 3 2 3 3 3 3 3 3 ...  
## $ MasVnrArea : int 0 108 0 20 0 0 0 0 0 0 ...  
## $ ExterQual : Factor w/ 4 levels "Ex","Fa","Gd",..: 4 4 4 4 3 4 4 4 4 4 ...  
## $ ExterCond : Factor w/ 5 levels "Ex","Fa","Gd",..: 5 5 5 5 5 5 3 5 5 5 ...  
## $ Foundation : Factor w/ 6 levels "BrkTil","CBlock",..: 2 2 3 3 3 3 3 3 3 2 ...  
## $ BsmtQual : Factor w/ 4 levels "Ex","Fa","Gd",..: 4 4 3 4 3 3 3 3 3 4 ...  
## $ BsmtCond : Factor w/ 4 levels "Fa","Gd","Po",..: 4 4 4 4 4 4 4 4 4 4 ...  
## $ BsmtExposure : Factor w/ 4 levels "Av","Gd","Mn",..: 4 4 4 4 4 4 4 4 2 4 ...  
## $ BsmtFinType1 : Factor w/ 6 levels "ALQ","BLQ","GLQ",..: 5 1 3 3 1 6 1 6 3 1 ...  
## $ BsmtFinSF1 : int 468 923 791 602 263 0 935 0 637 804 ...  
## $ BsmtFinType2 : Factor w/ 6 levels "ALQ","BLQ","GLQ",..: 4 6 6 6 6 6 6 6 6 5 ...  
## $ BsmtFinSF2 : int 144 0 0 0 0 0 0 0 0 78 ...  
## $ BsmtUnfSF : int 270 406 137 324 1017 763 233 789 663 0 ...  
## $ TotalBsmtSF : int 882 1329 928 926 1280 763 1168 789 1300 882 ...  
## $ Heating : Factor w/ 4 levels "GasA","GasW",..: 1 1 1 1 1 1 1 1 1 1 ...  
## $ HeatingQC : Factor w/ 5 levels "Ex","Fa","Gd",..: 5 5 3 1 1 3 1 3 3 5 ...  
## $ CentralAir : Factor w/ 2 levels "N","Y": 2 2 2 2 2 2 2 2 2 2 ...  
## $ Electrical : Factor w/ 4 levels "FuseA","FuseF",..: 4 4 4 4 4 4 4 4 4 4 ...  
## $ X1stFlrSF : int 896 1329 928 926 1280 763 1187 789 1341 882 ...  
## $ X2ndFlrSF : int 0 0 701 678 0 892 0 676 0 0 ...  
## $ LowQualFinSF : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ GrLivArea : int 896 1329 1629 1604 1280 1655 1187 1465 1341 882 ...  
## $ BsmtFullBath : int 0 0 0 0 0 0 1 0 1 1 ...  
## $ BsmtHalfBath : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ FullBath : int 1 1 2 2 2 2 2 2 1 1 ...  
## $ HalfBath : int 0 1 1 1 0 1 0 1 1 0 ...  
## $ BedroomAbvGr : int 2 3 3 3 2 3 3 3 2 2 ...  
## $ KitchenAbvGr : int 1 1 1 1 1 1 1 1 1 1 ...  
## $ KitchenQual : Factor w/ 4 levels "Ex","Fa","Gd",..: 4 3 4 3 3 4 4 4 3 4 ...  
## $ TotRmsAbvGrd : int 5 6 6 7 5 7 6 7 5 4 ...  
## $ Functional : Factor w/ 7 levels "Maj1","Maj2",..: 7 7 7 7 7 7 7 7 7 7 ...  
## $ Fireplaces : int 0 0 1 1 0 1 0 1 1 0 ...  
## $ FireplaceQu : Factor w/ 5 levels "Ex","Fa","Gd",..: NA NA 5 3 NA 5 NA 3 4 NA ...  
## $ GarageType : Factor w/ 6 levels "2Types","Attchd",..: 2 2 2 2 2 2 2 2 2 2 ...  
## $ GarageYrBlt : int 1961 1958 1997 1998 1992 1993 1992 1998 1990 1970 ...  
## $ GarageFinish : Factor w/ 3 levels "Fin","RFn","Unf": 3 3 1 1 2 1 1 1 3 1 ...  
## $ GarageCars : int 1 1 2 2 2 2 2 2 2 2 ...  
## $ GarageArea : int 730 312 482 470 506 440 420 393 506 525 ...  
## $ GarageQual : Factor w/ 4 levels "Fa","Gd","Po",..: 4 4 4 4 4 4 4 4 4 4 ...  
## $ GarageCond : Factor w/ 5 levels "Ex","Fa","Gd",..: 5 5 5 5 5 5 5 5 5 5 ...  
## $ PavedDrive : Factor w/ 3 levels "N","P","Y": 3 3 3 3 3 3 3 3 3 3 ...  
## $ WoodDeckSF : int 140 393 212 360 0 157 483 0 192 240 ...  
## $ OpenPorchSF : int 0 36 34 36 82 84 21 75 0 0 ...  
## $ EnclosedPorch: int 0 0 0 0 0 0 0 0 0 0 ...  
## $ X3SsnPorch : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ ScreenPorch : int 120 0 0 0 144 0 0 0 0 0 ...  
## $ PoolArea : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ PoolQC : Factor w/ 2 levels "Ex","Gd": NA NA NA NA NA NA NA NA NA NA ...  
## $ Fence : Factor w/ 4 levels "GdPrv","GdWo",..: 3 NA 3 NA NA NA 1 NA NA 3 ...  
## $ MiscFeature : Factor w/ 3 levels "Gar2","Othr",..: NA 1 NA NA NA NA 3 NA NA NA ...  
## $ MiscVal : int 0 12500 0 0 0 0 500 0 0 0 ...  
## $ MoSold : int 6 6 3 6 1 4 3 5 2 4 ...  
## $ YrSold : int 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 ...  
## $ SaleType : Factor w/ 9 levels "COD","Con","ConLD",..: 9 9 9 9 9 9 9 9 9 9 ...  
## $ SaleCondition: Factor w/ 6 levels "Abnorml","AdjLand",..: 5 5 5 5 5 5 5 5 5 5 ...

There are 81 variables and 1460 observations in the train data set; 80 variables and 1459 observations in the test data set. The column "SalePrice" is missing in the test data set, which is the value we need to predict based on the prediction model we developed.

Because the "SalePrice" in the test data set is missing, it is not appropriate for the project, since one of the guidline in the project said that "present one or two specific predictions made from the test data, state whether the predcitions were correct or not", we can't compare the predictions without the original "SalePrice" column in the data set, so for this project, I'm using the train data set only, and split the data into the train data, and test data for my project.

The next step is to getting familiar with the train data set. We can see that there are NAs (missing value) in some variables in the train data set, for example, "Alley", "FireplaceQu", "PoolQC" etc. We need to take a loot and decide how to deal with the missing values for each variables.

Let's see the percentage of missing values for each variables.

# rename the original train data set to reduce the confusion  
new.data<-train.data  
# list the percentage of missing values in each variables  
miss.value<-sort(sapply(new.data,function(x) sum(is.na(x))/nrow(new.data)\*100),decreasing = TRUE)  
miss.value[miss.value>0]

## PoolQC MiscFeature Alley Fence FireplaceQu   
## 99.52054795 96.30136986 93.76712329 80.75342466 47.26027397   
## LotFrontage GarageType GarageYrBlt GarageFinish GarageQual   
## 17.73972603 5.54794521 5.54794521 5.54794521 5.54794521   
## GarageCond BsmtExposure BsmtFinType2 BsmtQual BsmtCond   
## 5.54794521 2.60273973 2.60273973 2.53424658 2.53424658   
## BsmtFinType1 MasVnrType MasVnrArea Electrical   
## 2.53424658 0.54794521 0.54794521 0.06849315

We can see that 99.52% of data is missing in PoolQC variable, 96.30% of data is missing in MiscFeature, 93.78% of data is missing in Alley, etc.

Let's see the summary statistical result for the variables have missing values

summary(new.data[,names(miss.value)[miss.value>0]])

## PoolQC MiscFeature Alley Fence FireplaceQu  
## Ex : 2 Gar2: 2 Grvl: 50 GdPrv: 59 Ex : 24   
## Fa : 2 Othr: 2 Pave: 41 GdWo : 54 Fa : 33   
## Gd : 3 Shed: 49 NA's:1369 MnPrv: 157 Gd :380   
## NA's:1453 TenC: 1 MnWw : 11 Po : 20   
## NA's:1406 NA's :1179 TA :313   
## NA's:690   
##   
## LotFrontage GarageType GarageYrBlt GarageFinish GarageQual   
## Min. : 21.00 2Types : 6 Min. :1900 Fin :352 Ex : 3   
## 1st Qu.: 59.00 Attchd :870 1st Qu.:1961 RFn :422 Fa : 48   
## Median : 69.00 Basment: 19 Median :1980 Unf :605 Gd : 14   
## Mean : 70.05 BuiltIn: 88 Mean :1979 NA's: 81 Po : 3   
## 3rd Qu.: 80.00 CarPort: 9 3rd Qu.:2002 TA :1311   
## Max. :313.00 Detchd :387 Max. :2010 NA's: 81   
## NA's :259 NA's : 81 NA's :81   
## GarageCond BsmtExposure BsmtFinType2 BsmtQual BsmtCond BsmtFinType1  
## Ex : 2 Av :221 ALQ : 19 Ex :121 Fa : 45 ALQ :220   
## Fa : 35 Gd :134 BLQ : 33 Fa : 35 Gd : 65 BLQ :148   
## Gd : 9 Mn :114 GLQ : 14 Gd :618 Po : 2 GLQ :418   
## Po : 7 No :953 LwQ : 46 TA :649 TA :1311 LwQ : 74   
## TA :1326 NA's: 38 Rec : 54 NA's: 37 NA's: 37 Rec :133   
## NA's: 81 Unf :1256 Unf :430   
## NA's: 38 NA's: 37   
## MasVnrType MasVnrArea Electrical   
## BrkCmn : 15 Min. : 0.0 FuseA: 94   
## BrkFace:445 1st Qu.: 0.0 FuseF: 27   
## None :864 Median : 0.0 FuseP: 3   
## Stone :128 Mean : 103.7 Mix : 1   
## NA's : 8 3rd Qu.: 166.0 SBrkr:1334   
## Max. :1600.0 NA's : 1   
## NA's :8

The rule of thumb I'm using here is to drop any variables have missing values more than 75% of its data, and then fix other variables have missing values less then 75% of its data case by case.

# drop the variables have missing value more than 75% of its data  
new.data <-  
 new.data[, -match(c("PoolQC", "MiscFeature", "Alley", "Fence", "FireplaceQu"),  
 names(new.data))]

Based on the variables descrition file, we can see that some of the variables have missing values is because there variables are relevant to another variable, if that variable is missing, then these relevant variables are also missing. For example, if the house doesn't have a garage, then "GarageType", "garageYrBlt" etc. are missing; the same ruls can be found for basement variable.

Since there are not so many missing values in these variables, I'm using "None" to replace the missing values.

garage <-  
 c("GarageType", "GarageFinish", "GarageQual", "GarageCond")  
basement <-  
 c("BsmtExposure",  
 "BsmtFinType2",  
 "BsmtQual",  
 "BsmtCond",  
 "BsmtFinType1")  
for (x in c(garage, basement)) {  
 new.data[[x]] <-  
 factor(new.data[[x]], levels = c(levels(new.data[[x]]), c('None')))  
 new.data[[x]][is.na(new.data[[x]])] <- "None"  
}

"GarageYrBlt" is the year of the garage, I'm using the building year of the house to replace the missing value, assuming that the garage is not build after the house.

new.data$GarageYrBlt[is.na(new.data$GarageYrBlt)] <-  
 new.data$YearBuilt[is.na(new.data$GarageYrBlt)]

"LotFrontage" is the distance between the house and the street, I'm using the median value of this variable to replace the missing value since it is a numeric value.

new.data$LotFrontage[is.na(new.data$LotFrontage)] <-  
 median(new.data$LotFrontage, na.rm = T)

"MasVnrType" is the Masonry veneer type, use None to replace the missing value; "MasVnrArea" is the Masonry veneer area in square feet, for the missing value, use 0 to replace it since it is the monetary value of the "MasVnrType".

new.data[["MasVnrType"]][is.na(new.data[["MasVnrType"]])] <- "None"  
new.data[["MasVnrArea"]][is.na(new.data[["MasVnrArea"]])] <- 0

There is only 1 missing value in "Electrical", use the most frequent level to replace it.

new.data[["Electrical"]][is.na(new.data[["Electrical"]])] <-  
 levels(new.data[["Electrical"]])[which.max(table(new.data[["Electrical"]]))]

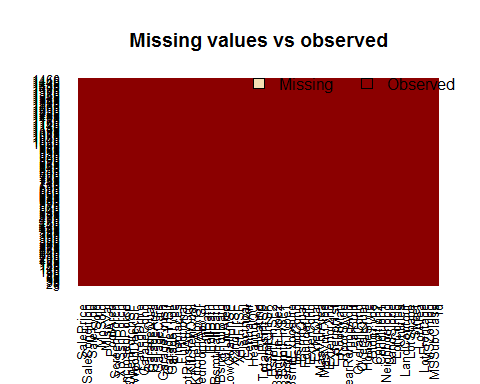
Let's see if there is still any missing values in the data set now

colSums(sapply(new.data, is.na))

## Id MSSubClass MSZoning LotFrontage LotArea   
## 0 0 0 0 0   
## Street LotShape LandContour Utilities LotConfig   
## 0 0 0 0 0   
## LandSlope Neighborhood Condition1 Condition2 BldgType   
## 0 0 0 0 0   
## HouseStyle OverallQual OverallCond YearBuilt YearRemodAdd   
## 0 0 0 0 0   
## RoofStyle RoofMatl Exterior1st Exterior2nd MasVnrType   
## 0 0 0 0 0   
## MasVnrArea ExterQual ExterCond Foundation BsmtQual   
## 0 0 0 0 0   
## BsmtCond BsmtExposure BsmtFinType1 BsmtFinSF1 BsmtFinType2   
## 0 0 0 0 0   
## BsmtFinSF2 BsmtUnfSF TotalBsmtSF Heating HeatingQC   
## 0 0 0 0 0   
## CentralAir Electrical X1stFlrSF X2ndFlrSF LowQualFinSF   
## 0 0 0 0 0   
## GrLivArea BsmtFullBath BsmtHalfBath FullBath HalfBath   
## 0 0 0 0 0   
## BedroomAbvGr KitchenAbvGr KitchenQual TotRmsAbvGrd Functional   
## 0 0 0 0 0   
## Fireplaces GarageType GarageYrBlt GarageFinish GarageCars   
## 0 0 0 0 0   
## GarageArea GarageQual GarageCond PavedDrive WoodDeckSF   
## 0 0 0 0 0   
## OpenPorchSF EnclosedPorch X3SsnPorch ScreenPorch PoolArea   
## 0 0 0 0 0   
## MiscVal MoSold YrSold SaleType SaleCondition   
## 0 0 0 0 0   
## SalePrice   
## 0

Visualization for the missing data.

missmap(new.data, main = "Missing values vs observed")



We can see that, there are no missing values in the data set now.

Next step, we can see the summary statistical analysis of the data set without any missing values.

summary(new.data)

## Id MSSubClass MSZoning LotFrontage   
## Min. : 1.0 Min. : 20.0 C (all): 10 Min. : 21.00   
## 1st Qu.: 365.8 1st Qu.: 20.0 FV : 65 1st Qu.: 60.00   
## Median : 730.5 Median : 50.0 RH : 16 Median : 69.00   
## Mean : 730.5 Mean : 56.9 RL :1151 Mean : 69.86   
## 3rd Qu.:1095.2 3rd Qu.: 70.0 RM : 218 3rd Qu.: 79.00   
## Max. :1460.0 Max. :190.0 Max. :313.00   
##   
## LotArea Street LotShape LandContour Utilities   
## Min. : 1300 Grvl: 6 IR1:484 Bnk: 63 AllPub:1459   
## 1st Qu.: 7554 Pave:1454 IR2: 41 HLS: 50 NoSeWa: 1   
## Median : 9478 IR3: 10 Low: 36   
## Mean : 10517 Reg:925 Lvl:1311   
## 3rd Qu.: 11602   
## Max. :215245   
##   
## LotConfig LandSlope Neighborhood Condition1 Condition2   
## Corner : 263 Gtl:1382 NAmes :225 Norm :1260 Norm :1445   
## CulDSac: 94 Mod: 65 CollgCr:150 Feedr : 81 Feedr : 6   
## FR2 : 47 Sev: 13 OldTown:113 Artery : 48 Artery : 2   
## FR3 : 4 Edwards:100 RRAn : 26 PosN : 2   
## Inside :1052 Somerst: 86 PosN : 19 RRNn : 2   
## Gilbert: 79 RRAe : 11 PosA : 1   
## (Other):707 (Other): 15 (Other): 2   
## BldgType HouseStyle OverallQual OverallCond   
## 1Fam :1220 1Story :726 Min. : 1.000 Min. :1.000   
## 2fmCon: 31 2Story :445 1st Qu.: 5.000 1st Qu.:5.000   
## Duplex: 52 1.5Fin :154 Median : 6.000 Median :5.000   
## Twnhs : 43 SLvl : 65 Mean : 6.099 Mean :5.575   
## TwnhsE: 114 SFoyer : 37 3rd Qu.: 7.000 3rd Qu.:6.000   
## 1.5Unf : 14 Max. :10.000 Max. :9.000   
## (Other): 19   
## YearBuilt YearRemodAdd RoofStyle RoofMatl Exterior1st   
## Min. :1872 Min. :1950 Flat : 13 CompShg:1434 VinylSd:515   
## 1st Qu.:1954 1st Qu.:1967 Gable :1141 Tar&Grv: 11 HdBoard:222   
## Median :1973 Median :1994 Gambrel: 11 WdShngl: 6 MetalSd:220   
## Mean :1971 Mean :1985 Hip : 286 WdShake: 5 Wd Sdng:206   
## 3rd Qu.:2000 3rd Qu.:2004 Mansard: 7 ClyTile: 1 Plywood:108   
## Max. :2010 Max. :2010 Shed : 2 Membran: 1 CemntBd: 61   
## (Other): 2 (Other):128   
## Exterior2nd MasVnrType MasVnrArea ExterQual ExterCond  
## VinylSd:504 BrkCmn : 15 Min. : 0.0 Ex: 52 Ex: 3   
## MetalSd:214 BrkFace:445 1st Qu.: 0.0 Fa: 14 Fa: 28   
## HdBoard:207 None :872 Median : 0.0 Gd:488 Gd: 146   
## Wd Sdng:197 Stone :128 Mean : 103.1 TA:906 Po: 1   
## Plywood:142 3rd Qu.: 164.2 TA:1282   
## CmentBd: 60 Max. :1600.0   
## (Other):136   
## Foundation BsmtQual BsmtCond BsmtExposure BsmtFinType1  
## BrkTil:146 Ex :121 Fa : 45 Av :221 ALQ :220   
## CBlock:634 Fa : 35 Gd : 65 Gd :134 BLQ :148   
## PConc :647 Gd :618 Po : 2 Mn :114 GLQ :418   
## Slab : 24 TA :649 TA :1311 No :953 LwQ : 74   
## Stone : 6 None: 37 None: 37 None: 38 Rec :133   
## Wood : 3 Unf :430   
## None: 37   
## BsmtFinSF1 BsmtFinType2 BsmtFinSF2 BsmtUnfSF   
## Min. : 0.0 ALQ : 19 Min. : 0.00 Min. : 0.0   
## 1st Qu.: 0.0 BLQ : 33 1st Qu.: 0.00 1st Qu.: 223.0   
## Median : 383.5 GLQ : 14 Median : 0.00 Median : 477.5   
## Mean : 443.6 LwQ : 46 Mean : 46.55 Mean : 567.2   
## 3rd Qu.: 712.2 Rec : 54 3rd Qu.: 0.00 3rd Qu.: 808.0   
## Max. :5644.0 Unf :1256 Max. :1474.00 Max. :2336.0   
## None: 38   
## TotalBsmtSF Heating HeatingQC CentralAir Electrical   
## Min. : 0.0 Floor: 1 Ex:741 N: 95 FuseA: 94   
## 1st Qu.: 795.8 GasA :1428 Fa: 49 Y:1365 FuseF: 27   
## Median : 991.5 GasW : 18 Gd:241 FuseP: 3   
## Mean :1057.4 Grav : 7 Po: 1 Mix : 1   
## 3rd Qu.:1298.2 OthW : 2 TA:428 SBrkr:1335   
## Max. :6110.0 Wall : 4   
##   
## X1stFlrSF X2ndFlrSF LowQualFinSF GrLivArea   
## Min. : 334 Min. : 0 Min. : 0.000 Min. : 334   
## 1st Qu.: 882 1st Qu.: 0 1st Qu.: 0.000 1st Qu.:1130   
## Median :1087 Median : 0 Median : 0.000 Median :1464   
## Mean :1163 Mean : 347 Mean : 5.845 Mean :1515   
## 3rd Qu.:1391 3rd Qu.: 728 3rd Qu.: 0.000 3rd Qu.:1777   
## Max. :4692 Max. :2065 Max. :572.000 Max. :5642   
##   
## BsmtFullBath BsmtHalfBath FullBath HalfBath   
## Min. :0.0000 Min. :0.00000 Min. :0.000 Min. :0.0000   
## 1st Qu.:0.0000 1st Qu.:0.00000 1st Qu.:1.000 1st Qu.:0.0000   
## Median :0.0000 Median :0.00000 Median :2.000 Median :0.0000   
## Mean :0.4253 Mean :0.05753 Mean :1.565 Mean :0.3829   
## 3rd Qu.:1.0000 3rd Qu.:0.00000 3rd Qu.:2.000 3rd Qu.:1.0000   
## Max. :3.0000 Max. :2.00000 Max. :3.000 Max. :2.0000   
##   
## BedroomAbvGr KitchenAbvGr KitchenQual TotRmsAbvGrd Functional   
## Min. :0.000 Min. :0.000 Ex:100 Min. : 2.000 Maj1: 14   
## 1st Qu.:2.000 1st Qu.:1.000 Fa: 39 1st Qu.: 5.000 Maj2: 5   
## Median :3.000 Median :1.000 Gd:586 Median : 6.000 Min1: 31   
## Mean :2.866 Mean :1.047 TA:735 Mean : 6.518 Min2: 34   
## 3rd Qu.:3.000 3rd Qu.:1.000 3rd Qu.: 7.000 Mod : 15   
## Max. :8.000 Max. :3.000 Max. :14.000 Sev : 1   
## Typ :1360   
## Fireplaces GarageType GarageYrBlt GarageFinish GarageCars   
## Min. :0.000 2Types : 6 Min. :1872 Fin :352 Min. :0.000   
## 1st Qu.:0.000 Attchd :870 1st Qu.:1959 RFn :422 1st Qu.:1.000   
## Median :1.000 Basment: 19 Median :1978 Unf :605 Median :2.000   
## Mean :0.613 BuiltIn: 88 Mean :1977 None: 81 Mean :1.767   
## 3rd Qu.:1.000 CarPort: 9 3rd Qu.:2001 3rd Qu.:2.000   
## Max. :3.000 Detchd :387 Max. :2010 Max. :4.000   
## None : 81   
## GarageArea GarageQual GarageCond PavedDrive WoodDeckSF   
## Min. : 0.0 Ex : 3 Ex : 2 N: 90 Min. : 0.00   
## 1st Qu.: 334.5 Fa : 48 Fa : 35 P: 30 1st Qu.: 0.00   
## Median : 480.0 Gd : 14 Gd : 9 Y:1340 Median : 0.00   
## Mean : 473.0 Po : 3 Po : 7 Mean : 94.24   
## 3rd Qu.: 576.0 TA :1311 TA :1326 3rd Qu.:168.00   
## Max. :1418.0 None: 81 None: 81 Max. :857.00   
##   
## OpenPorchSF EnclosedPorch X3SsnPorch ScreenPorch   
## Min. : 0.00 Min. : 0.00 Min. : 0.00 Min. : 0.00   
## 1st Qu.: 0.00 1st Qu.: 0.00 1st Qu.: 0.00 1st Qu.: 0.00   
## Median : 25.00 Median : 0.00 Median : 0.00 Median : 0.00   
## Mean : 46.66 Mean : 21.95 Mean : 3.41 Mean : 15.06   
## 3rd Qu.: 68.00 3rd Qu.: 0.00 3rd Qu.: 0.00 3rd Qu.: 0.00   
## Max. :547.00 Max. :552.00 Max. :508.00 Max. :480.00   
##   
## PoolArea MiscVal MoSold YrSold   
## Min. : 0.000 Min. : 0.00 Min. : 1.000 Min. :2006   
## 1st Qu.: 0.000 1st Qu.: 0.00 1st Qu.: 5.000 1st Qu.:2007   
## Median : 0.000 Median : 0.00 Median : 6.000 Median :2008   
## Mean : 2.759 Mean : 43.49 Mean : 6.322 Mean :2008   
## 3rd Qu.: 0.000 3rd Qu.: 0.00 3rd Qu.: 8.000 3rd Qu.:2009   
## Max. :738.000 Max. :15500.00 Max. :12.000 Max. :2010   
##   
## SaleType SaleCondition SalePrice   
## WD :1267 Abnorml: 101 Min. : 34900   
## New : 122 AdjLand: 4 1st Qu.:129975   
## COD : 43 Alloca : 12 Median :163000   
## ConLD : 9 Family : 20 Mean :180921   
## ConLI : 5 Normal :1198 3rd Qu.:214000   
## ConLw : 5 Partial: 125 Max. :755000   
## (Other): 9

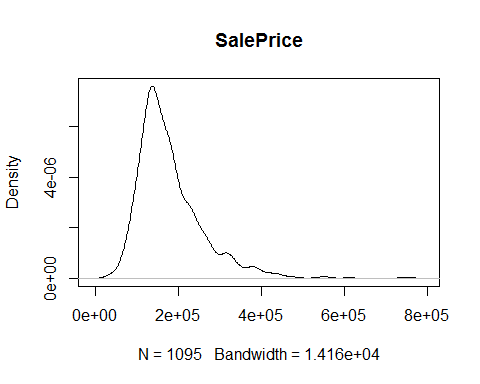
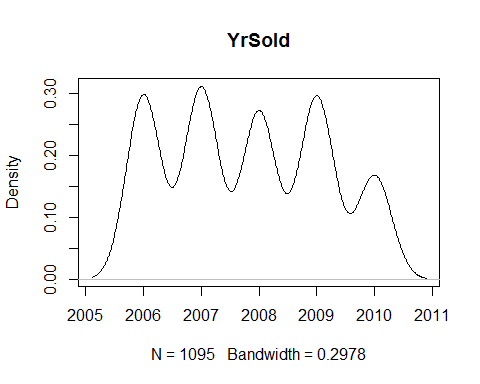
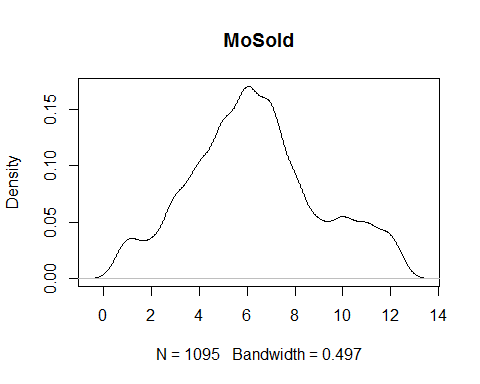
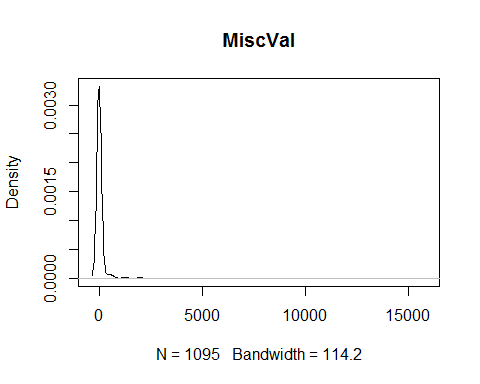
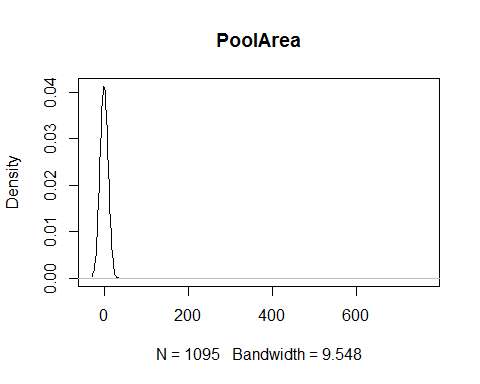
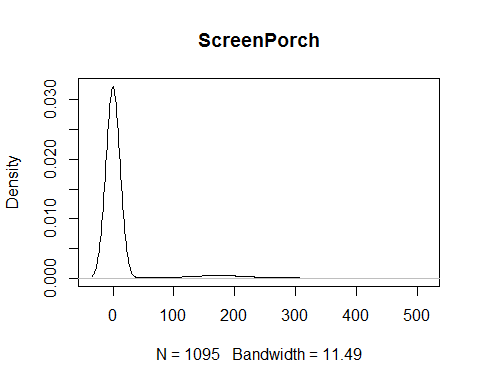
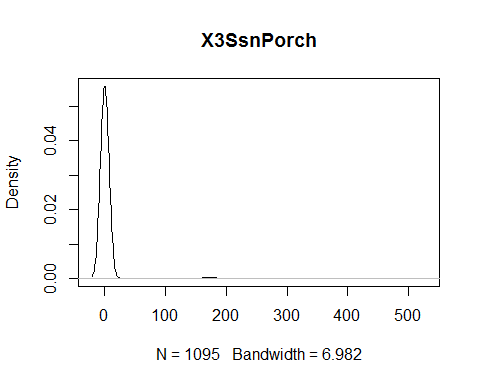
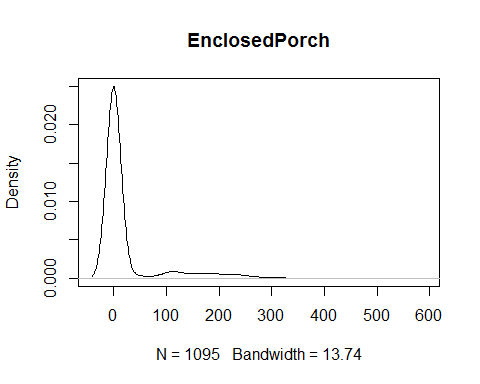
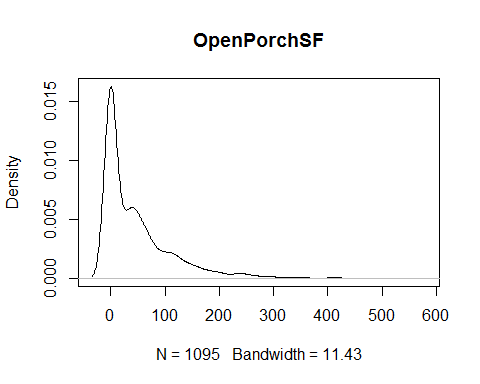
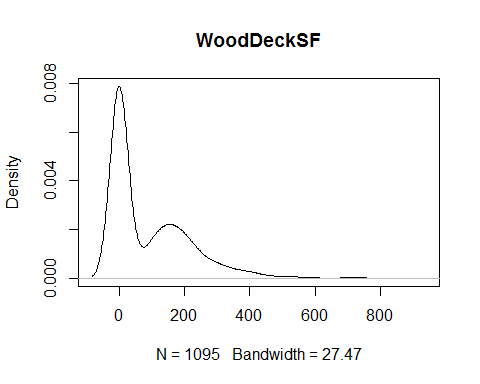
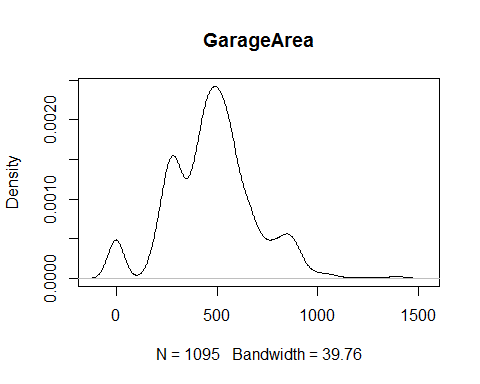
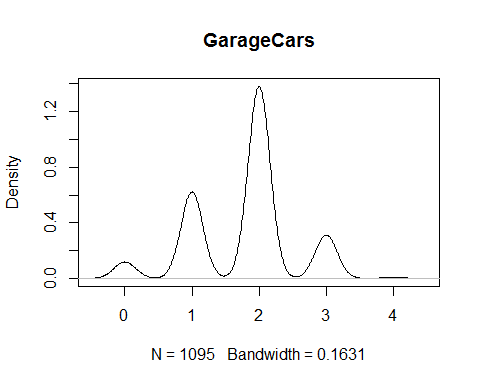
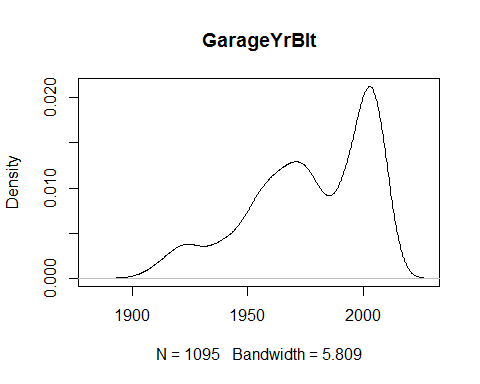
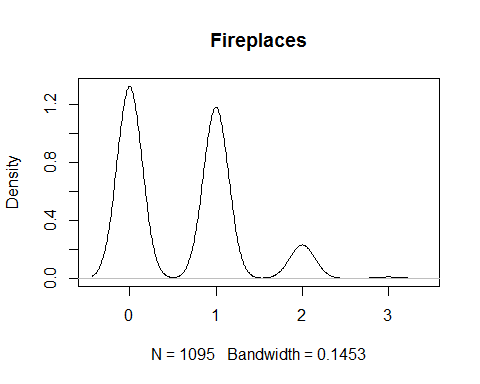
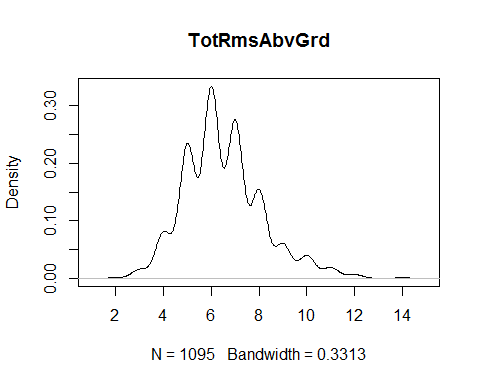
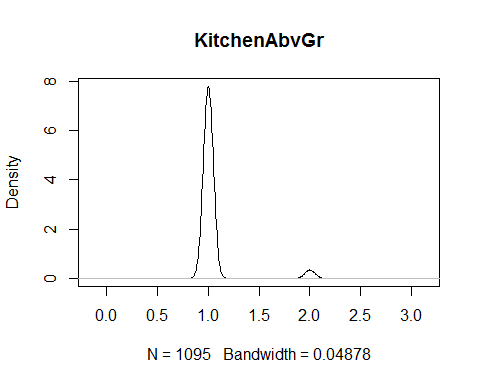
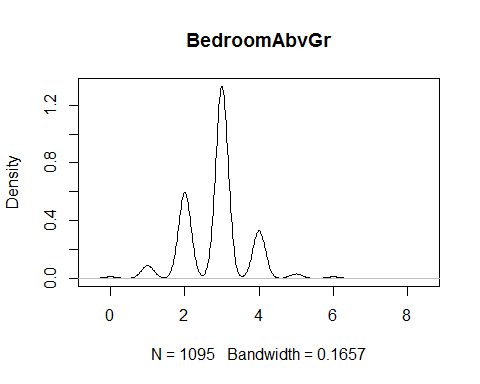
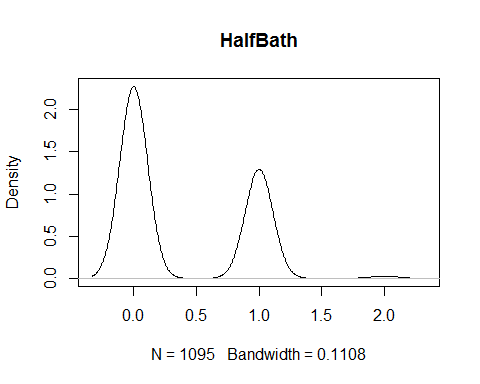
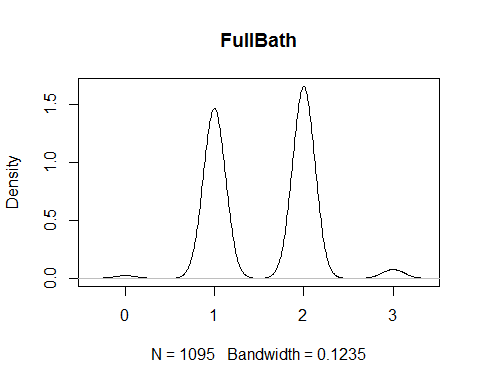
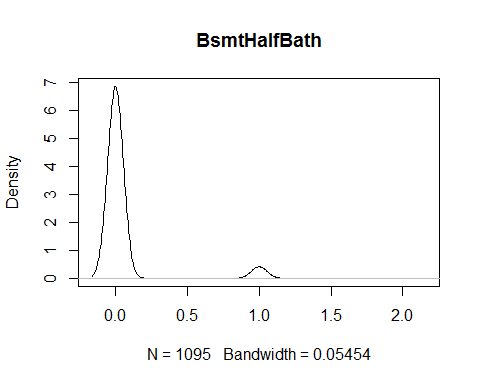
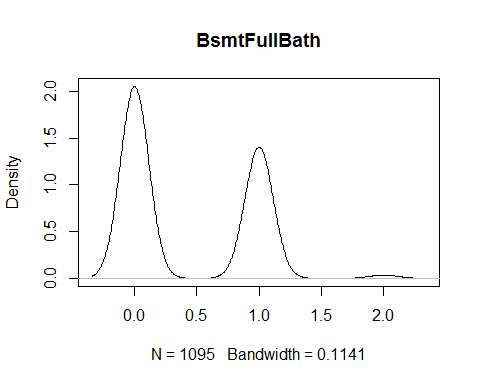
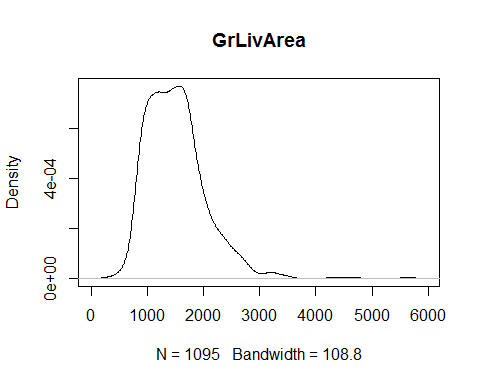
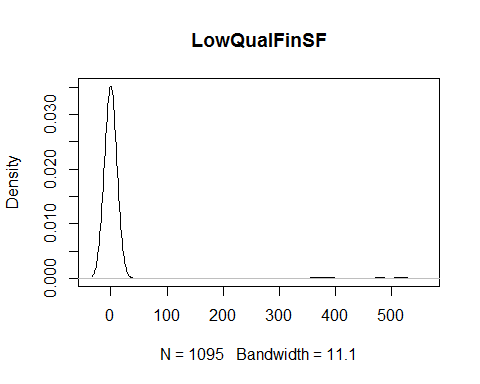
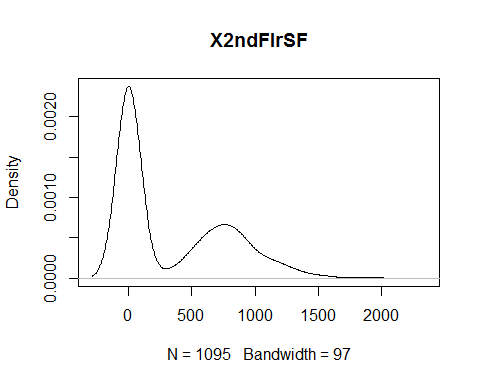
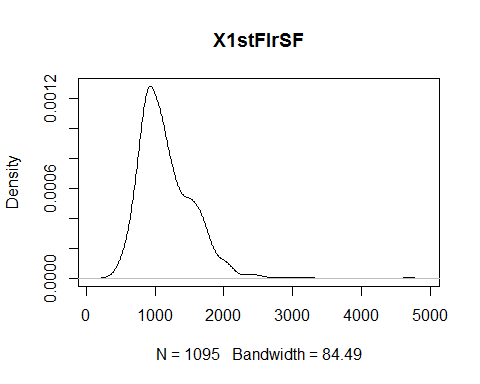
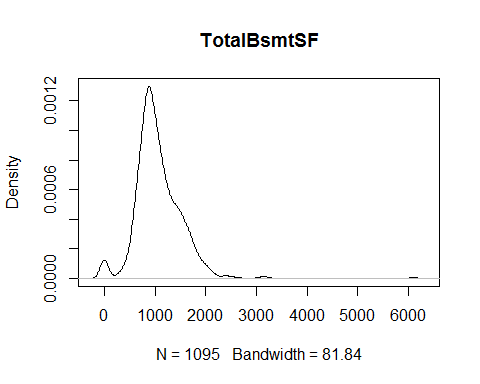
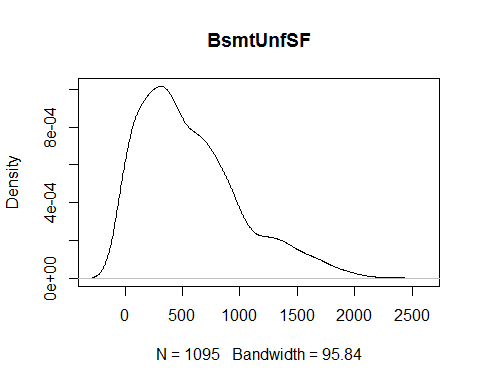
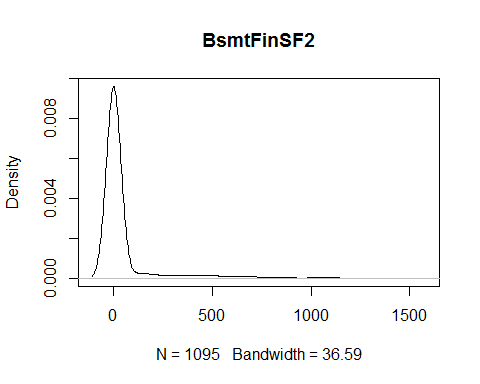
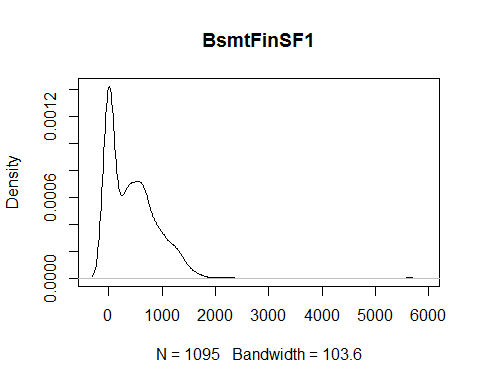
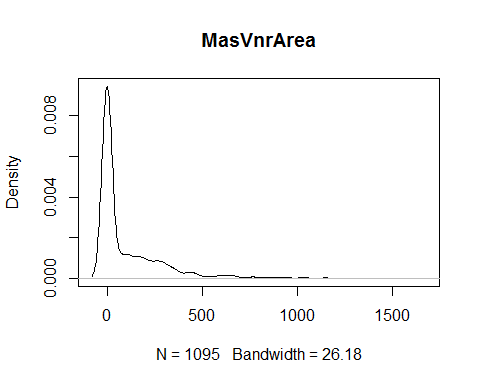
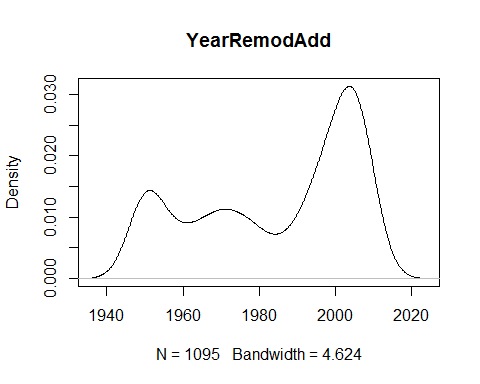
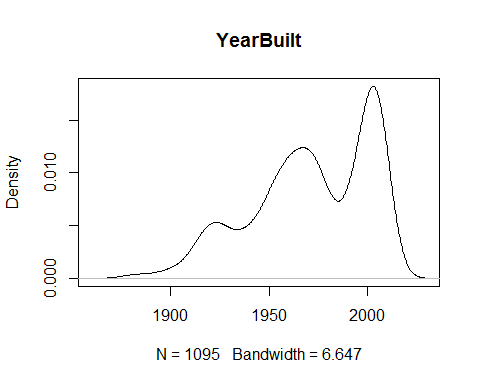
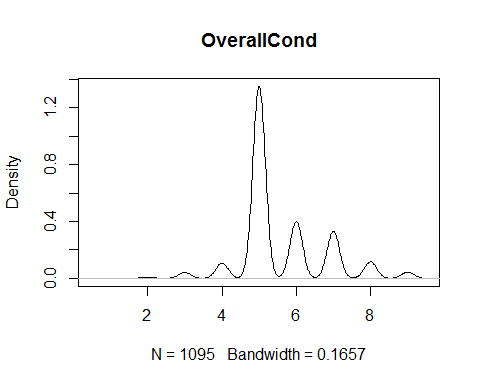
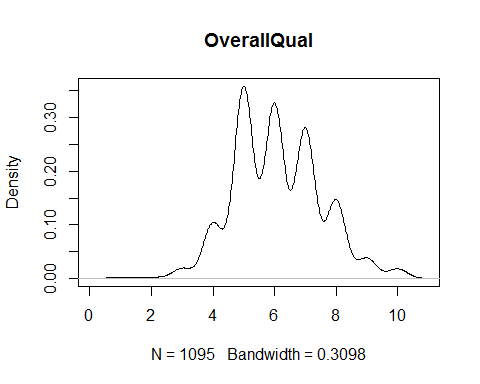
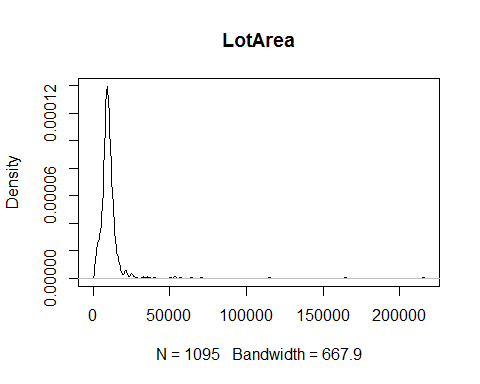
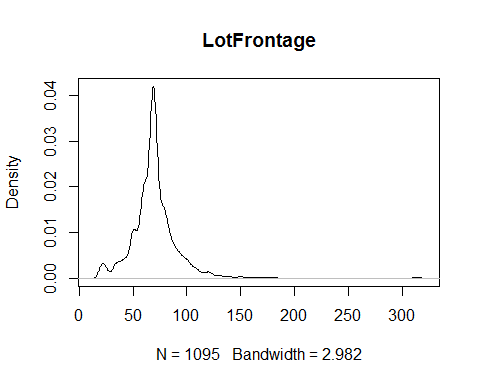
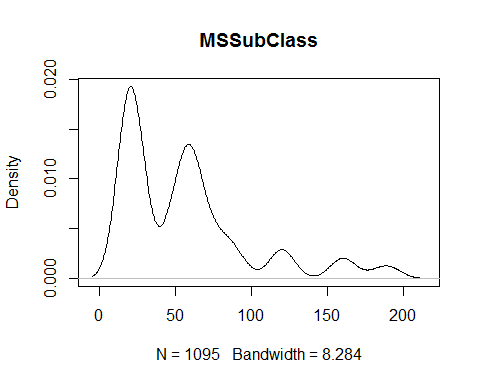
Since the original data is already radomized, so I'm simply seperate the first 75% of the data to be the training data set, and the rest of the 25% of the data to be the test data set.

For our project, we don't need to use the "ID" variable, so we will drop this variable before we split the data.

new.data$Id<-NULL  
index<-sample(1:nrow(new.data),as.integer(0.75\*nrow(new.data)))  
train<-new.data[index,]  
test<-new.data[-index,]

Let's see some visulization about the training data set. First, let's see the distribution of the numeric variables with density plots.

for (col in colnames(train)){  
 if(is.numeric(train[,col])){  
 plot(density(train[,col]), main=col)  
 }  
}



Lots of numeric variables are right skew, and have significant density near 0, which indicate that certain features are only present in subset of homes. And "SalePrice" seems to be roughtly normal, even it skew to the right, and there are numbers of homes sell signigicantly higher than the average price.

Next step, let's find out what kinds of variables are higly correaletd to the SalePrice. Let's list the variables have a correalation with SalePrice with an absolute value of 0.5 or higher.

for (col in colnames(train)){  
 if(is.numeric(train[,col])){  
 if( abs(cor(train[,col],train$SalePrice)) > 0.5){  
 print(col)  
 print( cor(train[,col],train$SalePrice) )  
 }  
 }  
}

## [1] "OverallQual"  
## [1] 0.7874195  
## [1] "YearBuilt"  
## [1] 0.5269115  
## [1] "YearRemodAdd"  
## [1] 0.5091438  
## [1] "TotalBsmtSF"  
## [1] 0.6185605  
## [1] "X1stFlrSF"  
## [1] 0.6177409  
## [1] "GrLivArea"  
## [1] 0.7088362  
## [1] "FullBath"  
## [1] 0.571006  
## [1] "TotRmsAbvGrd"  
## [1] 0.538718  
## [1] "GarageCars"  
## [1] 0.6324222  
## [1] "GarageArea"  
## [1] 0.6161966  
## [1] "SalePrice"  
## [1] 1

We can see that, there are several variables are high relate to the saleprice, the "OverallQual" (Rates the overall material and finish of the house), "GrLivArea" (Above grade (ground) living area square feet), "GarageCars" (Size of garage in car capacity) are the 3 higest one. These variables are likely important for predicting sale price.

The same rule here, let's then list the vatiables have a correalation with SalePrice with an absolute value of 0.1 or lower.

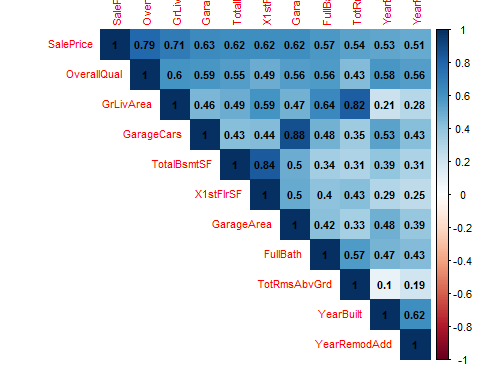
for (col in colnames(train)){  
 if(is.numeric(train[,col])){  
 if( abs(cor(train[,col],train$SalePrice)) < 0.1){  
 print(col)  
 print( cor(train[,col],train$SalePrice) )  
 }  
 }  
}

## [1] "MSSubClass"  
## [1] -0.09640202  
## [1] "OverallCond"  
## [1] -0.07844543  
## [1] "BsmtFinSF2"  
## [1] -0.00950954  
## [1] "LowQualFinSF"  
## [1] -0.06766294  
## [1] "BsmtHalfBath"  
## [1] -0.03201553  
## [1] "X3SsnPorch"  
## [1] 0.04100178  
## [1] "ScreenPorch"  
## [1] 0.08406642  
## [1] "MiscVal"  
## [1] -0.02831705  
## [1] "MoSold"  
## [1] 0.05702874  
## [1] "YrSold"  
## [1] -0.06232963

One of the intersting thing I found here, is "OverallCond" (Rates the overall condition of the house) doesn't have strong correlation to the sale price, but "OverallQual" (Rates the overall material and finish of the house) does. I think people might don't care about the house condition, because they can always remodel it?

Let's then visualize the corelation matrix.

correlations <- cor(train[, sapply(train, is.numeric)])  
corr.SalePrice <-  
 as.matrix(sort(correlations[, 'SalePrice'], decreasing = TRUE))  
  
corr.idx <-  
 names(which(apply(corr.SalePrice, 1, function(x)  
 (x > 0.5 | x < -0.5))))  
library(corrplot)  
corrplot(  
 as.matrix(correlations[corr.idx, corr.idx]),  
 type = 'upper',  
 method = 'color',  
 addCoef.col = 'black',  
 tl.cex = .7,  
 cl.cex = .7,  
 number.cex = .7  
)



We list all the 11 variables with correlation with Slarprice >0.5 here, we will use these variables to develop a model. They are: OverallQual - Rates the overall material and finish of the house; GrLivArea - Above grade (ground) living area square feet; GarageCars - Size of garage in car capacity; GarageArea - Size of garage in square feet; TotalBsmtSF - Total square feet of basement area; X1stFlrSF - First Floor square feet (There is missmatch in the data description file here); FullBath - Full bathrooms above grade; TotRmsAbvGrd - Total rooms above grade (does not include bathrooms); YearBuilt - Original construction date; YearRemodAdd - Remodel date (same as construction date if no remodeling or additions); GarageYrBlt - Year garage was built

Then we plot these variables with salesprice to get the visulizaton.

# the data visulization code are refrenced from https://www.kaggle.com/tannercarbonati/detailed-data-analysis-ensemble-modeling  
  
lm.plt <- function(data, mapping, ...){  
 plt <- ggplot(data = data, mapping = mapping) +   
 geom\_point(shape = 20, alpha = 0.7, color = 'darkseagreen') +  
 geom\_smooth(method=loess, fill="red", color="red") +  
 geom\_smooth(method=lm, fill="blue", color="blue") +  
 theme\_minimal()  
 return(plt)  
}  
  
ggpairs(train, corr.idx[1:11], lower = list(continuous = lm.plt))

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : neighborhood radius 2.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : reciprocal condition number 2.1951e-015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : There are other near singularities as well. 1

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : pseudoinverse used  
## at -0.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius  
## 2.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal  
## condition number 2.1951e-015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : There are other  
## near singularities as well. 1

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : neighborhood radius 2.02

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## parametric, : reciprocal condition number 2.1951e-015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : There are other near singularities as well. 1

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : pseudoinverse used  
## at -0.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius  
## 2.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal  
## condition number 2.1951e-015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : There are other  
## near singularities as well. 1

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
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## parametric, : reciprocal condition number 2.1951e-015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
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## Warning in predLoess(object$y, object$x, newx = if  
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## at -0.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius  
## 2.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
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## Warning in predLoess(object$y, object$x, newx = if  
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## near singularities as well. 1

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : neighborhood radius 2.02

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## parametric, : reciprocal condition number 2.1951e-015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : There are other near singularities as well. 1

## Warning in predLoess(object$y, object$x, newx = if  
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## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius  
## 2.02

## Warning in predLoess(object$y, object$x, newx = if  
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## Warning in predLoess(object$y, object$x, newx = if  
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## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : neighborhood radius 2.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : reciprocal condition number 2.1951e-015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : There are other near singularities as well. 1

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : pseudoinverse used  
## at -0.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius  
## 2.02

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal  
## condition number 2.1951e-015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : There are other  
## near singularities as well. 1

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : neighborhood radius 2.015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : reciprocal condition number 2.7616e-015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : There are other near singularities as well. 4.0602

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : pseudoinverse used  
## at -0.015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius  
## 2.015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal  
## condition number 2.7616e-015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : There are other  
## near singularities as well. 4.0602

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.02

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
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## Warning in predLoess(object$y, object$x, newx = if  
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## Warning in predLoess(object$y, object$x, newx = if  
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## Warning in predLoess(object$y, object$x, newx = if  
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## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
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## 2.02

## Warning in predLoess(object$y, object$x, newx = if  
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## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
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## near singularities as well. 1

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : pseudoinverse used at -0.015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : neighborhood radius 2.015

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : reciprocal condition number 2.7616e-015

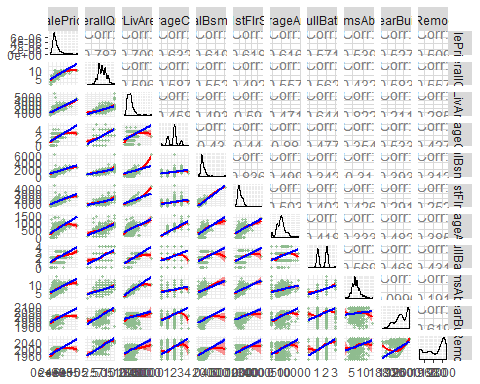
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =  
## parametric, : There are other near singularities as well. 4.0602

## Warning in predLoess(object$y, object$x, newx = if  
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## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius  
## 2.015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal  
## condition number 2.7616e-015

## Warning in predLoess(object$y, object$x, newx = if  
## (is.null(newdata)) object$x else if (is.data.frame(newdata))  
## as.matrix(model.frame(delete.response(terms(object)), : There are other  
## near singularities as well. 4.0602



The blue lines in the scatter plots are the simple linear regression fit, the red lines are the local polynomial fit.

## Step3 - Training a model on the data

There are lots of variables in the data set here, but not every variables have strong correlation with the sela price, so the first thinking of traning a linear regression model is to use all the 11 high correlation variables. Let's see how it works:

lm1 <-  
 lm(  
 SalePrice ~ OverallQual + GrLivArea + GarageCars + GarageArea + TotalBsmtSF +  
 X1stFlrSF + FullBath + TotRmsAbvGrd + YearBuilt + YearRemodAdd + GarageYrBlt,  
 train  
 )  
summary(lm1)

##   
## Call:  
## lm(formula = SalePrice ~ OverallQual + GrLivArea + GarageCars +   
## GarageArea + TotalBsmtSF + X1stFlrSF + FullBath + TotRmsAbvGrd +   
## YearBuilt + YearRemodAdd + GarageYrBlt, data = train)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -456971 -19740 -2502 16554 297883   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -1.026e+06 1.602e+05 -6.403 2.27e-10 \*\*\*  
## OverallQual 1.975e+04 1.402e+03 14.091 < 2e-16 \*\*\*  
## GrLivArea 4.690e+01 4.916e+00 9.542 < 2e-16 \*\*\*  
## GarageCars 1.494e+04 3.624e+03 4.123 4.02e-05 \*\*\*  
## GarageArea 1.103e+01 1.279e+01 0.863 0.38859   
## TotalBsmtSF 1.357e+01 5.240e+00 2.589 0.00976 \*\*   
## X1stFlrSF 1.877e+01 5.942e+00 3.159 0.00163 \*\*   
## FullBath -6.133e+03 3.218e+03 -1.906 0.05695 .   
## TotRmsAbvGrd 8.359e+02 1.313e+03 0.637 0.52457   
## YearBuilt 4.160e+02 8.139e+01 5.111 3.79e-07 \*\*\*  
## YearRemodAdd 3.244e+02 7.795e+01 4.162 3.40e-05 \*\*\*  
## GarageYrBlt -2.591e+02 9.724e+01 -2.665 0.00781 \*\*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 38960 on 1083 degrees of freedom  
## Multiple R-squared: 0.7677, Adjusted R-squared: 0.7653   
## F-statistic: 325.3 on 11 and 1083 DF, p-value: < 2.2e-16

We can see that not all the variables have the significant impact to the sale price, like the "GarageArea", "FullBath", and the "TotRmsAbvGrd". And the Adjusted R-squared is 0.777, which looks not so good.

So we drop all the non-significant variables, and then fit the model again:

lm2 <-  
 lm(  
 SalePrice ~ OverallQual + GrLivArea + GarageCars + TotalBsmtSF +  
 X1stFlrSF + YearBuilt + YearRemodAdd + GarageYrBlt,  
 train  
 )  
summary(lm2)

##   
## Call:  
## lm(formula = SalePrice ~ OverallQual + GrLivArea + GarageCars +   
## TotalBsmtSF + X1stFlrSF + YearBuilt + YearRemodAdd + GarageYrBlt,   
## data = train)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -445483 -19775 -2539 16872 295878   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -9.348e+05 1.507e+05 -6.202 7.89e-10 \*\*\*  
## OverallQual 1.957e+04 1.400e+03 13.978 < 2e-16 \*\*\*  
## GrLivArea 4.579e+01 3.169e+00 14.450 < 2e-16 \*\*\*  
## GarageCars 1.731e+04 2.309e+03 7.496 1.36e-13 \*\*\*  
## TotalBsmtSF 1.519e+01 5.144e+00 2.953 0.00321 \*\*   
## X1stFlrSF 1.846e+01 5.917e+00 3.120 0.00186 \*\*   
## YearBuilt 3.744e+02 7.892e+01 4.744 2.37e-06 \*\*\*  
## YearRemodAdd 3.094e+02 7.767e+01 3.983 7.25e-05 \*\*\*  
## GarageYrBlt -2.494e+02 9.297e+01 -2.683 0.00741 \*\*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 38990 on 1086 degrees of freedom  
## Multiple R-squared: 0.7666, Adjusted R-squared: 0.7649   
## F-statistic: 445.9 on 8 and 1086 DF, p-value: < 2.2e-16

Even all the virables remain in the model have significant impact on the sale price, but the Adjuested R-squared is 0.7767, which is no different with the first model. We'll use the second model first, then we'll improve the model performance later.

## step4 - Evaluating model performance

Let's use the second model to test the test data, see how well the model works:

test.data <- test  
test.data$SalePrice <- NULL  
p <- predict(lm2, test.data)  
summary(p)

## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 5019 131471 181375 181683 222425 408885

summary(test$SalePrice)

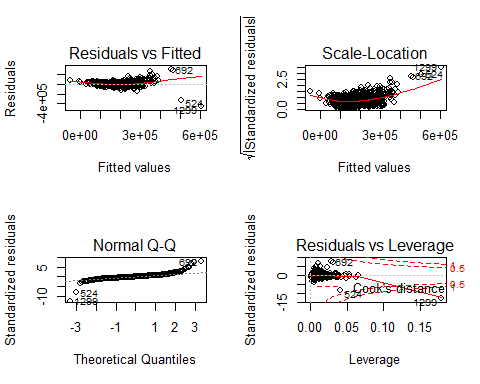
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 34900 133000 166000 180483 210000 625000

cor(p, test$SalePrice)

## [1] 0.8893575

The correlation here is 0.9025, looks not so bad. But dose the model meet the assumption about the linear regreesion? Let's take a look:

layout(matrix(1:4,2,2))  
plot(lm2)



We can see there are lots of noising data to effect the model performance. And actually it is not a good model because we manually select the varibales for the model, we can do better to automaticly develop a good model.

## step5 - Improving model performance

### method 1 - RandomForest

Let's try to use randomforest method.

m.rf <- randomForest(SalePrice ~ ., data = train)  
m.rf

##   
## Call:  
## randomForest(formula = SalePrice ~ ., data = train)   
## Type of random forest: regression  
## Number of trees: 500  
## No. of variables tried at each split: 24  
##   
## Mean of squared residuals: 908378468  
## % Var explained: 85.94

### method 3 - Gradient Boosting Decision Tree

Next, let's try to use the GBDT method.

library(gbm)  
ctrl <- trainControl(method = "repeatedcv",  
 number = 10,  
 repeats = 10)  
m.gbm <-  
 train(  
 SalePrice ~ .,  
 data = train,  
 method = "gbm",  
 trControl = ctrl  
 )

## Loading required package: plyr

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5748497773.1178 nan 0.1000 532345154.0281  
## 2 5270813340.1833 nan 0.1000 468292661.5283  
## 3 4868269642.9469 nan 0.1000 431047497.1138  
## 4 4503688690.2925 nan 0.1000 352064250.3530  
## 5 4196727999.2620 nan 0.1000 304966562.5903  
## 6 3942541471.9563 nan 0.1000 244276951.4689  
## 7 3706208125.0126 nan 0.1000 238120765.9524  
## 8 3479677808.2416 nan 0.1000 226281814.4822  
## 9 3309841859.4900 nan 0.1000 121822750.1207  
## 10 3140856568.2981 nan 0.1000 156665164.3779  
## 20 2049418380.9693 nan 0.1000 78574945.4889  
## 40 1282315009.1791 nan 0.1000 19039755.9526  
## 60 1020248690.5334 nan 0.1000 6424670.7843  
## 80 919259833.7483 nan 0.1000 -8848229.3617  
## 100 858299063.1739 nan 0.1000 -8138278.1280  
## 120 817827454.9040 nan 0.1000 -2589600.6062  
## 140 783314171.1245 nan 0.1000 -391875.0480  
## 150 771442842.6769 nan 0.1000 -2587678.5911

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5568453224.5190 nan 0.1000 683308102.1839  
## 2 4992029271.1979 nan 0.1000 534129330.0758  
## 3 4521253651.2826 nan 0.1000 472191013.9469  
## 4 4088787991.1393 nan 0.1000 405728748.5222  
## 5 3695868698.8844 nan 0.1000 361182294.0927  
## 6 3395104506.0193 nan 0.1000 212261570.5971  
## 7 3118077253.7936 nan 0.1000 231930050.1776  
## 8 2871237770.1141 nan 0.1000 231004841.2648  
## 9 2663676012.8618 nan 0.1000 200407009.5320  
## 10 2464787549.2494 nan 0.1000 165361792.3078  
## 20 1475182623.8548 nan 0.1000 45901503.9344  
## 40 920711142.0569 nan 0.1000 1138313.9661  
## 60 775329590.8577 nan 0.1000 -5739940.3938  
## 80 681009887.9474 nan 0.1000 -2291756.2634  
## 100 628574467.6296 nan 0.1000 634153.4036  
## 120 580330106.5703 nan 0.1000 -1271791.5920  
## 140 534442965.8429 nan 0.1000 -5041990.0113  
## 150 512388598.2599 nan 0.1000 -2064610.6112

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5553842231.0828 nan 0.1000 802787424.5262  
## 2 4831688359.4278 nan 0.1000 676847668.7815  
## 3 4287988941.9772 nan 0.1000 541179325.5146  
## 4 3851671132.4615 nan 0.1000 474164006.0585  
## 5 3497558418.8127 nan 0.1000 352464757.7566  
## 6 3183788285.7418 nan 0.1000 317451932.9225  
## 7 2916513941.3307 nan 0.1000 250497221.6961  
## 8 2650315929.4548 nan 0.1000 239099548.1196  
## 9 2437029007.1578 nan 0.1000 184271550.4656  
## 10 2220496142.1040 nan 0.1000 194859584.0837  
## 20 1242262447.7646 nan 0.1000 10130789.9593  
## 40 776889928.7867 nan 0.1000 -6256759.8472  
## 60 636743395.4002 nan 0.1000 -1247027.4793  
## 80 559979145.9991 nan 0.1000 -719939.5488  
## 100 502567675.9985 nan 0.1000 -2926720.8847  
## 120 440025924.4666 nan 0.1000 -3157728.9475  
## 140 396406686.6704 nan 0.1000 -4386812.9036  
## 150 376105538.3885 nan 0.1000 -3535762.0132

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5915482780.9530 nan 0.1000 518825960.3104  
## 2 5433731916.1347 nan 0.1000 474376413.5559  
## 3 5014973737.1340 nan 0.1000 380924779.1926  
## 4 4693800998.6508 nan 0.1000 320575408.4096  
## 5 4386774598.7509 nan 0.1000 265477749.7271  
## 6 4122210912.2716 nan 0.1000 270585356.0665  
## 7 3873824827.5606 nan 0.1000 255487324.5000  
## 8 3675915747.3936 nan 0.1000 179768837.9783  
## 9 3470278490.9461 nan 0.1000 200785051.0599  
## 10 3294794959.0903 nan 0.1000 173711967.8136  
## 20 2162590763.7533 nan 0.1000 39160407.1326  
## 40 1336245347.1369 nan 0.1000 14031814.5168  
## 60 1095667791.1637 nan 0.1000 -24046542.0111  
## 80 1001248398.3776 nan 0.1000 5814133.7904  
## 100 914477010.3806 nan 0.1000 1914230.8366  
## 120 865716639.9466 nan 0.1000 3789308.3231  
## 140 835029989.4111 nan 0.1000 -14299033.4486  
## 150 818412072.8001 nan 0.1000 -10351255.7231

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5807748881.4101 nan 0.1000 754180655.1257  
## 2 5192274831.7244 nan 0.1000 618689011.8511  
## 3 4663195291.9567 nan 0.1000 370982489.4970  
## 4 4226951277.2798 nan 0.1000 447811541.9863  
## 5 3815447646.8524 nan 0.1000 404830644.2391  
## 6 3477138912.1249 nan 0.1000 262541096.5747  
## 7 3220840360.2964 nan 0.1000 226485951.0145  
## 8 2999080353.1903 nan 0.1000 220060204.6202  
## 9 2809103948.0855 nan 0.1000 129405909.0947  
## 10 2601273859.1330 nan 0.1000 186672779.8254  
## 20 1575384883.6451 nan 0.1000 46784151.2424  
## 40 994336313.7442 nan 0.1000 4083609.8702  
## 60 813674592.3253 nan 0.1000 -7897225.7265  
## 80 711064995.7585 nan 0.1000 -3561745.3451  
## 100 642548318.8618 nan 0.1000 -6564040.2010  
## 120 597097206.1561 nan 0.1000 -7365133.7761  
## 140 555095693.7726 nan 0.1000 -3409428.2539  
## 150 542193587.7193 nan 0.1000 -9368843.1968

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5769017171.8554 nan 0.1000 615970980.9514  
## 2 5131153728.0809 nan 0.1000 637821308.7199  
## 3 4591991687.9383 nan 0.1000 533101853.2963  
## 4 4131448215.5943 nan 0.1000 476276882.5989  
## 5 3689883842.1715 nan 0.1000 376411646.2438  
## 6 3316127772.9450 nan 0.1000 302758530.2292  
## 7 3021426622.5000 nan 0.1000 291885468.7576  
## 8 2777878558.6225 nan 0.1000 236478753.4138  
## 9 2566262277.5884 nan 0.1000 200713264.0228  
## 10 2381592350.8309 nan 0.1000 188383095.7448  
## 20 1321499596.4769 nan 0.1000 53116782.7968  
## 40 814474430.4701 nan 0.1000 -5307389.4872  
## 60 657042426.7515 nan 0.1000 -2159057.2112  
## 80 565430119.0167 nan 0.1000 448950.5775  
## 100 504754240.4017 nan 0.1000 -230704.9134  
## 120 449489076.2687 nan 0.1000 -1719483.7523  
## 140 404226971.2258 nan 0.1000 -1019805.4251  
## 150 386337052.5269 nan 0.1000 -3579363.3834

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5932637439.4625 nan 0.1000 566720180.9262  
## 2 5459575348.3865 nan 0.1000 495043922.9771  
## 3 4996087793.0971 nan 0.1000 380151539.3870  
## 4 4653526220.4685 nan 0.1000 333589348.7640  
## 5 4367542625.6174 nan 0.1000 229251343.0682  
## 6 4112291175.6723 nan 0.1000 273121603.5524  
## 7 3877891246.2805 nan 0.1000 217011237.5867  
## 8 3642686899.3402 nan 0.1000 207795886.9057  
## 9 3439936213.8991 nan 0.1000 187274932.4707  
## 10 3274715954.7836 nan 0.1000 174010947.1021  
## 20 2170173343.5655 nan 0.1000 71718107.0766  
## 40 1369039773.2710 nan 0.1000 23257244.9785  
## 60 1112772084.9649 nan 0.1000 -2029196.1422  
## 80 991743178.2088 nan 0.1000 986585.6918  
## 100 928251072.0696 nan 0.1000 -1567732.5632  
## 120 886649631.5891 nan 0.1000 -615478.8663  
## 140 842937507.4103 nan 0.1000 828443.2105  
## 150 830336160.8087 nan 0.1000 -12906281.7231

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5781905334.3978 nan 0.1000 648773205.0786  
## 2 5179826376.6447 nan 0.1000 595060828.1461  
## 3 4698913936.7797 nan 0.1000 544227650.8872  
## 4 4263401454.0687 nan 0.1000 403983926.6466  
## 5 3896159105.1427 nan 0.1000 337647564.0688  
## 6 3622451928.1633 nan 0.1000 220937485.5232  
## 7 3324083324.5171 nan 0.1000 266759110.4103  
## 8 3094186283.1388 nan 0.1000 195613021.1007  
## 9 2851211697.6891 nan 0.1000 224692990.9239  
## 10 2666947589.4673 nan 0.1000 194520126.3292  
## 20 1625433289.7649 nan 0.1000 49487788.6777  
## 40 1000505917.5112 nan 0.1000 10368434.9259  
## 60 830577739.2700 nan 0.1000 -8727075.6406  
## 80 730983593.9869 nan 0.1000 -1783415.5302  
## 100 656434324.5614 nan 0.1000 -3960026.0654  
## 120 606682198.3937 nan 0.1000 -2916766.9440  
## 140 558620791.4271 nan 0.1000 -259374.2335  
## 150 538168175.2816 nan 0.1000 -4923644.8541

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5712642094.3361 nan 0.1000 644921570.5940  
## 2 5063916473.4086 nan 0.1000 643768670.0837  
## 3 4456666011.0676 nan 0.1000 526232879.6171  
## 4 4046133926.5559 nan 0.1000 344676066.1533  
## 5 3660067950.3765 nan 0.1000 365730023.6708  
## 6 3321902803.1296 nan 0.1000 310645027.7746  
## 7 3008389997.7949 nan 0.1000 283991746.1951  
## 8 2772583196.8184 nan 0.1000 216983191.1308  
## 9 2573096667.7635 nan 0.1000 193801291.9363  
## 10 2394453278.1630 nan 0.1000 171437215.1261  
## 20 1362408091.1776 nan 0.1000 60944548.4051  
## 40 817954081.0894 nan 0.1000 -3747781.8603  
## 60 672059035.4740 nan 0.1000 -5587044.0189  
## 80 575269395.2085 nan 0.1000 -2181448.3683  
## 100 515443977.1745 nan 0.1000 -5839952.1246  
## 120 467397595.8595 nan 0.1000 -3899686.9567  
## 140 432566207.0629 nan 0.1000 -3646890.8423  
## 150 416266985.9303 nan 0.1000 -4662228.1209

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5900121127.5248 nan 0.1000 532106973.1160  
## 2 5431908715.5186 nan 0.1000 492049112.7364  
## 3 5031142354.6653 nan 0.1000 406709747.2002  
## 4 4711149716.3497 nan 0.1000 342399367.0301  
## 5 4373113830.7558 nan 0.1000 297976812.8833  
## 6 4114889546.1139 nan 0.1000 254036720.0812  
## 7 3865907949.2309 nan 0.1000 246730503.7927  
## 8 3657227181.1238 nan 0.1000 200475427.7831  
## 9 3451402852.2852 nan 0.1000 181509270.5049  
## 10 3292934729.8963 nan 0.1000 149837373.3559  
## 20 2200646479.6430 nan 0.1000 67608467.8209  
## 40 1346017725.6236 nan 0.1000 18054844.3733  
## 60 1088571812.6148 nan 0.1000 2552600.8292  
## 80 980429568.7349 nan 0.1000 -2172701.6930  
## 100 929583091.1061 nan 0.1000 -2548061.2308  
## 120 875115787.9556 nan 0.1000 -11921800.1122  
## 140 841382234.6362 nan 0.1000 -20836800.0223  
## 150 827609068.6858 nan 0.1000 1477700.6259

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5781272106.7506 nan 0.1000 709246380.6319  
## 2 5220126996.1817 nan 0.1000 589840746.3144  
## 3 4767374720.1295 nan 0.1000 364884563.4641  
## 4 4311861562.2082 nan 0.1000 457397680.6914  
## 5 3960186446.2770 nan 0.1000 374888398.6821  
## 6 3649228145.8902 nan 0.1000 201222961.1633  
## 7 3392743451.7596 nan 0.1000 293617513.6331  
## 8 3114452720.4917 nan 0.1000 189698434.4226  
## 9 2917403478.2334 nan 0.1000 207398402.3437  
## 10 2720212409.2106 nan 0.1000 174390466.1533  
## 20 1563125507.1961 nan 0.1000 53363231.1252  
## 40 959934778.3699 nan 0.1000 -2880879.2107  
## 60 787060612.6065 nan 0.1000 1561294.3223  
## 80 703372133.3610 nan 0.1000 584270.2182  
## 100 626626660.7554 nan 0.1000 -319224.5857  
## 120 576707457.2380 nan 0.1000 -1994292.1558  
## 140 537227025.2369 nan 0.1000 -3314447.5069  
## 150 516294626.1264 nan 0.1000 -2927673.3552

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5661542912.8709 nan 0.1000 737056644.8907  
## 2 5065643345.2516 nan 0.1000 653186132.7120  
## 3 4500767821.0198 nan 0.1000 545979395.4046  
## 4 4035993437.2036 nan 0.1000 428415387.4947  
## 5 3643475380.2570 nan 0.1000 388891860.9214  
## 6 3288967346.9782 nan 0.1000 332527907.4641  
## 7 2956065170.9638 nan 0.1000 274873901.7048  
## 8 2712753884.7050 nan 0.1000 183717564.4936  
## 9 2465008876.2794 nan 0.1000 221885181.6496  
## 10 2283491092.8084 nan 0.1000 158705825.4574  
## 20 1307376329.3905 nan 0.1000 27987134.8378  
## 40 813404825.0016 nan 0.1000 3372198.2092  
## 60 659634745.2531 nan 0.1000 3827336.2173  
## 80 569467302.5100 nan 0.1000 -1092476.6091  
## 100 507096825.0192 nan 0.1000 -3351192.1389  
## 120 453707022.2595 nan 0.1000 -6549754.4180  
## 140 415576581.5617 nan 0.1000 -4409634.2962  
## 150 395494089.5421 nan 0.1000 -801344.5523

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5906817925.2655 nan 0.1000 634853194.6638  
## 2 5430421493.5187 nan 0.1000 476197056.4042  
## 3 5001325267.3104 nan 0.1000 400463553.3552  
## 4 4658238194.2870 nan 0.1000 342585151.3202  
## 5 4325829552.8806 nan 0.1000 274372320.3116  
## 6 4062201145.9804 nan 0.1000 217815265.4271  
## 7 3809943689.1907 nan 0.1000 247347820.2463  
## 8 3615667621.9044 nan 0.1000 134502678.0808  
## 9 3448351737.5609 nan 0.1000 168897955.3822  
## 10 3260652077.5907 nan 0.1000 171833510.3396  
## 20 2115125363.1986 nan 0.1000 18735051.2285  
## 40 1330252941.8892 nan 0.1000 20346684.5727  
## 60 1093495214.9728 nan 0.1000 2362009.9728  
## 80 995372072.7757 nan 0.1000 -29392296.5073  
## 100 903885669.9842 nan 0.1000 -3880054.3002  
## 120 867638314.2577 nan 0.1000 -8130843.1990  
## 140 831650123.0829 nan 0.1000 -4081919.7692  
## 150 815960983.1356 nan 0.1000 -14120367.8435

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5782537858.2799 nan 0.1000 723222093.7232  
## 2 5175219743.7674 nan 0.1000 425587980.8456  
## 3 4651259163.4581 nan 0.1000 562488148.9228  
## 4 4194480103.0222 nan 0.1000 451381286.2351  
## 5 3810762688.3295 nan 0.1000 384547112.6876  
## 6 3474860842.5596 nan 0.1000 297115585.5153  
## 7 3225907706.0584 nan 0.1000 187693899.0047  
## 8 2983742554.7823 nan 0.1000 227451842.1452  
## 9 2757441815.0615 nan 0.1000 213564816.5851  
## 10 2576437024.2167 nan 0.1000 179965641.4448  
## 20 1544766267.9981 nan 0.1000 62321369.2133  
## 40 935122447.0361 nan 0.1000 6185346.0719  
## 60 775504633.3161 nan 0.1000 -16535106.5449  
## 80 694998412.4035 nan 0.1000 -3466848.6558  
## 100 624317342.8164 nan 0.1000 990320.9101  
## 120 578755028.6204 nan 0.1000 -9520001.9084  
## 140 535894347.0002 nan 0.1000 -13339161.4576  
## 150 521369739.5486 nan 0.1000 -8145406.3669

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5721261611.4444 nan 0.1000 712661651.8007  
## 2 5049778382.0259 nan 0.1000 536453170.9932  
## 3 4550315241.4320 nan 0.1000 541792197.9142  
## 4 4068889449.9479 nan 0.1000 382613828.7814  
## 5 3657117914.2416 nan 0.1000 382340940.2814  
## 6 3272568800.5001 nan 0.1000 273020607.8070  
## 7 3025934556.6445 nan 0.1000 274465735.2184  
## 8 2763747886.1171 nan 0.1000 206178147.9503  
## 9 2544075249.2987 nan 0.1000 153759082.0838  
## 10 2354102448.0916 nan 0.1000 147833284.9115  
## 20 1329668788.2014 nan 0.1000 52254732.3401  
## 40 823296363.1366 nan 0.1000 2197271.4877  
## 60 672156258.5209 nan 0.1000 -15344879.3390  
## 80 583918909.6847 nan 0.1000 -14345261.0212  
## 100 516859639.0097 nan 0.1000 -5921526.9976  
## 120 465192239.9741 nan 0.1000 -1899219.7558  
## 140 422499575.8874 nan 0.1000 -5973541.6527  
## 150 402600187.5674 nan 0.1000 1021439.3892

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 97: Exterior1stStone has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5704339720.8399 nan 0.1000 563539829.5345  
## 2 5258500809.6622 nan 0.1000 465063936.5332  
## 3 4870851021.4301 nan 0.1000 398681693.2129  
## 4 4511742519.1538 nan 0.1000 357374013.3317  
## 5 4213508481.6326 nan 0.1000 288696491.1433  
## 6 3968066123.0521 nan 0.1000 259449148.0973  
## 7 3746597706.7526 nan 0.1000 217307102.5724  
## 8 3531251571.4068 nan 0.1000 223677033.6228  
## 9 3328510070.3159 nan 0.1000 195351238.8146  
## 10 3158157049.2902 nan 0.1000 108310015.1037  
## 20 2075750911.6169 nan 0.1000 70497461.4997  
## 40 1278329220.1479 nan 0.1000 -3582387.7350  
## 60 1014660939.0990 nan 0.1000 8162605.3270  
## 80 896892751.0077 nan 0.1000 1304276.9096  
## 100 826282084.5110 nan 0.1000 -949496.2377  
## 120 776516321.7616 nan 0.1000 -7760642.7756  
## 140 733642336.9202 nan 0.1000 -2297299.7551  
## 150 715158375.1560 nan 0.1000 -7794851.4308

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 97: Exterior1stStone has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5562026917.7818 nan 0.1000 756084686.5132  
## 2 4998172862.2837 nan 0.1000 571967516.3014  
## 3 4528914213.4382 nan 0.1000 469667000.4126  
## 4 4141718685.3970 nan 0.1000 396628169.3129  
## 5 3751571371.9758 nan 0.1000 353615086.6607  
## 6 3449773482.3588 nan 0.1000 287632633.3417  
## 7 3175269245.0782 nan 0.1000 271803260.4295  
## 8 2945825042.8286 nan 0.1000 205206664.0523  
## 9 2741310578.0524 nan 0.1000 165833639.2920  
## 10 2559029378.6414 nan 0.1000 132151165.3635  
## 20 1498817012.6055 nan 0.1000 50646688.0418  
## 40 930813422.6587 nan 0.1000 11095831.6257  
## 60 761485524.1904 nan 0.1000 571596.4308  
## 80 666157123.6554 nan 0.1000 651048.8545  
## 100 602257001.7576 nan 0.1000 -6427479.8657  
## 120 559904182.5516 nan 0.1000 -5084352.0608  
## 140 517111502.0404 nan 0.1000 -4440841.1735  
## 150 499852263.1418 nan 0.1000 -4734668.2944

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 97: Exterior1stStone has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5586908154.7404 nan 0.1000 722756367.4996  
## 2 4961711439.3768 nan 0.1000 645565053.5494  
## 3 4378912823.7445 nan 0.1000 574410220.1823  
## 4 3921538273.1977 nan 0.1000 457216566.4298  
## 5 3513426571.6464 nan 0.1000 408160489.1905  
## 6 3172775417.7324 nan 0.1000 353912649.6523  
## 7 2865038597.2513 nan 0.1000 261327729.3348  
## 8 2616242676.6119 nan 0.1000 230901452.1043  
## 9 2399093810.6202 nan 0.1000 187318165.2930  
## 10 2218615484.1957 nan 0.1000 144487263.0142  
## 20 1262651079.9003 nan 0.1000 45325440.0326  
## 40 785101027.5730 nan 0.1000 9092914.1531  
## 60 613451740.0608 nan 0.1000 -985013.3122  
## 80 537334168.3867 nan 0.1000 999463.8989  
## 100 470351415.2655 nan 0.1000 -2958186.9462  
## 120 421558476.9764 nan 0.1000 -2950364.0693  
## 140 377461670.2188 nan 0.1000 -2542595.4058  
## 150 362237487.8732 nan 0.1000 -970715.6881

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6036252090.9114 nan 0.1000 534282813.5950  
## 2 5528483762.8437 nan 0.1000 455241787.7325  
## 3 5141149668.6273 nan 0.1000 420308747.8091  
## 4 4759378301.9739 nan 0.1000 393925967.3905  
## 5 4430154949.7727 nan 0.1000 298458995.3511  
## 6 4150991365.6111 nan 0.1000 271867971.9940  
## 7 3929940342.5268 nan 0.1000 242170352.7684  
## 8 3676293425.2895 nan 0.1000 196544835.2363  
## 9 3486077928.3936 nan 0.1000 176473892.7854  
## 10 3335891372.6668 nan 0.1000 156502882.1048  
## 20 2192621688.8372 nan 0.1000 62098410.6495  
## 40 1309129808.7106 nan 0.1000 7777006.2106  
## 60 1001635866.1677 nan 0.1000 5859190.1177  
## 80 886978525.9429 nan 0.1000 130598.3940  
## 100 815614915.6568 nan 0.1000 -1298771.1204  
## 120 770742534.6160 nan 0.1000 -1398854.3843  
## 140 743225603.6481 nan 0.1000 -535936.2623  
## 150 730143339.7189 nan 0.1000 -5398065.5055

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5849863431.0849 nan 0.1000 742726307.6226  
## 2 5232958948.5257 nan 0.1000 600605904.6496  
## 3 4745909657.5178 nan 0.1000 458218766.5743  
## 4 4297602821.5458 nan 0.1000 414333438.4913  
## 5 3905219630.2805 nan 0.1000 449037892.9682  
## 6 3607849031.7459 nan 0.1000 327080040.5741  
## 7 3307440586.3947 nan 0.1000 231033458.6762  
## 8 3072511763.0403 nan 0.1000 255312315.6988  
## 9 2839187971.6279 nan 0.1000 190577624.8274  
## 10 2648960262.7187 nan 0.1000 163088744.3404  
## 20 1546239421.7789 nan 0.1000 74370700.1014  
## 40 913499733.3184 nan 0.1000 -1916992.3080  
## 60 754858306.1657 nan 0.1000 -4885651.7787  
## 80 672717058.5175 nan 0.1000 -3409836.8808  
## 100 612462442.8617 nan 0.1000 -916648.8601  
## 120 564686591.8178 nan 0.1000 -8983572.5517  
## 140 521095575.6289 nan 0.1000 -1488911.4735  
## 150 506114886.6621 nan 0.1000 -2062947.7928

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 45, 20, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5732773780.0948 nan 0.1000 820740586.7822  
## 2 5101493035.4062 nan 0.1000 622279742.6538  
## 3 4508393894.8517 nan 0.1000 547777260.5801  
## 4 4037666716.9573 nan 0.1000 504365910.0361  
## 5 3653003510.3662 nan 0.1000 402405079.6041  
## 6 3304719030.0427 nan 0.1000 337314244.9090  
## 7 2966971912.9365 nan 0.1000 292072949.4238  
## 8 2676544379.9709 nan 0.1000 238407389.0048  
## 9 2438479556.5806 nan 0.1000 189932285.5826  
## 10 2258102772.6318 nan 0.1000 173950146.4504  
## 20 1238360911.8210 nan 0.1000 33756970.4640  
## 40 757744171.8821 nan 0.1000 7040727.1042  
## 60 615072714.1615 nan 0.1000 -7916208.1467  
## 80 527601293.3259 nan 0.1000 -3146663.5481  
## 100 472520984.7496 nan 0.1000 -8721696.8149  
## 120 429844263.5837 nan 0.1000 -4608242.5822  
## 140 397162714.0012 nan 0.1000 -2332042.7882  
## 150 379161868.2280 nan 0.1000 -523911.6314

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6019310481.9973 nan 0.1000 543490825.9676  
## 2 5531638709.6547 nan 0.1000 511989481.0222  
## 3 5110680993.2062 nan 0.1000 393694585.2691  
## 4 4748740932.3026 nan 0.1000 339520715.8435  
## 5 4423320933.2482 nan 0.1000 255241409.7257  
## 6 4155708240.4473 nan 0.1000 243664607.8830  
## 7 3894343583.3457 nan 0.1000 259173329.7206  
## 8 3691286096.9009 nan 0.1000 203464253.4322  
## 9 3495544591.8048 nan 0.1000 176461701.2924  
## 10 3329124080.5548 nan 0.1000 171012923.2250  
## 20 2168691583.5089 nan 0.1000 72781055.9625  
## 40 1335148005.8325 nan 0.1000 1098428.1648  
## 60 1074614911.8426 nan 0.1000 9581052.6397  
## 80 970346467.4926 nan 0.1000 -16038655.7852  
## 100 893832342.5345 nan 0.1000 2698539.0330  
## 120 854125644.0557 nan 0.1000 -2919656.0324  
## 140 819893503.7792 nan 0.1000 -9248271.0326  
## 150 811711799.5998 nan 0.1000 -8321651.4674

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5814029281.8613 nan 0.1000 758466286.5844  
## 2 5225751920.4739 nan 0.1000 604560043.0995  
## 3 4706712978.3829 nan 0.1000 490434560.1335  
## 4 4290151704.0307 nan 0.1000 466165725.0758  
## 5 3911345235.6564 nan 0.1000 389128604.3509  
## 6 3507849834.8033 nan 0.1000 307308717.6281  
## 7 3239274256.3617 nan 0.1000 270089472.3629  
## 8 3004472099.3709 nan 0.1000 167193257.4489  
## 9 2833444067.7905 nan 0.1000 179454717.3751  
## 10 2648072028.5918 nan 0.1000 197968517.3840  
## 20 1524601748.9201 nan 0.1000 34061557.8706  
## 40 949434277.6112 nan 0.1000 -4719713.5201  
## 60 785716260.4354 nan 0.1000 -14801239.7334  
## 80 705197021.5262 nan 0.1000 -8379965.3160  
## 100 644544765.7561 nan 0.1000 -8419128.4064  
## 120 588410652.4339 nan 0.1000 -8391931.2401  
## 140 540670684.3260 nan 0.1000 -6954004.7266  
## 150 529900985.9471 nan 0.1000 -5512387.4355

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5773539038.8776 nan 0.1000 699588342.4974  
## 2 5057291165.0573 nan 0.1000 666617157.3554  
## 3 4521151316.4062 nan 0.1000 485884281.3234  
## 4 4038200050.5933 nan 0.1000 446793721.4443  
## 5 3642771659.9995 nan 0.1000 412240831.2434  
## 6 3312693926.9015 nan 0.1000 317721324.8125  
## 7 3031877585.8397 nan 0.1000 287095220.7570  
## 8 2790500682.1540 nan 0.1000 229009442.0415  
## 9 2555960389.3322 nan 0.1000 199559189.3162  
## 10 2351374154.0610 nan 0.1000 181968430.2713  
## 20 1334069660.5027 nan 0.1000 46617840.8587  
## 40 827167070.9236 nan 0.1000 -18097510.8165  
## 60 653858054.2426 nan 0.1000 -2014405.3161  
## 80 574114589.7593 nan 0.1000 -1521859.1795  
## 100 512604599.3736 nan 0.1000 -3382360.1772  
## 120 449141363.6066 nan 0.1000 -3203399.5269  
## 140 412800040.7663 nan 0.1000 -7746249.0558  
## 150 398480900.6474 nan 0.1000 -3155120.0423

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6002658824.1823 nan 0.1000 543472484.8797  
## 2 5508579037.6338 nan 0.1000 475806530.0610  
## 3 5088705124.5446 nan 0.1000 324930414.1905  
## 4 4794522484.0483 nan 0.1000 147997882.1008  
## 5 4464571691.5982 nan 0.1000 330070608.5417  
## 6 4160363207.9346 nan 0.1000 263501365.0379  
## 7 3923681722.8519 nan 0.1000 202845681.2062  
## 8 3694066361.8144 nan 0.1000 194286869.6446  
## 9 3470259622.0806 nan 0.1000 199693027.2026  
## 10 3303299198.0274 nan 0.1000 121010331.1798  
## 20 2161054240.4642 nan 0.1000 78926031.3520  
## 40 1366176468.2429 nan 0.1000 6284493.2452  
## 60 1109458847.4732 nan 0.1000 10319762.0960  
## 80 1002163607.9049 nan 0.1000 5457979.7169  
## 100 920934257.4037 nan 0.1000 -4705805.6424  
## 120 876528629.8690 nan 0.1000 -1515541.7732  
## 140 843191244.9103 nan 0.1000 -8969116.9428  
## 150 828904871.0198 nan 0.1000 -4727692.0051

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5818159228.9983 nan 0.1000 680228826.6074  
## 2 5225979980.6499 nan 0.1000 556347507.4678  
## 3 4713339816.1066 nan 0.1000 490854767.3305  
## 4 4309546392.0796 nan 0.1000 406346749.0035  
## 5 3956844820.9555 nan 0.1000 235640711.8585  
## 6 3640696397.6474 nan 0.1000 266356943.0314  
## 7 3310869457.8829 nan 0.1000 269931816.6060  
## 8 3059418729.0611 nan 0.1000 272084545.4855  
## 9 2821693705.3861 nan 0.1000 197578559.1328  
## 10 2640551110.1850 nan 0.1000 160355225.7627  
## 20 1561835006.5805 nan 0.1000 46924286.5998  
## 40 967869098.6897 nan 0.1000 3995268.8471  
## 60 795158523.5784 nan 0.1000 -5578769.5470  
## 80 700577676.4423 nan 0.1000 -11195155.2930  
## 100 636953700.8581 nan 0.1000 1430282.2396  
## 120 590334574.0912 nan 0.1000 -5800397.4405  
## 140 544061618.5822 nan 0.1000 -8488609.4682  
## 150 527942520.5879 nan 0.1000 -1109983.8493

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 80, 45, 20, 120, 160, 90, 50, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5764313265.3250 nan 0.1000 674000796.8440  
## 2 5147160033.6992 nan 0.1000 636551247.1596  
## 3 4575534152.3405 nan 0.1000 463563128.4528  
## 4 4119226448.3779 nan 0.1000 413045895.9081  
## 5 3741402543.3548 nan 0.1000 373748680.4539  
## 6 3419790929.4390 nan 0.1000 335241356.1975  
## 7 3079853937.8196 nan 0.1000 274556038.5226  
## 8 2859602424.7713 nan 0.1000 177857392.6012  
## 9 2630111434.7532 nan 0.1000 210665570.2967  
## 10 2433852818.5899 nan 0.1000 159380608.5502  
## 20 1354858372.3282 nan 0.1000 48302843.3857  
## 40 835557424.2697 nan 0.1000 -10125146.3548  
## 60 692526266.6008 nan 0.1000 -274370.0133  
## 80 610509639.0045 nan 0.1000 -5156226.8585  
## 100 530422316.3468 nan 0.1000 -4390370.1872  
## 120 473944314.0704 nan 0.1000 -2006118.7876  
## 140 428585002.6641 nan 0.1000 -793588.1551  
## 150 404896659.7810 nan 0.1000 -6106056.7776

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5871194773.9857 nan 0.1000 516551277.9413  
## 2 5353952538.1135 nan 0.1000 493612405.7059  
## 3 4925029494.1935 nan 0.1000 397458245.0549  
## 4 4575472506.7325 nan 0.1000 344501564.0490  
## 5 4268930036.9458 nan 0.1000 287032083.9009  
## 6 3980732608.2825 nan 0.1000 230409190.1454  
## 7 3734717447.9772 nan 0.1000 205192125.0176  
## 8 3515768631.8871 nan 0.1000 213180320.3311  
## 9 3322069665.7104 nan 0.1000 194354519.0177  
## 10 3144996585.6112 nan 0.1000 155197467.7922  
## 20 2027554963.4394 nan 0.1000 68123210.3339  
## 40 1258164766.7719 nan 0.1000 21198351.9440  
## 60 976779279.3273 nan 0.1000 9372321.0052  
## 80 854865341.1874 nan 0.1000 3298261.6444  
## 100 789631926.1307 nan 0.1000 3895003.6262  
## 120 750541792.5258 nan 0.1000 -7229365.8730  
## 140 725035967.2327 nan 0.1000 -12593207.3881  
## 150 710936851.4380 nan 0.1000 -2305164.3588

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5752514923.1566 nan 0.1000 685252363.7555  
## 2 5125533862.2666 nan 0.1000 641112330.9136  
## 3 4616415327.6876 nan 0.1000 524426343.0000  
## 4 4184464728.9147 nan 0.1000 394595437.1662  
## 5 3850881018.7647 nan 0.1000 369136589.6862  
## 6 3562944348.3050 nan 0.1000 253734550.4249  
## 7 3270756629.6160 nan 0.1000 261256812.5302  
## 8 3034606854.6507 nan 0.1000 240995656.8761  
## 9 2806182215.3918 nan 0.1000 239114477.6892  
## 10 2595946856.1795 nan 0.1000 161497535.9922  
## 20 1479068672.4267 nan 0.1000 54109928.6719  
## 40 896751907.7669 nan 0.1000 11455080.3819  
## 60 733059456.5669 nan 0.1000 -3307788.2538  
## 80 653149034.4096 nan 0.1000 -1520033.2375  
## 100 592783375.2310 nan 0.1000 -6689566.3820  
## 120 557783838.5996 nan 0.1000 -6050547.2939  
## 140 517855679.0344 nan 0.1000 -5915802.6754  
## 150 505506937.6287 nan 0.1000 -2089910.1759

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5562514862.0881 nan 0.1000 895055361.8020  
## 2 4898522586.8779 nan 0.1000 624228181.4453  
## 3 4374957097.7428 nan 0.1000 446691986.8322  
## 4 3881074988.7460 nan 0.1000 475158550.1005  
## 5 3448475994.5625 nan 0.1000 410767075.9231  
## 6 3129449404.4504 nan 0.1000 297367281.3104  
## 7 2863379630.3171 nan 0.1000 256413528.9571  
## 8 2605942510.9960 nan 0.1000 199735180.3072  
## 9 2380956786.8437 nan 0.1000 179158639.1575  
## 10 2200669797.8996 nan 0.1000 171134511.9288  
## 20 1191056720.3039 nan 0.1000 46815165.0284  
## 40 736271238.9836 nan 0.1000 1238030.0182  
## 60 589242326.4191 nan 0.1000 -4161082.8636  
## 80 512308304.4159 nan 0.1000 -6194325.7629  
## 100 449552177.8808 nan 0.1000 -8006381.0163  
## 120 410660000.7695 nan 0.1000 -3641897.4184  
## 140 377692871.7906 nan 0.1000 -2017212.7444  
## 150 364013939.8751 nan 0.1000 -2367484.8449

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6007528455.6321 nan 0.1000 539302864.0371  
## 2 5496382086.0505 nan 0.1000 473188817.0113  
## 3 5103172697.7395 nan 0.1000 372940539.4641  
## 4 4722889803.1373 nan 0.1000 344802375.3992  
## 5 4439971586.1676 nan 0.1000 253573968.7452  
## 6 4179080103.1206 nan 0.1000 234389620.4470  
## 7 3941042924.2166 nan 0.1000 234837589.1926  
## 8 3721453496.8533 nan 0.1000 221727915.3375  
## 9 3519274469.9562 nan 0.1000 190556290.8823  
## 10 3335798512.5748 nan 0.1000 171767741.1955  
## 20 2159973397.3002 nan 0.1000 53065375.8136  
## 40 1335259844.6862 nan 0.1000 17539640.7683  
## 60 1082040674.3806 nan 0.1000 -7445233.3275  
## 80 974778273.6318 nan 0.1000 3131490.1854  
## 100 904796600.8309 nan 0.1000 -9665662.8948  
## 120 864487275.9581 nan 0.1000 -4187173.9452  
## 140 829473536.1565 nan 0.1000 -11149545.3935  
## 150 810546025.4018 nan 0.1000 -9390576.8079

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5859128713.0111 nan 0.1000 783277316.2319  
## 2 5260699376.5903 nan 0.1000 657465196.5309  
## 3 4788983281.6075 nan 0.1000 509607979.3436  
## 4 4299360860.8678 nan 0.1000 458598769.4102  
## 5 3905575611.8616 nan 0.1000 410827918.1107  
## 6 3602642406.4204 nan 0.1000 280728300.4151  
## 7 3343157583.3574 nan 0.1000 192839478.7385  
## 8 3092647470.1207 nan 0.1000 193660048.6143  
## 9 2878142441.1789 nan 0.1000 136139958.9890  
## 10 2678170656.3087 nan 0.1000 197172997.3676  
## 20 1583807521.2654 nan 0.1000 62205339.3212  
## 40 973413192.5953 nan 0.1000 -14875597.2671  
## 60 800322598.5296 nan 0.1000 361381.5393  
## 80 714658375.0096 nan 0.1000 -15233111.0125  
## 100 648058599.8768 nan 0.1000 -1364414.0550  
## 120 589729550.9238 nan 0.1000 1370158.3235  
## 140 550768535.3261 nan 0.1000 -1887765.9739  
## 150 536008799.1145 nan 0.1000 -5321644.7076

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5731076482.9675 nan 0.1000 783773473.9795  
## 2 5093816187.8470 nan 0.1000 555660936.3117  
## 3 4540032259.8416 nan 0.1000 514985241.7651  
## 4 4084718584.6888 nan 0.1000 472961377.5108  
## 5 3648456726.9261 nan 0.1000 356577416.5735  
## 6 3313493887.2012 nan 0.1000 339280591.4553  
## 7 2977465333.4790 nan 0.1000 335121849.7189  
## 8 2723959722.8718 nan 0.1000 239283266.7569  
## 9 2500422775.8332 nan 0.1000 220163750.9892  
## 10 2327697767.4242 nan 0.1000 163468738.1841  
## 20 1302905806.8391 nan 0.1000 37907557.9889  
## 40 799538722.2855 nan 0.1000 -7693893.3875  
## 60 652281881.2902 nan 0.1000 2984357.8724  
## 80 551665802.9327 nan 0.1000 -1786042.2941  
## 100 484181850.7158 nan 0.1000 -1460018.0499  
## 120 435360064.1952 nan 0.1000 177675.8527  
## 140 397406562.0655 nan 0.1000 -3616992.7079  
## 150 376066223.3643 nan 0.1000 -2082896.2751

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6053178922.5828 nan 0.1000 530540773.0172  
## 2 5522738020.6986 nan 0.1000 412082053.7400  
## 3 5082128755.2495 nan 0.1000 435852397.4961  
## 4 4736731889.2137 nan 0.1000 354237480.8201  
## 5 4482060046.4406 nan 0.1000 116736729.7125  
## 6 4193905273.0578 nan 0.1000 266316998.2724  
## 7 3946264723.2259 nan 0.1000 251636774.9214  
## 8 3716471353.4129 nan 0.1000 222586112.1325  
## 9 3496794511.9013 nan 0.1000 207822407.5584  
## 10 3309181091.8982 nan 0.1000 170706942.2115  
## 20 2155876841.0627 nan 0.1000 79702288.2438  
## 40 1358845770.1244 nan 0.1000 -1590326.4188  
## 60 1093994138.0809 nan 0.1000 9292506.6802  
## 80 980107035.2441 nan 0.1000 3026281.5065  
## 100 904509899.5741 nan 0.1000 1129367.1649  
## 120 867853823.5895 nan 0.1000 -3713122.0965  
## 140 823242167.4467 nan 0.1000 -15693334.5216  
## 150 807522723.3131 nan 0.1000 -8425634.3626

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5937238941.4472 nan 0.1000 698167719.2111  
## 2 5255705086.4156 nan 0.1000 579624534.5348  
## 3 4722110119.9898 nan 0.1000 565080418.7807  
## 4 4267421049.3647 nan 0.1000 368826065.9033  
## 5 3865177162.1933 nan 0.1000 411246990.0468  
## 6 3559535389.7306 nan 0.1000 285957321.5297  
## 7 3257427270.0449 nan 0.1000 261701793.6684  
## 8 3026384602.4653 nan 0.1000 236177481.1768  
## 9 2818301954.3469 nan 0.1000 149301137.5460  
## 10 2630120185.1046 nan 0.1000 169935902.2313  
## 20 1573173238.4519 nan 0.1000 45824141.0315  
## 40 992347622.1877 nan 0.1000 -23012981.4971  
## 60 799491672.4152 nan 0.1000 -9782386.4636  
## 80 709961506.6747 nan 0.1000 -48052.4551  
## 100 641271040.8692 nan 0.1000 -9369281.8385  
## 120 597546611.7013 nan 0.1000 -5479113.3998  
## 140 544322404.0600 nan 0.1000 -4409249.6145  
## 150 526974557.4943 nan 0.1000 -5234563.5886

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5846155911.3069 nan 0.1000 800154818.6804  
## 2 5166005461.8201 nan 0.1000 608158781.5144  
## 3 4611176793.6407 nan 0.1000 525918056.1225  
## 4 4129141109.2031 nan 0.1000 407222454.2191  
## 5 3693141285.2292 nan 0.1000 362221184.2598  
## 6 3347783319.2391 nan 0.1000 362207716.4429  
## 7 3091497231.0488 nan 0.1000 274539123.6377  
## 8 2832973101.6200 nan 0.1000 246301738.0500  
## 9 2594740114.4102 nan 0.1000 220497946.9712  
## 10 2401860666.1824 nan 0.1000 164172019.1645  
## 20 1364584888.3485 nan 0.1000 51409998.4645  
## 40 818600954.9084 nan 0.1000 -1988354.5054  
## 60 635026503.9665 nan 0.1000 1378626.5592  
## 80 548366269.0072 nan 0.1000 -7745970.3044  
## 100 476898955.4049 nan 0.1000 -2109775.3402  
## 120 427478684.0880 nan 0.1000 -4627356.1062  
## 140 388449680.4294 nan 0.1000 -1297650.3895  
## 150 372002603.5065 nan 0.1000 -513271.9536

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5682895765.0074 nan 0.1000 536136452.1121  
## 2 5217978903.6958 nan 0.1000 509981445.5494  
## 3 4806629041.5482 nan 0.1000 387138750.3110  
## 4 4458176218.5619 nan 0.1000 351725611.9484  
## 5 4194500961.2300 nan 0.1000 232206577.0002  
## 6 3945519899.7202 nan 0.1000 260487442.9671  
## 7 3686746803.8258 nan 0.1000 228417026.0399  
## 8 3466702520.7477 nan 0.1000 206110337.2131  
## 9 3265016937.5005 nan 0.1000 165819833.6051  
## 10 3092848227.6429 nan 0.1000 155937548.5087  
## 20 1985114443.8466 nan 0.1000 55377763.5067  
## 40 1250662414.6237 nan 0.1000 15976246.9575  
## 60 1006114709.3418 nan 0.1000 4180155.4340  
## 80 901549275.4755 nan 0.1000 2726829.9707  
## 100 840601696.3452 nan 0.1000 -10181342.6726  
## 120 794786814.0655 nan 0.1000 -219954.0575  
## 140 765666112.1862 nan 0.1000 963645.5504  
## 150 756631918.9639 nan 0.1000 -3221636.8989

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5529044880.9886 nan 0.1000 661094780.0312  
## 2 4892465636.0055 nan 0.1000 532128059.2683  
## 3 4389274560.8200 nan 0.1000 440287991.5688  
## 4 3965200655.0248 nan 0.1000 385816810.6231  
## 5 3647344718.5433 nan 0.1000 308668031.2336  
## 6 3372676028.9701 nan 0.1000 277914628.1401  
## 7 3114296590.2232 nan 0.1000 213832199.8356  
## 8 2893570160.7326 nan 0.1000 205098604.4937  
## 9 2678025194.7993 nan 0.1000 239103416.8795  
## 10 2505399491.0767 nan 0.1000 130117732.7986  
## 20 1487401482.9839 nan 0.1000 48839294.6298  
## 40 937796651.0658 nan 0.1000 8755227.1144  
## 60 780522236.8473 nan 0.1000 3119557.3130  
## 80 672697613.6022 nan 0.1000 -937353.8081  
## 100 613039861.7487 nan 0.1000 1300129.1605  
## 120 557514667.4594 nan 0.1000 -1767954.7400  
## 140 522982907.4996 nan 0.1000 3445475.3518  
## 150 501126782.7065 nan 0.1000 -2637852.0813

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5467221293.6044 nan 0.1000 703600874.6480  
## 2 4809194013.7965 nan 0.1000 598209564.9890  
## 3 4284292699.0881 nan 0.1000 513894307.3675  
## 4 3814719743.8833 nan 0.1000 412727050.9672  
## 5 3458419813.4580 nan 0.1000 329325083.3427  
## 6 3132447209.2765 nan 0.1000 304247286.0863  
## 7 2823586734.7829 nan 0.1000 266823813.2513  
## 8 2578233237.6324 nan 0.1000 217055367.5085  
## 9 2366593471.3240 nan 0.1000 154333756.4357  
## 10 2193338923.8271 nan 0.1000 149968833.2981  
## 20 1206885811.0197 nan 0.1000 50417484.2517  
## 40 726162924.9383 nan 0.1000 7507099.7949  
## 60 596878991.1239 nan 0.1000 -8869012.1730  
## 80 520884321.0226 nan 0.1000 -1562308.5438  
## 100 470060547.5564 nan 0.1000 -3069669.5058  
## 120 429129025.8282 nan 0.1000 -6867039.5812  
## 140 389153194.2942 nan 0.1000 -2229457.2157  
## 150 369883342.4262 nan 0.1000 -5147825.0895

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5787138519.8073 nan 0.1000 555712670.1669  
## 2 5305375535.4658 nan 0.1000 501803212.7799  
## 3 4923058765.5818 nan 0.1000 396737394.6930  
## 4 4569220748.4431 nan 0.1000 361924978.1040  
## 5 4267824925.0425 nan 0.1000 262453147.3601  
## 6 3995788369.5486 nan 0.1000 277144952.7940  
## 7 3766394283.0334 nan 0.1000 227770387.6517  
## 8 3569607015.5605 nan 0.1000 91677320.0363  
## 9 3356937487.5940 nan 0.1000 199863794.8271  
## 10 3161195232.5677 nan 0.1000 181831381.2069  
## 20 1975228036.4815 nan 0.1000 66708279.1634  
## 40 1265754431.3979 nan 0.1000 9049811.4113  
## 60 1009876638.2553 nan 0.1000 6891585.1505  
## 80 902861543.5554 nan 0.1000 -14251157.5157  
## 100 846723504.9592 nan 0.1000 -10510360.6602  
## 120 804743180.0134 nan 0.1000 2114248.7821  
## 140 766239449.0101 nan 0.1000 -9692648.5895  
## 150 753141398.1588 nan 0.1000 -4128562.5965

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5627266921.0680 nan 0.1000 653730746.8211  
## 2 5004963564.9776 nan 0.1000 661176389.9112  
## 3 4532325401.7542 nan 0.1000 446156226.2323  
## 4 4143698886.1708 nan 0.1000 400434356.5163  
## 5 3804063139.8080 nan 0.1000 298829358.8434  
## 6 3474143880.2096 nan 0.1000 297300123.4984  
## 7 3220018354.8090 nan 0.1000 223307318.5443  
## 8 3003685488.2247 nan 0.1000 233523465.0202  
## 9 2792975321.2250 nan 0.1000 159301577.8709  
## 10 2626013953.1620 nan 0.1000 128123212.7709  
## 20 1528094230.9410 nan 0.1000 51888996.3638  
## 40 917815889.4590 nan 0.1000 1638696.6416  
## 60 756458108.4790 nan 0.1000 2578.7456  
## 80 664366148.9834 nan 0.1000 -13579468.1908  
## 100 606817634.8039 nan 0.1000 -763796.6387  
## 120 564717098.8436 nan 0.1000 -11870502.6960  
## 140 516330079.0396 nan 0.1000 -7071740.4777  
## 150 490603139.2951 nan 0.1000 -4965080.9717

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5534551546.5553 nan 0.1000 679796449.1093  
## 2 4918402114.0588 nan 0.1000 579952933.6843  
## 3 4351244448.9834 nan 0.1000 575892741.2627  
## 4 3899879747.3029 nan 0.1000 486977887.9798  
## 5 3539007586.4491 nan 0.1000 369993126.7945  
## 6 3176882451.5430 nan 0.1000 302339803.3616  
## 7 2893189522.6883 nan 0.1000 248455024.0351  
## 8 2646209641.8675 nan 0.1000 241350613.9871  
## 9 2422220841.8897 nan 0.1000 216783620.2707  
## 10 2235422775.4654 nan 0.1000 175927370.4203  
## 20 1257954458.0600 nan 0.1000 37415920.4305  
## 40 787534839.0692 nan 0.1000 -1861632.7354  
## 60 639978270.7327 nan 0.1000 -276901.0497  
## 80 547869435.7976 nan 0.1000 -4622604.5040  
## 100 485844140.4816 nan 0.1000 -2568165.9213  
## 120 439394293.9095 nan 0.1000 -5415329.8007  
## 140 404833517.8938 nan 0.1000 1396815.0725  
## 150 387673953.9211 nan 0.1000 -1968697.6706

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5961874386.0601 nan 0.1000 556119958.1579  
## 2 5428295634.3054 nan 0.1000 489308181.8315  
## 3 5020161702.6783 nan 0.1000 434335870.5194  
## 4 4695708634.8290 nan 0.1000 344950974.8896  
## 5 4414692158.1311 nan 0.1000 314230196.2568  
## 6 4126556833.2496 nan 0.1000 272515738.3570  
## 7 3880018396.3241 nan 0.1000 229620922.4379  
## 8 3663702127.2735 nan 0.1000 197478872.5538  
## 9 3494427993.5742 nan 0.1000 158539777.5411  
## 10 3347035752.0824 nan 0.1000 155798900.8888  
## 20 2140182425.1351 nan 0.1000 45481707.7729  
## 40 1277364010.8629 nan 0.1000 19110296.1221  
## 60 994107213.1360 nan 0.1000 -1488616.4567  
## 80 878488249.1306 nan 0.1000 1081511.6807  
## 100 829072817.2782 nan 0.1000 2178321.1231  
## 120 788146138.7762 nan 0.1000 1653550.2534  
## 140 754344625.1257 nan 0.1000 -13866552.0067  
## 150 739387961.3220 nan 0.1000 -6728686.9114

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5747628868.1837 nan 0.1000 688527169.4535  
## 2 5166220192.3774 nan 0.1000 567937861.2626  
## 3 4654991178.8695 nan 0.1000 504487880.1790  
## 4 4258584015.9669 nan 0.1000 368255661.4431  
## 5 3872058638.9779 nan 0.1000 380415074.6349  
## 6 3560150470.2061 nan 0.1000 305694847.5847  
## 7 3294416891.7417 nan 0.1000 210296815.9335  
## 8 3050342548.5286 nan 0.1000 221697677.9227  
## 9 2804608105.3967 nan 0.1000 184232257.2951  
## 10 2596306714.9114 nan 0.1000 138101714.7152  
## 20 1467478811.9140 nan 0.1000 27419713.3238  
## 40 887987542.1925 nan 0.1000 6227746.9883  
## 60 730030022.0005 nan 0.1000 -796440.6750  
## 80 642949219.9107 nan 0.1000 -4836943.4930  
## 100 587717908.9299 nan 0.1000 -6463494.8234  
## 120 545036334.4495 nan 0.1000 -1434520.7759  
## 140 505043759.9668 nan 0.1000 -1594902.7257  
## 150 483517500.8217 nan 0.1000 -4607753.0178

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 20, 45, 20, 160, 190, 90, 20, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5713470640.7000 nan 0.1000 763744643.8106  
## 2 5031142810.6616 nan 0.1000 626823754.6972  
## 3 4478834573.1283 nan 0.1000 492818949.0966  
## 4 4008635915.7621 nan 0.1000 454101764.9097  
## 5 3539485822.5052 nan 0.1000 444274169.2094  
## 6 3227006339.5365 nan 0.1000 292783816.0421  
## 7 2916506225.4560 nan 0.1000 289043930.1658  
## 8 2652965306.0128 nan 0.1000 196454133.2401  
## 9 2403022278.8557 nan 0.1000 207557337.3074  
## 10 2216201398.2863 nan 0.1000 164044827.3168  
## 20 1182628632.5594 nan 0.1000 53636534.9674  
## 40 725676132.7533 nan 0.1000 -1902713.9066  
## 60 588884236.6822 nan 0.1000 -5260043.3797  
## 80 524467650.8512 nan 0.1000 -6438402.2552  
## 100 464918668.7826 nan 0.1000 -2085749.1016  
## 120 419036741.7571 nan 0.1000 -3819569.5641  
## 140 393370826.4553 nan 0.1000 -2280504.6023  
## 150 378687974.6194 nan 0.1000 -4971599.0436

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5999596194.8041 nan 0.1000 613831013.0840  
## 2 5520636331.6404 nan 0.1000 482648048.6082  
## 3 5089351013.5651 nan 0.1000 420952189.2636  
## 4 4724474335.8456 nan 0.1000 342999367.2420  
## 5 4420495811.1300 nan 0.1000 303374249.7817  
## 6 4138676931.4755 nan 0.1000 262483572.1084  
## 7 3912735518.2188 nan 0.1000 227542067.1540  
## 8 3650977152.7833 nan 0.1000 202117093.4950  
## 9 3428485112.3546 nan 0.1000 207163896.5490  
## 10 3262232700.0073 nan 0.1000 176189343.3680  
## 20 2136340608.3987 nan 0.1000 57329682.4264  
## 40 1349649364.5047 nan 0.1000 16939154.2968  
## 60 1094399856.4040 nan 0.1000 9827207.2651  
## 80 991261821.6399 nan 0.1000 4190886.6724  
## 100 927383455.5144 nan 0.1000 -271923.6336  
## 120 884195535.4006 nan 0.1000 -5189811.0009  
## 140 845383850.5432 nan 0.1000 -17328927.0163  
## 150 828700456.7468 nan 0.1000 -1658375.9071

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5935623647.1901 nan 0.1000 657347716.1969  
## 2 5318825837.6314 nan 0.1000 628133042.4161  
## 3 4783278879.1725 nan 0.1000 551173065.4494  
## 4 4345271767.8870 nan 0.1000 462407706.3596  
## 5 3991016001.3995 nan 0.1000 375255459.2635  
## 6 3620714758.8084 nan 0.1000 287256004.6916  
## 7 3299936875.2145 nan 0.1000 257365960.8023  
## 8 3081525206.5419 nan 0.1000 241075183.2380  
## 9 2833929129.2808 nan 0.1000 261901066.1632  
## 10 2652652236.7516 nan 0.1000 190839458.4517  
## 20 1614469962.1867 nan 0.1000 43617521.2469  
## 40 988220110.5436 nan 0.1000 11294336.7019  
## 60 809844706.4061 nan 0.1000 -6099496.6469  
## 80 726450577.4233 nan 0.1000 649393.0484  
## 100 663559061.4202 nan 0.1000 -4680171.6200  
## 120 603318925.0974 nan 0.1000 -10044894.6310  
## 140 559990359.8143 nan 0.1000 -3977229.8072  
## 150 535497545.7023 nan 0.1000 -3587773.3019

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5807348573.2177 nan 0.1000 718612410.1924  
## 2 5149839799.8883 nan 0.1000 625045370.9513  
## 3 4577711975.3894 nan 0.1000 554578729.0744  
## 4 4132769852.4103 nan 0.1000 455019593.7528  
## 5 3707909828.5604 nan 0.1000 405667293.8879  
## 6 3371829700.4799 nan 0.1000 319975611.6088  
## 7 3066073353.5687 nan 0.1000 280125866.6170  
## 8 2785862113.7992 nan 0.1000 274766583.9785  
## 9 2567509316.6674 nan 0.1000 179410580.2854  
## 10 2360761075.3084 nan 0.1000 182479028.5308  
## 20 1311578153.6550 nan 0.1000 48955339.7983  
## 40 806494145.5404 nan 0.1000 -16412821.3386  
## 60 650209879.4386 nan 0.1000 -6678497.2714  
## 80 564528806.1831 nan 0.1000 -6300971.8102  
## 100 498307192.5863 nan 0.1000 -5427256.4993  
## 120 447773106.3177 nan 0.1000 -5144256.4314  
## 140 405538430.3754 nan 0.1000 -2303122.0620  
## 150 389748110.0113 nan 0.1000 -5616360.4656

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5922449632.8497 nan 0.1000 575016308.0815  
## 2 5419070603.7849 nan 0.1000 430238921.1513  
## 3 4979547515.5638 nan 0.1000 426260076.3714  
## 4 4660670494.9891 nan 0.1000 330291793.7073  
## 5 4359164880.1611 nan 0.1000 325739639.8954  
## 6 4122942135.8554 nan 0.1000 155671293.3412  
## 7 3881441806.3496 nan 0.1000 234446006.9977  
## 8 3649973150.6389 nan 0.1000 221575968.7094  
## 9 3469585856.3292 nan 0.1000 111049973.6563  
## 10 3293560241.4919 nan 0.1000 180357842.4167  
## 20 2134846258.5389 nan 0.1000 41708169.9067  
## 40 1292600852.2377 nan 0.1000 12427200.6822  
## 60 1011504043.8943 nan 0.1000 3980345.3898  
## 80 895190825.1537 nan 0.1000 5006905.8646  
## 100 825460715.2452 nan 0.1000 -11009282.3787  
## 120 779714262.6556 nan 0.1000 -5147042.7981  
## 140 743013197.0153 nan 0.1000 235338.2990  
## 150 734215442.5341 nan 0.1000 -5316387.9460

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5760086484.1114 nan 0.1000 752858001.8394  
## 2 5164390008.7135 nan 0.1000 619353739.9269  
## 3 4656928033.8910 nan 0.1000 533486123.5162  
## 4 4228487270.2038 nan 0.1000 369899544.3233  
## 5 3818185016.8874 nan 0.1000 424080028.0272  
## 6 3461611074.1263 nan 0.1000 329544473.7456  
## 7 3201582973.0715 nan 0.1000 241557140.6811  
## 8 2958030768.2114 nan 0.1000 249418956.6861  
## 9 2768052974.8449 nan 0.1000 183884594.2440  
## 10 2590868610.7617 nan 0.1000 114450995.2814  
## 20 1509922025.9034 nan 0.1000 53333040.4373  
## 40 905119386.0998 nan 0.1000 1385059.3835  
## 60 744837531.7898 nan 0.1000 -5815757.5883  
## 80 673208266.1576 nan 0.1000 -9936768.8283  
## 100 617293815.2512 nan 0.1000 -4405093.9207  
## 120 575346745.3730 nan 0.1000 -16280188.8050  
## 140 530276316.5145 nan 0.1000 -3742611.7987  
## 150 515445692.2237 nan 0.1000 -4323004.1980

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5715220734.2496 nan 0.1000 684160646.4648  
## 2 5038833829.1963 nan 0.1000 555761799.8475  
## 3 4468836426.1014 nan 0.1000 569982756.6002  
## 4 4040992372.6503 nan 0.1000 385297104.8534  
## 5 3624867872.3943 nan 0.1000 386137296.0696  
## 6 3304050603.9423 nan 0.1000 302800181.3429  
## 7 3004831214.8517 nan 0.1000 318753495.6111  
## 8 2771146418.2395 nan 0.1000 232125940.6928  
## 9 2543794888.5901 nan 0.1000 177606667.9824  
## 10 2337611309.2549 nan 0.1000 170873493.6304  
## 20 1278727612.1251 nan 0.1000 20066272.5101  
## 40 761354130.1103 nan 0.1000 11112073.7674  
## 60 626649311.8679 nan 0.1000 -6304772.7854  
## 80 534040768.9263 nan 0.1000 -2739592.3489  
## 100 484229414.5793 nan 0.1000 -9558601.7104  
## 120 441482822.6749 nan 0.1000 -2146496.8715  
## 140 407295204.7601 nan 0.1000 -3910115.8001  
## 150 392124085.9243 nan 0.1000 -2947008.4020

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6056087836.1940 nan 0.1000 524911500.9334  
## 2 5551138698.3562 nan 0.1000 477696851.7130  
## 3 5137436081.9302 nan 0.1000 383065946.7309  
## 4 4805689236.5719 nan 0.1000 299507093.6284  
## 5 4492811212.1042 nan 0.1000 315394572.9955  
## 6 4221237404.0002 nan 0.1000 274042300.5901  
## 7 3962931298.9348 nan 0.1000 242667897.9052  
## 8 3740874465.2862 nan 0.1000 211337845.4097  
## 9 3566387551.4997 nan 0.1000 172934079.1865  
## 10 3404431745.7686 nan 0.1000 142477407.1518  
## 20 2263101782.9360 nan 0.1000 8017329.4728  
## 40 1398681153.3750 nan 0.1000 -4114525.5507  
## 60 1135214228.3254 nan 0.1000 9262877.4252  
## 80 1015001855.9497 nan 0.1000 2733930.4925  
## 100 949185419.0240 nan 0.1000 -1287137.8967  
## 120 901718721.6378 nan 0.1000 -2268603.5959  
## 140 868066747.2215 nan 0.1000 -1953565.4128  
## 150 851876524.1524 nan 0.1000 -8745936.6804

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5936429858.3118 nan 0.1000 656540164.4295  
## 2 5319195160.8170 nan 0.1000 549123339.6254  
## 3 4794521215.1713 nan 0.1000 506194037.0930  
## 4 4391514003.8323 nan 0.1000 380037989.3654  
## 5 4012608227.5057 nan 0.1000 378071813.4696  
## 6 3717039170.8726 nan 0.1000 287639312.3616  
## 7 3430488814.5507 nan 0.1000 258128261.9034  
## 8 3169414929.2828 nan 0.1000 241542386.7829  
## 9 2954672316.7704 nan 0.1000 239111055.1713  
## 10 2747172622.2855 nan 0.1000 173431048.4036  
## 20 1625641549.1523 nan 0.1000 69316492.5463  
## 40 1023366428.2792 nan 0.1000 1962001.5646  
## 60 845006986.3597 nan 0.1000 -9963663.8087  
## 80 733983240.8307 nan 0.1000 -7533709.1800  
## 100 669639152.0348 nan 0.1000 -1777666.4477  
## 120 614973081.2924 nan 0.1000 -7366943.7173  
## 140 580594148.8132 nan 0.1000 -3282479.5113  
## 150 559702125.8983 nan 0.1000 -8258972.1096

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5858776849.6604 nan 0.1000 750848152.7925  
## 2 5216609001.6733 nan 0.1000 604685874.6539  
## 3 4602705031.5374 nan 0.1000 558931670.5112  
## 4 4122872748.2575 nan 0.1000 499039969.6186  
## 5 3709087280.3580 nan 0.1000 361930833.6195  
## 6 3435323902.7144 nan 0.1000 288682431.2769  
## 7 3127973669.1253 nan 0.1000 271506662.4167  
## 8 2884193125.9686 nan 0.1000 224860273.2619  
## 9 2634568889.1469 nan 0.1000 205763792.5046  
## 10 2441299424.8213 nan 0.1000 198041330.5443  
## 20 1365143461.8346 nan 0.1000 51167080.4194  
## 40 839975686.3609 nan 0.1000 -383239.6134  
## 60 698969108.9101 nan 0.1000 -819466.9827  
## 80 596422844.9845 nan 0.1000 -2393950.8807  
## 100 524442761.9090 nan 0.1000 -7459895.0591  
## 120 466805878.4380 nan 0.1000 -1258621.6915  
## 140 428549675.9689 nan 0.1000 -4728983.8224  
## 150 407678165.8636 nan 0.1000 -4983485.0479

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5704646622.5428 nan 0.1000 502984878.1188  
## 2 5254134018.5330 nan 0.1000 446781750.9050  
## 3 4888277323.5067 nan 0.1000 340677662.6962  
## 4 4548021705.4623 nan 0.1000 335155778.3270  
## 5 4265841009.4372 nan 0.1000 249498308.7411  
## 6 4024406540.5393 nan 0.1000 215540069.3665  
## 7 3795315149.1979 nan 0.1000 228226158.2796  
## 8 3581386239.4128 nan 0.1000 202998031.1178  
## 9 3369455657.0164 nan 0.1000 199079857.7254  
## 10 3199705619.2710 nan 0.1000 133097303.6172  
## 20 2112217031.9902 nan 0.1000 70742384.6323  
## 40 1322328309.3459 nan 0.1000 17660716.6365  
## 60 1058431852.5584 nan 0.1000 -6538772.8960  
## 80 943608703.6364 nan 0.1000 -366585.5227  
## 100 875347912.8754 nan 0.1000 -1321760.1023  
## 120 834914094.8478 nan 0.1000 -8407794.2801  
## 140 799867619.0435 nan 0.1000 -2791091.4734  
## 150 783343083.5385 nan 0.1000 -13371234.4142

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5552718325.8994 nan 0.1000 552087325.3692  
## 2 4984269667.0300 nan 0.1000 526019740.0577  
## 3 4564459830.3975 nan 0.1000 442967283.5077  
## 4 4177209357.9339 nan 0.1000 387172731.4108  
## 5 3808882978.3609 nan 0.1000 374090126.9483  
## 6 3513681556.5754 nan 0.1000 298839385.4495  
## 7 3286446694.4369 nan 0.1000 247126479.4689  
## 8 3038995065.6964 nan 0.1000 240899546.6492  
## 9 2836952597.1623 nan 0.1000 198885772.0478  
## 10 2679649123.6335 nan 0.1000 131825901.1067  
## 20 1560429545.2297 nan 0.1000 58632524.6058  
## 40 967197487.6836 nan 0.1000 -3339613.2920  
## 60 797490300.0569 nan 0.1000 -7595056.8193  
## 80 703488465.0944 nan 0.1000 -16952915.3235  
## 100 644758466.9982 nan 0.1000 -6226490.3772  
## 120 600508245.5396 nan 0.1000 -4884551.7670  
## 140 562729850.8634 nan 0.1000 -1375985.7156  
## 150 549384762.9934 nan 0.1000 -1813494.0771

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5419277253.1474 nan 0.1000 755385541.0821  
## 2 4788509278.4217 nan 0.1000 586812446.5113  
## 3 4254845940.3619 nan 0.1000 469533225.0108  
## 4 3833570005.0039 nan 0.1000 401899289.3018  
## 5 3461070547.8539 nan 0.1000 343548116.2398  
## 6 3140100460.8631 nan 0.1000 222279681.4192  
## 7 2882610741.2915 nan 0.1000 241411773.0387  
## 8 2652307500.2000 nan 0.1000 233331066.6573  
## 9 2435740285.2328 nan 0.1000 212746035.6395  
## 10 2260660687.9196 nan 0.1000 161453168.6470  
## 20 1319033725.1660 nan 0.1000 58522056.5008  
## 40 816822657.2034 nan 0.1000 -510913.3663  
## 60 663800238.9513 nan 0.1000 5143936.7481  
## 80 565834646.6713 nan 0.1000 -10929879.0441  
## 100 508471453.0430 nan 0.1000 -1709249.3734  
## 120 453210432.0093 nan 0.1000 -2860477.4688  
## 140 411601200.4019 nan 0.1000 3192615.6638  
## 150 391262115.2962 nan 0.1000 -1574279.9463

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5783291334.0311 nan 0.1000 561219954.4198  
## 2 5291292582.8580 nan 0.1000 457394271.7460  
## 3 4895004242.2241 nan 0.1000 406531537.3541  
## 4 4592423811.5124 nan 0.1000 256487777.5475  
## 5 4306554984.9274 nan 0.1000 311238142.1589  
## 6 4064182556.2763 nan 0.1000 249434136.9484  
## 7 3780682524.1734 nan 0.1000 271240536.6726  
## 8 3587240803.4571 nan 0.1000 183251183.1943  
## 9 3400749492.7883 nan 0.1000 186058892.0097  
## 10 3245094246.5731 nan 0.1000 158400372.1126  
## 20 2097596478.0179 nan 0.1000 63608495.9776  
## 40 1319248673.9983 nan 0.1000 22260825.6276  
## 60 1053482752.0378 nan 0.1000 9864142.6462  
## 80 937158228.0494 nan 0.1000 -168693.2345  
## 100 870984591.1800 nan 0.1000 -2315118.0189  
## 120 811563919.5637 nan 0.1000 1761091.0643  
## 140 772374160.5292 nan 0.1000 -9475816.4156  
## 150 763468057.5114 nan 0.1000 -9134683.2375

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5670309416.8819 nan 0.1000 673324143.9156  
## 2 5101021072.3779 nan 0.1000 555659191.3750  
## 3 4600216908.3375 nan 0.1000 474773572.5633  
## 4 4211943053.0728 nan 0.1000 427191360.4254  
## 5 3876494269.8860 nan 0.1000 244690160.3425  
## 6 3578361651.8751 nan 0.1000 253209993.2177  
## 7 3307502294.3337 nan 0.1000 298429127.6988  
## 8 3070991952.4637 nan 0.1000 194958241.8054  
## 9 2807707704.4182 nan 0.1000 230568583.6143  
## 10 2621264533.7490 nan 0.1000 167039125.4373  
## 20 1578296663.0338 nan 0.1000 50920931.2952  
## 40 966243672.6035 nan 0.1000 10779284.5016  
## 60 790887994.7212 nan 0.1000 1459973.7181  
## 80 705410868.2849 nan 0.1000 -4815793.1624  
## 100 648247799.5624 nan 0.1000 -3135955.7652  
## 120 594845656.3666 nan 0.1000 -6146109.0453  
## 140 548008917.9331 nan 0.1000 -2578676.8159  
## 150 531339003.2516 nan 0.1000 -5260740.7767

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5634625990.6723 nan 0.1000 699376493.8832  
## 2 4995641501.0686 nan 0.1000 628940001.5782  
## 3 4450451130.5648 nan 0.1000 537211970.6751  
## 4 3963373606.1700 nan 0.1000 487732396.4898  
## 5 3565190580.5855 nan 0.1000 367485389.0012  
## 6 3250204485.3979 nan 0.1000 298288192.0073  
## 7 2967251596.0363 nan 0.1000 266385518.9931  
## 8 2701355769.5089 nan 0.1000 211739717.8774  
## 9 2496430994.9994 nan 0.1000 172769248.4253  
## 10 2299642006.6971 nan 0.1000 179909053.3277  
## 20 1343786523.4835 nan 0.1000 36721999.7565  
## 40 809034718.8715 nan 0.1000 -2921485.6817  
## 60 670735596.4474 nan 0.1000 -16434713.2395  
## 80 565793485.3948 nan 0.1000 -4512029.9592  
## 100 505700723.9089 nan 0.1000 -1414853.9208  
## 120 445394408.2759 nan 0.1000 -1471682.4952  
## 140 403061969.1272 nan 0.1000 -1169970.7543  
## 150 386233471.0112 nan 0.1000 -6210687.6274

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5888950511.8120 nan 0.1000 519252346.6185  
## 2 5433034281.7953 nan 0.1000 464458145.8620  
## 3 5022019042.6516 nan 0.1000 384981670.9117  
## 4 4721908480.1843 nan 0.1000 301533914.7573  
## 5 4411455199.3552 nan 0.1000 368941145.6951  
## 6 4136159515.9628 nan 0.1000 248472911.1679  
## 7 3894257647.2252 nan 0.1000 204525739.7223  
## 8 3685568326.7483 nan 0.1000 202158162.1744  
## 9 3489328487.8825 nan 0.1000 188013317.7629  
## 10 3327490898.0594 nan 0.1000 169263350.6116  
## 20 2169542714.8680 nan 0.1000 80899811.3041  
## 40 1343934850.2516 nan 0.1000 14788131.2715  
## 60 1098558864.8613 nan 0.1000 -10271625.2707  
## 80 985079185.7689 nan 0.1000 -5230410.5973  
## 100 917887700.1240 nan 0.1000 -20149265.3603  
## 120 863672991.3303 nan 0.1000 -12916536.2239  
## 140 827393903.9995 nan 0.1000 -8828672.9251  
## 150 808926617.5289 nan 0.1000 -5606482.8413

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5754479615.4914 nan 0.1000 661053549.5110  
## 2 5224847007.5872 nan 0.1000 540628170.5199  
## 3 4783826789.8847 nan 0.1000 373090933.3782  
## 4 4365626607.5248 nan 0.1000 308231476.2217  
## 5 3994983940.8040 nan 0.1000 366049707.1887  
## 6 3687344748.6660 nan 0.1000 297063645.5364  
## 7 3402827689.8051 nan 0.1000 213788437.6429  
## 8 3133933627.4835 nan 0.1000 233933291.5804  
## 9 2929641626.9755 nan 0.1000 207596568.1306  
## 10 2715667330.9699 nan 0.1000 211679365.7167  
## 20 1595907922.4538 nan 0.1000 46538602.4854  
## 40 1011251892.4114 nan 0.1000 5053196.1907  
## 60 850194866.2651 nan 0.1000 -5097000.7391  
## 80 726321211.6393 nan 0.1000 1148312.1030  
## 100 664602382.1566 nan 0.1000 1392640.5415  
## 120 601156545.7729 nan 0.1000 -4788988.1176  
## 140 552098700.6592 nan 0.1000 -5559580.0724  
## 150 533967023.4081 nan 0.1000 -3468145.1357

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5696732398.1143 nan 0.1000 776979828.6686  
## 2 5042821213.6366 nan 0.1000 715709398.4931  
## 3 4505809860.3494 nan 0.1000 511135717.3748  
## 4 4080951899.3755 nan 0.1000 457524407.4164  
## 5 3737955756.3983 nan 0.1000 364267561.9025  
## 6 3387233511.9206 nan 0.1000 385708004.2543  
## 7 3099051361.2395 nan 0.1000 321152667.4441  
## 8 2842088752.4605 nan 0.1000 212075803.3801  
## 9 2633626768.8184 nan 0.1000 215011317.1603  
## 10 2407360244.2695 nan 0.1000 158472475.3076  
## 20 1351145927.6061 nan 0.1000 48686609.9097  
## 40 815027131.4552 nan 0.1000 6986193.5907  
## 60 654189928.7922 nan 0.1000 -15343171.6176  
## 80 570136237.5654 nan 0.1000 -5115593.8589  
## 100 491168154.6842 nan 0.1000 -4872919.6922  
## 120 442466513.0166 nan 0.1000 -2504882.7254  
## 140 410344567.9266 nan 0.1000 -3941483.3693  
## 150 390128917.2369 nan 0.1000 -1749294.0116

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5859386502.4325 nan 0.1000 478523869.4519  
## 2 5412706595.9949 nan 0.1000 391859566.1094  
## 3 4974046719.2438 nan 0.1000 441675351.4438  
## 4 4621722987.7913 nan 0.1000 351011235.5644  
## 5 4345417999.7255 nan 0.1000 281528043.0095  
## 6 4084006021.6001 nan 0.1000 139995006.2621  
## 7 3869577683.2001 nan 0.1000 226878977.6885  
## 8 3648937142.6316 nan 0.1000 223456390.6409  
## 9 3433004709.3892 nan 0.1000 190457092.7479  
## 10 3260535749.7270 nan 0.1000 170324024.1749  
## 20 2123575021.4981 nan 0.1000 66705454.1361  
## 40 1328739015.9158 nan 0.1000 5410541.9298  
## 60 1065249217.1237 nan 0.1000 7874406.5071  
## 80 964076576.3763 nan 0.1000 4718975.4389  
## 100 889428718.5093 nan 0.1000 -3163433.4787  
## 120 851145092.9403 nan 0.1000 -8979450.1944  
## 140 808566745.6629 nan 0.1000 -3381912.6863  
## 150 790235963.3569 nan 0.1000 380074.7597

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5803794130.1685 nan 0.1000 660858442.8401  
## 2 5230829788.5035 nan 0.1000 590685179.1163  
## 3 4741393067.9654 nan 0.1000 430382857.6923  
## 4 4296566925.5045 nan 0.1000 429235687.9736  
## 5 3910559834.3470 nan 0.1000 343424192.5948  
## 6 3582043157.1544 nan 0.1000 358054455.7043  
## 7 3332396836.5054 nan 0.1000 258330179.1472  
## 8 3101979926.3650 nan 0.1000 201210650.4361  
## 9 2881235327.8934 nan 0.1000 210575931.0326  
## 10 2663442797.6470 nan 0.1000 194183749.5459  
## 20 1567364723.1687 nan 0.1000 38259729.7196  
## 40 987619813.7162 nan 0.1000 11918126.0670  
## 60 804593135.2687 nan 0.1000 1276331.6415  
## 80 713732568.2474 nan 0.1000 -8330407.2013  
## 100 647190203.4093 nan 0.1000 1894037.6742  
## 120 591686474.7352 nan 0.1000 -8376831.9469  
## 140 543519899.3560 nan 0.1000 -1257687.9536  
## 150 514878673.0267 nan 0.1000 -3566099.5464

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5756149134.3829 nan 0.1000 768523918.3425  
## 2 5051491172.6723 nan 0.1000 598459397.2699  
## 3 4462778798.4709 nan 0.1000 491851835.7056  
## 4 4023599449.3189 nan 0.1000 429584153.6799  
## 5 3601885411.2517 nan 0.1000 322427701.3021  
## 6 3276141920.9546 nan 0.1000 289462512.7031  
## 7 3004192730.4694 nan 0.1000 253629590.3022  
## 8 2751550314.2200 nan 0.1000 216229920.8980  
## 9 2513137643.1968 nan 0.1000 218578159.3246  
## 10 2339749245.7757 nan 0.1000 144777068.4817  
## 20 1302846833.2434 nan 0.1000 56962194.4584  
## 40 795698385.6936 nan 0.1000 411964.6831  
## 60 626722590.5421 nan 0.1000 -3925812.7992  
## 80 535834834.3762 nan 0.1000 -5957261.4228  
## 100 476407653.6086 nan 0.1000 -614654.4378  
## 120 428102230.5223 nan 0.1000 -3809804.4393  
## 140 389712053.4960 nan 0.1000 -1659513.3651  
## 150 373648854.0457 nan 0.1000 -102767.8824

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5913626026.1416 nan 0.1000 540281376.9765  
## 2 5463618338.4165 nan 0.1000 472151896.3467  
## 3 5078298997.2102 nan 0.1000 393777301.8559  
## 4 4744638599.9576 nan 0.1000 309962645.2074  
## 5 4448726735.3502 nan 0.1000 286140276.8109  
## 6 4155355958.0983 nan 0.1000 279301931.3430  
## 7 3898470337.2830 nan 0.1000 211106072.2019  
## 8 3695237856.5383 nan 0.1000 201511844.0164  
## 9 3495047011.9473 nan 0.1000 185109660.3313  
## 10 3331234973.3519 nan 0.1000 152878010.0002  
## 20 2184553184.2358 nan 0.1000 76397690.0887  
## 40 1297488420.7640 nan 0.1000 19641726.7410  
## 60 1004062024.7901 nan 0.1000 -760271.3243  
## 80 877739624.7265 nan 0.1000 -10633848.1741  
## 100 835217503.5646 nan 0.1000 -4261654.2333  
## 120 794786198.6767 nan 0.1000 -3753984.9223  
## 140 756601569.0308 nan 0.1000 -5566185.7314  
## 150 738988701.5932 nan 0.1000 -363416.9986

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5730970924.6216 nan 0.1000 634178360.9751  
## 2 5157001460.9106 nan 0.1000 580632485.9208  
## 3 4688309829.8436 nan 0.1000 505480595.4595  
## 4 4291637081.7122 nan 0.1000 366859887.8826  
## 5 3928804146.3260 nan 0.1000 345154503.3788  
## 6 3635441224.7444 nan 0.1000 248535173.4723  
## 7 3332086984.0125 nan 0.1000 265944259.8434  
## 8 3090363217.1039 nan 0.1000 261653216.6231  
## 9 2883882039.6373 nan 0.1000 198840246.7250  
## 10 2687631103.5508 nan 0.1000 151620052.6573  
## 20 1557429116.0899 nan 0.1000 65576380.4860  
## 40 916036902.9757 nan 0.1000 444702.2341  
## 60 759210501.4009 nan 0.1000 -3331582.8482  
## 80 670311899.6589 nan 0.1000 2601311.4496  
## 100 620455638.6325 nan 0.1000 165288.1250  
## 120 575164310.4528 nan 0.1000 -3410638.8923  
## 140 536924883.3072 nan 0.1000 -2849656.7340  
## 150 522121941.0769 nan 0.1000 -3359752.5418

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5715957402.3487 nan 0.1000 735773775.7668  
## 2 5069334394.3254 nan 0.1000 621114408.9753  
## 3 4524423577.2460 nan 0.1000 512625988.2261  
## 4 4031061511.3578 nan 0.1000 439728649.3869  
## 5 3627626846.2096 nan 0.1000 372413142.2579  
## 6 3272854089.8159 nan 0.1000 338356012.4292  
## 7 2918878827.6239 nan 0.1000 344082091.5675  
## 8 2658588306.8971 nan 0.1000 254562994.5001  
## 9 2424525924.7277 nan 0.1000 220957956.7257  
## 10 2243298002.9859 nan 0.1000 164463075.5155  
## 20 1206435236.0576 nan 0.1000 39500574.9986  
## 40 732910425.3286 nan 0.1000 -2023169.7898  
## 60 594826663.0184 nan 0.1000 2265056.3890  
## 80 522161851.5604 nan 0.1000 -1947745.0649  
## 100 476650092.3793 nan 0.1000 -10785271.3962  
## 120 429143889.1066 nan 0.1000 -3975348.0981  
## 140 389089883.3872 nan 0.1000 -2709646.8915  
## 150 374443567.9553 nan 0.1000 -2122370.3250

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5998569589.2965 nan 0.1000 544965756.4978  
## 2 5494509015.9324 nan 0.1000 450439054.9733  
## 3 5076725774.8303 nan 0.1000 413037921.1988  
## 4 4737532776.6494 nan 0.1000 351746502.6900  
## 5 4443660856.1270 nan 0.1000 324121564.5390  
## 6 4149317481.5597 nan 0.1000 281788027.0315  
## 7 3945746907.5459 nan 0.1000 111325254.6307  
## 8 3729058704.4361 nan 0.1000 219744382.5249  
## 9 3515154905.9412 nan 0.1000 214361406.7538  
## 10 3334082527.5189 nan 0.1000 171082141.2244  
## 20 2119128167.6704 nan 0.1000 78874958.7655  
## 40 1262114204.4631 nan 0.1000 20653637.7829  
## 60 988501577.1242 nan 0.1000 3991863.9386  
## 80 898184543.7762 nan 0.1000 -9118588.9211  
## 100 837912034.0798 nan 0.1000 -5773608.9223  
## 120 802420861.3634 nan 0.1000 -16312421.4421  
## 140 770013693.4046 nan 0.1000 -11934267.0518  
## 150 750267146.2230 nan 0.1000 1062744.9404

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5822587469.0751 nan 0.1000 686537935.1979  
## 2 5166433985.0144 nan 0.1000 616876646.2674  
## 3 4681629748.5649 nan 0.1000 510107945.6514  
## 4 4276940244.8253 nan 0.1000 368645774.5658  
## 5 3908259916.4371 nan 0.1000 378487435.0842  
## 6 3607595688.9062 nan 0.1000 283099431.8585  
## 7 3310045150.3978 nan 0.1000 272410359.7282  
## 8 3064661862.9722 nan 0.1000 165351256.0680  
## 9 2839037582.5236 nan 0.1000 191413266.0501  
## 10 2608305367.0467 nan 0.1000 216193586.8715  
## 20 1507080092.4399 nan 0.1000 40328997.6951  
## 40 910991907.6033 nan 0.1000 2570322.9102  
## 60 764295746.0523 nan 0.1000 -9282722.0519  
## 80 676988802.9054 nan 0.1000 -8291521.5928  
## 100 617572852.6703 nan 0.1000 -10359613.4323  
## 120 568061026.2815 nan 0.1000 -5725034.3981  
## 140 519520613.8653 nan 0.1000 -7792659.0764  
## 150 500542997.6784 nan 0.1000 643915.2659

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5728173054.1620 nan 0.1000 725129157.8419  
## 2 5054362961.6023 nan 0.1000 638428609.8698  
## 3 4505470666.5386 nan 0.1000 549540746.7818  
## 4 3992458780.3910 nan 0.1000 468965480.9011  
## 5 3630751388.1588 nan 0.1000 303765659.7958  
## 6 3298077650.7614 nan 0.1000 302922597.2346  
## 7 2991639253.3631 nan 0.1000 246635259.8565  
## 8 2722037043.1581 nan 0.1000 223508038.0247  
## 9 2501260350.9294 nan 0.1000 241915444.0186  
## 10 2306806943.5529 nan 0.1000 151954748.4050  
## 20 1283236006.9226 nan 0.1000 51549939.3300  
## 40 754441299.2268 nan 0.1000 4443990.5156  
## 60 618619920.1336 nan 0.1000 -11101286.2977  
## 80 545444533.7126 nan 0.1000 -7592883.5917  
## 100 486651419.4186 nan 0.1000 -6583342.3837  
## 120 446384306.9966 nan 0.1000 -792169.0566  
## 140 406901963.7482 nan 0.1000 -1893943.7329  
## 150 391659018.9002 nan 0.1000 -5256997.4489

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5439015080.6689 nan 0.1000 493797840.8733  
## 2 4980269289.5623 nan 0.1000 455927367.3496  
## 3 4610612045.2115 nan 0.1000 374374526.7295  
## 4 4313365796.5573 nan 0.1000 344227518.7752  
## 5 4035132608.7343 nan 0.1000 284751017.1341  
## 6 3777574077.4753 nan 0.1000 282191748.5098  
## 7 3585247364.0861 nan 0.1000 221778311.2533  
## 8 3367564307.1021 nan 0.1000 186331787.4937  
## 9 3158925544.7978 nan 0.1000 177023121.6310  
## 10 2990966812.3619 nan 0.1000 142261241.6821  
## 20 1939500470.9564 nan 0.1000 27727212.1462  
## 40 1211360560.9761 nan 0.1000 3989826.6732  
## 60 957583351.8994 nan 0.1000 8623009.3003  
## 80 848235403.9346 nan 0.1000 -10304254.3249  
## 100 778053523.8628 nan 0.1000 2863418.4718  
## 120 734491130.8784 nan 0.1000 -12566571.3449  
## 140 696181505.8517 nan 0.1000 -11074646.2522  
## 150 680938955.1577 nan 0.1000 -4857844.4685

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5275963155.9794 nan 0.1000 682975337.4662  
## 2 4728223088.7199 nan 0.1000 594353380.3728  
## 3 4257227149.7662 nan 0.1000 469326582.5076  
## 4 3845675527.8424 nan 0.1000 386999626.0553  
## 5 3508473162.5555 nan 0.1000 361864744.4502  
## 6 3205993540.1581 nan 0.1000 286843989.6521  
## 7 2966616429.1033 nan 0.1000 236463790.0132  
## 8 2747118283.4728 nan 0.1000 217505814.0080  
## 9 2533964019.8372 nan 0.1000 184507334.6004  
## 10 2392695111.0903 nan 0.1000 145751767.6625  
## 20 1421849429.0003 nan 0.1000 60510006.2274  
## 40 868187107.2463 nan 0.1000 5887890.1664  
## 60 711930098.4353 nan 0.1000 -12203050.0628  
## 80 623885384.9253 nan 0.1000 -4523940.3407  
## 100 557855293.2254 nan 0.1000 -3238051.3272  
## 120 506529600.4323 nan 0.1000 -560351.1144  
## 140 466985973.4668 nan 0.1000 -5628187.9294  
## 150 448531220.0556 nan 0.1000 -2632624.6122

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5297110467.2184 nan 0.1000 680023864.7616  
## 2 4715621329.2092 nan 0.1000 571070403.1211  
## 3 4175024252.3987 nan 0.1000 446591840.5261  
## 4 3723545988.3803 nan 0.1000 400669239.0326  
## 5 3366308212.8308 nan 0.1000 386204854.8550  
## 6 3025680984.4375 nan 0.1000 270733869.9636  
## 7 2756411623.1677 nan 0.1000 249593799.6479  
## 8 2538026705.1575 nan 0.1000 181654953.3373  
## 9 2318229938.6783 nan 0.1000 193584127.7449  
## 10 2130493033.0597 nan 0.1000 150285849.3553  
## 20 1184261939.6123 nan 0.1000 53790843.5491  
## 40 730512817.5862 nan 0.1000 -6183409.5657  
## 60 601753819.5238 nan 0.1000 -5409386.1492  
## 80 504549581.9380 nan 0.1000 -7665244.7747  
## 100 450938626.5616 nan 0.1000 -5070092.9416  
## 120 396820826.5008 nan 0.1000 -6026437.8780  
## 140 361488217.5241 nan 0.1000 -1003262.9267  
## 150 345213264.6637 nan 0.1000 -3937102.0581

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5588845150.8270 nan 0.1000 527064924.9772  
## 2 5110319563.4637 nan 0.1000 500734114.8756  
## 3 4714713354.3799 nan 0.1000 356593474.3455  
## 4 4410733373.3655 nan 0.1000 310856185.8195  
## 5 4102836619.7212 nan 0.1000 301402158.7928  
## 6 3835976319.3034 nan 0.1000 268833471.1837  
## 7 3594305255.5027 nan 0.1000 192372965.9708  
## 8 3419494516.3414 nan 0.1000 169199977.7706  
## 9 3230102581.9613 nan 0.1000 195075032.0370  
## 10 3059746397.6087 nan 0.1000 151837346.6038  
## 20 1946422528.4956 nan 0.1000 55564335.9806  
## 40 1218924613.9970 nan 0.1000 13195891.7474  
## 60 988586685.5937 nan 0.1000 -12260083.8063  
## 80 894153414.8965 nan 0.1000 3611511.4084  
## 100 836128630.6638 nan 0.1000 -3004351.1021  
## 120 794589359.6932 nan 0.1000 -12729007.9637  
## 140 756631012.6907 nan 0.1000 347535.9555  
## 150 746626236.6675 nan 0.1000 -1575863.6188

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5378858939.4450 nan 0.1000 652492118.4869  
## 2 4795707177.9514 nan 0.1000 548125777.1006  
## 3 4290365624.0808 nan 0.1000 457943918.4998  
## 4 3914261738.5514 nan 0.1000 383985454.2539  
## 5 3602703034.9131 nan 0.1000 260270739.8916  
## 6 3294405913.7128 nan 0.1000 317806938.1876  
## 7 3023685625.9462 nan 0.1000 253237212.6951  
## 8 2804866809.1233 nan 0.1000 188053825.6169  
## 9 2581051389.3640 nan 0.1000 182361771.8758  
## 10 2412522237.2755 nan 0.1000 166105527.1992  
## 20 1441075750.1442 nan 0.1000 58760891.4272  
## 40 913445140.2815 nan 0.1000 950849.0187  
## 60 763049814.0219 nan 0.1000 721143.7807  
## 80 669054535.9972 nan 0.1000 -9269270.9149  
## 100 613588120.2863 nan 0.1000 -8190944.2573  
## 120 569555366.7599 nan 0.1000 1173834.1701  
## 140 537903343.9504 nan 0.1000 -4477196.9122  
## 150 520476891.4942 nan 0.1000 -4705666.4272

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5421658555.1256 nan 0.1000 778635078.4173  
## 2 4840072912.7966 nan 0.1000 610118514.3366  
## 3 4298744800.6500 nan 0.1000 578539677.4014  
## 4 3839223616.1625 nan 0.1000 381479918.9841  
## 5 3454451300.5709 nan 0.1000 391584246.5528  
## 6 3107967424.6923 nan 0.1000 294547907.4911  
## 7 2859085216.3107 nan 0.1000 209527381.0499  
## 8 2637287443.3042 nan 0.1000 190568095.6986  
## 9 2405703352.8763 nan 0.1000 184932292.7931  
## 10 2220515389.2246 nan 0.1000 167002799.4495  
## 20 1255216220.3010 nan 0.1000 47101152.4621  
## 40 785999098.0531 nan 0.1000 -4729791.1231  
## 60 657943985.6297 nan 0.1000 -8431267.1561  
## 80 567920292.3942 nan 0.1000 -4639711.2053  
## 100 495905192.7491 nan 0.1000 -3369363.8048  
## 120 445134358.0957 nan 0.1000 -742246.0688  
## 140 400633444.3819 nan 0.1000 -2474906.2945  
## 150 384884899.9302 nan 0.1000 -5649172.0543

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6019005034.8395 nan 0.1000 566362082.2869  
## 2 5486087236.8799 nan 0.1000 469208412.8186  
## 3 5082480544.5403 nan 0.1000 411513659.7817  
## 4 4715182876.8835 nan 0.1000 341800316.2448  
## 5 4410155071.4578 nan 0.1000 283187171.6829  
## 6 4149568965.6703 nan 0.1000 267605505.1502  
## 7 3925607036.4914 nan 0.1000 231004396.3016  
## 8 3687002000.3716 nan 0.1000 206375973.3140  
## 9 3498951456.4232 nan 0.1000 137530444.6742  
## 10 3329829939.7009 nan 0.1000 149177477.2690  
## 20 2192291857.2331 nan 0.1000 55137658.9921  
## 40 1369232584.2120 nan 0.1000 22947530.0589  
## 60 1116164089.3266 nan 0.1000 -3423065.9937  
## 80 1004621338.2864 nan 0.1000 -3992283.4624  
## 100 935843544.2364 nan 0.1000 -1138979.3815  
## 120 884374238.2317 nan 0.1000 -16549813.9379  
## 140 850883284.3886 nan 0.1000 -4194001.5706  
## 150 834515169.0529 nan 0.1000 579374.1410

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5821494465.2652 nan 0.1000 744161800.6439  
## 2 5227565563.9493 nan 0.1000 576684947.1598  
## 3 4714146651.4799 nan 0.1000 514979052.5745  
## 4 4292938091.5503 nan 0.1000 437200459.2026  
## 5 3909457706.9691 nan 0.1000 331176464.8076  
## 6 3585516800.8771 nan 0.1000 281825455.7415  
## 7 3309401367.9709 nan 0.1000 263326003.3189  
## 8 3051315779.2224 nan 0.1000 239350287.5957  
## 9 2852635036.1413 nan 0.1000 191514356.2524  
## 10 2678143778.2053 nan 0.1000 195743876.9139  
## 20 1606750129.9662 nan 0.1000 47496721.5882  
## 40 1031323258.8322 nan 0.1000 -4845233.6812  
## 60 846516530.5184 nan 0.1000 -6409168.9098  
## 80 739077188.6362 nan 0.1000 -1806909.1400  
## 100 679454192.9294 nan 0.1000 -314801.3503  
## 120 611005928.4745 nan 0.1000 399050.9812  
## 140 572692702.4996 nan 0.1000 -2695989.3345  
## 150 557839373.0185 nan 0.1000 436785.1530

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 120, 160, 90, 20, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5863122569.5256 nan 0.1000 761735517.2809  
## 2 5213360983.4037 nan 0.1000 667950752.3148  
## 3 4669674159.1822 nan 0.1000 557794778.4442  
## 4 4193587792.9680 nan 0.1000 432306789.3843  
## 5 3805291788.8499 nan 0.1000 411469495.1901  
## 6 3439196022.5688 nan 0.1000 376875810.1068  
## 7 3092610741.5364 nan 0.1000 277559745.1105  
## 8 2828904251.1492 nan 0.1000 238420746.9640  
## 9 2617207024.8624 nan 0.1000 196612134.5751  
## 10 2417631743.0135 nan 0.1000 182581687.0998  
## 20 1356907087.3440 nan 0.1000 34695673.4290  
## 40 849654933.6066 nan 0.1000 2788719.6814  
## 60 660920629.6236 nan 0.1000 -4353283.1907  
## 80 569248878.2769 nan 0.1000 -3594638.8963  
## 100 496531945.4279 nan 0.1000 -1352547.2923  
## 120 447417890.8704 nan 0.1000 -754178.1332  
## 140 408538839.0487 nan 0.1000 -3118754.8865  
## 150 394597411.9368 nan 0.1000 -2239609.7116

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 97: Exterior1stStone has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5980011185.8359 nan 0.1000 576660371.4138  
## 2 5493239291.1545 nan 0.1000 487227816.9801  
## 3 5099024355.1618 nan 0.1000 397836651.1403  
## 4 4795281315.2907 nan 0.1000 322964017.5587  
## 5 4448327754.2907 nan 0.1000 349016965.2019  
## 6 4177033591.6716 nan 0.1000 219837579.7277  
## 7 3937454849.8080 nan 0.1000 236567641.1404  
## 8 3700699000.0800 nan 0.1000 177443605.4288  
## 9 3480827520.7620 nan 0.1000 178248147.9516  
## 10 3287965428.2995 nan 0.1000 189306823.5344  
## 20 2134047624.2460 nan 0.1000 73048053.1005  
## 40 1346968405.0353 nan 0.1000 18820601.0959  
## 60 1091261580.6319 nan 0.1000 2422819.2129  
## 80 988701844.6206 nan 0.1000 -7989998.4448  
## 100 938233071.3866 nan 0.1000 -15728303.3919  
## 120 893688191.2442 nan 0.1000 -5922561.3052  
## 140 839660120.3991 nan 0.1000 2174386.3532  
## 150 823287488.9332 nan 0.1000 -6169519.9439

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 97: Exterior1stStone has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5900566719.9094 nan 0.1000 684037874.3886  
## 2 5289932347.9292 nan 0.1000 559988102.0971  
## 3 4763234224.6174 nan 0.1000 543883636.9073  
## 4 4329810550.7055 nan 0.1000 385044274.3911  
## 5 3965862994.3800 nan 0.1000 367150129.6191  
## 6 3616132661.1377 nan 0.1000 360076402.8775  
## 7 3366984509.4390 nan 0.1000 268306014.8173  
## 8 3173050114.7264 nan 0.1000 195767861.1971  
## 9 2959965746.0015 nan 0.1000 207407896.2546  
## 10 2779471976.8278 nan 0.1000 176356209.4288  
## 20 1645383037.9798 nan 0.1000 57254583.0665  
## 40 1027338710.2248 nan 0.1000 5754590.3238  
## 60 851402005.8358 nan 0.1000 -11386756.8488  
## 80 761073190.0533 nan 0.1000 -645190.0895  
## 100 693926715.8894 nan 0.1000 -6717058.8492  
## 120 653728643.0957 nan 0.1000 -10752237.0304  
## 140 609021549.7154 nan 0.1000 -958312.9858  
## 150 581028207.2291 nan 0.1000 -250086.5764

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 160, 190, 90, :  
## variable 97: Exterior1stStone has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5848988049.8669 nan 0.1000 750903488.2931  
## 2 5176468078.2839 nan 0.1000 664194365.3495  
## 3 4584304460.0986 nan 0.1000 610720945.0220  
## 4 4069020311.6322 nan 0.1000 435565804.9837  
## 5 3658837952.1246 nan 0.1000 391115980.5923  
## 6 3263106444.6388 nan 0.1000 342749299.1603  
## 7 2994270370.6813 nan 0.1000 272296239.6214  
## 8 2757759457.8532 nan 0.1000 237588119.1467  
## 9 2514519852.8517 nan 0.1000 241133689.4913  
## 10 2321997721.7885 nan 0.1000 194389878.0941  
## 20 1340203683.0888 nan 0.1000 38468417.9514  
## 40 856644208.3874 nan 0.1000 -14951114.8709  
## 60 715048849.6033 nan 0.1000 -8384381.6895  
## 80 602635844.7009 nan 0.1000 -6314618.9620  
## 100 536174969.1586 nan 0.1000 -7966711.2343  
## 120 493649795.0639 nan 0.1000 -2923777.7583  
## 140 452641628.4088 nan 0.1000 -3495396.6235  
## 150 429305483.6906 nan 0.1000 -482542.2823

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6062520800.2504 nan 0.1000 548274256.6579  
## 2 5586991323.7842 nan 0.1000 497431292.4506  
## 3 5141406453.4683 nan 0.1000 389474293.7500  
## 4 4777500475.0634 nan 0.1000 346216466.3410  
## 5 4436305829.0662 nan 0.1000 249541056.1859  
## 6 4195401360.5782 nan 0.1000 256144024.9499  
## 7 3927087972.8305 nan 0.1000 259448184.3971  
## 8 3739312806.3485 nan 0.1000 198654982.2177  
## 9 3549932016.8516 nan 0.1000 164822214.1319  
## 10 3360366652.2462 nan 0.1000 176729036.2399  
## 20 2223657155.7202 nan 0.1000 68685335.3714  
## 40 1367381776.6858 nan 0.1000 17178002.4989  
## 60 1109145862.3376 nan 0.1000 7980565.6705  
## 80 1005466124.1930 nan 0.1000 -9480591.4243  
## 100 944150160.0829 nan 0.1000 -14696835.6664  
## 120 890471276.4748 nan 0.1000 -6292403.3662  
## 140 857475926.7929 nan 0.1000 -3275812.0430  
## 150 836686781.3708 nan 0.1000 1739776.2699

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5899870843.7353 nan 0.1000 698977591.0534  
## 2 5265434537.0493 nan 0.1000 574159409.0258  
## 3 4739665521.6485 nan 0.1000 561163731.8968  
## 4 4331284706.0431 nan 0.1000 339496971.5796  
## 5 3952256972.4516 nan 0.1000 322396304.2964  
## 6 3629404696.1066 nan 0.1000 285309216.4700  
## 7 3332919733.3397 nan 0.1000 280739467.1533  
## 8 3082913650.3195 nan 0.1000 215047680.3032  
## 9 2846800990.7389 nan 0.1000 209842992.1536  
## 10 2651377481.3856 nan 0.1000 196058135.9430  
## 20 1625394521.8370 nan 0.1000 12347812.3762  
## 40 1020133633.5002 nan 0.1000 10955680.1586  
## 60 842723645.6765 nan 0.1000 4612105.7278  
## 80 748243772.0778 nan 0.1000 -4468530.6288  
## 100 672515356.6205 nan 0.1000 -8081434.6887  
## 120 614272202.5790 nan 0.1000 -7481559.8113  
## 140 567222670.8997 nan 0.1000 -4847226.8232  
## 150 552657040.3178 nan 0.1000 -5772038.9435

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 190, 90, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5857390979.9280 nan 0.1000 728792634.2780  
## 2 5226882929.2675 nan 0.1000 583379445.0649  
## 3 4681437914.7574 nan 0.1000 567482368.0732  
## 4 4198182942.2408 nan 0.1000 484533707.3110  
## 5 3767936807.4014 nan 0.1000 374908355.5573  
## 6 3384203298.9341 nan 0.1000 361902178.4551  
## 7 3094111040.3050 nan 0.1000 255890658.6750  
## 8 2836449553.0596 nan 0.1000 189098331.1914  
## 9 2610513541.7493 nan 0.1000 220292968.6203  
## 10 2403927968.7710 nan 0.1000 161067638.3447  
## 20 1360157752.4538 nan 0.1000 45771394.0950  
## 40 833257431.4423 nan 0.1000 -9038036.8642  
## 60 674160054.6850 nan 0.1000 -3218097.0774  
## 80 571034153.6224 nan 0.1000 623828.6945  
## 100 500234096.1092 nan 0.1000 -2223680.0892  
## 120 448030850.1512 nan 0.1000 -5018235.0104  
## 140 409547079.9014 nan 0.1000 478206.8120  
## 150 390020577.2164 nan 0.1000 -4126302.8196

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6167125127.6138 nan 0.1000 553433765.0215  
## 2 5665873240.8348 nan 0.1000 569774920.6894  
## 3 5205892474.0998 nan 0.1000 398828292.9249  
## 4 4823558065.7709 nan 0.1000 361384152.0026  
## 5 4463456914.5619 nan 0.1000 313271443.7265  
## 6 4196491824.8434 nan 0.1000 252286561.7105  
## 7 3946558886.6686 nan 0.1000 253306149.9930  
## 8 3722869772.2037 nan 0.1000 224180086.1099  
## 9 3527580079.2524 nan 0.1000 118689799.5529  
## 10 3355701915.0772 nan 0.1000 154278316.5542  
## 20 2206673577.9644 nan 0.1000 63281757.7799  
## 40 1358503703.9106 nan 0.1000 16809107.3399  
## 60 1097079393.4728 nan 0.1000 -8748474.9289  
## 80 984841132.0372 nan 0.1000 -466885.5345  
## 100 906360492.8077 nan 0.1000 2795739.2502  
## 120 866159818.8856 nan 0.1000 -600463.8793  
## 140 830776627.4087 nan 0.1000 405462.0703  
## 150 817075229.4558 nan 0.1000 -4560429.5530

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5996541300.1028 nan 0.1000 823825120.5142  
## 2 5361773477.5048 nan 0.1000 598412355.1785  
## 3 4784894127.5575 nan 0.1000 490028651.5083  
## 4 4354377236.8933 nan 0.1000 393206146.6054  
## 5 4004432849.3736 nan 0.1000 353095455.2649  
## 6 3676317828.2771 nan 0.1000 298952673.3362  
## 7 3386026595.3384 nan 0.1000 262638945.7166  
## 8 3126196726.5543 nan 0.1000 221727923.8000  
## 9 2914869446.5959 nan 0.1000 206846549.4595  
## 10 2723465450.2754 nan 0.1000 203938908.3646  
## 20 1636131939.2052 nan 0.1000 15399080.0752  
## 40 1035709988.5664 nan 0.1000 2849272.0675  
## 60 848499470.8162 nan 0.1000 -5963104.5187  
## 80 749271148.4128 nan 0.1000 -10930145.8807  
## 100 663519475.3788 nan 0.1000 -3659145.8817  
## 120 604132625.9536 nan 0.1000 -7143532.3064  
## 140 561004242.8023 nan 0.1000 -9419626.4324  
## 150 534825546.9676 nan 0.1000 -10020402.1533

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5888748646.2976 nan 0.1000 824805792.2240  
## 2 5192096455.2585 nan 0.1000 595022004.7361  
## 3 4676696329.1055 nan 0.1000 587001455.4636  
## 4 4225281132.4650 nan 0.1000 441905526.8784  
## 5 3789090522.9305 nan 0.1000 360731255.0681  
## 6 3468555071.0343 nan 0.1000 334180206.4337  
## 7 3138443722.5666 nan 0.1000 309484267.2194  
## 8 2846497781.8553 nan 0.1000 197235267.4225  
## 9 2638253635.3566 nan 0.1000 183348682.6411  
## 10 2454479845.2167 nan 0.1000 188770324.3461  
## 20 1362151394.4293 nan 0.1000 61606491.2732  
## 40 809831769.1329 nan 0.1000 -8638491.3273  
## 60 659396241.5763 nan 0.1000 -18266522.3232  
## 80 569874321.9906 nan 0.1000 -3253609.9437  
## 100 519606425.1594 nan 0.1000 -5245550.8839  
## 120 469803226.4140 nan 0.1000 -3181642.3352  
## 140 417667075.9477 nan 0.1000 -4270022.9093  
## 150 397810013.9369 nan 0.1000 471260.7133

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5950557560.8633 nan 0.1000 523833669.1288  
## 2 5429191643.4863 nan 0.1000 454889844.3004  
## 3 5052846266.0959 nan 0.1000 392674630.9050  
## 4 4705322782.3315 nan 0.1000 322598399.2778  
## 5 4402989967.8826 nan 0.1000 283331463.0351  
## 6 4124758780.7729 nan 0.1000 263134042.2462  
## 7 3903114478.0374 nan 0.1000 132699833.5166  
## 8 3666317865.6024 nan 0.1000 215769620.9463  
## 9 3489553049.4077 nan 0.1000 192748295.0884  
## 10 3285006179.7984 nan 0.1000 172222550.0883  
## 20 2142698696.7182 nan 0.1000 82735945.2322  
## 40 1329137949.6370 nan 0.1000 -9413234.4818  
## 60 1064415743.7550 nan 0.1000 8289506.6381  
## 80 954478814.8538 nan 0.1000 -7915080.8170  
## 100 885461222.0288 nan 0.1000 -1391316.7120  
## 120 838348725.8141 nan 0.1000 2732496.4803  
## 140 803047134.9083 nan 0.1000 -5709376.8431  
## 150 787983764.6133 nan 0.1000 -12559935.5803

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5777510171.2615 nan 0.1000 723400883.3715  
## 2 5196686131.1438 nan 0.1000 596537437.0320  
## 3 4678154510.3453 nan 0.1000 516586756.3541  
## 4 4246209688.1389 nan 0.1000 405838962.4507  
## 5 3894707298.9647 nan 0.1000 371940585.1614  
## 6 3588283605.2409 nan 0.1000 247324923.7065  
## 7 3267738800.9357 nan 0.1000 351257070.8561  
## 8 3043284457.4327 nan 0.1000 234092290.0480  
## 9 2846575954.4898 nan 0.1000 208122237.1916  
## 10 2654808811.9476 nan 0.1000 178773770.2101  
## 20 1561601760.4251 nan 0.1000 47803376.3460  
## 40 973856655.4153 nan 0.1000 9426284.2352  
## 60 813283928.5548 nan 0.1000 -5258846.0733  
## 80 735581284.5870 nan 0.1000 -4536861.9882  
## 100 665036479.4563 nan 0.1000 834868.4244  
## 120 608128993.8919 nan 0.1000 -6775269.2075  
## 140 555220374.5521 nan 0.1000 -3686542.8192  
## 150 535036785.0150 nan 0.1000 -4991825.9274

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 190, 90, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5674696754.8293 nan 0.1000 734387064.2144  
## 2 5028722127.3302 nan 0.1000 587735686.9285  
## 3 4474270715.0849 nan 0.1000 545243270.7766  
## 4 4033554324.9906 nan 0.1000 461844252.8662  
## 5 3628716836.0213 nan 0.1000 408830126.5574  
## 6 3272696590.9920 nan 0.1000 272317554.0602  
## 7 2975063720.0256 nan 0.1000 316849609.2122  
## 8 2728684620.7555 nan 0.1000 237478911.3933  
## 9 2508761385.0463 nan 0.1000 167497781.5195  
## 10 2318381833.5120 nan 0.1000 177621225.3198  
## 20 1322148422.8524 nan 0.1000 45820990.0203  
## 40 828247392.9324 nan 0.1000 -3395161.2612  
## 60 690990031.6537 nan 0.1000 -4718721.1228  
## 80 582455167.2998 nan 0.1000 1459174.4428  
## 100 520885088.2757 nan 0.1000 -5243765.9621  
## 120 461393285.6822 nan 0.1000 -4599791.6651  
## 140 431234287.6086 nan 0.1000 -2855974.2852  
## 150 415545509.5013 nan 0.1000 -7533594.0952

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5689223887.4026 nan 0.1000 562039092.7954  
## 2 5220378966.3370 nan 0.1000 475229482.0648  
## 3 4793483516.7812 nan 0.1000 368420761.9639  
## 4 4462505243.5295 nan 0.1000 331322529.3938  
## 5 4157190889.5456 nan 0.1000 288292394.3361  
## 6 3894267719.6605 nan 0.1000 236133835.2754  
## 7 3644451365.3143 nan 0.1000 223669137.7166  
## 8 3436035679.4019 nan 0.1000 182357737.3241  
## 9 3253733538.4951 nan 0.1000 181337487.9560  
## 10 3103859210.5099 nan 0.1000 130329805.3485  
## 20 2004773069.3826 nan 0.1000 77669746.0432  
## 40 1253991250.5436 nan 0.1000 9887191.8622  
## 60 1008848108.4347 nan 0.1000 5468247.1926  
## 80 883985785.2007 nan 0.1000 4568936.8116  
## 100 819312243.6279 nan 0.1000 1874984.3913  
## 120 774636583.6475 nan 0.1000 -4807841.2912  
## 140 729557034.7968 nan 0.1000 -9038377.6191  
## 150 711059108.0987 nan 0.1000 -6765715.2179

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5555302993.5606 nan 0.1000 673620427.4291  
## 2 4965942920.3550 nan 0.1000 633160455.4892  
## 3 4465233184.1686 nan 0.1000 487844355.5290  
## 4 4069998187.9787 nan 0.1000 392503440.4526  
## 5 3680737606.3900 nan 0.1000 393907329.6127  
## 6 3366252200.0608 nan 0.1000 333927725.6935  
## 7 3123913167.9879 nan 0.1000 230268420.0288  
## 8 2888025347.8728 nan 0.1000 242633872.1701  
## 9 2681053447.7283 nan 0.1000 188943331.9251  
## 10 2453685215.0889 nan 0.1000 236137852.4022  
## 20 1457135247.8779 nan 0.1000 47949759.9438  
## 40 885498283.7496 nan 0.1000 2616316.8471  
## 60 722434352.8871 nan 0.1000 -2844153.8610  
## 80 637998045.3460 nan 0.1000 -12123863.7963  
## 100 568716981.6217 nan 0.1000 -4865728.1362  
## 120 523751199.3447 nan 0.1000 -5733188.9540  
## 140 483884803.5800 nan 0.1000 -734513.4175  
## 150 466741927.5668 nan 0.1000 -4013196.4876

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5548156554.4724 nan 0.1000 727178039.6289  
## 2 4864833993.1786 nan 0.1000 490031283.0389  
## 3 4307180036.6185 nan 0.1000 507452350.1875  
## 4 3888610243.8780 nan 0.1000 410586319.1328  
## 5 3503827858.1251 nan 0.1000 368689687.7112  
## 6 3167634475.1461 nan 0.1000 309810047.4645  
## 7 2865516867.7145 nan 0.1000 276710472.8300  
## 8 2631731801.9398 nan 0.1000 233789967.5131  
## 9 2424685231.0439 nan 0.1000 170903493.3761  
## 10 2241138549.7315 nan 0.1000 147656734.7368  
## 20 1228845100.3842 nan 0.1000 42274492.9089  
## 40 764088554.4305 nan 0.1000 7536292.5340  
## 60 635440705.8145 nan 0.1000 -12087379.6366  
## 80 557233957.6838 nan 0.1000 2998237.9196  
## 100 486245218.5879 nan 0.1000 -4624959.1462  
## 120 435708650.3671 nan 0.1000 -543193.8125  
## 140 398177682.7518 nan 0.1000 -782244.6094  
## 150 382995851.5602 nan 0.1000 -5184956.0519

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 57: Condition2PosN has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5828931183.8526 nan 0.1000 562842297.5338  
## 2 5396388022.2341 nan 0.1000 483997058.7371  
## 3 5001840656.6162 nan 0.1000 421357357.1583  
## 4 4669491687.2766 nan 0.1000 248170098.2521  
## 5 4346970208.9479 nan 0.1000 322230524.7052  
## 6 4075030316.5194 nan 0.1000 259445841.9997  
## 7 3852264650.9473 nan 0.1000 181548082.1036  
## 8 3629356144.0302 nan 0.1000 147044985.1588  
## 9 3426456406.9358 nan 0.1000 175232757.0245  
## 10 3240558317.9637 nan 0.1000 180727777.3681  
## 20 2096678654.5626 nan 0.1000 54489251.5118  
## 40 1261375187.7684 nan 0.1000 16518622.4950  
## 60 993268557.8320 nan 0.1000 9485501.5139  
## 80 875394555.5355 nan 0.1000 237456.3818  
## 100 818032564.6275 nan 0.1000 -7807776.7626  
## 120 775145798.0671 nan 0.1000 -3733705.8297  
## 140 742735580.4458 nan 0.1000 1307704.9219  
## 150 727625070.0313 nan 0.1000 1766455.7638

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 57: Condition2PosN has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5723604240.9369 nan 0.1000 621371992.7627  
## 2 5168959291.2189 nan 0.1000 507491377.0127  
## 3 4681903055.1016 nan 0.1000 539475051.5784  
## 4 4260371008.4993 nan 0.1000 404917850.3980  
## 5 3912376308.1684 nan 0.1000 340891640.3162  
## 6 3567186919.1874 nan 0.1000 322497945.1257  
## 7 3290105419.2946 nan 0.1000 219223034.6616  
## 8 3094584268.1269 nan 0.1000 159962821.1734  
## 9 2883277926.2864 nan 0.1000 125015567.0944  
## 10 2672480120.5668 nan 0.1000 132188510.8331  
## 20 1516351227.8011 nan 0.1000 43159310.1844  
## 40 928777273.0981 nan 0.1000 11993986.3497  
## 60 755976025.7123 nan 0.1000 4682395.4238  
## 80 688458175.1626 nan 0.1000 -10059934.4147  
## 100 633762398.8330 nan 0.1000 -4152553.9872  
## 120 587506438.3563 nan 0.1000 -5282861.0062  
## 140 548408189.6588 nan 0.1000 1621307.5023  
## 150 529875173.0956 nan 0.1000 -2093264.6147

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 57: Condition2PosN has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5711075137.8510 nan 0.1000 799916683.9677  
## 2 5124269691.5816 nan 0.1000 609275613.4221  
## 3 4537872315.0025 nan 0.1000 590558989.4204  
## 4 4046882855.6912 nan 0.1000 464060139.7855  
## 5 3643636904.3176 nan 0.1000 364028125.6822  
## 6 3315399639.8270 nan 0.1000 356995816.4806  
## 7 2997387012.2046 nan 0.1000 340791758.1744  
## 8 2757704883.8018 nan 0.1000 240128677.2352  
## 9 2546246349.7925 nan 0.1000 192619814.6317  
## 10 2327512180.3359 nan 0.1000 170111575.2748  
## 20 1242484307.7721 nan 0.1000 36159897.8185  
## 40 757331126.1687 nan 0.1000 8142097.8353  
## 60 613869203.6215 nan 0.1000 -3019627.6942  
## 80 546051840.3863 nan 0.1000 -1984266.0055  
## 100 495023327.2901 nan 0.1000 -6078882.0921  
## 120 443270480.1190 nan 0.1000 -1892939.2411  
## 140 407154402.2734 nan 0.1000 -287980.2993  
## 150 387833787.9636 nan 0.1000 -2022930.5359

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6176086436.8572 nan 0.1000 588827491.6744  
## 2 5665188493.5577 nan 0.1000 470758136.1793  
## 3 5201398875.9941 nan 0.1000 447076630.9386  
## 4 4860123730.9776 nan 0.1000 357757204.6338  
## 5 4563605720.7394 nan 0.1000 297677527.5260  
## 6 4245741365.8190 nan 0.1000 246235967.2581  
## 7 3980096965.9741 nan 0.1000 232513390.8009  
## 8 3773580438.8550 nan 0.1000 154696761.0179  
## 9 3546239614.3978 nan 0.1000 192638712.8750  
## 10 3357794302.1267 nan 0.1000 170224475.1599  
## 20 2193311578.9829 nan 0.1000 72839932.3187  
## 40 1378601020.3171 nan 0.1000 -9746858.8695  
## 60 1132663292.2245 nan 0.1000 -14511670.8791  
## 80 1009918423.6858 nan 0.1000 4168650.1939  
## 100 949645153.5940 nan 0.1000 -2668481.6800  
## 120 913620969.9203 nan 0.1000 -1150909.4987  
## 140 872307882.9462 nan 0.1000 -8302111.8336  
## 150 858436443.7014 nan 0.1000 -9154690.2542

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5964798130.2863 nan 0.1000 791418862.6755  
## 2 5324487177.8820 nan 0.1000 597638007.9566  
## 3 4816758277.3766 nan 0.1000 513231599.8538  
## 4 4364589449.2636 nan 0.1000 422609197.3408  
## 5 3962980408.9816 nan 0.1000 381768699.4727  
## 6 3595382000.2383 nan 0.1000 328505482.5410  
## 7 3314381572.5472 nan 0.1000 279963070.4375  
## 8 3094602829.9525 nan 0.1000 244257375.3355  
## 9 2849099548.1522 nan 0.1000 130841945.7633  
## 10 2652921400.5108 nan 0.1000 163941899.4738  
## 20 1638970551.0986 nan 0.1000 50242906.1771  
## 40 1047499888.8267 nan 0.1000 -3280705.3095  
## 60 847084808.7914 nan 0.1000 -1408933.1783  
## 80 742053905.2117 nan 0.1000 1228639.4905  
## 100 669127984.7277 nan 0.1000 -1967451.1757  
## 120 615002191.5687 nan 0.1000 -5946300.4428  
## 140 571009901.3314 nan 0.1000 -3271497.6669  
## 150 557394815.8444 nan 0.1000 -8455478.0122

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 45, 20, 120, 160, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5956196101.1119 nan 0.1000 783245012.9379  
## 2 5346076690.8910 nan 0.1000 672785274.6308  
## 3 4756410103.9928 nan 0.1000 663791661.3946  
## 4 4268813898.3658 nan 0.1000 460248133.5336  
## 5 3804617370.0104 nan 0.1000 403615195.9944  
## 6 3490409936.9334 nan 0.1000 325268232.0909  
## 7 3154469488.6700 nan 0.1000 325016904.8287  
## 8 2881070337.6095 nan 0.1000 264828062.3554  
## 9 2641414979.2266 nan 0.1000 177581731.6017  
## 10 2431909025.3011 nan 0.1000 209085009.6651  
## 20 1345183869.9630 nan 0.1000 36820739.5950  
## 40 848219849.4878 nan 0.1000 -7476361.0300  
## 60 685625095.8961 nan 0.1000 193780.4583  
## 80 580419350.3287 nan 0.1000 -13557992.2872  
## 100 509811383.9142 nan 0.1000 -4303203.6822  
## 120 458972374.3921 nan 0.1000 -3427824.0265  
## 140 421801454.9295 nan 0.1000 -3806390.2214  
## 150 405998673.3056 nan 0.1000 -741611.5310

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5896382127.2705 nan 0.1000 593029717.8257  
## 2 5432678100.5443 nan 0.1000 479072618.5460  
## 3 5048548889.3215 nan 0.1000 391191269.7273  
## 4 4710953953.0401 nan 0.1000 320971289.3155  
## 5 4390837413.5749 nan 0.1000 319105727.4209  
## 6 4149333270.9638 nan 0.1000 230077521.7650  
## 7 3911690558.1731 nan 0.1000 231083134.6635  
## 8 3706462194.9815 nan 0.1000 194867669.7106  
## 9 3511873313.2215 nan 0.1000 202117982.0081  
## 10 3326821934.3871 nan 0.1000 191606978.0254  
## 20 2228803654.8445 nan 0.1000 73779335.3592  
## 40 1373966860.1100 nan 0.1000 10598793.3554  
## 60 1114938755.8308 nan 0.1000 6109299.0320  
## 80 990764170.5943 nan 0.1000 879300.6071  
## 100 917510239.9758 nan 0.1000 -4751749.1604  
## 120 867423955.6731 nan 0.1000 -15474937.1043  
## 140 823296576.5313 nan 0.1000 -1593578.3497  
## 150 815219069.7151 nan 0.1000 -1586010.0779

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5698583222.3107 nan 0.1000 714530920.4208  
## 2 5126146436.0765 nan 0.1000 584789514.2044  
## 3 4609568199.5180 nan 0.1000 488527473.9142  
## 4 4169967541.2371 nan 0.1000 418795946.5308  
## 5 3824030518.7007 nan 0.1000 330288327.6004  
## 6 3517748988.8788 nan 0.1000 273041582.7558  
## 7 3231110896.2742 nan 0.1000 144251567.8371  
## 8 2982987552.8808 nan 0.1000 215410038.3974  
## 9 2777861046.3804 nan 0.1000 204693779.7787  
## 10 2600936625.6888 nan 0.1000 127764768.7443  
## 20 1530880251.4768 nan 0.1000 54826022.0272  
## 40 965853294.0980 nan 0.1000 3261041.0960  
## 60 782405572.3505 nan 0.1000 787745.4643  
## 80 702061651.3244 nan 0.1000 -9837779.8459  
## 100 628146430.3766 nan 0.1000 -426679.2232  
## 120 573534380.1734 nan 0.1000 -4870459.3578  
## 140 530269500.1422 nan 0.1000 -787187.2304  
## 150 510562088.1987 nan 0.1000 -6132043.9375

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5754470428.1545 nan 0.1000 750122826.6985  
## 2 5141897773.9307 nan 0.1000 609625594.9071  
## 3 4600353498.8551 nan 0.1000 524996182.7750  
## 4 4129090985.8344 nan 0.1000 442702565.1684  
## 5 3756921731.8216 nan 0.1000 388414091.5725  
## 6 3400120793.1410 nan 0.1000 282266881.7062  
## 7 3075896417.4162 nan 0.1000 301844616.8820  
## 8 2811975077.3794 nan 0.1000 215356212.8220  
## 9 2608645552.5330 nan 0.1000 218173895.8261  
## 10 2382400754.0540 nan 0.1000 164730225.5405  
## 20 1349302951.0604 nan 0.1000 47067772.0827  
## 40 835186044.6273 nan 0.1000 2846242.6861  
## 60 669015032.7089 nan 0.1000 -8683906.5841  
## 80 566113130.0834 nan 0.1000 -6712820.9997  
## 100 499105122.0060 nan 0.1000 -2844963.7515  
## 120 454724663.4172 nan 0.1000 -7634326.7346  
## 140 411890755.5740 nan 0.1000 -6238996.5262  
## 150 394045995.8098 nan 0.1000 -5564737.0357

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5677719847.7404 nan 0.1000 536013182.8167  
## 2 5225801382.4467 nan 0.1000 464806046.8579  
## 3 4839936692.3000 nan 0.1000 358230481.6565  
## 4 4481145965.0028 nan 0.1000 344139297.6360  
## 5 4185903678.5746 nan 0.1000 267102976.6628  
## 6 3933798591.6604 nan 0.1000 238849292.3915  
## 7 3727966287.0535 nan 0.1000 197720137.6672  
## 8 3506754587.5066 nan 0.1000 208816439.6439  
## 9 3322866784.0673 nan 0.1000 186880749.2688  
## 10 3147800538.8570 nan 0.1000 165458279.2499  
## 20 2079083672.1994 nan 0.1000 57449816.8620  
## 40 1319261472.2140 nan 0.1000 1024934.8471  
## 60 1064147241.8005 nan 0.1000 -8094449.2885  
## 80 964633526.2317 nan 0.1000 -9532322.4636  
## 100 894250639.8164 nan 0.1000 -5776103.4704  
## 120 840556682.1563 nan 0.1000 -15682678.0043  
## 140 799581049.8581 nan 0.1000 873786.7141  
## 150 788774196.0773 nan 0.1000 -4823921.9867

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5471620882.0484 nan 0.1000 642334652.2977  
## 2 4902279177.9090 nan 0.1000 550559674.7196  
## 3 4424416728.7302 nan 0.1000 508872282.1396  
## 4 4005221392.3155 nan 0.1000 377789729.5260  
## 5 3658874329.2362 nan 0.1000 336933054.4244  
## 6 3377941409.7786 nan 0.1000 237727622.1332  
## 7 3104786399.9052 nan 0.1000 241987074.5820  
## 8 2893448166.2614 nan 0.1000 210466565.5341  
## 9 2693512793.1585 nan 0.1000 189261699.6049  
## 10 2533527946.5216 nan 0.1000 169447444.2154  
## 20 1568224152.5191 nan 0.1000 66241025.6194  
## 40 976685645.4195 nan 0.1000 3299834.5559  
## 60 805430313.2480 nan 0.1000 -10274096.5855  
## 80 717299372.9622 nan 0.1000 -8241887.9819  
## 100 654522356.7833 nan 0.1000 -2978597.3726  
## 120 604964169.8524 nan 0.1000 -4569040.5640  
## 140 562282152.7743 nan 0.1000 -2772691.9306  
## 150 537896340.0717 nan 0.1000 -4316373.7978

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5473025821.1955 nan 0.1000 675800706.8557  
## 2 4835223870.8759 nan 0.1000 516349336.6397  
## 3 4320505821.4542 nan 0.1000 458956738.4050  
## 4 3870496245.4882 nan 0.1000 444863777.4647  
## 5 3514015236.0352 nan 0.1000 365990791.5025  
## 6 3164929359.2230 nan 0.1000 363264702.7164  
## 7 2847142425.7299 nan 0.1000 289922255.6680  
## 8 2648816394.9635 nan 0.1000 201407999.3034  
## 9 2469815657.7606 nan 0.1000 181247980.7147  
## 10 2262132465.6910 nan 0.1000 179068347.0888  
## 20 1318866771.7711 nan 0.1000 47448413.7771  
## 40 810115638.3471 nan 0.1000 6957196.3285  
## 60 654107461.4625 nan 0.1000 399804.7816  
## 80 554831059.5472 nan 0.1000 -4401945.4828  
## 100 496487070.4147 nan 0.1000 44824.9577  
## 120 451989310.1110 nan 0.1000 -4010750.9061  
## 140 410847540.9262 nan 0.1000 -2603166.5159  
## 150 396275851.3453 nan 0.1000 -3573789.0665

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5744761495.0325 nan 0.1000 530154164.6914  
## 2 5228435551.9602 nan 0.1000 523410378.8526  
## 3 4795042259.1796 nan 0.1000 433643154.7429  
## 4 4472492470.5185 nan 0.1000 328043003.6759  
## 5 4168639601.7089 nan 0.1000 272774251.7906  
## 6 3946371569.1660 nan 0.1000 244454051.4619  
## 7 3694175259.2837 nan 0.1000 235777414.4170  
## 8 3479283134.1092 nan 0.1000 206844441.2528  
## 9 3307502789.1539 nan 0.1000 152072315.2768  
## 10 3143958931.1235 nan 0.1000 127364983.3088  
## 20 2042376405.1432 nan 0.1000 54855200.2394  
## 40 1285896462.0123 nan 0.1000 19667613.6154  
## 60 1049977593.3090 nan 0.1000 913450.3704  
## 80 956336016.5399 nan 0.1000 1584099.6913  
## 100 890746473.2956 nan 0.1000 357355.6496  
## 120 850271537.6054 nan 0.1000 -23167015.9780  
## 140 811327888.6195 nan 0.1000 -5426602.2813  
## 150 801764354.9213 nan 0.1000 833262.8504

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5519809116.2147 nan 0.1000 676711229.4014  
## 2 4943970087.4713 nan 0.1000 596475393.8081  
## 3 4472893817.4068 nan 0.1000 446069193.7860  
## 4 4078439025.1713 nan 0.1000 397913557.8203  
## 5 3743474999.5414 nan 0.1000 387882134.4904  
## 6 3446611064.8085 nan 0.1000 315957340.7958  
## 7 3196413895.0870 nan 0.1000 250743867.4167  
## 8 2960878533.1153 nan 0.1000 234924357.0229  
## 9 2745633464.4525 nan 0.1000 183432075.5686  
## 10 2565677179.5408 nan 0.1000 171899024.2117  
## 20 1550965078.3264 nan 0.1000 51367446.4620  
## 40 953132543.4332 nan 0.1000 -2952543.1435  
## 60 786142045.1891 nan 0.1000 -1280374.5941  
## 80 710541644.6639 nan 0.1000 -4420477.3161  
## 100 646492285.6812 nan 0.1000 -10426323.4972  
## 120 598918441.5697 nan 0.1000 -6489151.0518  
## 140 563773665.8718 nan 0.1000 -4967126.0178  
## 150 544055524.4931 nan 0.1000 -5511865.2431

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5545870760.5897 nan 0.1000 744936580.9688  
## 2 4863078183.8700 nan 0.1000 623369568.3315  
## 3 4325904603.7007 nan 0.1000 514238768.0059  
## 4 3899063104.8273 nan 0.1000 402723615.5378  
## 5 3495585210.1440 nan 0.1000 412672027.8142  
## 6 3155904299.9988 nan 0.1000 312373147.9529  
## 7 2837378246.9440 nan 0.1000 250076352.9588  
## 8 2605662380.0417 nan 0.1000 209259299.1918  
## 9 2421059365.9918 nan 0.1000 169683910.2709  
## 10 2235391003.8244 nan 0.1000 173802444.3324  
## 20 1270735520.6564 nan 0.1000 28315930.0320  
## 40 785504767.0226 nan 0.1000 -4528996.7266  
## 60 664250034.7784 nan 0.1000 -4607923.7622  
## 80 570332259.1592 nan 0.1000 -7113568.7564  
## 100 498751671.1598 nan 0.1000 -4366554.9661  
## 120 447829083.5982 nan 0.1000 -2151482.2736  
## 140 401750675.7865 nan 0.1000 -424086.8956  
## 150 388475467.5185 nan 0.1000 -6815039.6152

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6045781905.6424 nan 0.1000 565890987.0800  
## 2 5552712065.0301 nan 0.1000 491076799.2293  
## 3 5125160726.5331 nan 0.1000 435737047.0600  
## 4 4753476250.9016 nan 0.1000 307746615.3237  
## 5 4443802822.4189 nan 0.1000 257672753.5836  
## 6 4168047163.1418 nan 0.1000 257151744.4561  
## 7 3910217781.9930 nan 0.1000 264986616.8197  
## 8 3695083652.9532 nan 0.1000 222500385.9222  
## 9 3515157405.5883 nan 0.1000 184062005.6922  
## 10 3322825107.6273 nan 0.1000 134235354.5528  
## 20 2174143373.2657 nan 0.1000 52390460.8545  
## 40 1384050269.7065 nan 0.1000 10352147.0920  
## 60 1149046900.3972 nan 0.1000 4817243.5013  
## 80 1022816883.6200 nan 0.1000 -14013187.0365  
## 100 943840800.7451 nan 0.1000 -4123088.6096  
## 120 909912373.7998 nan 0.1000 -7029112.1034  
## 140 860925093.3590 nan 0.1000 1330472.3323  
## 150 845833745.9457 nan 0.1000 809343.4910

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5834621632.0413 nan 0.1000 771957151.7338  
## 2 5211444308.9062 nan 0.1000 645927916.4938  
## 3 4720814562.6111 nan 0.1000 453581544.2070  
## 4 4243957715.2534 nan 0.1000 445859865.5179  
## 5 3855949838.5191 nan 0.1000 384427543.7996  
## 6 3490376817.4449 nan 0.1000 303741488.8427  
## 7 3204593744.7799 nan 0.1000 235504389.6389  
## 8 2967943005.8574 nan 0.1000 242124603.4296  
## 9 2756040651.0614 nan 0.1000 206943196.9777  
## 10 2595101425.7501 nan 0.1000 150739944.9354  
## 20 1544507001.4881 nan 0.1000 45835324.1554  
## 40 979772813.9458 nan 0.1000 11179448.1089  
## 60 832929870.3471 nan 0.1000 -7941884.8102  
## 80 735672772.3703 nan 0.1000 -2058469.7679  
## 100 665775673.1856 nan 0.1000 -3127675.5968  
## 120 612521240.0427 nan 0.1000 -392367.9333  
## 140 564033034.6600 nan 0.1000 1646451.2177  
## 150 546669518.2039 nan 0.1000 -1471420.0667

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5825807149.0651 nan 0.1000 785031211.8459  
## 2 5131749834.5755 nan 0.1000 697548999.2136  
## 3 4511823984.7581 nan 0.1000 547339737.6138  
## 4 4014244501.2612 nan 0.1000 465578204.0149  
## 5 3635975412.8573 nan 0.1000 387595477.0572  
## 6 3272155906.3406 nan 0.1000 344890213.6420  
## 7 2963727457.6314 nan 0.1000 228507829.2157  
## 8 2722627606.4531 nan 0.1000 240034375.8532  
## 9 2500336667.5576 nan 0.1000 192828004.1099  
## 10 2326289457.4263 nan 0.1000 145917471.7332  
## 20 1354853464.4802 nan 0.1000 16447866.2101  
## 40 835976801.4277 nan 0.1000 11342588.8633  
## 60 674781722.3234 nan 0.1000 -2928465.7442  
## 80 586891792.3117 nan 0.1000 -2691692.4681  
## 100 518373446.3512 nan 0.1000 -2374676.8384  
## 120 469391294.9064 nan 0.1000 -3521473.5089  
## 140 429206792.5933 nan 0.1000 -2376285.8469  
## 150 415066809.1747 nan 0.1000 -2943949.1641

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6073103931.9065 nan 0.1000 593443570.3694  
## 2 5556991889.7717 nan 0.1000 495067756.8007  
## 3 5166680544.1149 nan 0.1000 413289761.7608  
## 4 4814300377.3579 nan 0.1000 353076549.0016  
## 5 4511164064.8816 nan 0.1000 288922237.9151  
## 6 4246437239.7815 nan 0.1000 202026415.6122  
## 7 3980137659.9236 nan 0.1000 220800926.3857  
## 8 3791193263.9306 nan 0.1000 145389036.1665  
## 9 3568693714.2379 nan 0.1000 222313348.0379  
## 10 3382852369.4578 nan 0.1000 177008685.0646  
## 20 2158331182.8778 nan 0.1000 65253586.5036  
## 40 1316385201.9351 nan 0.1000 19188566.0673  
## 60 1023066176.4049 nan 0.1000 7541904.8925  
## 80 888148634.8786 nan 0.1000 -7508491.3776  
## 100 841227785.2055 nan 0.1000 -2665850.6059  
## 120 807448034.4944 nan 0.1000 -1025739.2815  
## 140 766556976.4612 nan 0.1000 -9456869.7545  
## 150 753895691.6318 nan 0.1000 -4881555.9971

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5960880618.0885 nan 0.1000 739787831.0186  
## 2 5405932746.6681 nan 0.1000 595745970.9317  
## 3 4814720436.6787 nan 0.1000 528674493.3482  
## 4 4347291480.3155 nan 0.1000 428712183.8357  
## 5 4001136093.9769 nan 0.1000 378957360.5929  
## 6 3646590833.5719 nan 0.1000 333189424.2422  
## 7 3397213225.7435 nan 0.1000 255751990.1061  
## 8 3166512611.9674 nan 0.1000 235944433.9567  
## 9 2929809400.1066 nan 0.1000 201546970.0046  
## 10 2685896714.0899 nan 0.1000 218669253.1137  
## 20 1616870712.0944 nan 0.1000 34158444.4947  
## 40 938636051.4899 nan 0.1000 6016147.0865  
## 60 739200694.6773 nan 0.1000 2671328.1980  
## 80 652193988.3235 nan 0.1000 -3187631.2047  
## 100 597729740.4428 nan 0.1000 -286712.8314  
## 120 544677471.4533 nan 0.1000 -2818764.9875  
## 140 510344467.4182 nan 0.1000 -1891526.7437  
## 150 493750177.3507 nan 0.1000 -6401292.0442

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 20, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5842950607.9318 nan 0.1000 842883733.8176  
## 2 5155581452.2378 nan 0.1000 640310704.7361  
## 3 4630237764.6798 nan 0.1000 559979734.9479  
## 4 4117025008.5928 nan 0.1000 437012972.6365  
## 5 3698269478.2662 nan 0.1000 394501563.4877  
## 6 3352259264.6118 nan 0.1000 337423332.8343  
## 7 3044262171.1413 nan 0.1000 305099740.4125  
## 8 2837197227.3414 nan 0.1000 186337472.5094  
## 9 2596330895.6200 nan 0.1000 207284641.2758  
## 10 2399308489.6453 nan 0.1000 192860085.9667  
## 20 1350693625.2901 nan 0.1000 51252549.4551  
## 40 775274206.4468 nan 0.1000 -516105.7648  
## 60 620591198.0847 nan 0.1000 -2862203.8335  
## 80 547879841.2159 nan 0.1000 -11238990.8298  
## 100 487423984.4945 nan 0.1000 -1901984.1240  
## 120 437239917.7299 nan 0.1000 -3190708.6020  
## 140 400871451.2700 nan 0.1000 -858001.2802  
## 150 381512349.8129 nan 0.1000 -2196729.0541

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5947624147.4305 nan 0.1000 515987202.8273  
## 2 5458000803.5386 nan 0.1000 482387447.5428  
## 3 5069703864.3178 nan 0.1000 386489626.4476  
## 4 4756629133.0378 nan 0.1000 305595469.3155  
## 5 4449877803.2818 nan 0.1000 320481696.5433  
## 6 4190852481.9862 nan 0.1000 287066559.0324  
## 7 3946971698.3495 nan 0.1000 236984949.0319  
## 8 3731142755.6808 nan 0.1000 187769148.5846  
## 9 3532482834.1268 nan 0.1000 193522342.6604  
## 10 3363323951.1280 nan 0.1000 173890068.4384  
## 20 2205602318.2869 nan 0.1000 15903106.6872  
## 40 1318313308.3787 nan 0.1000 931345.9436  
## 60 1054485942.2123 nan 0.1000 3167058.4380  
## 80 955904290.4520 nan 0.1000 -4303385.7350  
## 100 887190967.0596 nan 0.1000 -5636650.7162  
## 120 854004590.4890 nan 0.1000 2094492.7379  
## 140 809486367.7618 nan 0.1000 -2665180.6769  
## 150 798513714.4615 nan 0.1000 -15647188.3323

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5787619319.6094 nan 0.1000 661782221.6754  
## 2 5219278914.0239 nan 0.1000 568554933.2304  
## 3 4747511557.3270 nan 0.1000 461224272.8830  
## 4 4311279773.3427 nan 0.1000 443655358.2567  
## 5 3914417871.2829 nan 0.1000 390473857.5604  
## 6 3619805980.7694 nan 0.1000 296741998.0184  
## 7 3357583190.7686 nan 0.1000 245577646.7396  
## 8 3101908280.4405 nan 0.1000 254335962.4535  
## 9 2864455039.8096 nan 0.1000 202729458.5005  
## 10 2701444230.8661 nan 0.1000 154649586.1528  
## 20 1628441490.1247 nan 0.1000 45012113.1436  
## 40 989655603.6988 nan 0.1000 -1104564.8760  
## 60 824091157.0904 nan 0.1000 -2928552.9764  
## 80 714544270.2166 nan 0.1000 -9571539.9911  
## 100 654049800.1910 nan 0.1000 -12071214.8054  
## 120 604864425.9630 nan 0.1000 1279365.5220  
## 140 560691013.0713 nan 0.1000 -6543862.7624  
## 150 540521155.4572 nan 0.1000 -6639243.8400

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5781962040.9739 nan 0.1000 804837910.0641  
## 2 5193638593.9577 nan 0.1000 583729449.8109  
## 3 4600089396.6885 nan 0.1000 530353673.8656  
## 4 4137226993.2739 nan 0.1000 442520958.5490  
## 5 3708104674.4178 nan 0.1000 389772220.5591  
## 6 3346542869.0993 nan 0.1000 349712863.7189  
## 7 3079690533.4103 nan 0.1000 270562894.8170  
## 8 2808396442.6949 nan 0.1000 242639894.4423  
## 9 2563551400.0729 nan 0.1000 204214087.6409  
## 10 2368106286.8475 nan 0.1000 106906376.9837  
## 20 1346323319.9973 nan 0.1000 41855115.7299  
## 40 812006298.9935 nan 0.1000 2362089.4630  
## 60 648782824.1325 nan 0.1000 -3546650.5062  
## 80 559300103.3345 nan 0.1000 -2726613.6523  
## 100 492748217.6046 nan 0.1000 -4088834.5180  
## 120 444921882.1559 nan 0.1000 -3686351.5109  
## 140 409940013.5394 nan 0.1000 -4962313.0075  
## 150 390188832.1391 nan 0.1000 529704.5900

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6109977935.9512 nan 0.1000 554769390.2987  
## 2 5562987396.7256 nan 0.1000 503043610.2256  
## 3 5156568006.0349 nan 0.1000 400846547.5026  
## 4 4807409683.1702 nan 0.1000 353367300.0296  
## 5 4476859676.6892 nan 0.1000 286542286.4401  
## 6 4217354204.3813 nan 0.1000 262675449.0551  
## 7 3953621138.2746 nan 0.1000 217375296.3320  
## 8 3751599326.9488 nan 0.1000 218903106.9769  
## 9 3544204986.6329 nan 0.1000 185836281.8307  
## 10 3349597177.5621 nan 0.1000 180841839.6653  
## 20 2194279261.7080 nan 0.1000 60225235.3722  
## 40 1372640344.5964 nan 0.1000 20345829.7855  
## 60 1105081670.2562 nan 0.1000 5697722.7915  
## 80 987128887.2119 nan 0.1000 -2427715.8447  
## 100 929348804.2547 nan 0.1000 2371121.2966  
## 120 897871930.2501 nan 0.1000 1889827.1703  
## 140 863394929.1738 nan 0.1000 -7372207.7511  
## 150 838943553.3974 nan 0.1000 -9131201.5319

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5927733528.5443 nan 0.1000 766489004.7327  
## 2 5329689086.9596 nan 0.1000 615356654.9779  
## 3 4808397252.5790 nan 0.1000 348167772.6843  
## 4 4352326490.5994 nan 0.1000 466805884.1702  
## 5 3954183062.7239 nan 0.1000 386506252.2112  
## 6 3631203730.0730 nan 0.1000 340352748.3144  
## 7 3347523583.9490 nan 0.1000 274987145.0954  
## 8 3086814219.8966 nan 0.1000 250653251.8461  
## 9 2871083268.1159 nan 0.1000 168594096.9636  
## 10 2676423289.4564 nan 0.1000 181235485.5568  
## 20 1576672863.4116 nan 0.1000 60580663.8199  
## 40 977162596.8577 nan 0.1000 -4639951.5526  
## 60 810685172.5460 nan 0.1000 -9531471.7854  
## 80 729313623.1650 nan 0.1000 -3531166.6732  
## 100 658308239.5289 nan 0.1000 -12491284.4712  
## 120 609826435.9660 nan 0.1000 -4523017.0824  
## 140 568168191.1152 nan 0.1000 -8915028.3037  
## 150 549341038.9031 nan 0.1000 -10183135.9613

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5856601829.3991 nan 0.1000 751961155.6791  
## 2 5188797381.7268 nan 0.1000 706356820.9859  
## 3 4592657085.0332 nan 0.1000 487489158.7088  
## 4 4131650436.1006 nan 0.1000 481880626.2337  
## 5 3738232508.6373 nan 0.1000 362897819.0008  
## 6 3377563099.0715 nan 0.1000 342087289.7208  
## 7 3076307865.4813 nan 0.1000 320333552.9534  
## 8 2762862216.9219 nan 0.1000 261775443.0879  
## 9 2564960972.3141 nan 0.1000 217691094.2637  
## 10 2370571000.7070 nan 0.1000 145415158.1457  
## 20 1327642411.2305 nan 0.1000 54884059.5547  
## 40 795081425.0341 nan 0.1000 -4465735.8551  
## 60 656529530.5963 nan 0.1000 -11230926.4926  
## 80 560818513.3181 nan 0.1000 -4662162.8432  
## 100 493599212.1957 nan 0.1000 -4845228.1858  
## 120 443074480.9376 nan 0.1000 -973977.2752  
## 140 394041463.1483 nan 0.1000 -1417413.0377  
## 150 374873543.8137 nan 0.1000 -557929.1477

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6020909979.1849 nan 0.1000 621694901.6137  
## 2 5515640291.1816 nan 0.1000 444751202.3287  
## 3 5062710427.8054 nan 0.1000 432841594.6562  
## 4 4724916373.1105 nan 0.1000 277256430.7965  
## 5 4426689097.1809 nan 0.1000 334067656.4075  
## 6 4128844508.4132 nan 0.1000 260234354.3680  
## 7 3866374311.4014 nan 0.1000 231046974.3593  
## 8 3652432286.2044 nan 0.1000 185088955.6343  
## 9 3421590428.6676 nan 0.1000 207195414.2324  
## 10 3239831414.1639 nan 0.1000 170680939.1155  
## 20 2109660304.6722 nan 0.1000 62239158.6389  
## 40 1271868496.3223 nan 0.1000 2617569.9350  
## 60 1014551735.7846 nan 0.1000 -8736645.3104  
## 80 898261353.6665 nan 0.1000 2232946.5899  
## 100 845160144.4978 nan 0.1000 -2831744.3143  
## 120 805317396.0633 nan 0.1000 -1738822.2626  
## 140 775631034.5913 nan 0.1000 30945.1548  
## 150 763160112.6240 nan 0.1000 -4786056.1906

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5900624670.1698 nan 0.1000 655107317.7176  
## 2 5303955308.2027 nan 0.1000 562906188.3959  
## 3 4796269699.7685 nan 0.1000 514246848.2883  
## 4 4326057053.3392 nan 0.1000 445255954.4732  
## 5 3930898314.6692 nan 0.1000 365347123.4699  
## 6 3595082325.3973 nan 0.1000 309974169.7343  
## 7 3339791715.8080 nan 0.1000 260333286.0107  
## 8 3089608701.1012 nan 0.1000 229870738.4127  
## 9 2842247447.0679 nan 0.1000 226045287.7948  
## 10 2653176753.8150 nan 0.1000 163034032.7678  
## 20 1559748095.5148 nan 0.1000 49965249.3632  
## 40 935963867.6816 nan 0.1000 6070583.5990  
## 60 747389765.9956 nan 0.1000 -3255693.7552  
## 80 661375762.3286 nan 0.1000 -3684167.0151  
## 100 596030376.6675 nan 0.1000 -1929568.7954  
## 120 553308009.8553 nan 0.1000 -7075443.2094  
## 140 521236413.4289 nan 0.1000 -3049752.3721  
## 150 505079322.7275 nan 0.1000 -2638584.1788

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5845750918.3474 nan 0.1000 781912093.1417  
## 2 5095736117.3677 nan 0.1000 677037331.7142  
## 3 4539995314.2705 nan 0.1000 496105628.1631  
## 4 4060778856.2933 nan 0.1000 460149138.7942  
## 5 3651594304.5233 nan 0.1000 427179619.3192  
## 6 3265463884.2774 nan 0.1000 372344312.8121  
## 7 2952105598.9254 nan 0.1000 297960600.8523  
## 8 2697279759.0803 nan 0.1000 219924986.2298  
## 9 2479153151.8452 nan 0.1000 198637151.3265  
## 10 2304129879.6832 nan 0.1000 176162534.3567  
## 20 1268582036.0003 nan 0.1000 38733608.8599  
## 40 768612155.9582 nan 0.1000 -1520308.1837  
## 60 622735067.2178 nan 0.1000 -1172532.9350  
## 80 535713751.6139 nan 0.1000 -4835207.2246  
## 100 480035214.7044 nan 0.1000 -3493996.3170  
## 120 436274182.6409 nan 0.1000 -5356147.4792  
## 140 403086722.6013 nan 0.1000 -1996902.3773  
## 150 388091148.1621 nan 0.1000 -2782151.4444

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5866638901.6320 nan 0.1000 539221098.8278  
## 2 5378687251.1728 nan 0.1000 487868636.9323  
## 3 5002125095.4861 nan 0.1000 385620093.1120  
## 4 4652485864.0291 nan 0.1000 359379907.8570  
## 5 4326817649.3081 nan 0.1000 295282320.5328  
## 6 4061227499.1782 nan 0.1000 237638584.4798  
## 7 3803069062.3077 nan 0.1000 220748571.3028  
## 8 3599301987.6280 nan 0.1000 130921947.8068  
## 9 3407965373.5875 nan 0.1000 153954364.2426  
## 10 3222944603.8756 nan 0.1000 190812006.8129  
## 20 2074370628.9623 nan 0.1000 68117207.9751  
## 40 1247412581.0342 nan 0.1000 17237064.9520  
## 60 951671446.5162 nan 0.1000 6469630.4229  
## 80 831215228.3133 nan 0.1000 3593065.2600  
## 100 779640657.6760 nan 0.1000 -14042624.7158  
## 120 744564164.7554 nan 0.1000 -122431.5241  
## 140 715159028.4436 nan 0.1000 1165740.7257  
## 150 706184993.9087 nan 0.1000 -3367609.6030

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5729380135.6481 nan 0.1000 719608827.4492  
## 2 5120459119.9680 nan 0.1000 565752841.2417  
## 3 4592797377.2805 nan 0.1000 447481800.2802  
## 4 4198837855.5423 nan 0.1000 373694577.2229  
## 5 3868432007.7668 nan 0.1000 224378671.8215  
## 6 3510982052.7685 nan 0.1000 369694242.6953  
## 7 3226428220.9128 nan 0.1000 302303314.3053  
## 8 2987863078.5344 nan 0.1000 210018801.3293  
## 9 2776546594.0932 nan 0.1000 204873664.9420  
## 10 2597204563.9164 nan 0.1000 167621590.5522  
## 20 1528130586.1888 nan 0.1000 54025989.4292  
## 40 890195449.3226 nan 0.1000 10194178.6361  
## 60 724225627.0192 nan 0.1000 -1101546.9861  
## 80 633451714.4259 nan 0.1000 -426177.9789  
## 100 586468906.6374 nan 0.1000 -4022800.7045  
## 120 538164578.1141 nan 0.1000 -3894500.9507  
## 140 502050280.9331 nan 0.1000 -3877666.6787  
## 150 484064783.4102 nan 0.1000 751411.2961

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5627951718.3657 nan 0.1000 748461379.6490  
## 2 5002719095.2041 nan 0.1000 706396979.2133  
## 3 4470955702.0010 nan 0.1000 562929555.5836  
## 4 3971218338.7094 nan 0.1000 468066764.7372  
## 5 3540266421.8168 nan 0.1000 363004442.5522  
## 6 3191575729.2324 nan 0.1000 289123284.7474  
## 7 2862743384.7738 nan 0.1000 306797762.0607  
## 8 2608793980.8516 nan 0.1000 238636750.8772  
## 9 2405405251.2603 nan 0.1000 200870345.7147  
## 10 2225243490.9945 nan 0.1000 151200115.0065  
## 20 1237658942.6433 nan 0.1000 54421314.8321  
## 40 718251731.8183 nan 0.1000 8588865.6426  
## 60 584947331.9951 nan 0.1000 1029619.7046  
## 80 514622044.5364 nan 0.1000 -5235973.2586  
## 100 457133799.8462 nan 0.1000 -3804982.6358  
## 120 420242377.5364 nan 0.1000 -1531024.8422  
## 140 379653719.9583 nan 0.1000 1624901.9977  
## 150 366630009.8253 nan 0.1000 -2938382.9299

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6048536822.4081 nan 0.1000 586796178.2916  
## 2 5554568175.7213 nan 0.1000 475531928.3839  
## 3 5145099325.0769 nan 0.1000 402607511.8883  
## 4 4805836676.0093 nan 0.1000 313089645.5701  
## 5 4479381846.5964 nan 0.1000 307786439.0974  
## 6 4215947192.5643 nan 0.1000 229087754.1656  
## 7 3978468775.1457 nan 0.1000 255819024.0189  
## 8 3738523459.4045 nan 0.1000 242109875.1084  
## 9 3554609293.9765 nan 0.1000 174384971.9515  
## 10 3376087243.1820 nan 0.1000 155172653.5499  
## 20 2202242059.2254 nan 0.1000 73453956.6198  
## 40 1365727799.4685 nan 0.1000 19671456.9014  
## 60 1089831415.6952 nan 0.1000 -199992.0133  
## 80 977198383.0425 nan 0.1000 -1687651.7640  
## 100 923211371.8006 nan 0.1000 1989595.5753  
## 120 872829752.8079 nan 0.1000 -12847305.2651  
## 140 851407765.6337 nan 0.1000 -72476.2140  
## 150 834324165.4254 nan 0.1000 1298113.3206

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5896394283.4093 nan 0.1000 743975088.3039  
## 2 5298774271.0790 nan 0.1000 614269787.6599  
## 3 4789475273.5581 nan 0.1000 537912543.0693  
## 4 4354486218.9915 nan 0.1000 400789223.2869  
## 5 3955373565.8448 nan 0.1000 316610319.8847  
## 6 3596772150.8613 nan 0.1000 319908650.2616  
## 7 3313920954.1024 nan 0.1000 291993907.3899  
## 8 3053660118.8818 nan 0.1000 206582559.0794  
## 9 2862743780.5336 nan 0.1000 193316886.2499  
## 10 2687547288.6133 nan 0.1000 177628559.3092  
## 20 1608459259.5280 nan 0.1000 64077515.4419  
## 40 988234920.5615 nan 0.1000 726111.4523  
## 60 826093363.9960 nan 0.1000 -7617488.9025  
## 80 732388084.2719 nan 0.1000 2434191.0493  
## 100 663613282.4341 nan 0.1000 -238075.0284  
## 120 604411006.4183 nan 0.1000 -2878533.9998  
## 140 564723903.2582 nan 0.1000 -2258642.2779  
## 150 546729194.2400 nan 0.1000 -3896531.0188

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 20, 120, 160, 190,  
## 90, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5819570976.2354 nan 0.1000 765673356.7921  
## 2 5119946560.1293 nan 0.1000 630293626.8503  
## 3 4590812638.9474 nan 0.1000 586426543.8039  
## 4 4114339964.9131 nan 0.1000 479306972.4213  
## 5 3718309135.1790 nan 0.1000 346709376.7943  
## 6 3344662953.8179 nan 0.1000 309186052.6113  
## 7 3052741037.9888 nan 0.1000 230370284.9016  
## 8 2773317234.0490 nan 0.1000 286676258.7320  
## 9 2554875023.0933 nan 0.1000 207999185.2012  
## 10 2368106983.3341 nan 0.1000 177379966.7133  
## 20 1328897289.4973 nan 0.1000 33422198.7935  
## 40 810304736.3989 nan 0.1000 3462995.2937  
## 60 644159449.8492 nan 0.1000 4678975.0023  
## 80 575904277.2994 nan 0.1000 -6033719.3361  
## 100 497987292.8845 nan 0.1000 -1010642.5817  
## 120 438095402.5204 nan 0.1000 -2669093.9563  
## 140 393645790.0544 nan 0.1000 -59827.1888  
## 150 375444277.2154 nan 0.1000 -3736169.1978

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5805053501.0166 nan 0.1000 535447946.0766  
## 2 5313778425.0178 nan 0.1000 518918712.1190  
## 3 4890553530.8023 nan 0.1000 456589676.0849  
## 4 4532686460.2203 nan 0.1000 339645918.9303  
## 5 4241088273.4495 nan 0.1000 293637621.6292  
## 6 3956550965.0489 nan 0.1000 281612017.9247  
## 7 3720070632.3787 nan 0.1000 220522689.8402  
## 8 3484697311.6434 nan 0.1000 217038366.7673  
## 9 3312333817.5455 nan 0.1000 128726172.2527  
## 10 3136225813.9809 nan 0.1000 162908260.2671  
## 20 2077026311.1112 nan 0.1000 66167351.0483  
## 40 1272522766.4410 nan 0.1000 13653390.5586  
## 60 1015961981.3436 nan 0.1000 6641512.6785  
## 80 904749820.5244 nan 0.1000 -807408.5228  
## 100 840839721.1664 nan 0.1000 -3206249.6913  
## 120 789893337.1608 nan 0.1000 1627068.8874  
## 140 748657233.6462 nan 0.1000 -947431.7522  
## 150 736176051.6810 nan 0.1000 1737382.7672

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5645460603.6444 nan 0.1000 644811859.5916  
## 2 5053153587.5024 nan 0.1000 541394311.6421  
## 3 4568675698.5706 nan 0.1000 436336172.9208  
## 4 4147639169.6583 nan 0.1000 386008499.2307  
## 5 3791702256.1633 nan 0.1000 375854387.2842  
## 6 3483625406.6675 nan 0.1000 329300671.2609  
## 7 3222031275.6420 nan 0.1000 285151079.9665  
## 8 3001566572.4848 nan 0.1000 223782844.6977  
## 9 2786976927.1489 nan 0.1000 135281510.3933  
## 10 2573434358.1171 nan 0.1000 167160367.4735  
## 20 1542769386.7041 nan 0.1000 51708361.9166  
## 40 952160104.2645 nan 0.1000 -5163916.5759  
## 60 771928199.5974 nan 0.1000 1842118.2567  
## 80 691052884.0408 nan 0.1000 -2382399.3567  
## 100 632736528.4651 nan 0.1000 -4610335.8448  
## 120 582510168.4737 nan 0.1000 -3199518.4177  
## 140 531686731.6179 nan 0.1000 -6781284.9067  
## 150 514008147.8108 nan 0.1000 -2770174.6876

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5504446797.8073 nan 0.1000 645035465.4092  
## 2 4855780290.3914 nan 0.1000 607659113.3698  
## 3 4305567994.7835 nan 0.1000 551437073.7346  
## 4 3861565514.6717 nan 0.1000 478347579.4458  
## 5 3475264831.8291 nan 0.1000 380911961.1796  
## 6 3136746983.0825 nan 0.1000 316015740.9524  
## 7 2868982442.7953 nan 0.1000 279653966.0883  
## 8 2624899799.2339 nan 0.1000 232593027.1620  
## 9 2439918636.5861 nan 0.1000 201775857.9886  
## 10 2291827624.8396 nan 0.1000 157031039.5561  
## 20 1287371734.1768 nan 0.1000 47087676.9430  
## 40 778057156.4617 nan 0.1000 -8326868.0464  
## 60 629608620.1646 nan 0.1000 -2087068.2953  
## 80 548568217.3655 nan 0.1000 -7389869.0961  
## 100 494409375.5522 nan 0.1000 -7499096.0076  
## 120 451045648.7121 nan 0.1000 -4163857.3847  
## 140 411072167.6807 nan 0.1000 -3604001.3106  
## 150 394567766.3208 nan 0.1000 -2074658.0701

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5819713952.8293 nan 0.1000 526082146.0601  
## 2 5320971436.9114 nan 0.1000 449490183.4240  
## 3 4965142734.1656 nan 0.1000 384600415.6633  
## 4 4640865925.3932 nan 0.1000 366141909.6315  
## 5 4332699979.9161 nan 0.1000 270356706.3472  
## 6 4103431116.1089 nan 0.1000 250656401.0067  
## 7 3848221843.9166 nan 0.1000 227057270.3605  
## 8 3651213392.0013 nan 0.1000 190737565.1383  
## 9 3443171399.6140 nan 0.1000 171340820.2734  
## 10 3278136962.5960 nan 0.1000 142444862.2638  
## 20 2116597355.5397 nan 0.1000 68299305.9030  
## 40 1336973901.6676 nan 0.1000 15449028.4306  
## 60 1084129285.9305 nan 0.1000 -9618372.7614  
## 80 972101247.4004 nan 0.1000 4639358.5534  
## 100 892228340.2485 nan 0.1000 -8718998.1001  
## 120 845091227.4665 nan 0.1000 -1237925.4059  
## 140 815314576.9493 nan 0.1000 -1790796.6355  
## 150 792743597.6336 nan 0.1000 2603612.1419

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5668976152.4728 nan 0.1000 598760545.3895  
## 2 5085130096.3197 nan 0.1000 605118490.3678  
## 3 4615707440.8862 nan 0.1000 478293405.2262  
## 4 4192109790.7990 nan 0.1000 418557952.0042  
## 5 3834721539.4801 nan 0.1000 338827277.7923  
## 6 3504509882.6087 nan 0.1000 341327999.9311  
## 7 3266812739.3797 nan 0.1000 269055636.1361  
## 8 3037374804.0773 nan 0.1000 218679480.4151  
## 9 2822150095.1101 nan 0.1000 174917100.3427  
## 10 2653080233.6553 nan 0.1000 150145151.1059  
## 20 1564305128.1640 nan 0.1000 57163641.3509  
## 40 1000177677.5804 nan 0.1000 11921416.0340  
## 60 815484754.0066 nan 0.1000 -1226789.1380  
## 80 711389361.3157 nan 0.1000 -7502724.4099  
## 100 649912992.0821 nan 0.1000 -1948805.9440  
## 120 593396498.1352 nan 0.1000 -7311254.9909  
## 140 553369595.3527 nan 0.1000 -6498289.1196  
## 150 534076863.7733 nan 0.1000 -1476922.9060

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5591888346.4133 nan 0.1000 753230533.6026  
## 2 4971992923.4163 nan 0.1000 630884231.9623  
## 3 4404188585.1154 nan 0.1000 481903249.7586  
## 4 3919160136.2156 nan 0.1000 422889004.1670  
## 5 3515701653.2625 nan 0.1000 380733625.4815  
## 6 3203244989.6923 nan 0.1000 283323257.1178  
## 7 2927974220.3804 nan 0.1000 242658555.5901  
## 8 2719022298.5376 nan 0.1000 187198530.6240  
## 9 2498070102.5800 nan 0.1000 225193758.3655  
## 10 2323059561.3505 nan 0.1000 158599919.8890  
## 20 1322430792.3851 nan 0.1000 45477517.3780  
## 40 830652359.9977 nan 0.1000 -441186.2816  
## 60 670445343.3812 nan 0.1000 -517458.5896  
## 80 576274430.4120 nan 0.1000 -2738748.8145  
## 100 512773162.8259 nan 0.1000 -5589960.1899  
## 120 473739074.8788 nan 0.1000 1504676.5632  
## 140 429095548.5701 nan 0.1000 -3768191.8804  
## 150 405448775.1616 nan 0.1000 -7080286.0960

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5661806090.3813 nan 0.1000 502703415.1178  
## 2 5199898746.1773 nan 0.1000 448834404.5197  
## 3 4852909711.5700 nan 0.1000 332190735.3380  
## 4 4525585558.6431 nan 0.1000 339689450.7470  
## 5 4196782440.9713 nan 0.1000 300110910.8618  
## 6 3957500805.7171 nan 0.1000 227312325.1072  
## 7 3758784444.7728 nan 0.1000 217809354.8678  
## 8 3542416882.9636 nan 0.1000 207288470.9903  
## 9 3378778676.4919 nan 0.1000 175393317.5101  
## 10 3189630242.5846 nan 0.1000 153032877.5991  
## 20 2111373175.6671 nan 0.1000 10246735.5081  
## 40 1333442982.7383 nan 0.1000 15841786.6337  
## 60 1061344268.2530 nan 0.1000 -5516180.5255  
## 80 942384160.3476 nan 0.1000 -1877973.1923  
## 100 889447612.0552 nan 0.1000 -11511486.6933  
## 120 845525741.3072 nan 0.1000 -8760024.5154  
## 140 811583891.7788 nan 0.1000 -6370239.8467  
## 150 800775583.6601 nan 0.1000 -6485584.7185

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5530324656.7981 nan 0.1000 690720352.0635  
## 2 4975707536.3382 nan 0.1000 535449038.4347  
## 3 4493380271.8078 nan 0.1000 488094128.3478  
## 4 4115648757.7574 nan 0.1000 358016053.3094  
## 5 3792167878.7274 nan 0.1000 185761006.3974  
## 6 3491491909.1937 nan 0.1000 299499936.0945  
## 7 3232477061.8168 nan 0.1000 231134611.7730  
## 8 2981473555.1748 nan 0.1000 225673716.5006  
## 9 2797283257.4212 nan 0.1000 132363840.2190  
## 10 2608153322.9836 nan 0.1000 152670269.9945  
## 20 1579070080.6864 nan 0.1000 55476381.8002  
## 40 996841592.8031 nan 0.1000 8117201.2570  
## 60 840949477.5727 nan 0.1000 -7877342.9637  
## 80 730095456.1105 nan 0.1000 596639.2998  
## 100 660551218.9898 nan 0.1000 -4744142.1786  
## 120 603779638.6560 nan 0.1000 -2889893.6215  
## 140 558273236.5505 nan 0.1000 132921.2172  
## 150 536907693.1938 nan 0.1000 -7596410.6374

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5447691039.8775 nan 0.1000 652874037.3417  
## 2 4874255430.7020 nan 0.1000 572120653.3303  
## 3 4370690750.4677 nan 0.1000 457268688.1034  
## 4 3948408598.7598 nan 0.1000 386438429.4702  
## 5 3581904434.2868 nan 0.1000 357238814.9437  
## 6 3181986567.4295 nan 0.1000 346567337.1975  
## 7 2895005175.9076 nan 0.1000 267182515.8004  
## 8 2660796684.9290 nan 0.1000 200373697.7369  
## 9 2453866050.8840 nan 0.1000 199833039.2274  
## 10 2288339921.9673 nan 0.1000 139307561.4784  
## 20 1336169521.0793 nan 0.1000 40195399.0702  
## 40 819808719.9496 nan 0.1000 -4685545.8986  
## 60 673732736.2880 nan 0.1000 267113.3450  
## 80 588822130.7589 nan 0.1000 -1674608.4406  
## 100 528053998.8495 nan 0.1000 -3979854.1926  
## 120 482985957.3113 nan 0.1000 -15725859.4474  
## 140 430691969.0685 nan 0.1000 -751191.9793  
## 150 409597732.1374 nan 0.1000 -5389671.8332

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6013350134.1536 nan 0.1000 562759178.7122  
## 2 5525902468.7502 nan 0.1000 485445983.0444  
## 3 5100988984.8812 nan 0.1000 378787575.2911  
## 4 4717024963.3310 nan 0.1000 380261655.5697  
## 5 4409372914.8529 nan 0.1000 298314748.8981  
## 6 4138611658.9773 nan 0.1000 254737056.3698  
## 7 3894688780.7478 nan 0.1000 239273774.7940  
## 8 3643990212.3740 nan 0.1000 216972991.7710  
## 9 3415260872.1879 nan 0.1000 164979346.4968  
## 10 3240465040.8695 nan 0.1000 171858029.5478  
## 20 2124172778.2121 nan 0.1000 59390546.1411  
## 40 1358267253.1779 nan 0.1000 4483854.3857  
## 60 1081948133.1062 nan 0.1000 -11504235.3854  
## 80 964136354.9506 nan 0.1000 -3745821.6331  
## 100 893096842.8415 nan 0.1000 -2902036.1763  
## 120 856968144.6013 nan 0.1000 -2196027.3563  
## 140 821205611.3956 nan 0.1000 -15805783.0505  
## 150 806563739.0992 nan 0.1000 -1674559.1400

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5909135139.1812 nan 0.1000 735678053.7432  
## 2 5326069958.4767 nan 0.1000 390973394.1475  
## 3 4806925128.9205 nan 0.1000 483563629.1509  
## 4 4333869695.0788 nan 0.1000 369929704.9548  
## 5 3934884572.0882 nan 0.1000 415632839.2183  
## 6 3621365302.3730 nan 0.1000 296033343.3737  
## 7 3350679136.7528 nan 0.1000 206817611.5622  
## 8 3111821005.1397 nan 0.1000 222714420.3711  
## 9 2884723721.2818 nan 0.1000 234768459.9931  
## 10 2714010192.3863 nan 0.1000 183265526.5808  
## 20 1597066918.0831 nan 0.1000 35684848.5460  
## 40 1012657678.5003 nan 0.1000 12925477.1822  
## 60 837716841.9131 nan 0.1000 -8392721.7372  
## 80 721808533.1377 nan 0.1000 -10297524.7070  
## 100 644456484.6113 nan 0.1000 1271322.8067  
## 120 593722070.1412 nan 0.1000 -4069602.8040  
## 140 548242860.0646 nan 0.1000 -906171.4828  
## 150 531103891.7064 nan 0.1000 -726048.4263

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 45, 20, 120, 160, 190, 20, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5783115976.1938 nan 0.1000 779356157.4745  
## 2 5127708493.4880 nan 0.1000 692218720.2146  
## 3 4575451574.5868 nan 0.1000 575439987.1909  
## 4 4116863027.0157 nan 0.1000 343078126.0909  
## 5 3686246296.3816 nan 0.1000 399651070.2039  
## 6 3352230965.1900 nan 0.1000 319380297.5577  
## 7 3074940793.1493 nan 0.1000 280332776.0621  
## 8 2829344181.1971 nan 0.1000 240640747.0647  
## 9 2600257565.1881 nan 0.1000 170686703.9329  
## 10 2394607697.9517 nan 0.1000 193592850.3346  
## 20 1324549851.5654 nan 0.1000 46223004.0658  
## 40 801681866.7414 nan 0.1000 2426701.5235  
## 60 659734042.7264 nan 0.1000 3965926.3470  
## 80 558299907.0385 nan 0.1000 -6918820.7373  
## 100 493724713.1758 nan 0.1000 -1437482.6782  
## 120 449772101.5127 nan 0.1000 -4378940.8382  
## 140 410137503.9589 nan 0.1000 -2272965.2819  
## 150 393669308.0360 nan 0.1000 -6172263.8085

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6063391176.1218 nan 0.1000 561589250.1563  
## 2 5613005773.3004 nan 0.1000 490158052.3467  
## 3 5195382831.2071 nan 0.1000 414991430.0669  
## 4 4820233803.5964 nan 0.1000 357724280.7381  
## 5 4533980308.6824 nan 0.1000 293402173.4877  
## 6 4221988263.6951 nan 0.1000 245724773.3402  
## 7 4017354032.8063 nan 0.1000 119627077.1690  
## 8 3779597549.6959 nan 0.1000 213932071.3893  
## 9 3558384610.2276 nan 0.1000 199206380.0411  
## 10 3369872018.2579 nan 0.1000 179219868.7723  
## 20 2151078578.6986 nan 0.1000 61909687.7382  
## 40 1352334611.3577 nan 0.1000 19317511.4617  
## 60 1071996571.8522 nan 0.1000 4530690.4734  
## 80 967213116.7692 nan 0.1000 -8713277.4828  
## 100 911124609.8274 nan 0.1000 -5999087.2044  
## 120 854529948.4361 nan 0.1000 -2709716.7391  
## 140 817950383.0481 nan 0.1000 -2649080.8446  
## 150 810921092.4371 nan 0.1000 1867471.1775

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5886185259.9435 nan 0.1000 777920317.4348  
## 2 5268688322.1829 nan 0.1000 575914122.4218  
## 3 4747906801.4870 nan 0.1000 474945309.4773  
## 4 4300593402.8294 nan 0.1000 403323649.6490  
## 5 3906814090.5967 nan 0.1000 351850392.0430  
## 6 3558993158.2254 nan 0.1000 306727971.7662  
## 7 3297970682.4385 nan 0.1000 244840090.2257  
## 8 3062886281.3196 nan 0.1000 223040925.1914  
## 9 2854434774.7513 nan 0.1000 211773449.6181  
## 10 2677858654.8073 nan 0.1000 172426221.5930  
## 20 1603027404.8050 nan 0.1000 69675650.4982  
## 40 1023891556.1510 nan 0.1000 711115.1668  
## 60 848537450.7465 nan 0.1000 -5312320.9594  
## 80 750676227.9550 nan 0.1000 -1646884.4231  
## 100 676124304.5044 nan 0.1000 -2018755.0705  
## 120 614656528.2328 nan 0.1000 -5562723.1221  
## 140 574262573.7970 nan 0.1000 -3497822.6523  
## 150 552840635.4826 nan 0.1000 -4735767.8987

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5852869011.2882 nan 0.1000 728472435.5470  
## 2 5189462623.7181 nan 0.1000 600570236.4347  
## 3 4583917383.8015 nan 0.1000 518524953.9742  
## 4 4103907219.4160 nan 0.1000 463296911.0782  
## 5 3741429343.4615 nan 0.1000 367916224.0148  
## 6 3401692351.1568 nan 0.1000 333435638.7855  
## 7 3127699975.1820 nan 0.1000 275526624.6078  
## 8 2877706764.2634 nan 0.1000 209612538.7814  
## 9 2668769721.1212 nan 0.1000 206942442.8499  
## 10 2461713674.8632 nan 0.1000 212832635.5131  
## 20 1391268761.4501 nan 0.1000 38867495.6524  
## 40 829474946.8972 nan 0.1000 2499989.5387  
## 60 671845416.2811 nan 0.1000 -7468360.8050  
## 80 581595564.9663 nan 0.1000 -14589938.3059  
## 100 505680788.1811 nan 0.1000 698306.7817  
## 120 456717107.5594 nan 0.1000 -2245971.8814  
## 140 410643300.9180 nan 0.1000 -5574440.9422  
## 150 394032009.0525 nan 0.1000 -4980353.2980

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5650548160.4085 nan 0.1000 522473316.2503  
## 2 5142057973.2753 nan 0.1000 451206231.8435  
## 3 4789557175.8875 nan 0.1000 376665848.1314  
## 4 4440753777.4491 nan 0.1000 351321202.5615  
## 5 4173220126.9747 nan 0.1000 269080074.3362  
## 6 3946004520.2822 nan 0.1000 233252629.5169  
## 7 3706605962.0687 nan 0.1000 180784700.3517  
## 8 3488533935.6060 nan 0.1000 191726807.5377  
## 9 3304214292.4549 nan 0.1000 174541407.0155  
## 10 3135462686.5341 nan 0.1000 166428486.2549  
## 20 2019233779.6524 nan 0.1000 53635620.0160  
## 40 1265572091.0874 nan 0.1000 14109045.8715  
## 60 1010328143.0485 nan 0.1000 -15892999.2806  
## 80 906264857.3539 nan 0.1000 -2633256.6809  
## 100 839856304.9134 nan 0.1000 1617807.2392  
## 120 802055433.9445 nan 0.1000 -2755058.2358  
## 140 770881597.9740 nan 0.1000 1230858.2524  
## 150 754684023.0513 nan 0.1000 -3993228.1221

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5515775568.4284 nan 0.1000 620814346.3639  
## 2 4957016926.5513 nan 0.1000 584239784.3956  
## 3 4498527115.4344 nan 0.1000 433205901.1752  
## 4 4059850993.6463 nan 0.1000 407379642.6845  
## 5 3712824246.7383 nan 0.1000 332933951.3607  
## 6 3395793566.6793 nan 0.1000 296479953.1344  
## 7 3121565323.2834 nan 0.1000 250022728.2117  
## 8 2893499698.8568 nan 0.1000 220487614.4655  
## 9 2693025731.6999 nan 0.1000 172741276.1555  
## 10 2509116095.6493 nan 0.1000 161565205.8129  
## 20 1465701243.7721 nan 0.1000 62298004.2484  
## 40 932858473.2813 nan 0.1000 -1617007.8245  
## 60 764063295.7543 nan 0.1000 -8420068.5187  
## 80 691852356.7814 nan 0.1000 -5515310.0705  
## 100 623562594.6030 nan 0.1000 -689066.2088  
## 120 573446278.9412 nan 0.1000 3334597.5120  
## 140 534470547.4232 nan 0.1000 -1601012.4264  
## 150 516406925.7642 nan 0.1000 -3052272.5069

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5432921172.6712 nan 0.1000 731899006.5163  
## 2 4831369846.0127 nan 0.1000 523849268.8785  
## 3 4294619637.2668 nan 0.1000 537457496.0194  
## 4 3866798851.2312 nan 0.1000 370464414.2784  
## 5 3484976225.8911 nan 0.1000 391360142.8311  
## 6 3161333153.9741 nan 0.1000 296983009.1543  
## 7 2882341493.7004 nan 0.1000 242453158.4255  
## 8 2637269307.0062 nan 0.1000 192076933.6622  
## 9 2417899379.5265 nan 0.1000 223046846.4722  
## 10 2202364947.8005 nan 0.1000 231344621.8592  
## 20 1248703031.4349 nan 0.1000 44140340.9649  
## 40 746721337.7454 nan 0.1000 2915267.5929  
## 60 614671401.4327 nan 0.1000 -2147395.0059  
## 80 532401809.4770 nan 0.1000 -3261929.0047  
## 100 454775603.9590 nan 0.1000 -6273472.9874  
## 120 408374831.0095 nan 0.1000 -4923768.3961  
## 140 372893280.7709 nan 0.1000 -2070243.0570  
## 150 356081293.0651 nan 0.1000 -5103818.5273

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6124595699.9445 nan 0.1000 570184965.3326  
## 2 5644636937.4238 nan 0.1000 491161386.3513  
## 3 5173219409.5595 nan 0.1000 433480255.3668  
## 4 4841314498.1990 nan 0.1000 312736699.5885  
## 5 4537172616.0496 nan 0.1000 314132445.7958  
## 6 4247136568.0054 nan 0.1000 281696097.0566  
## 7 3995512012.7401 nan 0.1000 256825055.9098  
## 8 3748037475.4405 nan 0.1000 219881626.4556  
## 9 3536867719.4925 nan 0.1000 170235887.1405  
## 10 3347293615.8164 nan 0.1000 163852850.3895  
## 20 2165836579.4838 nan 0.1000 51556664.0504  
## 40 1377547689.0152 nan 0.1000 2792134.9194  
## 60 1123368808.4359 nan 0.1000 4861266.1483  
## 80 1040621882.4357 nan 0.1000 -3851811.4458  
## 100 954791962.5811 nan 0.1000 -11775093.3764  
## 120 896042088.0260 nan 0.1000 -1811945.2690  
## 140 857782168.4705 nan 0.1000 -6354479.0786  
## 150 847000036.4860 nan 0.1000 -13362846.3691

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5913298433.5286 nan 0.1000 749904680.4778  
## 2 5328641936.0298 nan 0.1000 615656793.0345  
## 3 4815089425.3074 nan 0.1000 490118254.7503  
## 4 4373779263.1727 nan 0.1000 446443152.4979  
## 5 4009039996.4100 nan 0.1000 210015090.4873  
## 6 3676062355.8503 nan 0.1000 312745439.9456  
## 7 3436341437.7605 nan 0.1000 193486141.9552  
## 8 3154779907.2748 nan 0.1000 253240862.0824  
## 9 2939845996.6214 nan 0.1000 207025985.9645  
## 10 2747302323.7507 nan 0.1000 211615923.1411  
## 20 1615223586.0664 nan 0.1000 60710410.6784  
## 40 998480169.5084 nan 0.1000 7729788.9218  
## 60 836920015.9989 nan 0.1000 -17389838.1354  
## 80 740932738.7028 nan 0.1000 -3161215.0909  
## 100 666932114.2864 nan 0.1000 -7914545.9187  
## 120 619533593.4796 nan 0.1000 -11634294.9260  
## 140 574841691.9979 nan 0.1000 261402.4322  
## 150 553286057.3367 nan 0.1000 -3309348.6803

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5855078549.1341 nan 0.1000 599874515.4419  
## 2 5145719448.0397 nan 0.1000 625014418.2071  
## 3 4643598599.6315 nan 0.1000 499328393.1370  
## 4 4139598500.7177 nan 0.1000 460667346.7789  
## 5 3767793942.5432 nan 0.1000 413247200.6973  
## 6 3434300846.2029 nan 0.1000 348675699.5123  
## 7 3117716239.6893 nan 0.1000 311398314.9029  
## 8 2856243401.5303 nan 0.1000 265516370.0094  
## 9 2636810137.3959 nan 0.1000 156677129.6498  
## 10 2457564028.4262 nan 0.1000 167609928.0079  
## 20 1359762875.8737 nan 0.1000 29463290.3177  
## 40 831038138.7376 nan 0.1000 -2067415.4392  
## 60 669455705.0939 nan 0.1000 -10757137.6933  
## 80 589825121.0357 nan 0.1000 -8387982.8373  
## 100 519575856.9165 nan 0.1000 -124593.2998  
## 120 465774949.2244 nan 0.1000 -3545376.4040  
## 140 418937930.6651 nan 0.1000 -2476473.7837  
## 150 400799948.0767 nan 0.1000 -2646483.3588

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5925645268.0523 nan 0.1000 589415411.3067  
## 2 5429244826.8592 nan 0.1000 476750535.8927  
## 3 5057554546.0176 nan 0.1000 393254430.1470  
## 4 4722792488.5860 nan 0.1000 341983582.5915  
## 5 4429208931.6275 nan 0.1000 278396376.9236  
## 6 4134598855.7057 nan 0.1000 294832640.3307  
## 7 3926350309.0456 nan 0.1000 133561523.2827  
## 8 3739650014.3301 nan 0.1000 187164340.0476  
## 9 3546726483.4884 nan 0.1000 172897633.2273  
## 10 3357916070.7651 nan 0.1000 193699226.1353  
## 20 2176332007.0852 nan 0.1000 74199172.9882  
## 40 1341041045.8197 nan 0.1000 4787531.9444  
## 60 1098009331.0502 nan 0.1000 -1732874.7692  
## 80 982848661.8919 nan 0.1000 -3830318.9943  
## 100 915602918.7304 nan 0.1000 1609828.9101  
## 120 868782218.9938 nan 0.1000 -6902209.4700  
## 140 833750295.3417 nan 0.1000 2533772.0967  
## 150 818063691.4071 nan 0.1000 112182.0698

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5751385625.5207 nan 0.1000 729264884.3575  
## 2 5154756781.4265 nan 0.1000 607371644.8009  
## 3 4667784215.6424 nan 0.1000 401811201.4565  
## 4 4215946035.7503 nan 0.1000 473319298.4317  
## 5 3884339642.2807 nan 0.1000 286940121.3073  
## 6 3568665850.4599 nan 0.1000 305726952.1969  
## 7 3295189684.3499 nan 0.1000 260298683.0170  
## 8 3064170613.2246 nan 0.1000 191344838.3940  
## 9 2822851880.7145 nan 0.1000 222171912.6485  
## 10 2630540721.7916 nan 0.1000 191303414.9007  
## 20 1569726677.9363 nan 0.1000 53184171.5180  
## 40 975768502.4784 nan 0.1000 -2489283.5855  
## 60 798167239.1010 nan 0.1000 -10714807.8120  
## 80 711946627.9359 nan 0.1000 -1827054.4440  
## 100 642562634.6495 nan 0.1000 -9233062.3750  
## 120 595468487.7478 nan 0.1000 -7198732.0624  
## 140 551149159.9320 nan 0.1000 1244701.4771  
## 150 531590614.3848 nan 0.1000 -15826812.8076

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5720486271.3429 nan 0.1000 674566617.1329  
## 2 5042047108.7490 nan 0.1000 599426161.5470  
## 3 4545553435.1178 nan 0.1000 502576353.0300  
## 4 4056009120.0837 nan 0.1000 448915535.9976  
## 5 3653224763.7404 nan 0.1000 429568446.7616  
## 6 3314588890.3734 nan 0.1000 232788223.6276  
## 7 3010090730.5170 nan 0.1000 298379148.8478  
## 8 2772904694.4207 nan 0.1000 151917694.8724  
## 9 2560945469.2578 nan 0.1000 208541046.8925  
## 10 2365521645.5590 nan 0.1000 147648184.7811  
## 20 1367337246.6727 nan 0.1000 54566083.3405  
## 40 842947755.0151 nan 0.1000 323188.8317  
## 60 704103446.7521 nan 0.1000 731779.4577  
## 80 610978485.4498 nan 0.1000 -5974605.0492  
## 100 541688448.5498 nan 0.1000 -7223466.5941  
## 120 493473392.9288 nan 0.1000 -4980118.4533  
## 140 444355923.5757 nan 0.1000 -2719029.7445  
## 150 428172388.0082 nan 0.1000 -542881.0221

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5919265000.9504 nan 0.1000 642910276.1006  
## 2 5474982124.2058 nan 0.1000 469459168.9071  
## 3 5036208647.1982 nan 0.1000 316744443.7831  
## 4 4687975890.8068 nan 0.1000 317566186.9615  
## 5 4369131153.8825 nan 0.1000 302615071.8825  
## 6 4121049320.2861 nan 0.1000 248611478.8028  
## 7 3839609261.3042 nan 0.1000 242120015.7661  
## 8 3610373749.8341 nan 0.1000 212852618.3833  
## 9 3443692674.7277 nan 0.1000 166696426.3030  
## 10 3256878839.2475 nan 0.1000 119277368.5207  
## 20 2178092071.8934 nan 0.1000 77280716.7832  
## 40 1339924830.3133 nan 0.1000 16070316.6161  
## 60 1077601686.9019 nan 0.1000 -755734.1181  
## 80 953559273.4569 nan 0.1000 -810958.2732  
## 100 885290345.0284 nan 0.1000 -15887090.4946  
## 120 833670965.6248 nan 0.1000 -5664013.6141  
## 140 801042928.0507 nan 0.1000 -4671139.0629  
## 150 796034608.0830 nan 0.1000 -2117275.2115

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5848450811.7207 nan 0.1000 717741904.1182  
## 2 5223602860.8577 nan 0.1000 572768383.4419  
## 3 4682167968.1473 nan 0.1000 444764589.4113  
## 4 4269365666.2601 nan 0.1000 382472928.4192  
## 5 3945470322.6898 nan 0.1000 346056845.7355  
## 6 3650552870.2969 nan 0.1000 235771936.2246  
## 7 3386376969.3129 nan 0.1000 258982544.7858  
## 8 3138429944.4493 nan 0.1000 284141111.2135  
## 9 2899462278.0827 nan 0.1000 186903887.3037  
## 10 2689906565.8308 nan 0.1000 143923199.6894  
## 20 1606653237.1870 nan 0.1000 57078059.9749  
## 40 992821630.2629 nan 0.1000 3943749.9276  
## 60 804958469.6102 nan 0.1000 -1554503.2816  
## 80 705838703.0153 nan 0.1000 -1657644.9439  
## 100 638246122.6552 nan 0.1000 783948.9095  
## 120 597667143.9132 nan 0.1000 -9748735.9328  
## 140 550907003.2495 nan 0.1000 -2091400.2119  
## 150 528833884.3527 nan 0.1000 -2555251.4489

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5783167284.6370 nan 0.1000 722246250.1928  
## 2 5139363795.0821 nan 0.1000 587812790.0584  
## 3 4555041530.2524 nan 0.1000 511939680.4122  
## 4 4053023664.9503 nan 0.1000 484641990.4789  
## 5 3664179125.0979 nan 0.1000 372891739.4516  
## 6 3304983738.3704 nan 0.1000 278405515.1371  
## 7 2997903243.2249 nan 0.1000 288957187.6165  
## 8 2730394455.0339 nan 0.1000 240166036.9534  
## 9 2514845650.5634 nan 0.1000 221959343.9511  
## 10 2315436091.7302 nan 0.1000 194257179.6145  
## 20 1308130747.8973 nan 0.1000 37975991.2209  
## 40 780675465.5516 nan 0.1000 3774782.3396  
## 60 647729368.3157 nan 0.1000 -58783.1141  
## 80 563622062.8229 nan 0.1000 -9006424.4030  
## 100 494737162.2576 nan 0.1000 -1190345.0977  
## 120 446584792.7719 nan 0.1000 -2244147.1769  
## 140 399978945.3025 nan 0.1000 -1677792.6189  
## 150 379519690.9377 nan 0.1000 -2294418.3199

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5838707315.1273 nan 0.1000 550954641.1445  
## 2 5329480714.4711 nan 0.1000 470650675.6316  
## 3 4891641071.8298 nan 0.1000 332576995.5893  
## 4 4587898061.0023 nan 0.1000 308082715.9651  
## 5 4289242744.5507 nan 0.1000 290437304.6118  
## 6 4033503177.8071 nan 0.1000 238943423.1951  
## 7 3782204102.1873 nan 0.1000 224680933.4525  
## 8 3562213905.5481 nan 0.1000 199833522.4038  
## 9 3378202251.6432 nan 0.1000 174955853.1405  
## 10 3210131427.7940 nan 0.1000 153512068.3722  
## 20 2144621667.9266 nan 0.1000 32179787.8778  
## 40 1340966086.2525 nan 0.1000 -18123318.6520  
## 60 1091700688.3699 nan 0.1000 9496060.6050  
## 80 977986543.1145 nan 0.1000 4441960.1460  
## 100 917180482.5167 nan 0.1000 -611940.1904  
## 120 860344564.7235 nan 0.1000 -10764226.3607  
## 140 837552219.8407 nan 0.1000 -9667430.1842  
## 150 817921767.1791 nan 0.1000 -464879.5224

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5720492069.6447 nan 0.1000 605389577.8478  
## 2 5129065236.3606 nan 0.1000 581311708.2310  
## 3 4639809889.6947 nan 0.1000 435660930.4187  
## 4 4226398133.8032 nan 0.1000 451959326.0633  
## 5 3874770715.8516 nan 0.1000 326336608.0554  
## 6 3557109221.7349 nan 0.1000 277902048.0053  
## 7 3284783261.1299 nan 0.1000 206709483.7899  
## 8 3023936313.3226 nan 0.1000 220078821.0316  
## 9 2819612096.1265 nan 0.1000 195356609.7374  
## 10 2653914610.0506 nan 0.1000 180865470.2072  
## 20 1560783598.0041 nan 0.1000 45686768.5705  
## 40 991943253.3901 nan 0.1000 9782331.1464  
## 60 822073440.8608 nan 0.1000 -5969823.7142  
## 80 734013476.3601 nan 0.1000 2025739.7194  
## 100 660897054.6734 nan 0.1000 -952427.1900  
## 120 604221366.7344 nan 0.1000 -12881891.6646  
## 140 552068032.4417 nan 0.1000 -7706081.7982  
## 150 533416307.4099 nan 0.1000 -104653.0688

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5629468712.0710 nan 0.1000 827504405.1658  
## 2 5013568339.8532 nan 0.1000 527635386.4552  
## 3 4510650652.7934 nan 0.1000 561004464.4842  
## 4 4034837685.7893 nan 0.1000 373907991.7296  
## 5 3595758072.4524 nan 0.1000 442421341.1096  
## 6 3243377998.6881 nan 0.1000 239601719.3349  
## 7 2966542320.9298 nan 0.1000 253186542.1205  
## 8 2714041651.2222 nan 0.1000 241787206.2112  
## 9 2497246365.1549 nan 0.1000 205822866.9372  
## 10 2276520431.0405 nan 0.1000 205116004.3621  
## 20 1326705751.2255 nan 0.1000 39831048.2389  
## 40 816783938.1299 nan 0.1000 -9111540.8475  
## 60 663696378.9412 nan 0.1000 -186688.2409  
## 80 565224493.6141 nan 0.1000 -1923285.4063  
## 100 509706651.9509 nan 0.1000 -4907090.8048  
## 120 464125727.9036 nan 0.1000 -3726974.7247  
## 140 427507619.1736 nan 0.1000 -6514375.0178  
## 150 407067647.1368 nan 0.1000 -1023877.0152

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5933580249.0571 nan 0.1000 545529050.5799  
## 2 5461985677.7476 nan 0.1000 515782482.8988  
## 3 5056731025.4109 nan 0.1000 420404302.7901  
## 4 4735476375.0403 nan 0.1000 343998527.2036  
## 5 4454897112.6805 nan 0.1000 272343810.1842  
## 6 4177319676.6933 nan 0.1000 246492137.3920  
## 7 3945507588.7809 nan 0.1000 235061102.9717  
## 8 3755996439.6674 nan 0.1000 211387481.9439  
## 9 3563908342.9036 nan 0.1000 179598559.5585  
## 10 3347518141.0107 nan 0.1000 183827439.5227  
## 20 2204993641.3685 nan 0.1000 56771567.9108  
## 40 1377905752.5808 nan 0.1000 18920767.7477  
## 60 1117600444.2862 nan 0.1000 9741142.6638  
## 80 995119751.0383 nan 0.1000 -17830.4886  
## 100 926012461.1610 nan 0.1000 -1191213.7175  
## 120 888619627.6419 nan 0.1000 -18550551.4677  
## 140 853133983.7338 nan 0.1000 -4787282.9470  
## 150 839209083.0512 nan 0.1000 -5970673.8172

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5780043880.4553 nan 0.1000 668611669.0985  
## 2 5184983035.4992 nan 0.1000 581529007.4108  
## 3 4730250869.4577 nan 0.1000 409148163.1440  
## 4 4325160015.8926 nan 0.1000 313051534.4483  
## 5 3949895218.9316 nan 0.1000 419640106.9524  
## 6 3622780568.0499 nan 0.1000 299390124.3594  
## 7 3346874825.5840 nan 0.1000 253038969.0115  
## 8 3124770935.6277 nan 0.1000 233925183.3250  
## 9 2910081218.8992 nan 0.1000 215923204.1489  
## 10 2741270739.9258 nan 0.1000 176473260.3825  
## 20 1646161623.7068 nan 0.1000 59643641.3364  
## 40 1021988345.9474 nan 0.1000 9286645.5769  
## 60 854124300.0220 nan 0.1000 2080126.1605  
## 80 752592646.3100 nan 0.1000 -14319620.6863  
## 100 690049093.9275 nan 0.1000 -15501685.8211  
## 120 627863562.8811 nan 0.1000 2481497.2193  
## 140 588636548.7047 nan 0.1000 -4472100.6802  
## 150 569442209.3284 nan 0.1000 -1217598.9673

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5767404547.2189 nan 0.1000 704573538.4682  
## 2 5152903952.7796 nan 0.1000 594809394.3928  
## 3 4603325277.2642 nan 0.1000 483541106.0717  
## 4 4108456150.5811 nan 0.1000 477880310.4252  
## 5 3670873651.2765 nan 0.1000 381402250.5847  
## 6 3294657980.4774 nan 0.1000 361943725.4743  
## 7 3015799498.3429 nan 0.1000 241450855.8543  
## 8 2731068112.6949 nan 0.1000 230589375.5216  
## 9 2509916867.9248 nan 0.1000 226911338.6519  
## 10 2321970897.2838 nan 0.1000 144234990.7615  
## 20 1332599105.5372 nan 0.1000 41508799.4068  
## 40 811394589.3213 nan 0.1000 -2041226.9587  
## 60 673990912.4448 nan 0.1000 1819544.5324  
## 80 581629493.1918 nan 0.1000 -4307121.3093  
## 100 512872059.8889 nan 0.1000 -4130570.9348  
## 120 470272375.8578 nan 0.1000 -4619325.5650  
## 140 430936052.3098 nan 0.1000 -5255776.4887  
## 150 412296223.7330 nan 0.1000 -2232029.9164

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5660038616.5162 nan 0.1000 537983040.4381  
## 2 5200122587.1670 nan 0.1000 450886788.9028  
## 3 4786127234.0542 nan 0.1000 397148942.5759  
## 4 4448209215.1083 nan 0.1000 332905027.6168  
## 5 4155596742.1171 nan 0.1000 277633706.4365  
## 6 3923067857.1336 nan 0.1000 246901298.6904  
## 7 3670746817.9347 nan 0.1000 254057361.0745  
## 8 3470791178.1511 nan 0.1000 216149972.0021  
## 9 3259416747.5571 nan 0.1000 162782941.1286  
## 10 3088917422.1253 nan 0.1000 178354617.7453  
## 20 1972731194.6936 nan 0.1000 42887582.5510  
## 40 1186595059.0586 nan 0.1000 7911482.4145  
## 60 929614064.5234 nan 0.1000 -247396.2621  
## 80 816758292.3091 nan 0.1000 -1075972.7319  
## 100 755728652.3232 nan 0.1000 -1119476.3230  
## 120 716491830.4649 nan 0.1000 1712691.2637  
## 140 696240584.6218 nan 0.1000 -10716277.1509  
## 150 678592555.3178 nan 0.1000 -2619286.4255

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5450409177.1702 nan 0.1000 648540334.0684  
## 2 4871786831.7314 nan 0.1000 603260294.3832  
## 3 4397888501.3639 nan 0.1000 475210339.8945  
## 4 3997481548.2283 nan 0.1000 416030453.6880  
## 5 3653511625.1534 nan 0.1000 342039932.5755  
## 6 3347166579.2374 nan 0.1000 287400276.6923  
## 7 3100960070.1314 nan 0.1000 272844298.8199  
## 8 2846255575.8983 nan 0.1000 233218664.8456  
## 9 2651631599.2961 nan 0.1000 206918429.7644  
## 10 2452701220.8255 nan 0.1000 183835432.8312  
## 20 1436288139.7096 nan 0.1000 68463110.8870  
## 40 842186125.0505 nan 0.1000 2672373.8988  
## 60 687778105.5277 nan 0.1000 3023582.7161  
## 80 618388701.5725 nan 0.1000 -9379903.2498  
## 100 560672847.2993 nan 0.1000 -1388054.2143  
## 120 520798135.7144 nan 0.1000 -3122269.2234  
## 140 481604414.3056 nan 0.1000 -3906960.9963  
## 150 466352809.2163 nan 0.1000 -1366293.1022

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 120, 160, 190,  
## 90, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5375921020.0939 nan 0.1000 842506849.0706  
## 2 4694241559.4019 nan 0.1000 544792442.7603  
## 3 4156531506.4459 nan 0.1000 507596944.3417  
## 4 3758132020.8327 nan 0.1000 426789916.3379  
## 5 3389294583.7563 nan 0.1000 326705710.3294  
## 6 3041781550.2915 nan 0.1000 337288013.9379  
## 7 2791493359.9329 nan 0.1000 257174065.6432  
## 8 2528322275.4396 nan 0.1000 260756932.8634  
## 9 2305952705.9306 nan 0.1000 199742319.6735  
## 10 2117242560.3036 nan 0.1000 135715107.1058  
## 20 1182495259.4219 nan 0.1000 37403791.7955  
## 40 703314863.9350 nan 0.1000 -1308295.2595  
## 60 563480423.7670 nan 0.1000 -569002.9934  
## 80 486439045.7538 nan 0.1000 -3255404.6228  
## 100 431012220.1472 nan 0.1000 -378422.4313  
## 120 387871825.5865 nan 0.1000 -3450214.9695  
## 140 355139138.1305 nan 0.1000 -1769597.6019  
## 150 340128709.7745 nan 0.1000 -2338934.9357

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6046135441.9299 nan 0.1000 553386570.0829  
## 2 5530466477.3936 nan 0.1000 495423373.2215  
## 3 5125464944.9327 nan 0.1000 421200459.9306  
## 4 4794595552.7550 nan 0.1000 304608237.2938  
## 5 4474830297.1860 nan 0.1000 327655085.7508  
## 6 4183395707.4858 nan 0.1000 273243216.8006  
## 7 3905922891.6165 nan 0.1000 203943513.3563  
## 8 3701134164.0055 nan 0.1000 195027568.7747  
## 9 3476452489.3241 nan 0.1000 201227669.5258  
## 10 3308019158.9969 nan 0.1000 171168524.8145  
## 20 2161943574.2141 nan 0.1000 78905601.3850  
## 40 1354755074.7479 nan 0.1000 18172283.5214  
## 60 1104764683.7232 nan 0.1000 3428787.6756  
## 80 985302598.8218 nan 0.1000 -7100389.5870  
## 100 898972445.0532 nan 0.1000 -3567572.7573  
## 120 848624124.5795 nan 0.1000 -1925956.3116  
## 140 812204538.7815 nan 0.1000 -6579226.5119  
## 150 805191503.0934 nan 0.1000 -2727996.9074

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5843828029.5855 nan 0.1000 655640658.7070  
## 2 5238794695.0413 nan 0.1000 562706532.4396  
## 3 4723648201.0812 nan 0.1000 482848807.9721  
## 4 4294503295.8790 nan 0.1000 376590506.1743  
## 5 3957322848.0752 nan 0.1000 231958029.0831  
## 6 3597598298.8324 nan 0.1000 346760455.8491  
## 7 3287152376.2602 nan 0.1000 303595787.4683  
## 8 3078680645.8269 nan 0.1000 216698026.9504  
## 9 2831076845.3535 nan 0.1000 191496560.0242  
## 10 2628263042.6756 nan 0.1000 195189360.2452  
## 20 1544007890.7830 nan 0.1000 59606933.3384  
## 40 954794422.3417 nan 0.1000 509987.7586  
## 60 786393772.9822 nan 0.1000 -8755052.7092  
## 80 700801334.0906 nan 0.1000 -1451453.8119  
## 100 629746455.1890 nan 0.1000 -3227211.6211  
## 120 579877850.4767 nan 0.1000 -2261051.0891  
## 140 534321241.2385 nan 0.1000 -6588030.7570  
## 150 520689437.6623 nan 0.1000 -4139729.6859

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5867550597.6895 nan 0.1000 752082014.4176  
## 2 5168929776.9550 nan 0.1000 708235302.1533  
## 3 4593535419.2308 nan 0.1000 515490663.6514  
## 4 4066416162.4272 nan 0.1000 583811344.8300  
## 5 3675830310.9534 nan 0.1000 412371946.9168  
## 6 3331848168.1171 nan 0.1000 299703883.1035  
## 7 3033170620.2315 nan 0.1000 342666330.2776  
## 8 2775782604.1976 nan 0.1000 163164652.9750  
## 9 2564399343.4706 nan 0.1000 180408641.3294  
## 10 2360677800.8162 nan 0.1000 141038326.6710  
## 20 1302385236.4417 nan 0.1000 28401241.8813  
## 40 800187992.1834 nan 0.1000 -1674832.6173  
## 60 659115244.8504 nan 0.1000 -6611191.4054  
## 80 548604877.6746 nan 0.1000 814522.7346  
## 100 467860177.2547 nan 0.1000 -3493051.3935  
## 120 432418332.6315 nan 0.1000 -5994966.7910  
## 140 390503567.7036 nan 0.1000 -1396627.8805  
## 150 372999770.4962 nan 0.1000 -4086014.4540

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5552041739.6270 nan 0.1000 531853588.2539  
## 2 5090001237.4007 nan 0.1000 452224278.4633  
## 3 4724761839.5713 nan 0.1000 362587994.0811  
## 4 4407742774.9035 nan 0.1000 316650619.9482  
## 5 4122562711.2923 nan 0.1000 298363813.2751  
## 6 3854254416.9342 nan 0.1000 293111073.1790  
## 7 3632868698.9168 nan 0.1000 214888401.3668  
## 8 3419603908.9924 nan 0.1000 180669691.7115  
## 9 3232983531.6063 nan 0.1000 174720461.3172  
## 10 3048561306.3232 nan 0.1000 164560033.3986  
## 20 1996399503.2747 nan 0.1000 54929549.2606  
## 40 1235081263.6098 nan 0.1000 -17554435.8187  
## 60 992402008.7258 nan 0.1000 6017258.9739  
## 80 883888323.7801 nan 0.1000 -2419878.9113  
## 100 826057165.5983 nan 0.1000 -581203.0510  
## 120 779653151.6106 nan 0.1000 -2762274.3251  
## 140 748248032.3852 nan 0.1000 -8554187.4790  
## 150 735731358.7153 nan 0.1000 821366.0136

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5386694312.9203 nan 0.1000 681895998.5864  
## 2 4755994216.0891 nan 0.1000 592853426.8762  
## 3 4283805141.9240 nan 0.1000 436385698.4118  
## 4 3881305058.5516 nan 0.1000 416511546.4547  
## 5 3569002775.7541 nan 0.1000 274716605.5773  
## 6 3283981026.5832 nan 0.1000 215249633.0247  
## 7 2995363578.6625 nan 0.1000 239629272.4412  
## 8 2788946530.4684 nan 0.1000 209059706.6639  
## 9 2585120766.8583 nan 0.1000 174661861.7604  
## 10 2406957852.4025 nan 0.1000 156388091.2542  
## 20 1482868646.6564 nan 0.1000 39223617.5642  
## 40 945732706.4820 nan 0.1000 7184035.4220  
## 60 776220562.6683 nan 0.1000 -1023752.5445  
## 80 694290736.6705 nan 0.1000 -5178129.9608  
## 100 633619275.5874 nan 0.1000 -10243212.0468  
## 120 576783891.9586 nan 0.1000 -1984043.6406  
## 140 525673680.9555 nan 0.1000 -4436338.6325  
## 150 509416393.1736 nan 0.1000 -4585762.5014

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 160, 190, 90, 50, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5344420642.1478 nan 0.1000 745444292.7863  
## 2 4741018511.2419 nan 0.1000 623673768.3101  
## 3 4188570984.8958 nan 0.1000 489657869.0269  
## 4 3764694026.5145 nan 0.1000 447317418.1310  
## 5 3379394829.2411 nan 0.1000 375179730.3166  
## 6 3031161597.0874 nan 0.1000 279995869.3893  
## 7 2748969409.4129 nan 0.1000 263578086.8095  
## 8 2514950854.9447 nan 0.1000 192422959.9663  
## 9 2328899360.3208 nan 0.1000 167092602.7776  
## 10 2157866752.9558 nan 0.1000 167516688.8606  
## 20 1235029332.2974 nan 0.1000 46705473.4453  
## 40 778770592.3297 nan 0.1000 -9510795.7249  
## 60 640247819.8383 nan 0.1000 -2379709.6339  
## 80 556505848.4852 nan 0.1000 -1237803.3185  
## 100 502460196.1411 nan 0.1000 -5490214.3256  
## 120 443299783.3892 nan 0.1000 2417081.8485  
## 140 400042722.4717 nan 0.1000 -4284249.5166  
## 150 383934784.2138 nan 0.1000 -1677178.6122

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5990424415.5530 nan 0.1000 601302998.5656  
## 2 5511620598.8087 nan 0.1000 412904800.7029  
## 3 5069112452.8944 nan 0.1000 439551589.7353  
## 4 4731781877.6664 nan 0.1000 305377271.6323  
## 5 4417327453.3482 nan 0.1000 297895685.3257  
## 6 4132305330.9472 nan 0.1000 283480518.2532  
## 7 3887117111.8067 nan 0.1000 240880760.7349  
## 8 3694629438.7222 nan 0.1000 187616167.3501  
## 9 3490255768.1264 nan 0.1000 199629342.3701  
## 10 3299516016.7270 nan 0.1000 190650263.9650  
## 20 2153719427.0271 nan 0.1000 44222239.3066  
## 40 1354463692.9189 nan 0.1000 20956460.4909  
## 60 1093425830.7593 nan 0.1000 -119853.9661  
## 80 976093121.7457 nan 0.1000 -7071952.0234  
## 100 905596232.2423 nan 0.1000 3703888.4370  
## 120 859262928.5697 nan 0.1000 -842316.2119  
## 140 827945363.5043 nan 0.1000 -8875204.4809  
## 150 818225439.2324 nan 0.1000 -6349462.7841

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5899001496.6933 nan 0.1000 676953053.8933  
## 2 5276663403.1056 nan 0.1000 567231369.4005  
## 3 4781496030.0747 nan 0.1000 433325387.0036  
## 4 4344955690.6376 nan 0.1000 416934578.0340  
## 5 3990053807.4384 nan 0.1000 354481414.6282  
## 6 3721472835.6828 nan 0.1000 204584429.6112  
## 7 3428103289.1671 nan 0.1000 212354402.2146  
## 8 3164486640.4161 nan 0.1000 247255367.7734  
## 9 2925123458.5695 nan 0.1000 214488035.2656  
## 10 2693783777.2225 nan 0.1000 225203567.3380  
## 20 1562720942.5645 nan 0.1000 56144766.2865  
## 40 983716484.8068 nan 0.1000 11646785.3668  
## 60 803166031.2332 nan 0.1000 -8704228.1640  
## 80 709723759.5654 nan 0.1000 -10933337.5225  
## 100 623766152.5881 nan 0.1000 -6414284.8104  
## 120 566433677.7179 nan 0.1000 1137320.6265  
## 140 522068823.0519 nan 0.1000 70377.7635  
## 150 499419367.9130 nan 0.1000 778269.1003

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5866654662.2128 nan 0.1000 748944114.2730  
## 2 5210284486.8347 nan 0.1000 677677727.3041  
## 3 4661363736.5964 nan 0.1000 465747984.4287  
## 4 4187556184.7088 nan 0.1000 477616209.4433  
## 5 3789461355.3719 nan 0.1000 309928727.6006  
## 6 3413707353.6519 nan 0.1000 348355872.2528  
## 7 3103641840.6711 nan 0.1000 312839231.1840  
## 8 2856179780.1043 nan 0.1000 167087744.5355  
## 9 2633606455.3905 nan 0.1000 190131311.6045  
## 10 2426282133.2961 nan 0.1000 162477375.1108  
## 20 1367515722.3224 nan 0.1000 45597865.8096  
## 40 814555603.6292 nan 0.1000 8756366.1590  
## 60 659960019.9728 nan 0.1000 -1357342.7427  
## 80 554405371.2581 nan 0.1000 2246543.1016  
## 100 485581475.6734 nan 0.1000 -3870865.0104  
## 120 442203949.9287 nan 0.1000 -59353.4911  
## 140 404045147.6457 nan 0.1000 -5871002.4910  
## 150 382825852.7469 nan 0.1000 -1362289.8990

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6007310503.5465 nan 0.1000 564777871.4361  
## 2 5485572902.0137 nan 0.1000 525792618.6754  
## 3 5057325736.9557 nan 0.1000 359190131.8608  
## 4 4687802721.2629 nan 0.1000 364132215.6836  
## 5 4352309277.0210 nan 0.1000 276726720.4538  
## 6 4090384223.4345 nan 0.1000 216733682.4851  
## 7 3847990770.9760 nan 0.1000 237270659.6366  
## 8 3626954818.2261 nan 0.1000 189024343.2283  
## 9 3433586641.9261 nan 0.1000 198009061.7799  
## 10 3269918516.8612 nan 0.1000 159085016.5912  
## 20 2094883390.1535 nan 0.1000 72464215.7747  
## 40 1286298714.7307 nan 0.1000 20383590.0740  
## 60 1003264589.3810 nan 0.1000 -16147872.0279  
## 80 890164681.0564 nan 0.1000 4011610.2436  
## 100 842069851.4306 nan 0.1000 -21888683.2436  
## 120 796196718.9523 nan 0.1000 -4689062.6211  
## 140 753317076.2478 nan 0.1000 -3783663.7269  
## 150 738320606.7048 nan 0.1000 -1258667.6699

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5855782701.2182 nan 0.1000 708675321.3939  
## 2 5282968397.6897 nan 0.1000 491643521.4294  
## 3 4748514729.6481 nan 0.1000 547894422.5463  
## 4 4293269517.6753 nan 0.1000 419785390.3885  
## 5 3959205664.3031 nan 0.1000 321246842.6907  
## 6 3663733005.6304 nan 0.1000 288765236.3123  
## 7 3349761756.6260 nan 0.1000 311138924.1625  
## 8 3094941998.0123 nan 0.1000 251695607.8849  
## 9 2896570942.0506 nan 0.1000 174031953.8108  
## 10 2687829240.2530 nan 0.1000 180133468.9296  
## 20 1461218533.0609 nan 0.1000 49056865.2911  
## 40 882909373.1740 nan 0.1000 10079567.5109  
## 60 740700506.4227 nan 0.1000 647217.1926  
## 80 644454460.9698 nan 0.1000 -3408741.3976  
## 100 591239194.6176 nan 0.1000 -4022631.5120  
## 120 548886440.4416 nan 0.1000 -2073684.9175  
## 140 512857541.9585 nan 0.1000 -2204817.5237  
## 150 496700470.5355 nan 0.1000 -1731661.7620

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5779995818.5393 nan 0.1000 795500004.5995  
## 2 5077193856.7895 nan 0.1000 640830247.0444  
## 3 4505806015.9265 nan 0.1000 535410158.5185  
## 4 4016476803.6268 nan 0.1000 491190010.9308  
## 5 3593480531.4659 nan 0.1000 338742465.1313  
## 6 3226181271.4877 nan 0.1000 361187008.9037  
## 7 2951582025.0768 nan 0.1000 284703009.2693  
## 8 2688775880.8265 nan 0.1000 234551590.9835  
## 9 2470124509.1609 nan 0.1000 210219261.0919  
## 10 2289524471.0598 nan 0.1000 177303595.9909  
## 20 1268781269.8851 nan 0.1000 47317133.9681  
## 40 763938624.2909 nan 0.1000 3592773.6263  
## 60 628814819.0857 nan 0.1000 -1889403.9008  
## 80 541278640.8690 nan 0.1000 -2171511.1270  
## 100 490139159.8163 nan 0.1000 -3839164.8404  
## 120 439896154.2420 nan 0.1000 -5789325.9760  
## 140 407199998.2657 nan 0.1000 -5327518.3439  
## 150 391146460.0779 nan 0.1000 -3336189.2399

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5987968078.6915 nan 0.1000 565280756.9686  
## 2 5516833726.3746 nan 0.1000 479400179.2558  
## 3 5100468532.7051 nan 0.1000 397045931.9053  
## 4 4748366618.4285 nan 0.1000 309109031.3652  
## 5 4442671396.8623 nan 0.1000 324887504.0225  
## 6 4150476234.0431 nan 0.1000 289609574.4329  
## 7 3880636964.6757 nan 0.1000 237866066.4607  
## 8 3661227140.1281 nan 0.1000 149903306.6497  
## 9 3457707349.2837 nan 0.1000 194134806.9421  
## 10 3281798389.3215 nan 0.1000 174666971.8226  
## 20 2119762885.6595 nan 0.1000 60989165.5350  
## 40 1329732038.5457 nan 0.1000 5668937.1063  
## 60 1060682456.8780 nan 0.1000 -1342802.2972  
## 80 943644063.5732 nan 0.1000 2857966.9558  
## 100 877322107.2649 nan 0.1000 -3759911.4538  
## 120 830134110.1947 nan 0.1000 1251876.0138  
## 140 803558753.6556 nan 0.1000 -3729369.7274  
## 150 786203697.3639 nan 0.1000 -18464956.0429

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5897174580.7788 nan 0.1000 648740106.5349  
## 2 5233648654.1507 nan 0.1000 655015337.9076  
## 3 4724028113.1981 nan 0.1000 518106263.7425  
## 4 4283010494.8137 nan 0.1000 421235639.4606  
## 5 3906863238.7857 nan 0.1000 431248318.0199  
## 6 3599232334.2420 nan 0.1000 277395483.2849  
## 7 3320581439.6294 nan 0.1000 234438243.2058  
## 8 3076135405.8988 nan 0.1000 225540757.9750  
## 9 2905411804.3735 nan 0.1000 140540375.2026  
## 10 2713092970.6211 nan 0.1000 185006301.5957  
## 20 1591067947.4513 nan 0.1000 80978494.5597  
## 40 978631789.8396 nan 0.1000 -6537641.5145  
## 60 807682233.2058 nan 0.1000 -6204109.0597  
## 80 723459653.0886 nan 0.1000 -3137040.2373  
## 100 656464600.9847 nan 0.1000 -9208297.5004  
## 120 597532389.3875 nan 0.1000 -4285110.1601  
## 140 551984413.6616 nan 0.1000 784788.7493  
## 150 532014705.8357 nan 0.1000 -4201781.4621

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5731593285.1225 nan 0.1000 778333513.1795  
## 2 5084020849.9059 nan 0.1000 668753365.5759  
## 3 4538579761.0825 nan 0.1000 503999875.6826  
## 4 4052805443.8385 nan 0.1000 479452237.0071  
## 5 3616608051.4991 nan 0.1000 434852976.2420  
## 6 3284189110.5585 nan 0.1000 309108377.7014  
## 7 2971936692.9320 nan 0.1000 193574572.3773  
## 8 2705290544.1552 nan 0.1000 211880798.0064  
## 9 2466401182.6379 nan 0.1000 199190358.1150  
## 10 2262048965.0017 nan 0.1000 166252348.6709  
## 20 1279787954.0209 nan 0.1000 45061814.1862  
## 40 802504585.9936 nan 0.1000 6524460.6256  
## 60 654189337.0099 nan 0.1000 1380590.4674  
## 80 569140333.1142 nan 0.1000 -4741440.8476  
## 100 514222542.1567 nan 0.1000 -4719925.0460  
## 120 460636965.1225 nan 0.1000 -1956929.2162  
## 140 408909129.9481 nan 0.1000 -2444182.9846  
## 150 388321360.9171 nan 0.1000 -4057493.6171

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5778193058.2967 nan 0.1000 575339927.4282  
## 2 5292115957.3751 nan 0.1000 459199818.3277  
## 3 4925905630.0558 nan 0.1000 328299436.8626  
## 4 4553911286.1633 nan 0.1000 423810508.9627  
## 5 4260356218.6159 nan 0.1000 276877238.0831  
## 6 3971118100.5313 nan 0.1000 260203442.4730  
## 7 3737742809.8997 nan 0.1000 228457416.9816  
## 8 3548797256.0437 nan 0.1000 101022391.7497  
## 9 3334244769.2413 nan 0.1000 213295448.0488  
## 10 3156644044.4737 nan 0.1000 149720907.4370  
## 20 2074158971.1439 nan 0.1000 67872732.4584  
## 40 1330981711.1400 nan 0.1000 13372204.5284  
## 60 1072929707.7274 nan 0.1000 1106823.2384  
## 80 961815852.2004 nan 0.1000 1621635.5944  
## 100 894851839.6154 nan 0.1000 578880.3959  
## 120 854283782.8323 nan 0.1000 -14041853.7148  
## 140 815969835.2125 nan 0.1000 -3906651.6945  
## 150 801217953.3756 nan 0.1000 -4025180.8561

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5699179773.2613 nan 0.1000 626522885.7664  
## 2 5097026300.2508 nan 0.1000 612765566.4612  
## 3 4589271000.0482 nan 0.1000 498610209.9466  
## 4 4133732617.8361 nan 0.1000 448255036.1058  
## 5 3773768985.6041 nan 0.1000 324815304.9785  
## 6 3444994506.4785 nan 0.1000 364583343.3908  
## 7 3189072566.1426 nan 0.1000 278246088.0449  
## 8 2943185375.7352 nan 0.1000 216346847.3124  
## 9 2767817167.3313 nan 0.1000 176846053.6413  
## 10 2562062016.6961 nan 0.1000 177584174.5904  
## 20 1558594476.7478 nan 0.1000 56019100.0122  
## 40 990649725.9807 nan 0.1000 10806593.5921  
## 60 819558774.1318 nan 0.1000 -1059789.1616  
## 80 734871622.4815 nan 0.1000 -589295.0140  
## 100 660394163.7823 nan 0.1000 -10558066.9351  
## 120 601921160.8704 nan 0.1000 1010000.6542  
## 140 557398033.1364 nan 0.1000 -1628398.5253  
## 150 542545393.0031 nan 0.1000 -4082258.9552

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5615687035.3833 nan 0.1000 742148145.2366  
## 2 4955932409.8412 nan 0.1000 518031120.4872  
## 3 4418533391.9291 nan 0.1000 470970928.4104  
## 4 3989496291.8467 nan 0.1000 433361948.1117  
## 5 3618350079.9080 nan 0.1000 374452666.1884  
## 6 3289265874.3685 nan 0.1000 263355847.3835  
## 7 3000025210.6585 nan 0.1000 255712810.5185  
## 8 2755835941.3733 nan 0.1000 199114556.1781  
## 9 2542460090.5202 nan 0.1000 213471561.5301  
## 10 2353458383.6234 nan 0.1000 174611580.5050  
## 20 1320875310.8246 nan 0.1000 49520667.6026  
## 40 807677321.2655 nan 0.1000 -335308.8168  
## 60 661274993.2271 nan 0.1000 -920211.2389  
## 80 579841619.5756 nan 0.1000 -5110288.6378  
## 100 516435731.7642 nan 0.1000 -2422942.5843  
## 120 464980384.2060 nan 0.1000 -431965.0986  
## 140 425320686.0299 nan 0.1000 -1661836.3635  
## 150 397706545.9320 nan 0.1000 -4444283.4983

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5681659032.9079 nan 0.1000 551084948.0502  
## 2 5214284258.7933 nan 0.1000 461843654.5965  
## 3 4828594947.3114 nan 0.1000 382401991.4689  
## 4 4464630829.5148 nan 0.1000 324238400.3502  
## 5 4177327486.5275 nan 0.1000 213328681.9162  
## 6 3919532433.1447 nan 0.1000 255704190.6148  
## 7 3688005778.0764 nan 0.1000 199137198.4465  
## 8 3485585037.1494 nan 0.1000 204718214.9538  
## 9 3288926123.6855 nan 0.1000 194335282.2725  
## 10 3116932810.7518 nan 0.1000 136597777.5273  
## 20 2044945266.7051 nan 0.1000 66264494.5363  
## 40 1267085713.0628 nan 0.1000 16890805.0996  
## 60 1041506686.1306 nan 0.1000 -14709518.7715  
## 80 922212602.7053 nan 0.1000 214051.1345  
## 100 868568083.8151 nan 0.1000 -2493133.8905  
## 120 824598908.1261 nan 0.1000 -9702817.6061  
## 140 793281862.1351 nan 0.1000 -4946251.9486  
## 150 779905569.3104 nan 0.1000 -1217063.3741

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5607590092.8324 nan 0.1000 641948023.1116  
## 2 5007263584.5475 nan 0.1000 512829657.7392  
## 3 4509114910.1058 nan 0.1000 447331583.2178  
## 4 4085789020.0643 nan 0.1000 397727641.8599  
## 5 3749897738.4889 nan 0.1000 314285510.7635  
## 6 3439445247.8688 nan 0.1000 301731630.1601  
## 7 3177424008.5460 nan 0.1000 274517153.4167  
## 8 2936372161.5034 nan 0.1000 202968684.5575  
## 9 2722263144.2436 nan 0.1000 179031057.9446  
## 10 2537708442.3070 nan 0.1000 155489204.2654  
## 20 1486619007.1504 nan 0.1000 36903015.6467  
## 40 943888864.1726 nan 0.1000 10882487.0744  
## 60 789128479.3932 nan 0.1000 2624115.2900  
## 80 708604871.3325 nan 0.1000 -5745479.5682  
## 100 637217294.8050 nan 0.1000 -4555050.3545  
## 120 586970609.7504 nan 0.1000 -3083378.2673  
## 140 546028438.4437 nan 0.1000 -1555720.6472  
## 150 525500552.5111 nan 0.1000 -6989899.5142

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 160, 190, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5410706774.7452 nan 0.1000 750219975.5941  
## 2 4770723609.7655 nan 0.1000 583093720.4985  
## 3 4291064324.9008 nan 0.1000 480321844.9501  
## 4 3862723723.6328 nan 0.1000 445068401.5608  
## 5 3480296830.6480 nan 0.1000 351775439.0751  
## 6 3185412587.8151 nan 0.1000 319096306.3084  
## 7 2912102414.5525 nan 0.1000 264791078.6342  
## 8 2647988612.5382 nan 0.1000 247462116.8681  
## 9 2437446099.6734 nan 0.1000 207614579.3557  
## 10 2263689410.1168 nan 0.1000 134685338.0805  
## 20 1282557134.7005 nan 0.1000 37290326.0533  
## 40 763310052.0331 nan 0.1000 -9150583.4540  
## 60 624716279.9846 nan 0.1000 -4743024.0160  
## 80 555908251.2412 nan 0.1000 -2978413.8423  
## 100 488210658.8979 nan 0.1000 -4036703.3501  
## 120 447143520.5957 nan 0.1000 -4916113.5603  
## 140 397992482.7228 nan 0.1000 535753.4500  
## 150 380601445.3427 nan 0.1000 -5996865.7211

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5960475550.7597 nan 0.1000 529915133.6557  
## 2 5510296792.5666 nan 0.1000 475901508.6075  
## 3 5105282356.6683 nan 0.1000 410330772.1822  
## 4 4756709765.1941 nan 0.1000 305401553.7315  
## 5 4433396237.1931 nan 0.1000 279196214.3567  
## 6 4119226699.3701 nan 0.1000 268337010.7073  
## 7 3856934862.8249 nan 0.1000 244491525.9380  
## 8 3635181619.0918 nan 0.1000 147020729.4772  
## 9 3412031556.1390 nan 0.1000 206422545.8027  
## 10 3225380975.0679 nan 0.1000 160183811.5837  
## 20 2107456924.2785 nan 0.1000 73452768.9354  
## 40 1328564814.0093 nan 0.1000 14278062.9891  
## 60 1069514172.5395 nan 0.1000 405767.9151  
## 80 967148583.3803 nan 0.1000 2638993.3277  
## 100 906213773.5044 nan 0.1000 -3095946.8153  
## 120 856873369.7603 nan 0.1000 -1714891.1748  
## 140 825926304.6828 nan 0.1000 -8581340.3041  
## 150 812928495.6884 nan 0.1000 -1908870.5022

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5826849017.6631 nan 0.1000 725640479.8579  
## 2 5242226171.6036 nan 0.1000 601194400.6820  
## 3 4824176757.1258 nan 0.1000 344138221.1111  
## 4 4338158978.2209 nan 0.1000 455862215.1209  
## 5 3900094090.4199 nan 0.1000 408285494.0175  
## 6 3542773752.8760 nan 0.1000 369241931.2595  
## 7 3274603185.5315 nan 0.1000 243963977.7911  
## 8 3019018918.5009 nan 0.1000 251139994.5664  
## 9 2800027247.5685 nan 0.1000 193736562.0676  
## 10 2616683737.9549 nan 0.1000 166048275.7566  
## 20 1585849690.3503 nan 0.1000 64348256.5829  
## 40 1026485430.2870 nan 0.1000 3567840.3131  
## 60 856132439.4305 nan 0.1000 -1599893.5959  
## 80 741102628.3421 nan 0.1000 -3636164.1715  
## 100 678484969.1668 nan 0.1000 -6766132.8252  
## 120 612318242.4202 nan 0.1000 -4244102.7366  
## 140 562805592.1612 nan 0.1000 -1738045.9541  
## 150 540927548.0862 nan 0.1000 -1497479.7431

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5764136960.4888 nan 0.1000 647309858.4718  
## 2 5116627295.3661 nan 0.1000 547580680.6492  
## 3 4548709357.1705 nan 0.1000 549745737.2790  
## 4 4029093671.8411 nan 0.1000 504668654.1778  
## 5 3654392964.3978 nan 0.1000 369907089.6678  
## 6 3282566739.2301 nan 0.1000 326296679.2487  
## 7 2967389940.2174 nan 0.1000 248728890.7139  
## 8 2689336639.9967 nan 0.1000 270201191.6194  
## 9 2468322987.8724 nan 0.1000 178915565.9830  
## 10 2286282316.4874 nan 0.1000 181396199.4636  
## 20 1319992704.4232 nan 0.1000 29775833.9797  
## 40 843693708.2658 nan 0.1000 -3971437.9097  
## 60 676971121.4565 nan 0.1000 -4129627.4027  
## 80 599731139.5808 nan 0.1000 -1418981.8792  
## 100 520917625.5903 nan 0.1000 -765027.2491  
## 120 472873629.2797 nan 0.1000 -2725011.1668  
## 140 428039987.8784 nan 0.1000 -8414131.3654  
## 150 401646106.9047 nan 0.1000 -2676169.1013

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5941765531.0229 nan 0.1000 545358023.9221  
## 2 5439167443.2519 nan 0.1000 508716566.4286  
## 3 5093009840.4677 nan 0.1000 347607224.1679  
## 4 4710975947.0863 nan 0.1000 371878450.8427  
## 5 4382574341.2766 nan 0.1000 310640345.5438  
## 6 4119991026.0815 nan 0.1000 229159061.6942  
## 7 3855534153.7159 nan 0.1000 250844803.1578  
## 8 3649133443.1797 nan 0.1000 205965564.0243  
## 9 3441723570.0914 nan 0.1000 175127762.6933  
## 10 3280986566.0710 nan 0.1000 98363748.2258  
## 20 2198073510.0628 nan 0.1000 53106079.6614  
## 40 1349628006.4471 nan 0.1000 510712.3281  
## 60 1076688534.6952 nan 0.1000 7154034.5898  
## 80 959076178.2032 nan 0.1000 4635766.9095  
## 100 889842298.3023 nan 0.1000 -12170196.8544  
## 120 830745715.0630 nan 0.1000 60411.5517  
## 140 783753752.9675 nan 0.1000 -788256.9776  
## 150 772992703.5686 nan 0.1000 -6148600.3560

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5762295393.0963 nan 0.1000 775937243.5380  
## 2 5169177627.5213 nan 0.1000 595607426.6876  
## 3 4661316614.7938 nan 0.1000 527680477.7108  
## 4 4260179988.7887 nan 0.1000 220966020.4527  
## 5 3909624397.1575 nan 0.1000 351281363.1884  
## 6 3562682708.5343 nan 0.1000 308208094.1860  
## 7 3286529929.3485 nan 0.1000 258268764.0129  
## 8 3063496000.7564 nan 0.1000 230553273.2536  
## 9 2830077492.7734 nan 0.1000 199561457.2904  
## 10 2629153956.5891 nan 0.1000 163498835.3229  
## 20 1568492507.4877 nan 0.1000 46969781.9814  
## 40 970303936.1160 nan 0.1000 4778351.5476  
## 60 789893611.5548 nan 0.1000 -8434583.1922  
## 80 684038982.7613 nan 0.1000 -1544738.9163  
## 100 623231612.1167 nan 0.1000 -2109676.5937  
## 120 566097408.1854 nan 0.1000 -7870334.7052  
## 140 530422067.5016 nan 0.1000 -808190.7460  
## 150 516066456.8332 nan 0.1000 -5240795.2688

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5741281920.0257 nan 0.1000 748539607.0064  
## 2 5127526338.9450 nan 0.1000 614436716.7772  
## 3 4588779259.5253 nan 0.1000 488992737.5029  
## 4 4158430642.9886 nan 0.1000 427942165.8762  
## 5 3775770829.6770 nan 0.1000 364117935.2378  
## 6 3462472035.6507 nan 0.1000 320619860.8629  
## 7 3163323989.2222 nan 0.1000 285989967.5594  
## 8 2877287873.1051 nan 0.1000 280697932.4085  
## 9 2654658961.5390 nan 0.1000 178283631.9248  
## 10 2437856859.7161 nan 0.1000 198031924.5180  
## 20 1388026116.0626 nan 0.1000 39491502.7710  
## 40 820641904.5525 nan 0.1000 -574665.5042  
## 60 668613467.6943 nan 0.1000 -5092488.5555  
## 80 578643884.6766 nan 0.1000 -3047994.0295  
## 100 505877897.7643 nan 0.1000 -13570944.6928  
## 120 454439583.1230 nan 0.1000 -5807789.3661  
## 140 407519177.1740 nan 0.1000 -2612392.0514  
## 150 386760166.4823 nan 0.1000 -3375877.2219

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5501388519.2049 nan 0.1000 499806478.1466  
## 2 5023482487.9459 nan 0.1000 454505494.4786  
## 3 4668209169.7483 nan 0.1000 365630687.3588  
## 4 4323890709.7480 nan 0.1000 303009665.7090  
## 5 4046320128.1923 nan 0.1000 253255635.0629  
## 6 3795216256.4024 nan 0.1000 251464256.3331  
## 7 3573135471.8406 nan 0.1000 208654487.1070  
## 8 3392781470.6159 nan 0.1000 180122349.7028  
## 9 3201671688.2128 nan 0.1000 180086877.1858  
## 10 3030931554.9353 nan 0.1000 159576807.5145  
## 20 1959542832.2757 nan 0.1000 53074373.7620  
## 40 1235588333.4792 nan 0.1000 -3189653.1443  
## 60 1001994242.8759 nan 0.1000 -16934400.6460  
## 80 912256230.2889 nan 0.1000 -134432.6690  
## 100 841193038.3849 nan 0.1000 3106825.1838  
## 120 794353602.5924 nan 0.1000 -347081.6529  
## 140 755643605.4720 nan 0.1000 1817900.2084  
## 150 741396865.3479 nan 0.1000 1458122.3309

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5373654308.3100 nan 0.1000 647377707.5602  
## 2 4789247319.0855 nan 0.1000 574663658.2553  
## 3 4306016133.7780 nan 0.1000 399957876.8010  
## 4 3907551519.8333 nan 0.1000 360032431.8507  
## 5 3522838757.6372 nan 0.1000 420221893.5538  
## 6 3259552137.8923 nan 0.1000 254349534.1749  
## 7 3005334589.8468 nan 0.1000 257052926.3769  
## 8 2779030420.4479 nan 0.1000 193578946.4281  
## 9 2568601390.9716 nan 0.1000 187947378.6053  
## 10 2390003567.8869 nan 0.1000 180197876.9966  
## 20 1417352015.8339 nan 0.1000 36802627.7840  
## 40 903930886.2660 nan 0.1000 2473276.1815  
## 60 750630060.0931 nan 0.1000 -6263186.6520  
## 80 669072004.2088 nan 0.1000 49799.5063  
## 100 613059466.8709 nan 0.1000 -4162966.0567  
## 120 559908579.4283 nan 0.1000 -1057912.6685  
## 140 519482270.8304 nan 0.1000 -9030818.9651  
## 150 503522753.8154 nan 0.1000 -2622629.3220

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5247096689.4481 nan 0.1000 760039658.2828  
## 2 4609811068.2818 nan 0.1000 533692313.4361  
## 3 4089226318.6299 nan 0.1000 461589265.3395  
## 4 3689027905.3253 nan 0.1000 413735284.5965  
## 5 3343998665.0413 nan 0.1000 358880986.4097  
## 6 3046036885.3864 nan 0.1000 257907847.7876  
## 7 2797274665.0170 nan 0.1000 229590137.0651  
## 8 2562832816.6863 nan 0.1000 221724591.9869  
## 9 2355229041.6030 nan 0.1000 182499774.5329  
## 10 2196726783.9648 nan 0.1000 151928541.1084  
## 20 1267955691.7492 nan 0.1000 44338096.9429  
## 40 788098781.9168 nan 0.1000 7909598.3701  
## 60 626175472.4605 nan 0.1000 -1981871.8172  
## 80 535377584.6717 nan 0.1000 -4618286.6148  
## 100 482022277.8249 nan 0.1000 -1861754.6664  
## 120 429517651.6392 nan 0.1000 -2614101.3759  
## 140 392865880.0911 nan 0.1000 -2808427.9788  
## 150 375928208.6958 nan 0.1000 -3499111.4358

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6055782835.5424 nan 0.1000 606566959.6650  
## 2 5571008306.8512 nan 0.1000 504382329.8692  
## 3 5165274988.0053 nan 0.1000 382098843.3034  
## 4 4860807578.6716 nan 0.1000 243114491.3337  
## 5 4518052792.7517 nan 0.1000 334660047.5574  
## 6 4222198359.9463 nan 0.1000 266527795.6901  
## 7 3945073408.6325 nan 0.1000 203591132.2021  
## 8 3720356112.5399 nan 0.1000 205203354.4887  
## 9 3468410621.2070 nan 0.1000 198460439.1392  
## 10 3318633902.8412 nan 0.1000 50670218.1329  
## 20 2122740625.5244 nan 0.1000 58469406.9494  
## 40 1266189423.7457 nan 0.1000 -8567170.7404  
## 60 977550390.1250 nan 0.1000 3896817.3842  
## 80 886101918.6492 nan 0.1000 -16997995.5986  
## 100 811899981.4099 nan 0.1000 -592194.7958  
## 120 774098775.0873 nan 0.1000 -2561304.3375  
## 140 736950709.7090 nan 0.1000 1914796.9670  
## 150 723369244.8580 nan 0.1000 -999541.1018

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5954358587.0616 nan 0.1000 699166497.3476  
## 2 5392271002.9368 nan 0.1000 646485937.1417  
## 3 4853687897.8383 nan 0.1000 515773838.8327  
## 4 4388785649.0714 nan 0.1000 461181035.9009  
## 5 3980685780.6063 nan 0.1000 358813813.0200  
## 6 3637564130.8234 nan 0.1000 303458707.3163  
## 7 3359838439.3337 nan 0.1000 298232684.1813  
## 8 3132647844.6160 nan 0.1000 233052046.0894  
## 9 2938915664.0896 nan 0.1000 196272797.5482  
## 10 2750672146.3410 nan 0.1000 168750836.7527  
## 20 1528488254.6152 nan 0.1000 43335914.7469  
## 40 937738384.0189 nan 0.1000 4208831.8688  
## 60 759862016.5485 nan 0.1000 -7845870.6354  
## 80 661134801.7572 nan 0.1000 -8574247.4419  
## 100 594198360.2432 nan 0.1000 -7546635.2687  
## 120 549109418.2775 nan 0.1000 -7532021.3952  
## 140 520466022.0424 nan 0.1000 -2072219.6699  
## 150 501539696.0456 nan 0.1000 -1651346.0091

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5814181989.5100 nan 0.1000 828724593.9001  
## 2 5164250793.6345 nan 0.1000 606098389.4698  
## 3 4542799499.5890 nan 0.1000 544247894.6606  
## 4 4100066945.9342 nan 0.1000 466789871.0059  
## 5 3663620841.2957 nan 0.1000 392174735.9274  
## 6 3326176216.9528 nan 0.1000 381108753.9126  
## 7 3015165942.8515 nan 0.1000 309979040.2384  
## 8 2759583826.1468 nan 0.1000 238372637.2862  
## 9 2538410283.1512 nan 0.1000 165081610.6852  
## 10 2342119321.7365 nan 0.1000 185568027.5409  
## 20 1293920374.6944 nan 0.1000 36975459.6688  
## 40 775693454.3450 nan 0.1000 -3022702.6589  
## 60 632923242.0106 nan 0.1000 -4718654.2105  
## 80 552713353.9187 nan 0.1000 -3506438.8366  
## 100 496394284.3573 nan 0.1000 -4401310.6301  
## 120 448234396.9705 nan 0.1000 1641241.8596  
## 140 414270173.1826 nan 0.1000 -5080715.7790  
## 150 397526623.8525 nan 0.1000 -4597934.3755

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5866298465.5977 nan 0.1000 587125466.5000  
## 2 5400303142.6303 nan 0.1000 478623862.8282  
## 3 5014846262.5920 nan 0.1000 420554843.7917  
## 4 4655716392.2685 nan 0.1000 344525824.1861  
## 5 4358823556.5901 nan 0.1000 289788729.1438  
## 6 4083196723.7739 nan 0.1000 244974688.2135  
## 7 3857721124.7474 nan 0.1000 234103840.9142  
## 8 3633966825.6376 nan 0.1000 151788460.6100  
## 9 3433586382.5754 nan 0.1000 190085208.7291  
## 10 3254094706.9680 nan 0.1000 178440476.3626  
## 20 2163840794.9113 nan 0.1000 77980498.3687  
## 40 1350452001.9581 nan 0.1000 25646371.2021  
## 60 1087526507.1011 nan 0.1000 7068069.2791  
## 80 980979437.2172 nan 0.1000 1308698.1827  
## 100 910233735.6383 nan 0.1000 2781052.1097  
## 120 870517441.7674 nan 0.1000 -16483623.3146  
## 140 848028988.8588 nan 0.1000 -7342000.3362  
## 150 829068097.7675 nan 0.1000 -461976.1761

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5753507486.7754 nan 0.1000 712798514.5098  
## 2 5152366960.1591 nan 0.1000 515654612.0260  
## 3 4656578368.5387 nan 0.1000 483046795.2640  
## 4 4239719219.7889 nan 0.1000 415376098.8346  
## 5 3919908560.9834 nan 0.1000 320052638.4418  
## 6 3542640745.8360 nan 0.1000 358962075.6195  
## 7 3216131025.6504 nan 0.1000 270863087.1237  
## 8 2961674612.4631 nan 0.1000 238020410.7407  
## 9 2728323133.3424 nan 0.1000 210556803.2967  
## 10 2560575159.4356 nan 0.1000 181830449.9630  
## 20 1531193593.5257 nan 0.1000 49210375.6593  
## 40 978916883.5663 nan 0.1000 3264077.5496  
## 60 816520380.0826 nan 0.1000 -19680695.8500  
## 80 737876694.2517 nan 0.1000 -2972392.1155  
## 100 672664842.8134 nan 0.1000 -6891944.5771  
## 120 619022566.2850 nan 0.1000 -6319179.1396  
## 140 580940556.5331 nan 0.1000 -4130712.6399  
## 150 561867936.1748 nan 0.1000 -1839913.9721

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5682192460.4091 nan 0.1000 649134465.2305  
## 2 5008012965.2385 nan 0.1000 728239145.5090  
## 3 4481534289.5515 nan 0.1000 481042715.9554  
## 4 4009525895.3086 nan 0.1000 484819954.9776  
## 5 3617440589.0218 nan 0.1000 304040735.2876  
## 6 3271488082.9155 nan 0.1000 366668232.4945  
## 7 2994361184.0938 nan 0.1000 279391136.0190  
## 8 2757419941.5887 nan 0.1000 210562769.4602  
## 9 2520208443.3661 nan 0.1000 219399169.7000  
## 10 2337856152.8923 nan 0.1000 164367867.2765  
## 20 1324916506.0848 nan 0.1000 48028381.6115  
## 40 801621759.5980 nan 0.1000 3477478.1899  
## 60 645569402.1477 nan 0.1000 -14706359.4930  
## 80 541224979.0552 nan 0.1000 -1804695.1538  
## 100 478684240.6567 nan 0.1000 -5698721.9033  
## 120 431170385.8091 nan 0.1000 -7619501.5407  
## 140 392921883.1976 nan 0.1000 -2086994.8530  
## 150 378618166.5336 nan 0.1000 -5351255.4199

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5984033663.8594 nan 0.1000 553103739.5005  
## 2 5502636180.1310 nan 0.1000 467827421.5473  
## 3 5081121818.4357 nan 0.1000 412538469.7945  
## 4 4742098991.2653 nan 0.1000 337641051.8895  
## 5 4472411190.2715 nan 0.1000 284011562.8157  
## 6 4195139577.0391 nan 0.1000 262537006.2148  
## 7 3945995427.8830 nan 0.1000 134892770.4676  
## 8 3761733915.7300 nan 0.1000 184419067.6082  
## 9 3541915307.1618 nan 0.1000 209725609.5957  
## 10 3359410064.1382 nan 0.1000 175843919.5570  
## 20 2171011200.7783 nan 0.1000 74382911.4752  
## 40 1296088231.9604 nan 0.1000 14262766.9217  
## 60 1017809138.6184 nan 0.1000 264221.5355  
## 80 908367341.6750 nan 0.1000 -14602722.6344  
## 100 842400032.8785 nan 0.1000 3070461.8818  
## 120 803390395.2154 nan 0.1000 -5686940.8117  
## 140 767851745.1354 nan 0.1000 -4499783.7296  
## 150 754071454.9935 nan 0.1000 -6183453.5155

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5846916399.8012 nan 0.1000 702764889.0946  
## 2 5175883740.2645 nan 0.1000 626316991.8416  
## 3 4687271863.2926 nan 0.1000 452326197.5531  
## 4 4259167349.4783 nan 0.1000 416787234.7052  
## 5 3897402657.8808 nan 0.1000 374773153.4699  
## 6 3611993318.4606 nan 0.1000 247380057.7761  
## 7 3328992878.2600 nan 0.1000 294155707.8376  
## 8 3058603746.8335 nan 0.1000 212917023.1724  
## 9 2846747280.8479 nan 0.1000 195501320.7277  
## 10 2629007750.0993 nan 0.1000 192047648.7514  
## 20 1522355174.5804 nan 0.1000 62161501.7466  
## 40 895486311.2334 nan 0.1000 9629161.5092  
## 60 731470176.7595 nan 0.1000 -2389284.2905  
## 80 645048989.5906 nan 0.1000 -5530302.0416  
## 100 582878714.5734 nan 0.1000 -9294869.1286  
## 120 547081682.0670 nan 0.1000 -1675873.5057  
## 140 514777756.7258 nan 0.1000 -6274897.8453  
## 150 495141814.5798 nan 0.1000 -3224763.2141

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 120, 160, 190, 90,  
## 20, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5843548071.1186 nan 0.1000 872694031.1102  
## 2 5182694539.0245 nan 0.1000 669093759.8710  
## 3 4644436408.6999 nan 0.1000 529338396.7363  
## 4 4196746132.3766 nan 0.1000 460822328.6463  
## 5 3824512591.8516 nan 0.1000 411482730.3525  
## 6 3419632313.3964 nan 0.1000 313635204.9949  
## 7 3131312927.7644 nan 0.1000 250427342.9418  
## 8 2890485170.9129 nan 0.1000 252940901.2118  
## 9 2650161847.0879 nan 0.1000 221895543.4446  
## 10 2453247758.7466 nan 0.1000 117614261.3401  
## 20 1335923660.2500 nan 0.1000 46500863.9757  
## 40 749693551.4572 nan 0.1000 -9455443.2724  
## 60 603681442.6149 nan 0.1000 -3382827.8970  
## 80 532339415.2852 nan 0.1000 325552.1639  
## 100 480803338.7732 nan 0.1000 -75094.0542  
## 120 437541533.8953 nan 0.1000 -41466.5845  
## 140 405440053.1553 nan 0.1000 -8536476.4778  
## 150 392146092.6420 nan 0.1000 -1384670.3450

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5999171526.0815 nan 0.1000 531225073.7381  
## 2 5505953056.4994 nan 0.1000 476841392.4886  
## 3 5109354904.2466 nan 0.1000 385844746.4351  
## 4 4757775969.8918 nan 0.1000 358677325.2355  
## 5 4451867984.8194 nan 0.1000 294240308.0606  
## 6 4183892799.4682 nan 0.1000 218024287.1554  
## 7 3921016756.1742 nan 0.1000 208127233.7025  
## 8 3689787482.3879 nan 0.1000 194206806.4456  
## 9 3480707713.0709 nan 0.1000 193800677.1604  
## 10 3286943414.0469 nan 0.1000 165875781.7999  
## 20 2171504958.3860 nan 0.1000 -6382873.8831  
## 40 1328544849.7767 nan 0.1000 12421094.7942  
## 60 1068621376.2156 nan 0.1000 6931595.1586  
## 80 983182211.5290 nan 0.1000 -9434701.7712  
## 100 931513576.1327 nan 0.1000 -7840617.3482  
## 120 885038695.4485 nan 0.1000 -8987166.2273  
## 140 847809029.6512 nan 0.1000 -7094875.9695  
## 150 828107056.9410 nan 0.1000 -11801316.0136

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5846277764.7177 nan 0.1000 691657999.3143  
## 2 5312616321.4263 nan 0.1000 568006032.1031  
## 3 4806567874.5111 nan 0.1000 401129585.2892  
## 4 4344806738.0499 nan 0.1000 484717379.1358  
## 5 3935351677.0603 nan 0.1000 391718545.3122  
## 6 3609695787.0105 nan 0.1000 318606363.9677  
## 7 3342191023.2966 nan 0.1000 283181171.8393  
## 8 3096148008.0750 nan 0.1000 249532483.4019  
## 9 2886095733.4649 nan 0.1000 198345337.4289  
## 10 2696510569.0641 nan 0.1000 174695090.1562  
## 20 1570173373.7136 nan 0.1000 53197909.7171  
## 40 988654437.7621 nan 0.1000 13399156.7067  
## 60 809613278.8283 nan 0.1000 -1364945.9131  
## 80 709650551.8492 nan 0.1000 -7696955.1896  
## 100 643223828.9437 nan 0.1000 -5117497.9885  
## 120 595363272.6753 nan 0.1000 -10951792.4292  
## 140 545791901.1712 nan 0.1000 30399.7161  
## 150 527062522.8814 nan 0.1000 -5744213.3157

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5846860194.4147 nan 0.1000 766898949.6955  
## 2 5178000973.2727 nan 0.1000 680208414.3396  
## 3 4578422237.8432 nan 0.1000 559609165.5043  
## 4 4081108280.6888 nan 0.1000 432243097.9884  
## 5 3662039517.5969 nan 0.1000 403412410.0547  
## 6 3309358813.5487 nan 0.1000 350535393.7017  
## 7 3025941102.9501 nan 0.1000 271828572.6510  
## 8 2777531713.7048 nan 0.1000 236844050.2842  
## 9 2543334355.5375 nan 0.1000 221667311.8525  
## 10 2383500854.2316 nan 0.1000 180420016.2594  
## 20 1350549344.1515 nan 0.1000 49283616.1451  
## 40 801053351.6363 nan 0.1000 562947.4251  
## 60 680225435.8813 nan 0.1000 -14460565.5313  
## 80 555261505.2366 nan 0.1000 54371.3102  
## 100 485375480.7147 nan 0.1000 -5808477.7903  
## 120 447600903.3260 nan 0.1000 -3536508.9760  
## 140 393142467.9519 nan 0.1000 -5763312.1573  
## 150 375483030.1677 nan 0.1000 -580772.0126

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5984757283.5858 nan 0.1000 543461729.2477  
## 2 5474344020.4279 nan 0.1000 497972054.0609  
## 3 5022583420.7668 nan 0.1000 404124611.1821  
## 4 4704613698.8803 nan 0.1000 313745402.2975  
## 5 4367724004.6966 nan 0.1000 318249120.8089  
## 6 4111711290.1832 nan 0.1000 246323787.7260  
## 7 3877050327.1824 nan 0.1000 218468791.0240  
## 8 3664004548.0252 nan 0.1000 220605386.7350  
## 9 3456757198.5480 nan 0.1000 195450867.1448  
## 10 3310785190.3249 nan 0.1000 123712466.8814  
## 20 2142862721.6318 nan 0.1000 37196355.4129  
## 40 1270702670.3294 nan 0.1000 23795436.8717  
## 60 1007472944.6340 nan 0.1000 -566287.2569  
## 80 904061807.0990 nan 0.1000 3367772.0879  
## 100 839731974.1961 nan 0.1000 -232392.3891  
## 120 795230197.2334 nan 0.1000 -8103876.1110  
## 140 777722679.6482 nan 0.1000 -111053.5604  
## 150 761272778.7791 nan 0.1000 -999909.1410

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5813157151.2182 nan 0.1000 527309759.1607  
## 2 5221249366.8654 nan 0.1000 613741265.1985  
## 3 4683865978.5930 nan 0.1000 565527352.7522  
## 4 4235993635.7296 nan 0.1000 453295017.7819  
## 5 3876611322.2206 nan 0.1000 352124644.3197  
## 6 3571703975.7267 nan 0.1000 281686406.3504  
## 7 3292018763.6272 nan 0.1000 283643729.1331  
## 8 3040015156.5181 nan 0.1000 246848515.7304  
## 9 2845860868.4944 nan 0.1000 170509188.3232  
## 10 2621990446.3850 nan 0.1000 221385803.4502  
## 20 1539165471.1780 nan 0.1000 48996593.8294  
## 40 917845152.1563 nan 0.1000 7782850.5652  
## 60 749188274.3102 nan 0.1000 3511630.8128  
## 80 663991154.7496 nan 0.1000 -10078390.8018  
## 100 605093057.6505 nan 0.1000 -5089458.2793  
## 120 561981021.1981 nan 0.1000 -2246019.3601  
## 140 526501255.5508 nan 0.1000 -3329137.7433  
## 150 512026161.1029 nan 0.1000 -2408207.6797

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 94: Exterior1stImStucc has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 80, 45, 20, 120, 160, 190, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5806765699.1558 nan 0.1000 845262456.0690  
## 2 5152215990.4286 nan 0.1000 631683469.1186  
## 3 4512113950.4203 nan 0.1000 562611118.7485  
## 4 4086346682.3272 nan 0.1000 447074750.7692  
## 5 3654077702.2428 nan 0.1000 384030715.8679  
## 6 3304833622.1311 nan 0.1000 319733012.3585  
## 7 3008900818.6814 nan 0.1000 301783836.2242  
## 8 2740605336.2468 nan 0.1000 170476951.4397  
## 9 2510782350.1600 nan 0.1000 207693788.5335  
## 10 2352143620.4856 nan 0.1000 174506894.7763  
## 20 1289850161.0852 nan 0.1000 53574055.0531  
## 40 755373257.6903 nan 0.1000 4556531.2787  
## 60 620273442.8901 nan 0.1000 -349092.3303  
## 80 525719682.1012 nan 0.1000 -4216281.1436  
## 100 474657522.8609 nan 0.1000 -5664510.0248  
## 120 443096100.0878 nan 0.1000 -4636600.5133  
## 140 398139922.6949 nan 0.1000 -1343629.8759  
## 150 387904943.0323 nan 0.1000 -3509173.7126

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 54: Condition2Feedr has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6046377135.1340 nan 0.1000 551076948.4754  
## 2 5510320838.9720 nan 0.1000 447880877.6529  
## 3 5138290502.2122 nan 0.1000 361523928.8165  
## 4 4777066194.0984 nan 0.1000 390066873.6085  
## 5 4449517501.4390 nan 0.1000 319594752.1778  
## 6 4170598248.7879 nan 0.1000 272408852.9333  
## 7 3903423458.2558 nan 0.1000 118442753.8271  
## 8 3678504742.2995 nan 0.1000 216566997.7251  
## 9 3478571606.6553 nan 0.1000 191442548.1102  
## 10 3287572676.2798 nan 0.1000 155269346.3467  
## 20 2146248802.2659 nan 0.1000 51986651.7146  
## 40 1299178656.2659 nan 0.1000 16662996.5712  
## 60 1054712301.6608 nan 0.1000 6721816.5443  
## 80 951311068.7694 nan 0.1000 -7999409.6522  
## 100 901635261.8024 nan 0.1000 3106084.0607  
## 120 860673932.8938 nan 0.1000 -5232189.2872  
## 140 818209822.7294 nan 0.1000 -10849399.4997  
## 150 808425218.6103 nan 0.1000 15431.6787

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 54: Condition2Feedr has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5898131813.7447 nan 0.1000 747630074.2815  
## 2 5292350883.5911 nan 0.1000 665168973.0571  
## 3 4760206007.9991 nan 0.1000 510724070.1082  
## 4 4327346634.5741 nan 0.1000 405005376.7403  
## 5 3975047010.9953 nan 0.1000 371939107.1738  
## 6 3636970662.2431 nan 0.1000 345517866.6000  
## 7 3351517096.3332 nan 0.1000 285541664.4484  
## 8 3076246762.1933 nan 0.1000 200102675.3580  
## 9 2884835664.4673 nan 0.1000 177085518.3923  
## 10 2682814100.9268 nan 0.1000 189414894.0244  
## 20 1563790345.2974 nan 0.1000 36811037.7828  
## 40 977680581.1086 nan 0.1000 6129199.4618  
## 60 816133616.9353 nan 0.1000 -1236537.0556  
## 80 712101304.8802 nan 0.1000 -2486548.8813  
## 100 649006312.2875 nan 0.1000 -8936063.5324  
## 120 611114693.8103 nan 0.1000 111205.8270  
## 140 567764642.1153 nan 0.1000 -5996492.0878  
## 150 541102641.1668 nan 0.1000 -8899048.1432

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 54: Condition2Feedr has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160, 90, :  
## variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5831332853.9669 nan 0.1000 803075010.1591  
## 2 5130595139.1330 nan 0.1000 659225015.6599  
## 3 4525823456.4945 nan 0.1000 557282597.5757  
## 4 4046984453.5303 nan 0.1000 434907370.3442  
## 5 3681441849.6150 nan 0.1000 382095846.3676  
## 6 3325340192.3810 nan 0.1000 327788787.5996  
## 7 3033081212.9389 nan 0.1000 231878087.5302  
## 8 2747578246.1239 nan 0.1000 220745187.4206  
## 9 2521842829.7237 nan 0.1000 195540617.9007  
## 10 2305400157.0842 nan 0.1000 189118877.2215  
## 20 1318264190.6587 nan 0.1000 44272602.0664  
## 40 800473649.8932 nan 0.1000 -1510187.4424  
## 60 631774681.6023 nan 0.1000 -7133929.1784  
## 80 537998139.5977 nan 0.1000 2854087.2214  
## 100 470901881.0263 nan 0.1000 -3290614.9678  
## 120 429924917.7683 nan 0.1000 -5135601.6791  
## 140 394272397.2249 nan 0.1000 -1438568.5868  
## 150 374929856.8961 nan 0.1000 -3413839.3641

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6085770828.3877 nan 0.1000 549978877.5362  
## 2 5598632418.3131 nan 0.1000 529868018.8832  
## 3 5169015228.2227 nan 0.1000 406468577.1072  
## 4 4772706069.3386 nan 0.1000 336864484.4575  
## 5 4472730540.7596 nan 0.1000 295947453.3640  
## 6 4211272885.9051 nan 0.1000 279074817.1858  
## 7 3965867496.4319 nan 0.1000 242148863.7849  
## 8 3753850540.2870 nan 0.1000 115092259.9139  
## 9 3556569369.7962 nan 0.1000 204169458.9820  
## 10 3385113779.6855 nan 0.1000 143757908.0172  
## 20 2210773551.0554 nan 0.1000 79771065.2293  
## 40 1374314620.6799 nan 0.1000 16388476.1198  
## 60 1131355301.8864 nan 0.1000 1892806.2506  
## 80 1004657064.3572 nan 0.1000 6291294.5018  
## 100 955060455.0953 nan 0.1000 -7460959.6556  
## 120 890396367.8415 nan 0.1000 -2484798.4554  
## 140 856367126.5253 nan 0.1000 1621223.4356  
## 150 839467807.9956 nan 0.1000 -9213099.1503

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5855026505.2391 nan 0.1000 734359216.9992  
## 2 5249489905.3405 nan 0.1000 602822361.8962  
## 3 4771114613.4383 nan 0.1000 485463789.7658  
## 4 4333858585.6051 nan 0.1000 384807849.1192  
## 5 3965705907.5714 nan 0.1000 370167965.9413  
## 6 3658564224.2209 nan 0.1000 352625798.0398  
## 7 3370606031.1587 nan 0.1000 258712591.3902  
## 8 3142699460.8994 nan 0.1000 244752772.2503  
## 9 2907083929.6304 nan 0.1000 228354669.8147  
## 10 2695587802.3551 nan 0.1000 172114294.0746  
## 20 1585000756.6212 nan 0.1000 48720858.3226  
## 40 1030589651.1768 nan 0.1000 4713007.0976  
## 60 859452040.6385 nan 0.1000 -12926735.8376  
## 80 763239752.0624 nan 0.1000 -9556969.8480  
## 100 690111369.4225 nan 0.1000 -5929294.7744  
## 120 636444630.9591 nan 0.1000 968400.5171  
## 140 591769843.5950 nan 0.1000 -5722138.3399  
## 150 571885387.4179 nan 0.1000 -2173774.1351

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 120, 190, 90, 20, :  
## variable 126: ExterCondPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5834154269.5528 nan 0.1000 805411849.6603  
## 2 5112980085.0737 nan 0.1000 795198894.6132  
## 3 4563102412.7394 nan 0.1000 559450853.0420  
## 4 4029895608.4463 nan 0.1000 389193200.0436  
## 5 3614115047.1608 nan 0.1000 369019043.6827  
## 6 3296549709.9910 nan 0.1000 288088391.1605  
## 7 2974904286.1302 nan 0.1000 276338705.9305  
## 8 2717498141.2463 nan 0.1000 219919687.7058  
## 9 2496440765.7587 nan 0.1000 214172543.0401  
## 10 2318160503.5719 nan 0.1000 159458801.2987  
## 20 1337970692.4407 nan 0.1000 45884641.2306  
## 40 835125270.8732 nan 0.1000 -16319047.8889  
## 60 670062074.5609 nan 0.1000 -1264732.5838  
## 80 584424348.8984 nan 0.1000 -4826652.0630  
## 100 515566155.8082 nan 0.1000 -5950758.9192  
## 120 466699205.1961 nan 0.1000 -4654180.6899  
## 140 423309395.7222 nan 0.1000 -2388722.1505  
## 150 406202754.9689 nan 0.1000 -6204929.7236

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5968893559.4165 nan 0.1000 595860537.3218  
## 2 5514424814.5305 nan 0.1000 476125883.0994  
## 3 5100440299.1220 nan 0.1000 381375424.8910  
## 4 4752168359.9404 nan 0.1000 340537471.2305  
## 5 4460761177.1553 nan 0.1000 223737889.3807  
## 6 4185754988.7626 nan 0.1000 288280081.2345  
## 7 3921347215.6683 nan 0.1000 237889759.0740  
## 8 3684133796.0640 nan 0.1000 228989816.3694  
## 9 3491706938.0529 nan 0.1000 153141074.9664  
## 10 3298301268.9380 nan 0.1000 160710266.6029  
## 20 2148551704.2921 nan 0.1000 80208963.8616  
## 40 1333278066.7899 nan 0.1000 13993973.2905  
## 60 1070788188.8509 nan 0.1000 6987762.2770  
## 80 950648455.0466 nan 0.1000 1499415.3251  
## 100 882816411.6679 nan 0.1000 -5455866.2393  
## 120 835571115.9637 nan 0.1000 -11510861.9325  
## 140 805411231.4207 nan 0.1000 4023.2747  
## 150 793782885.0562 nan 0.1000 -5571707.3787

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5856378629.0867 nan 0.1000 689531867.6500  
## 2 5246200798.4753 nan 0.1000 584275211.7679  
## 3 4826297214.7967 nan 0.1000 305637921.1453  
## 4 4385441239.5464 nan 0.1000 398382539.4659  
## 5 3955686612.7187 nan 0.1000 463312894.1224  
## 6 3622476282.3077 nan 0.1000 337290562.6463  
## 7 3348727928.0990 nan 0.1000 228745553.2528  
## 8 3083791231.9174 nan 0.1000 214037915.3997  
## 9 2893432251.9955 nan 0.1000 175087024.0765  
## 10 2709015499.3946 nan 0.1000 99047951.7600  
## 20 1580588214.3585 nan 0.1000 60326586.0545  
## 40 994076961.9787 nan 0.1000 5182268.3550  
## 60 827965037.3834 nan 0.1000 -8270393.6067  
## 80 724673283.2194 nan 0.1000 -1874010.0047  
## 100 659354017.8617 nan 0.1000 -4500611.3548  
## 120 602630077.6910 nan 0.1000 -294069.1695  
## 140 557218635.0274 nan 0.1000 -8965988.7628  
## 150 540708500.5469 nan 0.1000 -11488225.3805

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5734474328.4603 nan 0.1000 842603500.8692  
## 2 5060307278.7696 nan 0.1000 629696462.1203  
## 3 4520137106.8499 nan 0.1000 479076820.7746  
## 4 4039692131.7507 nan 0.1000 434735040.4800  
## 5 3676679592.0556 nan 0.1000 407863953.2374  
## 6 3330091703.6839 nan 0.1000 313651253.4693  
## 7 3053585176.6343 nan 0.1000 277786891.3595  
## 8 2769604507.4757 nan 0.1000 263028778.2044  
## 9 2542130769.6213 nan 0.1000 232193255.8061  
## 10 2343506066.2310 nan 0.1000 176275564.7067  
## 20 1354793184.5741 nan 0.1000 54575248.7070  
## 40 816023655.1118 nan 0.1000 3032453.7099  
## 60 641746076.8644 nan 0.1000 -5947808.5318  
## 80 548257538.6143 nan 0.1000 -9488458.2164  
## 100 478888730.0134 nan 0.1000 -3617422.3451  
## 120 433633358.4024 nan 0.1000 -2777428.8134  
## 140 388187049.7219 nan 0.1000 -6577079.9397  
## 150 370646803.8495 nan 0.1000 -2188391.6826

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5446962312.4491 nan 0.1000 492594613.3964  
## 2 4958451865.9718 nan 0.1000 475918642.6568  
## 3 4594766952.4524 nan 0.1000 340470422.1837  
## 4 4270489043.7579 nan 0.1000 329673363.9185  
## 5 3995980857.3519 nan 0.1000 276337900.2072  
## 6 3774673769.4121 nan 0.1000 219280179.1911  
## 7 3535581758.2037 nan 0.1000 208838954.1946  
## 8 3330987023.5489 nan 0.1000 207672904.0100  
## 9 3155678088.2775 nan 0.1000 172637801.8420  
## 10 2977492981.8555 nan 0.1000 179827806.6673  
## 20 1954839106.1748 nan 0.1000 48289294.7959  
## 40 1213104427.8520 nan 0.1000 17906894.2480  
## 60 977248420.6662 nan 0.1000 -6741994.1993  
## 80 863271400.4166 nan 0.1000 2215544.6812  
## 100 795669640.0849 nan 0.1000 -1367752.9894  
## 120 751588267.5198 nan 0.1000 2177935.7259  
## 140 713645406.6159 nan 0.1000 940158.7670  
## 150 695789176.6155 nan 0.1000 831802.2153

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5297209523.5093 nan 0.1000 641073627.7600  
## 2 4717504810.9087 nan 0.1000 562960939.4036  
## 3 4259172837.7147 nan 0.1000 499268200.8351  
## 4 3831318830.1023 nan 0.1000 421476928.6073  
## 5 3484199348.2399 nan 0.1000 330490697.7364  
## 6 3237761306.5967 nan 0.1000 201515381.2531  
## 7 2986636773.1823 nan 0.1000 236584500.3074  
## 8 2763587913.0027 nan 0.1000 241966558.4582  
## 9 2590441311.7801 nan 0.1000 146187213.2002  
## 10 2423757408.9615 nan 0.1000 171947134.5950  
## 20 1429099933.2398 nan 0.1000 50901488.8920  
## 40 863347714.5364 nan 0.1000 8391689.3052  
## 60 691313189.5302 nan 0.1000 -2984169.3412  
## 80 613060766.7317 nan 0.1000 -6857818.7059  
## 100 551607417.9058 nan 0.1000 734062.8136  
## 120 510444147.3804 nan 0.1000 -536415.7612  
## 140 467236755.2636 nan 0.1000 -1076211.4827  
## 150 453432356.1911 nan 0.1000 -3301325.0592

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5218495630.8704 nan 0.1000 720227525.8716  
## 2 4655607499.2859 nan 0.1000 595884393.1682  
## 3 4140557227.9688 nan 0.1000 516677035.0961  
## 4 3726676975.9285 nan 0.1000 413404779.9908  
## 5 3337620387.6080 nan 0.1000 333204772.6284  
## 6 3048018508.9184 nan 0.1000 260278925.7843  
## 7 2782511179.0460 nan 0.1000 216757018.3429  
## 8 2529211345.1988 nan 0.1000 225514169.8332  
## 9 2321482342.0182 nan 0.1000 196988797.1428  
## 10 2149107549.0567 nan 0.1000 147999734.8690  
## 20 1218920630.7122 nan 0.1000 47481923.8862  
## 40 730428874.1958 nan 0.1000 -1959170.5956  
## 60 567544366.3427 nan 0.1000 -728187.4980  
## 80 486979692.8171 nan 0.1000 -3961523.4882  
## 100 435642700.8763 nan 0.1000 -2720342.1404  
## 120 382836668.9440 nan 0.1000 -2113209.3061  
## 140 348130453.0604 nan 0.1000 -4705612.2061  
## 150 331339689.9017 nan 0.1000 -1719884.0828

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 86: RoofMatlWdShake has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6050243483.7239 nan 0.1000 571990267.7060  
## 2 5531974673.8868 nan 0.1000 492272965.1809  
## 3 5120734335.8598 nan 0.1000 385445959.5693  
## 4 4758204819.1150 nan 0.1000 321578330.5828  
## 5 4456095416.8871 nan 0.1000 285350852.4172  
## 6 4191410286.1902 nan 0.1000 284702920.8820  
## 7 3963540084.5517 nan 0.1000 135684832.6521  
## 8 3731889327.2567 nan 0.1000 219093917.9327  
## 9 3530865683.8598 nan 0.1000 175374974.3585  
## 10 3339418935.2387 nan 0.1000 90526615.8714  
## 20 2168978450.6017 nan 0.1000 73153531.6909  
## 40 1359611530.8079 nan 0.1000 20086343.1557  
## 60 1100045811.8472 nan 0.1000 9585422.0606  
## 80 994436561.8580 nan 0.1000 5187945.9857  
## 100 918394430.1881 nan 0.1000 -3859307.5238  
## 120 871719356.8646 nan 0.1000 -3325720.7364  
## 140 840413204.1038 nan 0.1000 -3342358.6693  
## 150 824755471.3656 nan 0.1000 -5896260.6744

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 86: RoofMatlWdShake has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5947804363.4598 nan 0.1000 734216792.3720  
## 2 5329901167.3632 nan 0.1000 543339729.5145  
## 3 4813456638.6867 nan 0.1000 519252970.9970  
## 4 4393767231.9092 nan 0.1000 374228500.9439  
## 5 3984989139.5454 nan 0.1000 367980626.6595  
## 6 3649589158.5271 nan 0.1000 301597528.9730  
## 7 3355576699.7394 nan 0.1000 290904453.8309  
## 8 3102112080.0788 nan 0.1000 236757000.5838  
## 9 2896639522.7854 nan 0.1000 212806949.2392  
## 10 2700933109.8749 nan 0.1000 179999812.7882  
## 20 1596925556.7946 nan 0.1000 81109418.7430  
## 40 975055931.4759 nan 0.1000 -2545692.6905  
## 60 794787006.9636 nan 0.1000 3552316.0117  
## 80 705540839.7952 nan 0.1000 -9869321.4862  
## 100 642416845.4896 nan 0.1000 -13369001.1879  
## 120 588644036.8606 nan 0.1000 719671.3557  
## 140 547579213.0076 nan 0.1000 -2567967.4226  
## 150 529073246.8091 nan 0.1000 -1937485.8716

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 86: RoofMatlWdShake has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5863420163.0086 nan 0.1000 787912566.8877  
## 2 5254407230.8504 nan 0.1000 612539787.5958  
## 3 4698692420.9849 nan 0.1000 476492678.4579  
## 4 4200815890.3005 nan 0.1000 519271432.2079  
## 5 3798867952.5475 nan 0.1000 373211804.8137  
## 6 3431349935.4529 nan 0.1000 378430950.6191  
## 7 3147439110.1959 nan 0.1000 206845654.8795  
## 8 2878366746.4862 nan 0.1000 241885429.1530  
## 9 2654563408.0811 nan 0.1000 160564839.9017  
## 10 2472657514.1003 nan 0.1000 181857377.1617  
## 20 1357367910.2600 nan 0.1000 62686060.5113  
## 40 812152856.5999 nan 0.1000 -2163846.2429  
## 60 659435571.7495 nan 0.1000 -649567.8400  
## 80 571034762.4682 nan 0.1000 1379471.2825  
## 100 508572903.5192 nan 0.1000 -8179107.2223  
## 120 460554963.7954 nan 0.1000 -5390714.0653  
## 140 420879236.6391 nan 0.1000 -5818749.1894  
## 150 403008834.4652 nan 0.1000 -107192.8426

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5583381134.5229 nan 0.1000 552330246.4310  
## 2 5107269475.7613 nan 0.1000 479801993.9326  
## 3 4725080414.6170 nan 0.1000 381036204.5605  
## 4 4375001769.0331 nan 0.1000 346763514.7307  
## 5 4078768177.0653 nan 0.1000 262495293.3347  
## 6 3812762252.3424 nan 0.1000 270294901.2444  
## 7 3598743567.8480 nan 0.1000 221234371.6598  
## 8 3390786675.3682 nan 0.1000 199923636.7586  
## 9 3203499777.7698 nan 0.1000 214478683.0800  
## 10 3053759754.5331 nan 0.1000 148050902.8790  
## 20 2019908100.2589 nan 0.1000 76216141.0643  
## 40 1278332496.3359 nan 0.1000 16251561.4494  
## 60 1002239831.1738 nan 0.1000 3988980.2588  
## 80 895037279.9433 nan 0.1000 3015109.3309  
## 100 834672247.3367 nan 0.1000 2939586.0998  
## 120 796337281.5465 nan 0.1000 -5078252.2716  
## 140 765835193.1588 nan 0.1000 -415475.2359  
## 150 754333281.6709 nan 0.1000 -1985228.3860

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5375733341.1379 nan 0.1000 685577975.4808  
## 2 4839616017.2644 nan 0.1000 564632107.9185  
## 3 4344347674.7815 nan 0.1000 414896207.2611  
## 4 3911512835.3900 nan 0.1000 386092201.0809  
## 5 3602791476.3533 nan 0.1000 295054857.0935  
## 6 3307840823.4117 nan 0.1000 270356826.7523  
## 7 3046560624.7057 nan 0.1000 221133481.0052  
## 8 2815035732.8388 nan 0.1000 181998307.9705  
## 9 2631585728.2530 nan 0.1000 176810585.5941  
## 10 2461542565.6371 nan 0.1000 171114044.9310  
## 20 1452253173.8248 nan 0.1000 51099262.8900  
## 40 898292406.8032 nan 0.1000 -250990.3654  
## 60 747896451.2343 nan 0.1000 -4844645.2655  
## 80 658879377.2351 nan 0.1000 -4918811.2367  
## 100 605393946.6947 nan 0.1000 -8405958.8973  
## 120 547878312.3737 nan 0.1000 -9577331.1197  
## 140 509855949.5047 nan 0.1000 -5055391.0845  
## 150 494641474.6808 nan 0.1000 -4586704.7968

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5350143611.9909 nan 0.1000 790967667.9861  
## 2 4727758880.7064 nan 0.1000 580079524.5999  
## 3 4188065083.9390 nan 0.1000 470774779.2223  
## 4 3678072643.2084 nan 0.1000 455771240.5872  
## 5 3313939434.9816 nan 0.1000 337507292.0372  
## 6 3035084146.2959 nan 0.1000 234162571.3442  
## 7 2754482343.6532 nan 0.1000 274472965.0988  
## 8 2508401064.4541 nan 0.1000 208054849.7898  
## 9 2315959062.0912 nan 0.1000 202352275.2126  
## 10 2152771552.2114 nan 0.1000 129416803.2958  
## 20 1211946273.3039 nan 0.1000 42562943.7103  
## 40 746594881.7556 nan 0.1000 2543331.3703  
## 60 602362865.5467 nan 0.1000 -4428378.7897  
## 80 531964787.3804 nan 0.1000 2125159.9271  
## 100 486743704.3947 nan 0.1000 -7088441.9545  
## 120 443059761.8577 nan 0.1000 -5648898.8167  
## 140 401945245.8122 nan 0.1000 -8160824.9952  
## 150 388971542.6026 nan 0.1000 -4047009.6213

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5985960148.1281 nan 0.1000 527061636.5576  
## 2 5538918193.9275 nan 0.1000 483791048.0436  
## 3 5105647527.3453 nan 0.1000 391080838.8644  
## 4 4761008916.7184 nan 0.1000 354258165.5345  
## 5 4475982393.7596 nan 0.1000 274107146.0488  
## 6 4209841227.4088 nan 0.1000 229513296.7877  
## 7 3974256195.4481 nan 0.1000 248227836.6181  
## 8 3751407792.1480 nan 0.1000 247736989.8328  
## 9 3557235752.1314 nan 0.1000 176877916.8171  
## 10 3360487301.3686 nan 0.1000 183561864.2554  
## 20 2211344256.2827 nan 0.1000 75840711.8494  
## 40 1373133386.6653 nan 0.1000 -24785584.9296  
## 60 1117866138.3207 nan 0.1000 8246141.9700  
## 80 1002857744.8989 nan 0.1000 4063107.3960  
## 100 937818542.5143 nan 0.1000 -12172037.9697  
## 120 902600033.7921 nan 0.1000 -426435.2659  
## 140 867958350.1261 nan 0.1000 -9573835.4718  
## 150 839318077.5842 nan 0.1000 -892607.9097

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5849982233.7288 nan 0.1000 709942630.2452  
## 2 5296761892.6871 nan 0.1000 609294035.0557  
## 3 4752220428.9043 nan 0.1000 541225463.3336  
## 4 4300450762.5061 nan 0.1000 444116478.4312  
## 5 3914816895.8379 nan 0.1000 332847653.0226  
## 6 3619708068.1216 nan 0.1000 245927075.4089  
## 7 3326574833.8455 nan 0.1000 248966733.3982  
## 8 3067586783.8035 nan 0.1000 175587960.7259  
## 9 2847113604.3424 nan 0.1000 210826887.2447  
## 10 2656493157.2961 nan 0.1000 191133332.1427  
## 20 1613385706.6569 nan 0.1000 57534680.2299  
## 40 1019423570.6497 nan 0.1000 8998813.7826  
## 60 836377858.4547 nan 0.1000 2321642.3495  
## 80 745596105.9688 nan 0.1000 6881251.8264  
## 100 672656949.2903 nan 0.1000 -9472482.4804  
## 120 624087513.0562 nan 0.1000 -6445760.6870  
## 140 587394592.7226 nan 0.1000 -4206230.5405  
## 150 569068023.4023 nan 0.1000 -7478561.1484

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5745097661.2504 nan 0.1000 733838103.0534  
## 2 5083856815.6840 nan 0.1000 604703993.0799  
## 3 4584854881.5214 nan 0.1000 524660887.2912  
## 4 4143863128.0040 nan 0.1000 484694671.4112  
## 5 3737177762.6939 nan 0.1000 389025082.0587  
## 6 3396288882.6118 nan 0.1000 303929326.8441  
## 7 3123823740.8211 nan 0.1000 290999113.6895  
## 8 2846300407.9611 nan 0.1000 219800752.2492  
## 9 2627935727.5379 nan 0.1000 187799025.5800  
## 10 2419113402.2203 nan 0.1000 166385948.3792  
## 20 1372575216.2068 nan 0.1000 44813531.3857  
## 40 827189149.0867 nan 0.1000 -15450449.3539  
## 60 663750903.5643 nan 0.1000 -2324115.6203  
## 80 569936280.4937 nan 0.1000 -10538550.6688  
## 100 505171517.4602 nan 0.1000 -170957.2699  
## 120 459033901.7131 nan 0.1000 -3605242.8015  
## 140 415554085.8501 nan 0.1000 -3289441.0754  
## 150 395617752.4322 nan 0.1000 -1704307.1541

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6043179240.7495 nan 0.1000 563565632.8634  
## 2 5532831893.3249 nan 0.1000 552416403.3701  
## 3 5113911151.4174 nan 0.1000 413837545.9700  
## 4 4778106901.5012 nan 0.1000 324098046.3361  
## 5 4457562437.7648 nan 0.1000 308800731.4825  
## 6 4216569549.2646 nan 0.1000 148318856.6912  
## 7 3946066321.4204 nan 0.1000 233031366.3641  
## 8 3713775680.4222 nan 0.1000 230647227.0864  
## 9 3525599106.0242 nan 0.1000 197535802.5441  
## 10 3345934986.6880 nan 0.1000 177263218.4865  
## 20 2166009064.3718 nan 0.1000 83188462.1613  
## 40 1298748069.6353 nan 0.1000 21414137.3078  
## 60 1031115989.1312 nan 0.1000 -8557983.4819  
## 80 912941676.5018 nan 0.1000 -642877.2396  
## 100 851908565.9021 nan 0.1000 -502888.3667  
## 120 796875021.5580 nan 0.1000 -166021.4719  
## 140 760210081.9047 nan 0.1000 -6479064.6929  
## 150 746107872.3895 nan 0.1000 -6210638.8144

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5840567584.8345 nan 0.1000 770090196.8823  
## 2 5260331709.1729 nan 0.1000 594342125.9083  
## 3 4779434443.4432 nan 0.1000 486532421.8273  
## 4 4371254558.7788 nan 0.1000 282296914.4402  
## 5 3976299692.9645 nan 0.1000 389320258.0882  
## 6 3622530948.2277 nan 0.1000 339026607.1385  
## 7 3351481591.9667 nan 0.1000 290885276.0769  
## 8 3117837404.6901 nan 0.1000 243968377.3749  
## 9 2911672018.0928 nan 0.1000 217785283.2813  
## 10 2742983183.6038 nan 0.1000 132352400.5827  
## 20 1534987451.4999 nan 0.1000 70750548.8623  
## 40 894970699.5703 nan 0.1000 9358523.3559  
## 60 730550389.7924 nan 0.1000 -5554329.4309  
## 80 651095839.9312 nan 0.1000 -990758.0303  
## 100 592569061.6211 nan 0.1000 -4320322.7576  
## 120 551811155.2732 nan 0.1000 105360.4484  
## 140 520953193.4293 nan 0.1000 -2478977.9420  
## 150 501384362.7908 nan 0.1000 -7207526.3192

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5794758222.4070 nan 0.1000 819593848.4082  
## 2 5135423313.9268 nan 0.1000 577940558.3750  
## 3 4568743211.5629 nan 0.1000 605198290.2645  
## 4 4070675831.2172 nan 0.1000 492222817.6198  
## 5 3697964415.7070 nan 0.1000 352599515.1729  
## 6 3359273901.9075 nan 0.1000 325818443.6280  
## 7 3030618256.6016 nan 0.1000 295279674.9734  
## 8 2782204312.4961 nan 0.1000 251669028.1645  
## 9 2567139757.1337 nan 0.1000 215283224.4918  
## 10 2376846396.2527 nan 0.1000 193549669.5596  
## 20 1312960444.7766 nan 0.1000 28751204.7891  
## 40 767009352.8701 nan 0.1000 10188114.4060  
## 60 629786752.1299 nan 0.1000 -2831942.6310  
## 80 536998890.8454 nan 0.1000 -291724.6440  
## 100 482776649.9444 nan 0.1000 -2352717.9280  
## 120 449376091.6028 nan 0.1000 -3774710.9491  
## 140 412211410.3906 nan 0.1000 -4435618.9602  
## 150 397035209.2237 nan 0.1000 -4150964.6457

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5841756479.7260 nan 0.1000 559839821.2545  
## 2 5345835583.8453 nan 0.1000 401471870.4572  
## 3 4904118268.6363 nan 0.1000 386190374.9791  
## 4 4573397792.7829 nan 0.1000 294139651.4597  
## 5 4312703629.0220 nan 0.1000 264788475.1768  
## 6 4030283016.1589 nan 0.1000 269002366.6132  
## 7 3799471258.2729 nan 0.1000 222538951.2271  
## 8 3594240488.7363 nan 0.1000 223118944.2331  
## 9 3411572858.4301 nan 0.1000 170661377.3645  
## 10 3248394322.5388 nan 0.1000 164743924.4570  
## 20 2167788790.9839 nan 0.1000 63942531.1674  
## 40 1366573074.1238 nan 0.1000 4563085.9250  
## 60 1109667702.4996 nan 0.1000 7271279.2707  
## 80 976739083.0556 nan 0.1000 3475541.2950  
## 100 915024319.5300 nan 0.1000 633386.7670  
## 120 872012675.8119 nan 0.1000 65706.5969  
## 140 836187045.8257 nan 0.1000 -6458147.8429  
## 150 823096015.9531 nan 0.1000 -329721.6206

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5733415441.9658 nan 0.1000 720413997.4142  
## 2 5151583610.1562 nan 0.1000 526771669.3507  
## 3 4630686236.3128 nan 0.1000 478594832.4170  
## 4 4176449009.3054 nan 0.1000 357492747.1475  
## 5 3799595847.1664 nan 0.1000 390741824.4234  
## 6 3493686111.2419 nan 0.1000 330360492.2850  
## 7 3252190450.2950 nan 0.1000 276987863.3669  
## 8 3008621922.7062 nan 0.1000 223647949.3492  
## 9 2795055378.8051 nan 0.1000 198164533.1364  
## 10 2601560016.7134 nan 0.1000 173740536.1265  
## 20 1542277074.0282 nan 0.1000 48052571.5159  
## 40 1001140620.9508 nan 0.1000 -6566400.0288  
## 60 833317586.2091 nan 0.1000 692148.2905  
## 80 746803089.1360 nan 0.1000 -4572866.1441  
## 100 664838696.0327 nan 0.1000 -3023376.0629  
## 120 613612838.1862 nan 0.1000 -4463045.7963  
## 140 566703218.9194 nan 0.1000 -4079802.0830  
## 150 544189050.3788 nan 0.1000 -3864309.5116

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5664805574.7055 nan 0.1000 743949747.5766  
## 2 4979361601.4857 nan 0.1000 540753727.7854  
## 3 4452876177.1699 nan 0.1000 471758115.7223  
## 4 3992134938.8164 nan 0.1000 430990164.7395  
## 5 3623347487.4981 nan 0.1000 388369680.2282  
## 6 3315426881.9598 nan 0.1000 329908875.4757  
## 7 3049894236.6738 nan 0.1000 239946479.0073  
## 8 2768979965.1947 nan 0.1000 220146335.4280  
## 9 2553221520.9023 nan 0.1000 170931166.7519  
## 10 2344516509.6416 nan 0.1000 229573388.5303  
## 20 1357341347.2920 nan 0.1000 38398709.4061  
## 40 846972765.0615 nan 0.1000 -9196065.5623  
## 60 676876110.3824 nan 0.1000 9006176.1031  
## 80 584911772.9088 nan 0.1000 -9278728.9997  
## 100 512611745.8040 nan 0.1000 -3743855.1241  
## 120 461910006.5021 nan 0.1000 -3235896.4441  
## 140 419275001.8518 nan 0.1000 -621852.6039  
## 150 401129398.8095 nan 0.1000 -4414309.1906

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6012937310.0836 nan 0.1000 582362234.8521  
## 2 5546267058.9387 nan 0.1000 486982854.1180  
## 3 5116613815.0739 nan 0.1000 399302472.8582  
## 4 4741819464.5662 nan 0.1000 234626532.1853  
## 5 4433148379.4740 nan 0.1000 284961364.4387  
## 6 4156445540.0581 nan 0.1000 281063331.8570  
## 7 3910207656.0538 nan 0.1000 235568455.7238  
## 8 3715774925.4748 nan 0.1000 195038367.0316  
## 9 3517060659.6303 nan 0.1000 141241893.0456  
## 10 3339564969.8377 nan 0.1000 134964945.5675  
## 20 2139633005.9440 nan 0.1000 56592324.7354  
## 40 1278997634.7656 nan 0.1000 333755.4364  
## 60 1002691838.6247 nan 0.1000 7957962.8117  
## 80 894016670.3760 nan 0.1000 3886270.9206  
## 100 829502269.9761 nan 0.1000 2047138.0659  
## 120 788284097.7984 nan 0.1000 -15262107.5683  
## 140 752963342.1316 nan 0.1000 -7928116.0618  
## 150 729174318.9388 nan 0.1000 879791.9439

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5888793824.5318 nan 0.1000 746314765.8324  
## 2 5291293470.2985 nan 0.1000 583136725.2998  
## 3 4692442890.9724 nan 0.1000 597781215.9486  
## 4 4264668197.3941 nan 0.1000 411687761.3839  
## 5 3920335694.0945 nan 0.1000 331869871.7634  
## 6 3572980093.0445 nan 0.1000 363330919.6122  
## 7 3247635371.1711 nan 0.1000 250866003.7117  
## 8 3032808402.2720 nan 0.1000 219536299.4448  
## 9 2833633285.8062 nan 0.1000 202151366.0381  
## 10 2609104362.3947 nan 0.1000 114119233.4156  
## 20 1514377464.2462 nan 0.1000 51459204.0980  
## 40 897286370.6068 nan 0.1000 9972020.6366  
## 60 733377169.5360 nan 0.1000 3838531.2498  
## 80 641046236.5804 nan 0.1000 65844.0238  
## 100 575967463.5111 nan 0.1000 -284703.5548  
## 120 536814198.1622 nan 0.1000 -7790115.4088  
## 140 494003402.6780 nan 0.1000 -3016879.7312  
## 150 483602563.5100 nan 0.1000 -4972761.8286

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5778961743.5681 nan 0.1000 741923636.0057  
## 2 5061292578.7237 nan 0.1000 564037077.0585  
## 3 4441881443.8659 nan 0.1000 495209054.1511  
## 4 3998276209.1349 nan 0.1000 456231986.8044  
## 5 3565774546.6958 nan 0.1000 312494084.5707  
## 6 3217609514.1364 nan 0.1000 333651006.9776  
## 7 2890902170.5456 nan 0.1000 245830643.4082  
## 8 2675111793.3673 nan 0.1000 249660481.5539  
## 9 2455843273.8465 nan 0.1000 216471884.1564  
## 10 2274356256.2629 nan 0.1000 187676924.7465  
## 20 1250411437.4174 nan 0.1000 50891677.2726  
## 40 756845505.1379 nan 0.1000 -2732861.8955  
## 60 616150814.3462 nan 0.1000 -4212404.2141  
## 80 545367870.5888 nan 0.1000 -10207453.0729  
## 100 479501869.0910 nan 0.1000 -6063238.1369  
## 120 438121129.8059 nan 0.1000 -695630.6249  
## 140 389797227.3415 nan 0.1000 -612547.0154  
## 150 375237881.7798 nan 0.1000 -3633601.8685

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 232: SaleTypeConLw has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6018765175.4839 nan 0.1000 553741162.9538  
## 2 5497800382.8277 nan 0.1000 490117798.7349  
## 3 5063707174.9631 nan 0.1000 389082891.3203  
## 4 4722561026.4890 nan 0.1000 288498856.9542  
## 5 4413162043.1615 nan 0.1000 320200665.6768  
## 6 4117006799.3151 nan 0.1000 271960784.8191  
## 7 3868933993.3134 nan 0.1000 233113060.5229  
## 8 3676262933.3908 nan 0.1000 204227391.3199  
## 9 3503483077.9656 nan 0.1000 144273302.3948  
## 10 3298613385.7698 nan 0.1000 191751332.8496  
## 20 2180784462.5391 nan 0.1000 63662285.2097  
## 40 1347272545.1437 nan 0.1000 8227893.9248  
## 60 1082617972.3057 nan 0.1000 6097750.0423  
## 80 962053423.2347 nan 0.1000 -8260199.0514  
## 100 886458129.9148 nan 0.1000 -3403831.0609  
## 120 851135744.3744 nan 0.1000 -1800846.2335  
## 140 809230825.0134 nan 0.1000 -13089877.4510  
## 150 804023594.5273 nan 0.1000 -9837286.1921

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 232: SaleTypeConLw has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5858691636.2487 nan 0.1000 708944862.2733  
## 2 5262421350.3476 nan 0.1000 586785086.0480  
## 3 4797041544.5165 nan 0.1000 301717996.5647  
## 4 4379618275.1325 nan 0.1000 399099932.6079  
## 5 3940387552.9706 nan 0.1000 360257932.8404  
## 6 3606536601.3653 nan 0.1000 356322686.3365  
## 7 3328677818.4584 nan 0.1000 197875160.0377  
## 8 3068463302.5549 nan 0.1000 227026932.2042  
## 9 2821179022.6787 nan 0.1000 231402693.5777  
## 10 2628506969.8394 nan 0.1000 174663633.2325  
## 20 1560619534.4045 nan 0.1000 60825570.1190  
## 40 971927782.4230 nan 0.1000 6918061.8336  
## 60 811702456.7199 nan 0.1000 -9784185.6821  
## 80 709781722.7760 nan 0.1000 -2946027.4194  
## 100 641908969.0673 nan 0.1000 -12357176.0070  
## 120 590704185.2415 nan 0.1000 -1454119.8434  
## 140 547182618.8175 nan 0.1000 -2746742.8806  
## 150 527505924.1444 nan 0.1000 -5066028.5107

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 173: ElectricalMix has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 190, :  
## variable 232: SaleTypeConLw has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5785367586.9340 nan 0.1000 874395999.9811  
## 2 5123615969.4090 nan 0.1000 732742105.1321  
## 3 4599710831.5012 nan 0.1000 546553196.4343  
## 4 4053240294.9290 nan 0.1000 449368136.0677  
## 5 3627215732.2656 nan 0.1000 369037260.3134  
## 6 3249723777.0424 nan 0.1000 315239384.6520  
## 7 2972446142.0300 nan 0.1000 253838946.8506  
## 8 2743139410.4680 nan 0.1000 218502261.9400  
## 9 2499174495.9096 nan 0.1000 170660333.5569  
## 10 2314342274.5777 nan 0.1000 152939129.3761  
## 20 1284922110.5758 nan 0.1000 27927806.7443  
## 40 815728614.6458 nan 0.1000 6617272.8552  
## 60 666664157.7191 nan 0.1000 -7992283.2311  
## 80 575309232.8632 nan 0.1000 -11961525.0253  
## 100 505041265.5026 nan 0.1000 -8955951.0307  
## 120 459023417.8594 nan 0.1000 -4917429.4594  
## 140 411845085.4504 nan 0.1000 -3313080.6645  
## 150 391403397.0150 nan 0.1000 -5578907.1677

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6016525014.4146 nan 0.1000 546174484.8613  
## 2 5524077747.3517 nan 0.1000 522743125.1629  
## 3 5122238917.5013 nan 0.1000 401077469.1597  
## 4 4800833432.7616 nan 0.1000 329179585.9615  
## 5 4545104212.8342 nan 0.1000 273863334.2862  
## 6 4258195488.1086 nan 0.1000 308910478.5714  
## 7 4018955244.8935 nan 0.1000 218471953.2261  
## 8 3797825713.6974 nan 0.1000 221486841.1362  
## 9 3619213641.7348 nan 0.1000 168214611.8622  
## 10 3413333715.7673 nan 0.1000 165979917.6889  
## 20 2239272064.7576 nan 0.1000 77092261.8937  
## 40 1385639742.9040 nan 0.1000 18532211.3846  
## 60 1112172530.6160 nan 0.1000 -16180826.6420  
## 80 982803503.8615 nan 0.1000 3932426.5343  
## 100 926254110.9187 nan 0.1000 -8595859.8165  
## 120 875614750.1177 nan 0.1000 -4005165.1831  
## 140 836750022.4481 nan 0.1000 2310938.8463  
## 150 828537132.5823 nan 0.1000 -18498548.1506

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5787471621.0172 nan 0.1000 751456420.6734  
## 2 5181338829.3143 nan 0.1000 602028578.7156  
## 3 4686211494.0072 nan 0.1000 358832111.5490  
## 4 4256915753.4888 nan 0.1000 418284639.2380  
## 5 3892776136.0608 nan 0.1000 382350645.4308  
## 6 3590912118.7337 nan 0.1000 249237865.9867  
## 7 3329398562.7008 nan 0.1000 236335555.6374  
## 8 3064045831.6580 nan 0.1000 252522254.0422  
## 9 2861084308.7562 nan 0.1000 200282464.9318  
## 10 2705756116.0918 nan 0.1000 136688618.8807  
## 20 1579664554.2407 nan 0.1000 66715438.5778  
## 40 984351936.1173 nan 0.1000 -1317630.2911  
## 60 815364526.3086 nan 0.1000 -11645008.7054  
## 80 731585950.7970 nan 0.1000 -9216568.2063  
## 100 667389649.4540 nan 0.1000 -5435219.8186  
## 120 610439017.4977 nan 0.1000 -2024088.3378  
## 140 572315104.0650 nan 0.1000 -5794952.4470  
## 150 552704933.9056 nan 0.1000 -4848024.1420

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 45, 20, 120, 160, 190, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5772939385.6374 nan 0.1000 689862314.4524  
## 2 5084800096.9210 nan 0.1000 700781963.9839  
## 3 4534094492.3709 nan 0.1000 564596963.0674  
## 4 4075714330.9208 nan 0.1000 457736625.7718  
## 5 3647610510.8715 nan 0.1000 356748390.1012  
## 6 3350687633.9415 nan 0.1000 321185795.0417  
## 7 3019401961.0912 nan 0.1000 234216942.3745  
## 8 2782455613.3142 nan 0.1000 211324348.6274  
## 9 2557856918.6496 nan 0.1000 210756155.7066  
## 10 2374837609.7541 nan 0.1000 166568604.8791  
## 20 1319013274.7881 nan 0.1000 26026959.1668  
## 40 840447269.3218 nan 0.1000 -17072300.3719  
## 60 677993868.7683 nan 0.1000 -11137165.0501  
## 80 575871306.7971 nan 0.1000 822324.0887  
## 100 513420104.2449 nan 0.1000 -1543042.7967  
## 120 462716228.9166 nan 0.1000 301655.4251  
## 140 425234288.1696 nan 0.1000 -3938924.1630  
## 150 406346034.8745 nan 0.1000 -4623225.7312

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 89: Exterior1stBrkComm has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5860403410.2940 nan 0.1000 482060707.5910  
## 2 5402856687.3689 nan 0.1000 461940171.6518  
## 3 4984397600.0751 nan 0.1000 409853201.6730  
## 4 4614327807.7972 nan 0.1000 300045865.5592  
## 5 4338602965.5419 nan 0.1000 276903463.8281  
## 6 4069207710.4567 nan 0.1000 253038706.3505  
## 7 3850801422.4223 nan 0.1000 181272546.2066  
## 8 3659088264.9317 nan 0.1000 193991477.2877  
## 9 3459540033.6523 nan 0.1000 204011883.2988  
## 10 3298877238.5304 nan 0.1000 147804890.5764  
## 20 2178105530.4897 nan 0.1000 76291963.7529  
## 40 1378914119.5120 nan 0.1000 17936380.8281  
## 60 1133998207.2858 nan 0.1000 -1638788.9388  
## 80 1005142194.7881 nan 0.1000 204666.5650  
## 100 940789919.6456 nan 0.1000 -2750677.4178  
## 120 889687731.6259 nan 0.1000 1158788.4902  
## 140 840797079.2364 nan 0.1000 -1219171.2733  
## 150 828695300.8356 nan 0.1000 -7497966.0589

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 89: Exterior1stBrkComm has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5815220157.5912 nan 0.1000 657630409.9968  
## 2 5210181811.1355 nan 0.1000 560769054.3126  
## 3 4700884912.2194 nan 0.1000 476957214.4736  
## 4 4289658456.9261 nan 0.1000 427239956.8257  
## 5 3929024967.0019 nan 0.1000 341584162.8425  
## 6 3594198806.2633 nan 0.1000 282076293.5093  
## 7 3276770672.0158 nan 0.1000 224127627.0216  
## 8 3045332300.2415 nan 0.1000 255762096.0486  
## 9 2820770698.4252 nan 0.1000 198097154.6114  
## 10 2632674647.0719 nan 0.1000 181258511.2813  
## 20 1577501808.2317 nan 0.1000 52263950.4944  
## 40 986700395.7085 nan 0.1000 3142438.8492  
## 60 801847069.0565 nan 0.1000 -4816388.5803  
## 80 708251508.2838 nan 0.1000 -6694132.8412  
## 100 637182543.9490 nan 0.1000 -5937443.4999  
## 120 588303040.0992 nan 0.1000 -10487563.7327  
## 140 544119574.4187 nan 0.1000 -1348282.2891  
## 150 530342852.8700 nan 0.1000 -2135064.2752

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 89: Exterior1stBrkComm has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 110: Exterior2ndOther has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5734838222.2063 nan 0.1000 730183172.2595  
## 2 5034987481.5888 nan 0.1000 582066484.7522  
## 3 4520696186.0297 nan 0.1000 530736475.4220  
## 4 4047967868.9814 nan 0.1000 467203985.8132  
## 5 3629987343.6843 nan 0.1000 411171467.7423  
## 6 3296810436.9325 nan 0.1000 330419292.8327  
## 7 2989880478.2164 nan 0.1000 297196595.4131  
## 8 2765022156.4993 nan 0.1000 198448467.8374  
## 9 2535544872.8638 nan 0.1000 213851542.0284  
## 10 2380684190.8499 nan 0.1000 172585017.2980  
## 20 1360766061.6021 nan 0.1000 39244753.9824  
## 40 841904015.1090 nan 0.1000 13499353.7360  
## 60 683669768.7029 nan 0.1000 -6022434.1242  
## 80 588818704.5080 nan 0.1000 -10287696.8488  
## 100 523703796.6002 nan 0.1000 -1865684.9252  
## 120 484750035.4497 nan 0.1000 -4147065.7763  
## 140 444843118.7290 nan 0.1000 -3266929.6534  
## 150 420276926.8129 nan 0.1000 -10935070.8308

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5806773920.5688 nan 0.1000 531710553.0436  
## 2 5309228969.6179 nan 0.1000 465537220.2665  
## 3 4907080771.7874 nan 0.1000 382367157.4486  
## 4 4594467057.4742 nan 0.1000 336494189.0566  
## 5 4316322256.6819 nan 0.1000 271194029.9991  
## 6 4078313494.7413 nan 0.1000 247421239.4723  
## 7 3808633290.0167 nan 0.1000 238624810.4170  
## 8 3596032623.7529 nan 0.1000 207820496.0859  
## 9 3412467971.2710 nan 0.1000 203148681.5020  
## 10 3248940156.7914 nan 0.1000 142521523.2707  
## 20 2124691879.3980 nan 0.1000 31537532.4779  
## 40 1314535713.1594 nan 0.1000 15910311.5420  
## 60 1056088735.8698 nan 0.1000 10155731.8785  
## 80 934833342.3482 nan 0.1000 -2449389.8395  
## 100 885424788.5688 nan 0.1000 1025412.6641  
## 120 853202991.7268 nan 0.1000 -697819.6526  
## 140 809348069.3284 nan 0.1000 -4316887.5966  
## 150 796216218.5545 nan 0.1000 2207332.2002

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5710399456.2024 nan 0.1000 655302832.9200  
## 2 5090474943.7020 nan 0.1000 579704916.0405  
## 3 4588327910.9203 nan 0.1000 506433289.9156  
## 4 4184482948.1083 nan 0.1000 442824316.9354  
## 5 3828804497.2303 nan 0.1000 345451434.6309  
## 6 3514711923.6697 nan 0.1000 328469680.6581  
## 7 3264509417.7327 nan 0.1000 251787297.9662  
## 8 2997907167.5771 nan 0.1000 200037289.6665  
## 9 2807297656.9483 nan 0.1000 171244734.1890  
## 10 2625813187.4586 nan 0.1000 124460786.3972  
## 20 1579721706.9108 nan 0.1000 40096740.6608  
## 40 989896453.9441 nan 0.1000 -8409151.7026  
## 60 818253544.2912 nan 0.1000 -13087407.6761  
## 80 720142379.5674 nan 0.1000 -3152489.6833  
## 100 658640461.2885 nan 0.1000 -1500197.3060  
## 120 598852622.8829 nan 0.1000 -3364292.8073  
## 140 561692537.1313 nan 0.1000 -10154004.7710  
## 150 538370977.8178 nan 0.1000 -6909404.4802

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5640490892.8677 nan 0.1000 757388594.9262  
## 2 4980304999.6435 nan 0.1000 616599932.9029  
## 3 4410272227.0061 nan 0.1000 540907004.9047  
## 4 4022619212.8414 nan 0.1000 408160144.7396  
## 5 3619417417.6990 nan 0.1000 429480474.4378  
## 6 3302851798.3627 nan 0.1000 318871886.6152  
## 7 2991380021.5088 nan 0.1000 223589899.5067  
## 8 2712341562.3009 nan 0.1000 207833834.2840  
## 9 2505894662.9118 nan 0.1000 192320754.5234  
## 10 2289379129.5633 nan 0.1000 174070932.5116  
## 20 1282056067.4824 nan 0.1000 37417795.9644  
## 40 799373947.6210 nan 0.1000 9680189.6990  
## 60 668131596.7360 nan 0.1000 -3516989.9201  
## 80 573152473.2570 nan 0.1000 -3194087.1614  
## 100 512030882.5011 nan 0.1000 -5292307.9723  
## 120 473519793.6087 nan 0.1000 -6207689.8104  
## 140 428108917.1650 nan 0.1000 -5591469.3619  
## 150 406906170.2327 nan 0.1000 -3934822.6045

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5620463995.6076 nan 0.1000 542330199.6677  
## 2 5168310904.8729 nan 0.1000 489091276.4241  
## 3 4771260724.4434 nan 0.1000 416872648.1603  
## 4 4441517872.0405 nan 0.1000 341835453.9325  
## 5 4165038614.0474 nan 0.1000 275577614.5712  
## 6 3886832016.3703 nan 0.1000 269010539.0359  
## 7 3658166149.1214 nan 0.1000 220719434.9020  
## 8 3471259370.2252 nan 0.1000 181950796.2922  
## 9 3278362465.3365 nan 0.1000 174064028.0356  
## 10 3100211187.0462 nan 0.1000 173736648.0320  
## 20 1997661065.6280 nan 0.1000 42785161.5967  
## 40 1276570574.8936 nan 0.1000 14589190.4820  
## 60 1029918597.8600 nan 0.1000 1786457.5699  
## 80 919761309.0686 nan 0.1000 5572085.8530  
## 100 851633718.5404 nan 0.1000 -12224959.6760  
## 120 808783990.3523 nan 0.1000 -4419011.2710  
## 140 781779323.8655 nan 0.1000 -3869871.3143  
## 150 774181303.8536 nan 0.1000 54869.7024

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5444195421.7550 nan 0.1000 679897096.3854  
## 2 4870204077.5564 nan 0.1000 561653538.7542  
## 3 4370060009.9525 nan 0.1000 462198191.4090  
## 4 3990270772.3560 nan 0.1000 323867313.8512  
## 5 3613720740.6966 nan 0.1000 340241232.8749  
## 6 3324384962.3508 nan 0.1000 306654345.4138  
## 7 3066472478.3443 nan 0.1000 243615633.8324  
## 8 2834568129.5971 nan 0.1000 178307640.4710  
## 9 2667802778.9777 nan 0.1000 186038846.5484  
## 10 2480583226.3475 nan 0.1000 151104621.8575  
## 20 1480070732.2550 nan 0.1000 51449455.8370  
## 40 943762236.3737 nan 0.1000 5958705.1805  
## 60 787301713.4626 nan 0.1000 2000920.5858  
## 80 698577765.8745 nan 0.1000 -5971985.0696  
## 100 630301758.4355 nan 0.1000 -2648037.5770  
## 120 576888390.3110 nan 0.1000 -8066894.9596  
## 140 530801481.9126 nan 0.1000 -815804.9033  
## 150 515185325.1007 nan 0.1000 -1125062.1557

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5379016450.5692 nan 0.1000 738160293.1712  
## 2 4789000481.2955 nan 0.1000 574401172.3854  
## 3 4273227080.5955 nan 0.1000 498519817.3949  
## 4 3853440985.8791 nan 0.1000 443405281.0349  
## 5 3461416817.3801 nan 0.1000 376868136.9689  
## 6 3114230524.5899 nan 0.1000 331783386.8960  
## 7 2849062849.3403 nan 0.1000 190170869.3646  
## 8 2599951887.0183 nan 0.1000 229323357.8281  
## 9 2401663752.1231 nan 0.1000 159805580.3904  
## 10 2209288019.5141 nan 0.1000 182701534.6659  
## 20 1256478236.5132 nan 0.1000 45341660.6379  
## 40 760340461.8423 nan 0.1000 6277460.5340  
## 60 618518886.2780 nan 0.1000 -7074493.6494  
## 80 534060827.0061 nan 0.1000 -3323311.1899  
## 100 465851503.4302 nan 0.1000 -2711363.1743  
## 120 413359274.6375 nan 0.1000 -9209196.2801  
## 140 379587228.6114 nan 0.1000 -3094381.8127  
## 150 365499123.0605 nan 0.1000 -1711944.8653

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5992091170.6576 nan 0.1000 553899131.3591  
## 2 5512972338.8484 nan 0.1000 475934582.6300  
## 3 5124100117.1093 nan 0.1000 399056850.8416  
## 4 4781540805.1685 nan 0.1000 311959699.9596  
## 5 4474657808.9910 nan 0.1000 316063631.1478  
## 6 4197583622.8092 nan 0.1000 271475916.5775  
## 7 3974300366.2854 nan 0.1000 225020079.2705  
## 8 3744818331.7024 nan 0.1000 228133669.0238  
## 9 3495470389.4677 nan 0.1000 204821919.7538  
## 10 3329597367.1504 nan 0.1000 162072000.7362  
## 20 2180992771.2151 nan 0.1000 87626840.1909  
## 40 1371690647.9354 nan 0.1000 14636334.1090  
## 60 1115462147.2566 nan 0.1000 -19415044.2275  
## 80 993777728.2565 nan 0.1000 -11438383.6283  
## 100 922740030.2652 nan 0.1000 297510.9040  
## 120 875161560.2996 nan 0.1000 1251876.1193  
## 140 854216337.9899 nan 0.1000 -4133407.2127  
## 150 834632871.7950 nan 0.1000 -2042355.5586

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5900783242.9673 nan 0.1000 721436567.5509  
## 2 5292599795.5812 nan 0.1000 599831799.5229  
## 3 4833652349.6091 nan 0.1000 359239899.1333  
## 4 4396002478.5611 nan 0.1000 379085268.0931  
## 5 3970690627.3491 nan 0.1000 295814122.4527  
## 6 3658597666.5011 nan 0.1000 259391253.7895  
## 7 3379389216.7011 nan 0.1000 260938845.0401  
## 8 3115272768.6659 nan 0.1000 220188661.3006  
## 9 2889090301.1490 nan 0.1000 215459585.4269  
## 10 2669652438.5509 nan 0.1000 162025083.6977  
## 20 1575082151.1636 nan 0.1000 53946523.5667  
## 40 1008449306.2426 nan 0.1000 12381525.9646  
## 60 841727752.4172 nan 0.1000 -17389870.8313  
## 80 750565396.8289 nan 0.1000 -492284.5301  
## 100 680524507.2099 nan 0.1000 -700979.8218  
## 120 632601542.5589 nan 0.1000 -9899718.3338  
## 140 585238860.6958 nan 0.1000 -2963781.9924  
## 150 569034519.2568 nan 0.1000 -1863481.7798

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 160, 90, :  
## variable 164: HeatingOthW has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5785241528.8240 nan 0.1000 841513628.8894  
## 2 5094448401.8529 nan 0.1000 640542556.6674  
## 3 4558921386.7482 nan 0.1000 489507048.3271  
## 4 4088727312.2827 nan 0.1000 445645738.6048  
## 5 3679115244.0094 nan 0.1000 365239594.1500  
## 6 3364309061.3154 nan 0.1000 354485914.4040  
## 7 3054235506.7661 nan 0.1000 254506556.3805  
## 8 2782846077.6989 nan 0.1000 253167744.3024  
## 9 2551992633.7438 nan 0.1000 211543032.3834  
## 10 2333953697.3337 nan 0.1000 198394905.3323  
## 20 1316551684.3793 nan 0.1000 51465566.9710  
## 40 842735016.9117 nan 0.1000 -2134282.0875  
## 60 684698059.1918 nan 0.1000 693208.4619  
## 80 595220616.0305 nan 0.1000 -4584507.1574  
## 100 514965800.6158 nan 0.1000 -9666092.9643  
## 120 447753764.7586 nan 0.1000 1252893.6572  
## 140 405812010.9119 nan 0.1000 -10072437.6291  
## 150 384497371.4344 nan 0.1000 -5977168.6269

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5503887932.5805 nan 0.1000 453613784.7303  
## 2 5071278968.3100 nan 0.1000 421081292.7267  
## 3 4648674057.0713 nan 0.1000 405802930.1704  
## 4 4324104332.2052 nan 0.1000 313220494.5761  
## 5 4025351000.2854 nan 0.1000 302900218.7773  
## 6 3787357263.0785 nan 0.1000 236432061.6551  
## 7 3547867977.3781 nan 0.1000 223028291.3823  
## 8 3336242789.0547 nan 0.1000 194397665.7855  
## 9 3133592893.6146 nan 0.1000 200683277.8444  
## 10 2970554960.9967 nan 0.1000 151288808.6097  
## 20 1920850231.2152 nan 0.1000 73633344.9532  
## 40 1180509499.7204 nan 0.1000 1865604.3879  
## 60 940812660.2491 nan 0.1000 7701174.5021  
## 80 834011083.9868 nan 0.1000 -1935935.6153  
## 100 765687978.5290 nan 0.1000 1631404.4201  
## 120 732731280.9573 nan 0.1000 -5696641.9716  
## 140 690689686.5794 nan 0.1000 1163343.2682  
## 150 677259693.8521 nan 0.1000 -3778383.6924

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5417750353.1459 nan 0.1000 700015162.2357  
## 2 4848910876.2141 nan 0.1000 550588026.7084  
## 3 4385033127.6684 nan 0.1000 454503314.4967  
## 4 3947990009.8294 nan 0.1000 460168295.3550  
## 5 3609966965.0503 nan 0.1000 349078492.1945  
## 6 3336088858.4260 nan 0.1000 264077758.2321  
## 7 3067650805.9819 nan 0.1000 263587775.2529  
## 8 2858028581.1816 nan 0.1000 208090951.0212  
## 9 2659134268.0018 nan 0.1000 195443241.5255  
## 10 2481633138.4723 nan 0.1000 178030503.2218  
## 20 1472598876.9682 nan 0.1000 57894551.4164  
## 40 888442279.9773 nan 0.1000 949460.3024  
## 60 724643008.7352 nan 0.1000 -5527850.0383  
## 80 639564997.7342 nan 0.1000 4955487.2469  
## 100 581107852.9818 nan 0.1000 -1805647.0697  
## 120 527298939.5356 nan 0.1000 -3514934.9242  
## 140 489579319.5207 nan 0.1000 -6700621.5193  
## 150 477287017.1726 nan 0.1000 -2066243.2693

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5316537310.6195 nan 0.1000 680197660.0759  
## 2 4733867138.8672 nan 0.1000 590453355.2745  
## 3 4153577662.2436 nan 0.1000 513756245.5124  
## 4 3682542422.6803 nan 0.1000 404187585.4757  
## 5 3361057030.7713 nan 0.1000 326678592.6836  
## 6 3050547600.9457 nan 0.1000 307396164.9191  
## 7 2797856630.9747 nan 0.1000 242738611.8805  
## 8 2539301190.6018 nan 0.1000 243600183.5749  
## 9 2334483827.8891 nan 0.1000 159384571.2271  
## 10 2153861141.0250 nan 0.1000 165377953.5555  
## 20 1190590487.5197 nan 0.1000 43092335.1590  
## 40 717813898.1667 nan 0.1000 7393105.6950  
## 60 578204252.1694 nan 0.1000 -6313502.4234  
## 80 503748481.7913 nan 0.1000 -1868348.7846  
## 100 448263976.7830 nan 0.1000 -2201769.9219  
## 120 410473755.9068 nan 0.1000 -35423.4753  
## 140 378857302.0518 nan 0.1000 -6437381.2220  
## 150 370799541.8607 nan 0.1000 -6232730.3273

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 54: Condition2Feedr has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6033473215.6499 nan 0.1000 538082558.8447  
## 2 5523128015.0067 nan 0.1000 540384237.0548  
## 3 5117950723.1974 nan 0.1000 409276632.4598  
## 4 4792763033.5225 nan 0.1000 351563313.8116  
## 5 4463117931.4283 nan 0.1000 299926699.2137  
## 6 4165287721.6560 nan 0.1000 263669879.1575  
## 7 3937710132.6540 nan 0.1000 166994798.4124  
## 8 3747710734.8501 nan 0.1000 141523659.7667  
## 9 3552334088.5762 nan 0.1000 203979116.0907  
## 10 3357658451.3980 nan 0.1000 179598649.3593  
## 20 2151899534.2994 nan 0.1000 75770809.7314  
## 40 1333351077.9797 nan 0.1000 18179381.0276  
## 60 1060165513.1527 nan 0.1000 2062737.5005  
## 80 954639003.1535 nan 0.1000 -1437991.5159  
## 100 886759643.4239 nan 0.1000 -14259490.5943  
## 120 846010833.4525 nan 0.1000 -2226273.1442  
## 140 799851221.4644 nan 0.1000 -2533313.9308  
## 150 785168522.9304 nan 0.1000 -16654984.2814

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 54: Condition2Feedr has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5875880340.6036 nan 0.1000 759956916.0361  
## 2 5263831946.3647 nan 0.1000 573241020.2032  
## 3 4724881197.8363 nan 0.1000 523740849.8658  
## 4 4321031529.7453 nan 0.1000 370841544.1035  
## 5 3924248566.6639 nan 0.1000 408365395.1682  
## 6 3594900009.4678 nan 0.1000 343845827.8685  
## 7 3310263699.9573 nan 0.1000 264774922.7997  
## 8 3068941136.1128 nan 0.1000 229105071.5131  
## 9 2821081005.1223 nan 0.1000 177533327.5301  
## 10 2619585702.8906 nan 0.1000 145355839.5211  
## 20 1554635629.2731 nan 0.1000 64036634.2352  
## 40 993405180.6093 nan 0.1000 13828795.7183  
## 60 818310993.9664 nan 0.1000 -5754218.1926  
## 80 713184416.7595 nan 0.1000 -271467.6872  
## 100 652500535.8226 nan 0.1000 -6214279.9677  
## 120 598968097.7914 nan 0.1000 -3687709.6696  
## 140 553982892.8224 nan 0.1000 -2835171.1930  
## 150 539397065.2701 nan 0.1000 -3598854.9613

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 54: Condition2Feedr has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 20, 120, 160,  
## 190, : variable 193: FunctionalSev has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5824145073.7719 nan 0.1000 699781114.5717  
## 2 5184280021.4938 nan 0.1000 634357157.1265  
## 3 4634497512.0971 nan 0.1000 583013311.4361  
## 4 4174083146.5963 nan 0.1000 391475333.7737  
## 5 3726337818.8834 nan 0.1000 396738495.4892  
## 6 3372821368.7891 nan 0.1000 334900080.8874  
## 7 3071810721.7211 nan 0.1000 293107829.6337  
## 8 2818026179.7955 nan 0.1000 244957440.1314  
## 9 2552239922.7938 nan 0.1000 231877060.4394  
## 10 2363065945.4421 nan 0.1000 113046679.4139  
## 20 1334693259.8202 nan 0.1000 39976598.5769  
## 40 789958248.7692 nan 0.1000 6733666.1359  
## 60 647889626.8775 nan 0.1000 -6697214.6568  
## 80 569296925.1624 nan 0.1000 -7909703.6483  
## 100 504498366.5712 nan 0.1000 -3477940.0119  
## 120 439537451.3292 nan 0.1000 -4310471.5585  
## 140 391511405.1632 nan 0.1000 -1778210.4140  
## 150 376620167.8834 nan 0.1000 -1494112.2241

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6047731838.1464 nan 0.1000 559726560.5149  
## 2 5543212812.6708 nan 0.1000 454776540.1404  
## 3 5137862353.6535 nan 0.1000 429117712.5819  
## 4 4796541954.6391 nan 0.1000 309533286.6677  
## 5 4479082148.3033 nan 0.1000 315445596.3049  
## 6 4170275112.4660 nan 0.1000 235170839.2659  
## 7 3938996396.1204 nan 0.1000 231368798.3390  
## 8 3737444448.1061 nan 0.1000 196553113.7345  
## 9 3517005239.3877 nan 0.1000 208110268.8792  
## 10 3341884705.3083 nan 0.1000 156772150.8061  
## 20 2188075885.6995 nan 0.1000 33236702.5904  
## 40 1332428413.1403 nan 0.1000 22000859.4469  
## 60 1035663282.2152 nan 0.1000 2625228.3840  
## 80 902437442.4082 nan 0.1000 -2211647.8215  
## 100 834008475.9789 nan 0.1000 -7844498.9494  
## 120 793919689.2936 nan 0.1000 -928042.5827  
## 140 761706780.8496 nan 0.1000 -1404766.6200  
## 150 744200475.0636 nan 0.1000 -4121699.8970

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5851133407.1896 nan 0.1000 682805522.8043  
## 2 5261554786.6758 nan 0.1000 468654142.3575  
## 3 4756977114.7876 nan 0.1000 551772795.8917  
## 4 4331362857.1322 nan 0.1000 403257693.6538  
## 5 3993315624.0550 nan 0.1000 297737961.8295  
## 6 3643610515.4640 nan 0.1000 353930649.1232  
## 7 3321907764.4075 nan 0.1000 278581852.3373  
## 8 3067519539.3241 nan 0.1000 210478164.2757  
## 9 2826783589.9584 nan 0.1000 212304664.0772  
## 10 2623624530.1252 nan 0.1000 176276193.7814  
## 20 1521803209.7195 nan 0.1000 48721699.3482  
## 40 917716087.9762 nan 0.1000 -4364223.6669  
## 60 767792443.1993 nan 0.1000 1332199.3221  
## 80 672033276.5350 nan 0.1000 474567.7719  
## 100 617032987.1184 nan 0.1000 -6231122.2000  
## 120 577196900.7037 nan 0.1000 -8314047.5743  
## 140 545583328.5478 nan 0.1000 -3063173.9433  
## 150 532881505.6562 nan 0.1000 -7906260.8003

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5804122069.1165 nan 0.1000 840061855.2635  
## 2 5157216740.2910 nan 0.1000 614496861.1680  
## 3 4570271607.6219 nan 0.1000 537217338.6251  
## 4 4085084077.0674 nan 0.1000 446841868.6923  
## 5 3671130097.0924 nan 0.1000 387027376.3769  
## 6 3322253878.7393 nan 0.1000 360093150.0355  
## 7 3024189160.4108 nan 0.1000 270580114.5579  
## 8 2713104247.4732 nan 0.1000 286397861.2062  
## 9 2510131151.5398 nan 0.1000 216012552.7476  
## 10 2312780684.5064 nan 0.1000 178422947.7852  
## 20 1270191841.1102 nan 0.1000 37648961.4205  
## 40 762883368.0123 nan 0.1000 -8938292.5687  
## 60 638067126.3948 nan 0.1000 -1359610.1946  
## 80 554293308.8975 nan 0.1000 -3903835.2964  
## 100 502597031.2230 nan 0.1000 -5485279.7727  
## 120 455676826.9881 nan 0.1000 -472534.1682  
## 140 413987787.2390 nan 0.1000 -4175251.5995  
## 150 405007009.0551 nan 0.1000 -3457667.9342

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5839954811.9443 nan 0.1000 547602993.3015  
## 2 5353635170.5556 nan 0.1000 527207721.6411  
## 3 4933022670.0154 nan 0.1000 393245357.9793  
## 4 4565909508.2800 nan 0.1000 326761650.6182  
## 5 4269984607.8770 nan 0.1000 290452639.6243  
## 6 4006215598.2333 nan 0.1000 246676592.5531  
## 7 3806762168.0794 nan 0.1000 197756883.1740  
## 8 3596386531.3197 nan 0.1000 200324987.6247  
## 9 3429892071.1787 nan 0.1000 135026211.4227  
## 10 3236753925.8990 nan 0.1000 157772640.6940  
## 20 2068355536.9932 nan 0.1000 19453669.9389  
## 40 1240753512.9623 nan 0.1000 18430613.1819  
## 60 950859952.3401 nan 0.1000 -12507426.7692  
## 80 849153656.5692 nan 0.1000 258410.4494  
## 100 784067129.8219 nan 0.1000 -3818231.0870  
## 120 741909679.9110 nan 0.1000 1588363.6634  
## 140 714908613.3528 nan 0.1000 -12695623.2026  
## 150 701775830.8641 nan 0.1000 -12828581.3591

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5690078972.6638 nan 0.1000 698953603.1497  
## 2 5069156280.0788 nan 0.1000 597847893.3664  
## 3 4534054607.1938 nan 0.1000 438758974.3800  
## 4 4129584706.6449 nan 0.1000 394891975.9819  
## 5 3776296345.3394 nan 0.1000 239799183.2320  
## 6 3438091730.5225 nan 0.1000 331318451.8722  
## 7 3150980193.7983 nan 0.1000 242088681.4830  
## 8 2900065413.3953 nan 0.1000 227265166.2925  
## 9 2714542629.8237 nan 0.1000 103553090.1054  
## 10 2540001850.5770 nan 0.1000 180058652.4998  
## 20 1472857256.0369 nan 0.1000 56305887.1590  
## 40 885537524.4605 nan 0.1000 8847672.1353  
## 60 714375163.0032 nan 0.1000 5065026.1378  
## 80 630872324.2802 nan 0.1000 -2226468.3565  
## 100 574377698.4635 nan 0.1000 -2555699.5498  
## 120 531040643.5896 nan 0.1000 1116048.5083  
## 140 497179634.1045 nan 0.1000 -2032276.9448  
## 150 476564810.4367 nan 0.1000 -2997830.2975

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 60: Condition2RRNn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5588072394.6273 nan 0.1000 811720083.3619  
## 2 4970520537.7683 nan 0.1000 648930028.0213  
## 3 4395168212.2808 nan 0.1000 466411761.2646  
## 4 3959537077.3512 nan 0.1000 430064850.2661  
## 5 3538877539.2037 nan 0.1000 343180528.5792  
## 6 3172188263.5737 nan 0.1000 360730625.8300  
## 7 2893959716.7135 nan 0.1000 292541922.2228  
## 8 2637139563.6911 nan 0.1000 211693873.3335  
## 9 2428108029.2994 nan 0.1000 187471413.3562  
## 10 2219714491.9518 nan 0.1000 215598467.4259  
## 20 1254624128.6012 nan 0.1000 43591544.4713  
## 40 734366400.5265 nan 0.1000 6113153.7896  
## 60 593756109.2486 nan 0.1000 -1949186.5968  
## 80 519509380.3164 nan 0.1000 -8420967.9967  
## 100 473525950.4319 nan 0.1000 -3827380.5769  
## 120 428311572.1326 nan 0.1000 -1329111.7339  
## 140 390188394.4314 nan 0.1000 -1857565.4214  
## 150 373641373.2371 nan 0.1000 -2597865.5733

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5726149300.1714 nan 0.1000 568071405.1066  
## 2 5260461724.0485 nan 0.1000 489233487.9399  
## 3 4843962766.9729 nan 0.1000 411210786.7547  
## 4 4506151214.4296 nan 0.1000 334406047.4483  
## 5 4205468848.6401 nan 0.1000 266457495.5860  
## 6 3949464355.4118 nan 0.1000 261523931.6303  
## 7 3707283747.8143 nan 0.1000 206295303.0311  
## 8 3480476470.0252 nan 0.1000 185740059.0326  
## 9 3273986289.3942 nan 0.1000 174915983.8805  
## 10 3078503801.6996 nan 0.1000 181228881.6459  
## 20 1998162783.3673 nan 0.1000 57449530.1075  
## 40 1252497940.0014 nan 0.1000 3043514.3512  
## 60 1007715030.2156 nan 0.1000 1147740.5500  
## 80 902250266.6067 nan 0.1000 3624667.7554  
## 100 836691811.4499 nan 0.1000 -14563248.4645  
## 120 794547105.8412 nan 0.1000 -4705540.1802  
## 140 763845177.5094 nan 0.1000 -4260886.4837  
## 150 741067872.0233 nan 0.1000 -1791977.8559

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5599655103.2698 nan 0.1000 692927911.8971  
## 2 4994674137.6866 nan 0.1000 605594214.6514  
## 3 4488563631.8966 nan 0.1000 479285583.3242  
## 4 4029118625.3253 nan 0.1000 418649657.8588  
## 5 3687343085.5736 nan 0.1000 356430576.4113  
## 6 3384840521.0514 nan 0.1000 302612835.5344  
## 7 3137256897.4251 nan 0.1000 289045153.7989  
## 8 2911013121.0004 nan 0.1000 233107888.6902  
## 9 2715587860.6438 nan 0.1000 191529168.2525  
## 10 2528087169.0373 nan 0.1000 168822252.4286  
## 20 1490910197.3089 nan 0.1000 44325372.9728  
## 40 917285506.3653 nan 0.1000 10377798.2999  
## 60 768905618.7620 nan 0.1000 -1969261.3501  
## 80 666286589.1350 nan 0.1000 578101.1017  
## 100 604627971.4394 nan 0.1000 -14840063.4816  
## 120 556480615.0683 nan 0.1000 -4146057.6801  
## 140 503450376.9393 nan 0.1000 -1360028.7277  
## 150 488874872.1764 nan 0.1000 -1632306.9302

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 15: UtilitiesNoSeWa has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 91: Exterior1stCBlock has no variation.

## Warning in gbm.fit(x = structure(c(20, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 105: Exterior2ndCBlock has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5495242206.0719 nan 0.1000 728257225.3037  
## 2 4884323575.9619 nan 0.1000 572701928.4041  
## 3 4370820976.9801 nan 0.1000 545938538.3340  
## 4 3936030013.6289 nan 0.1000 484027827.9390  
## 5 3551493307.0966 nan 0.1000 352910142.1528  
## 6 3215950781.3803 nan 0.1000 293558289.5522  
## 7 2919745944.0895 nan 0.1000 258356614.5014  
## 8 2694492400.8870 nan 0.1000 236237132.7091  
## 9 2497937309.1854 nan 0.1000 181946105.9795  
## 10 2299082789.4916 nan 0.1000 166833796.6598  
## 20 1273538271.7067 nan 0.1000 39090308.5235  
## 40 761493978.2908 nan 0.1000 9474503.6420  
## 60 617553855.8470 nan 0.1000 -5823.3912  
## 80 539637873.6579 nan 0.1000 -2294286.3418  
## 100 490839741.9266 nan 0.1000 -3466669.0536  
## 120 450525869.0948 nan 0.1000 -5347822.8060  
## 140 409772602.8175 nan 0.1000 -2186413.5616  
## 150 395975273.0328 nan 0.1000 -4324381.6616

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5871974869.9627 nan 0.1000 529056860.5622  
## 2 5355897157.5575 nan 0.1000 486313053.6108  
## 3 5010406351.8454 nan 0.1000 230932239.7989  
## 4 4656644385.1927 nan 0.1000 352331829.6317  
## 5 4329832974.8889 nan 0.1000 314047108.1368  
## 6 4071060947.8019 nan 0.1000 272049188.6894  
## 7 3841755638.6403 nan 0.1000 230374531.6368  
## 8 3644898798.7889 nan 0.1000 203644831.4591  
## 9 3463583243.0100 nan 0.1000 174861277.2875  
## 10 3308906679.8612 nan 0.1000 167250522.1553  
## 20 2138166085.3954 nan 0.1000 53609348.0121  
## 40 1320286366.9830 nan 0.1000 18542386.7041  
## 60 1069927481.0667 nan 0.1000 -20111158.7490  
## 80 954485134.4972 nan 0.1000 3250505.2562  
## 100 903234679.2574 nan 0.1000 -10585805.2163  
## 120 850115685.6660 nan 0.1000 -9085971.9258  
## 140 814436067.8214 nan 0.1000 -6349255.1271  
## 150 797273805.5963 nan 0.1000 730718.9259

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5704460990.1785 nan 0.1000 690971981.0106  
## 2 5162427767.6013 nan 0.1000 579556864.7775  
## 3 4656578149.2944 nan 0.1000 501898113.3453  
## 4 4247503075.0865 nan 0.1000 416496103.4720  
## 5 3930109868.2468 nan 0.1000 348994166.6175  
## 6 3654229077.9530 nan 0.1000 253821770.4356  
## 7 3383076443.4086 nan 0.1000 270770914.8598  
## 8 3106757898.6358 nan 0.1000 217008177.3215  
## 9 2888038317.3396 nan 0.1000 181845512.0086  
## 10 2710738020.2425 nan 0.1000 178957977.1844  
## 20 1600008322.5339 nan 0.1000 63477506.1814  
## 40 995972494.5370 nan 0.1000 9420450.0440  
## 60 831776046.1617 nan 0.1000 2845476.8566  
## 80 746719391.0862 nan 0.1000 -7308575.9596  
## 100 678716420.6959 nan 0.1000 -3051077.8790  
## 120 628304590.8539 nan 0.1000 -2950241.8752  
## 140 576811457.2331 nan 0.1000 -1912420.2997  
## 150 560359586.8257 nan 0.1000 -1808150.1557

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 18: LotConfigFR3 has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 110: Exterior2ndOther has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 235: SaleTypeOth has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5563802342.1296 nan 0.1000 782206135.4956  
## 2 4992986532.8457 nan 0.1000 619104171.0730  
## 3 4451394726.6379 nan 0.1000 533424682.8227  
## 4 4002842854.7787 nan 0.1000 439963766.0742  
## 5 3609131007.5645 nan 0.1000 402118443.2026  
## 6 3259790915.2690 nan 0.1000 253204790.3627  
## 7 2948395899.1388 nan 0.1000 256995180.6270  
## 8 2718910101.6250 nan 0.1000 214478369.1098  
## 9 2502000916.7028 nan 0.1000 195003765.7441  
## 10 2327712641.4661 nan 0.1000 173027859.8932  
## 20 1323855564.3017 nan 0.1000 30066867.0560  
## 40 834055621.6157 nan 0.1000 2180754.9629  
## 60 666346309.9857 nan 0.1000 2034060.6700  
## 80 586578687.5555 nan 0.1000 639030.3083  
## 100 507711815.6392 nan 0.1000 -3991143.1601  
## 120 455943035.5561 nan 0.1000 -4898309.1349  
## 140 405122033.3301 nan 0.1000 -2970653.4766  
## 150 388399702.7756 nan 0.1000 -4826383.4666

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6031507018.8783 nan 0.1000 536949575.0726  
## 2 5474267156.4966 nan 0.1000 533534878.0636  
## 3 5066730580.7489 nan 0.1000 446068390.7489  
## 4 4737386188.7274 nan 0.1000 320955112.5370  
## 5 4439607688.9521 nan 0.1000 315900331.0899  
## 6 4131464788.9882 nan 0.1000 248622513.2779  
## 7 3926807763.5183 nan 0.1000 216294611.2856  
## 8 3710283537.8604 nan 0.1000 231287887.6621  
## 9 3513926151.6047 nan 0.1000 200849161.7843  
## 10 3330194717.1061 nan 0.1000 120446905.9847  
## 20 2154357765.6012 nan 0.1000 79483910.6501  
## 40 1369081872.7277 nan 0.1000 18039157.7395  
## 60 1090492449.5552 nan 0.1000 5524384.2385  
## 80 986975095.5111 nan 0.1000 4180117.4495  
## 100 922317495.1426 nan 0.1000 3283615.2878  
## 120 877002515.9710 nan 0.1000 -7349287.6258  
## 140 838508602.1839 nan 0.1000 -3036.7525  
## 150 822134133.1291 nan 0.1000 -145816.0102

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5894560610.1271 nan 0.1000 676030698.8743  
## 2 5251225845.2103 nan 0.1000 601342465.1694  
## 3 4741151138.5533 nan 0.1000 514086853.5360  
## 4 4305996674.6819 nan 0.1000 382938930.5165  
## 5 3931892162.7692 nan 0.1000 353898895.3796  
## 6 3613271188.9957 nan 0.1000 282224057.1936  
## 7 3318815982.3023 nan 0.1000 266389422.8849  
## 8 3099865413.6112 nan 0.1000 166248318.7982  
## 9 2851839252.9373 nan 0.1000 209597767.3622  
## 10 2662504896.8635 nan 0.1000 175580716.5298  
## 20 1599007931.2930 nan 0.1000 68585580.2514  
## 40 1000230133.5116 nan 0.1000 3398458.3780  
## 60 808017311.7727 nan 0.1000 6792327.3465  
## 80 704215384.7697 nan 0.1000 -5528316.1805  
## 100 632169736.0781 nan 0.1000 -6181530.9019  
## 120 582397349.2629 nan 0.1000 -3919077.9330  
## 140 532650365.7434 nan 0.1000 -2755495.2485  
## 150 512112658.3102 nan 0.1000 -3759543.6266

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 120, 160, 90, :  
## variable 168: HeatingQCPo has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5789087839.4910 nan 0.1000 806966008.5623  
## 2 5153120855.8840 nan 0.1000 676687241.2865  
## 3 4563953722.6886 nan 0.1000 585199002.0949  
## 4 4084606821.0451 nan 0.1000 434754193.7335  
## 5 3687651630.9812 nan 0.1000 407023987.8004  
## 6 3364760363.7254 nan 0.1000 345240131.0542  
## 7 3080405601.3269 nan 0.1000 233176061.2513  
## 8 2832995793.9276 nan 0.1000 280301751.2979  
## 9 2586020680.5530 nan 0.1000 250658013.9612  
## 10 2386221782.8687 nan 0.1000 163052895.1247  
## 20 1310935325.6597 nan 0.1000 52791757.2086  
## 40 803321469.4960 nan 0.1000 2967635.7161  
## 60 631275401.6306 nan 0.1000 -4854378.2081  
## 80 549133199.6259 nan 0.1000 -4860912.9038  
## 100 491870552.1279 nan 0.1000 -3542524.1541  
## 120 439451783.8305 nan 0.1000 -1731405.0873  
## 140 396523981.9559 nan 0.1000 -247129.6931  
## 150 383422039.3194 nan 0.1000 -4943581.5251

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5707858754.3551 nan 0.1000 500668451.1969  
## 2 5234179245.7999 nan 0.1000 443957026.5070  
## 3 4882691367.0758 nan 0.1000 329838559.1223  
## 4 4540443029.8636 nan 0.1000 328271933.3737  
## 5 4227813538.0359 nan 0.1000 326793517.7436  
## 6 3974986862.9413 nan 0.1000 242486092.9267  
## 7 3767072179.2992 nan 0.1000 216551822.0865  
## 8 3567587130.3738 nan 0.1000 136865647.6001  
## 9 3383531341.1032 nan 0.1000 196015365.6564  
## 10 3219846228.0953 nan 0.1000 124750834.2264  
## 20 2114877828.1843 nan 0.1000 34800180.7149  
## 40 1322140338.9991 nan 0.1000 22876774.0514  
## 60 1030155291.5936 nan 0.1000 6454604.2804  
## 80 923470653.6669 nan 0.1000 4726401.5445  
## 100 854503596.4815 nan 0.1000 -3586947.6110  
## 120 819395258.4053 nan 0.1000 -9784276.7405  
## 140 777495475.5822 nan 0.1000 104915.7055  
## 150 776165884.5315 nan 0.1000 -9009038.1941

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5631907120.2018 nan 0.1000 626846080.8209  
## 2 5038747697.7578 nan 0.1000 552971389.8845  
## 3 4551080775.5671 nan 0.1000 466812596.5177  
## 4 4208620534.3494 nan 0.1000 346517105.8479  
## 5 3841561296.6830 nan 0.1000 354567608.6769  
## 6 3539045843.0236 nan 0.1000 310449427.5813  
## 7 3239692718.6794 nan 0.1000 280519353.1727  
## 8 2983988359.3553 nan 0.1000 252498646.0009  
## 9 2764419982.6423 nan 0.1000 195031874.0669  
## 10 2579253318.7525 nan 0.1000 161675203.2133  
## 20 1538236887.9416 nan 0.1000 32831415.9920  
## 40 956197957.5506 nan 0.1000 -7630715.3238  
## 60 788610879.5451 nan 0.1000 -2666880.5647  
## 80 676032064.6810 nan 0.1000 -113174.7882  
## 100 612048667.5916 nan 0.1000 459565.8281  
## 120 568679555.7503 nan 0.1000 -803840.0400  
## 140 526339209.8421 nan 0.1000 -242568.2105  
## 150 507058357.1840 nan 0.1000 1776570.4668

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 88: Exterior1stAsphShn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 45, 20, 120, 160,  
## 190, : variable 94: Exterior1stImStucc has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5553377146.1069 nan 0.1000 714679951.8417  
## 2 4918345958.4218 nan 0.1000 648347059.5517  
## 3 4434777446.4130 nan 0.1000 497020011.8025  
## 4 3960149369.4008 nan 0.1000 439986032.2143  
## 5 3594484268.5701 nan 0.1000 339219740.4370  
## 6 3259381529.4320 nan 0.1000 343775130.1058  
## 7 2961665244.3598 nan 0.1000 271954921.5135  
## 8 2736446995.0537 nan 0.1000 244097278.3674  
## 9 2529145557.4248 nan 0.1000 210513535.2278  
## 10 2361713239.9265 nan 0.1000 155963683.2684  
## 20 1351764823.6469 nan 0.1000 38111624.5147  
## 40 804841607.7023 nan 0.1000 3787664.8389  
## 60 613324009.9153 nan 0.1000 -1960134.4553  
## 80 530525648.4172 nan 0.1000 -4382624.7390  
## 100 458076409.2552 nan 0.1000 -2764650.4361  
## 120 405309980.5319 nan 0.1000 -4584391.4494  
## 140 359993235.0300 nan 0.1000 -1409806.5967  
## 150 344116694.1304 nan 0.1000 -1654663.9617

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6146493543.9982 nan 0.1000 550897167.0734  
## 2 5623003239.0580 nan 0.1000 528451669.1214  
## 3 5252250645.9316 nan 0.1000 413559593.0977  
## 4 4882848707.3396 nan 0.1000 328729517.0739  
## 5 4564864155.5675 nan 0.1000 333333744.5921  
## 6 4281732668.2224 nan 0.1000 269158556.2605  
## 7 4046986142.7811 nan 0.1000 263679668.6395  
## 8 3835255763.5592 nan 0.1000 209769749.4055  
## 9 3644654902.3702 nan 0.1000 203882780.9894  
## 10 3420469870.5858 nan 0.1000 178030159.5590  
## 20 2231608829.5182 nan 0.1000 85649367.7908  
## 40 1403704851.6669 nan 0.1000 6742658.6849  
## 60 1135065379.6084 nan 0.1000 7118151.2579  
## 80 1035840025.7754 nan 0.1000 -5067308.6903  
## 100 964170679.8403 nan 0.1000 -22040827.6608  
## 120 925145354.4096 nan 0.1000 -9054507.4805  
## 140 889373777.8148 nan 0.1000 -9431598.1503  
## 150 872243185.9546 nan 0.1000 -119816.3406

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5906180364.0632 nan 0.1000 720038933.7044  
## 2 5323500423.7322 nan 0.1000 489230007.8147  
## 3 4805152749.4679 nan 0.1000 462321274.5068  
## 4 4364285473.5337 nan 0.1000 350439506.9461  
## 5 3974235301.8923 nan 0.1000 335857339.0844  
## 6 3585405893.6707 nan 0.1000 363902625.4901  
## 7 3300377570.9945 nan 0.1000 258240468.8658  
## 8 3031475979.9442 nan 0.1000 247894420.4490  
## 9 2837459313.5127 nan 0.1000 159958886.0123  
## 10 2618950014.5338 nan 0.1000 206413496.8352  
## 20 1575450631.7135 nan 0.1000 36517010.7317  
## 40 1025710393.5714 nan 0.1000 -5443283.2277  
## 60 848692855.8741 nan 0.1000 881190.4635  
## 80 738802269.5439 nan 0.1000 -10815100.6613  
## 100 665987906.0937 nan 0.1000 -5538544.9145  
## 120 619986702.2226 nan 0.1000 -6461243.6927  
## 140 563743713.1642 nan 0.1000 -1499537.3689  
## 150 552831654.4076 nan 0.1000 -1402702.9876

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 83: RoofMatlMetal has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 20, 80, 20, 120, 160, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5856844716.6761 nan 0.1000 750931580.5654  
## 2 5269608264.9702 nan 0.1000 677160391.5789  
## 3 4681020659.4084 nan 0.1000 589773278.6951  
## 4 4222879269.4207 nan 0.1000 449639892.3870  
## 5 3807210054.5604 nan 0.1000 342526751.8426  
## 6 3416112710.9257 nan 0.1000 306764566.2559  
## 7 3103390933.7682 nan 0.1000 214332710.5679  
## 8 2855428714.4728 nan 0.1000 254108411.7629  
## 9 2643504547.6282 nan 0.1000 221837264.7446  
## 10 2464497886.0865 nan 0.1000 183010915.5753  
## 20 1365764669.4082 nan 0.1000 39022050.7974  
## 40 882564810.3419 nan 0.1000 4227016.7673  
## 60 692089862.2600 nan 0.1000 2428895.2334  
## 80 598983091.2320 nan 0.1000 -5768585.2426  
## 100 529546870.1635 nan 0.1000 -1968908.9120  
## 120 470782258.3426 nan 0.1000 -4962412.1961  
## 140 420932042.4922 nan 0.1000 -5909346.9591  
## 150 401067041.2244 nan 0.1000 -1701139.2935

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5977136920.1573 nan 0.1000 545131248.0838  
## 2 5579967279.1415 nan 0.1000 444350243.9809  
## 3 5131773057.5318 nan 0.1000 484105018.4251  
## 4 4766727120.9277 nan 0.1000 350270461.3962  
## 5 4457235548.2891 nan 0.1000 283156252.8671  
## 6 4192911721.3515 nan 0.1000 271747951.3848  
## 7 3968233244.1267 nan 0.1000 230115450.0101  
## 8 3759596109.8168 nan 0.1000 219277502.3480  
## 9 3556549818.8522 nan 0.1000 198571146.5156  
## 10 3337929972.3311 nan 0.1000 163756523.9624  
## 20 2192276627.2545 nan 0.1000 69565351.6107  
## 40 1360466394.8991 nan 0.1000 14962032.9801  
## 60 1099500890.0785 nan 0.1000 2003914.4462  
## 80 990356085.9848 nan 0.1000 3808690.7972  
## 100 941294702.8259 nan 0.1000 368771.6206  
## 120 893996962.9276 nan 0.1000 717710.5959  
## 140 850753613.7120 nan 0.1000 327625.6316  
## 150 836697260.6127 nan 0.1000 -6978481.8082

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5785230607.4835 nan 0.1000 704504608.8468  
## 2 5197001262.4854 nan 0.1000 549245697.6872  
## 3 4650235000.0049 nan 0.1000 491212297.0931  
## 4 4257096426.4833 nan 0.1000 374007165.6324  
## 5 3957267001.3056 nan 0.1000 297259181.5705  
## 6 3662531945.5691 nan 0.1000 296633055.6436  
## 7 3353123668.7594 nan 0.1000 262513606.5535  
## 8 3120806135.2986 nan 0.1000 246139093.6978  
## 9 2919370827.4071 nan 0.1000 205971956.2281  
## 10 2728926521.4166 nan 0.1000 202895390.5178  
## 20 1624106833.4185 nan 0.1000 60841372.1291  
## 40 1021786714.5250 nan 0.1000 -476430.8362  
## 60 844837004.4598 nan 0.1000 -9892553.8087  
## 80 736075939.7412 nan 0.1000 1917409.0391  
## 100 661346235.0412 nan 0.1000 207484.4482  
## 120 609664524.3372 nan 0.1000 -3000432.1004  
## 140 563084257.9068 nan 0.1000 -5004727.6248  
## 150 544320276.5281 nan 0.1000 -4861479.4396

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 56: Condition2PosA has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 126: ExterCondPo has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 173: ElectricalMix has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5724976097.0177 nan 0.1000 742492649.9219  
## 2 5014766169.0383 nan 0.1000 562711124.8657  
## 3 4500476188.7102 nan 0.1000 468622062.6922  
## 4 4028009933.0589 nan 0.1000 443813357.6876  
## 5 3638624216.9796 nan 0.1000 412141444.5639  
## 6 3289111370.6364 nan 0.1000 326642131.8666  
## 7 2973432576.6965 nan 0.1000 280274622.4145  
## 8 2737111708.7021 nan 0.1000 233739857.7968  
## 9 2513256784.6076 nan 0.1000 194099719.1534  
## 10 2352087090.0416 nan 0.1000 175086828.5241  
## 20 1389534320.9465 nan 0.1000 42863807.1359  
## 40 854960916.0494 nan 0.1000 4882402.8124  
## 60 703191120.0854 nan 0.1000 -9712942.6759  
## 80 619089413.3282 nan 0.1000 -1498985.1234  
## 100 555122645.9793 nan 0.1000 -5764198.3074  
## 120 484023883.8491 nan 0.1000 -2799113.7994  
## 140 437417788.2409 nan 0.1000 -886391.9352  
## 150 413516458.5598 nan 0.1000 -5098445.7364

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 6038065772.6373 nan 0.1000 616514592.6375  
## 2 5553020474.3883 nan 0.1000 502659657.5277  
## 3 5164871615.8597 nan 0.1000 405147766.2701  
## 4 4774670123.5409 nan 0.1000 350242551.2454  
## 5 4468486883.0677 nan 0.1000 290230472.9389  
## 6 4203103416.3958 nan 0.1000 266998169.1898  
## 7 3960574853.5944 nan 0.1000 235404143.4915  
## 8 3715777756.6178 nan 0.1000 233353947.8561  
## 9 3527354044.2402 nan 0.1000 118429134.4397  
## 10 3356705851.5018 nan 0.1000 160952881.5266  
## 20 2184496621.8294 nan 0.1000 51677058.0079  
## 40 1277090096.3867 nan 0.1000 20452402.9644  
## 60 1002521881.2449 nan 0.1000 9324540.7043  
## 80 892449033.7934 nan 0.1000 -6666375.3591  
## 100 825603101.5601 nan 0.1000 -6627822.1960  
## 120 791789453.4371 nan 0.1000 -2496042.7570  
## 140 750713755.9525 nan 0.1000 -7940470.3496  
## 150 735739215.8117 nan 0.1000 -10703084.7827

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5915408221.8514 nan 0.1000 685732617.7493  
## 2 5257615572.5106 nan 0.1000 696182800.6199  
## 3 4739026205.9501 nan 0.1000 503916180.6853  
## 4 4296849579.0050 nan 0.1000 388895876.4069  
## 5 3880071340.9797 nan 0.1000 436345764.3096  
## 6 3494361411.4952 nan 0.1000 323391405.6059  
## 7 3240752562.6364 nan 0.1000 224065238.6345  
## 8 2995908820.8028 nan 0.1000 163305977.6780  
## 9 2786976753.7799 nan 0.1000 249288249.9975  
## 10 2599659154.6862 nan 0.1000 168373115.9889  
## 20 1565921014.2662 nan 0.1000 71982873.8093  
## 40 951797920.6428 nan 0.1000 -1924225.1365  
## 60 780081913.5629 nan 0.1000 -3199271.3967  
## 80 697228076.4219 nan 0.1000 -1916438.4028  
## 100 648764754.1789 nan 0.1000 -9753317.1104  
## 120 588575626.4071 nan 0.1000 -2634861.2064  
## 140 541161447.5370 nan 0.1000 -14977872.5210  
## 150 518939536.2006 nan 0.1000 -4926144.6072

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 160, 20, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5887291413.5637 nan 0.1000 875879251.1147  
## 2 5163762347.8333 nan 0.1000 681072379.7798  
## 3 4556437209.2626 nan 0.1000 555405731.6833  
## 4 4123834804.9117 nan 0.1000 403421413.6582  
## 5 3718314446.7764 nan 0.1000 349952751.0838  
## 6 3367011113.3583 nan 0.1000 339923427.0853  
## 7 3073837101.8702 nan 0.1000 258857500.1566  
## 8 2752438708.5873 nan 0.1000 263210598.1198  
## 9 2533727964.8141 nan 0.1000 225834781.6550  
## 10 2319683852.5515 nan 0.1000 143979075.6389  
## 20 1284477024.2346 nan 0.1000 39656397.3212  
## 40 775500051.8025 nan 0.1000 9820090.4326  
## 60 625410800.3291 nan 0.1000 -795334.0075  
## 80 540896876.8326 nan 0.1000 -3386280.9573  
## 100 490901489.1480 nan 0.1000 -1117888.0204  
## 120 445626127.0941 nan 0.1000 -3214257.3941  
## 140 403749627.0731 nan 0.1000 -3586327.6957  
## 150 386076971.1714 nan 0.1000 -3593482.2787

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5929408422.4175 nan 0.1000 547940080.4292  
## 2 5451606301.0493 nan 0.1000 478119477.4945  
## 3 5059311424.2187 nan 0.1000 371127720.8729  
## 4 4678739309.4263 nan 0.1000 352669099.7313  
## 5 4359094684.5466 nan 0.1000 258041455.7081  
## 6 4106287250.7849 nan 0.1000 213515762.9758  
## 7 3882718390.6000 nan 0.1000 235311615.9749  
## 8 3685034945.9152 nan 0.1000 172275992.8255  
## 9 3483472601.4493 nan 0.1000 205548444.4162  
## 10 3311011380.5622 nan 0.1000 180280673.1359  
## 20 2170218013.5975 nan 0.1000 70944322.9595  
## 40 1348361788.6022 nan 0.1000 -2796458.1917  
## 60 1087480848.9096 nan 0.1000 -3568880.7870  
## 80 982956943.2804 nan 0.1000 3249085.1991  
## 100 903914919.6902 nan 0.1000 -10785762.2524  
## 120 857772938.0153 nan 0.1000 -17291201.4392  
## 140 831110035.3399 nan 0.1000 -10888151.9410  
## 150 814878216.3028 nan 0.1000 -23511.7280

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5725496113.5987 nan 0.1000 729715725.8362  
## 2 5157489739.7559 nan 0.1000 565410343.7161  
## 3 4655654997.1032 nan 0.1000 509061623.3584  
## 4 4236896187.8238 nan 0.1000 425974876.1318  
## 5 3862821228.6815 nan 0.1000 346078913.4288  
## 6 3558583755.0250 nan 0.1000 267851663.4911  
## 7 3276819479.2024 nan 0.1000 271362022.6112  
## 8 3052766024.0183 nan 0.1000 220980009.6655  
## 9 2849251124.7153 nan 0.1000 203013238.1343  
## 10 2682659970.9007 nan 0.1000 168429982.9966  
## 20 1561620015.9005 nan 0.1000 67436337.1504  
## 40 984373260.8124 nan 0.1000 -4415850.6501  
## 60 807991593.1885 nan 0.1000 -10783373.0929  
## 80 715138976.4078 nan 0.1000 -13816755.2899  
## 100 633852180.8377 nan 0.1000 -4112125.8642  
## 120 588999428.0118 nan 0.1000 -6115329.8900  
## 140 546019210.5390 nan 0.1000 -4114441.5253  
## 150 522934468.6289 nan 0.1000 -6238481.5691

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 22: NeighborhoodBlueste has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 190, 90, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5663200472.2435 nan 0.1000 867882238.7131  
## 2 5023369193.4560 nan 0.1000 622648635.9887  
## 3 4478636687.4121 nan 0.1000 516571668.6027  
## 4 4041834294.0010 nan 0.1000 447972630.9166  
## 5 3652684869.3872 nan 0.1000 368317406.9681  
## 6 3301174388.9520 nan 0.1000 318716566.8076  
## 7 3014138155.6798 nan 0.1000 289258516.5074  
## 8 2752745943.2710 nan 0.1000 221461137.7785  
## 9 2518395685.9490 nan 0.1000 233947592.8511  
## 10 2339885103.8600 nan 0.1000 130837550.9821  
## 20 1284615894.9504 nan 0.1000 45285480.3033  
## 40 795639671.9552 nan 0.1000 -1731895.2509  
## 60 648900979.6002 nan 0.1000 -1313448.5089  
## 80 562162848.0081 nan 0.1000 -7559732.1408  
## 100 498831475.0816 nan 0.1000 -3622675.1010  
## 120 452218096.4282 nan 0.1000 -1822895.3426  
## 140 412506444.7194 nan 0.1000 -3722465.9734  
## 150 395375711.1360 nan 0.1000 -1041228.5560

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5745139647.9503 nan 0.1000 544702864.3625  
## 2 5266010455.2716 nan 0.1000 482149933.2129  
## 3 4901558077.2856 nan 0.1000 381066628.2038  
## 4 4542539920.5937 nan 0.1000 328363806.0442  
## 5 4281211041.2857 nan 0.1000 228273662.7037  
## 6 3999835524.8463 nan 0.1000 275198519.4140  
## 7 3776514854.3386 nan 0.1000 219647831.3131  
## 8 3575462271.1847 nan 0.1000 166066492.5118  
## 9 3377953621.8968 nan 0.1000 202738528.0556  
## 10 3181246758.5064 nan 0.1000 157267356.2019  
## 20 2052315286.9390 nan 0.1000 61397496.9769  
## 40 1268456077.1864 nan 0.1000 13881551.0653  
## 60 1033023069.8593 nan 0.1000 4728520.5250  
## 80 935706726.9420 nan 0.1000 -10054169.8850  
## 100 872204110.4834 nan 0.1000 -2111721.3525  
## 120 846943701.8191 nan 0.1000 2199675.7278  
## 140 806130721.0556 nan 0.1000 -7801135.1325  
## 150 797497251.1536 nan 0.1000 -9866221.3558

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5577963065.6175 nan 0.1000 696623150.4594  
## 2 4968240195.5597 nan 0.1000 528285405.7110  
## 3 4501507780.4896 nan 0.1000 502956503.4238  
## 4 4042348423.6263 nan 0.1000 467123832.8428  
## 5 3691960378.7095 nan 0.1000 372219791.3536  
## 6 3380458699.5772 nan 0.1000 260565016.2588  
## 7 3107725132.4741 nan 0.1000 280201999.7180  
## 8 2858925360.7361 nan 0.1000 223493330.2436  
## 9 2640539290.0051 nan 0.1000 200656941.8808  
## 10 2477908214.9376 nan 0.1000 155044205.5324  
## 20 1496774938.5724 nan 0.1000 25810103.2444  
## 40 948781981.1893 nan 0.1000 8629557.5914  
## 60 768896678.6447 nan 0.1000 4715079.6224  
## 80 692952316.8897 nan 0.1000 -7461235.1854  
## 100 628384732.1695 nan 0.1000 -2790037.3114  
## 120 564874465.5076 nan 0.1000 -3182788.7396  
## 140 528394772.0876 nan 0.1000 1408756.5570  
## 150 512660522.4869 nan 0.1000 -788089.3219

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 84: RoofMatlRoll has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 164: HeatingOthW has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 193: FunctionalSev has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 80, 45, 20, 120, 160,  
## 190, : variable 229: SaleTypeCon has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5587118772.5357 nan 0.1000 767375298.8247  
## 2 4936329596.9441 nan 0.1000 614235311.4583  
## 3 4377557311.5522 nan 0.1000 559348942.5746  
## 4 3951780509.2708 nan 0.1000 465915807.6347  
## 5 3537776893.6188 nan 0.1000 418494545.9974  
## 6 3219079775.7023 nan 0.1000 330264311.7458  
## 7 2912993862.7482 nan 0.1000 270559954.8914  
## 8 2692231198.6016 nan 0.1000 231773774.9482  
## 9 2450761715.2205 nan 0.1000 230798554.9324  
## 10 2259339850.2343 nan 0.1000 173806450.3791  
## 20 1265448185.5566 nan 0.1000 42185252.7426  
## 40 786890963.6562 nan 0.1000 9387138.7260  
## 60 644281100.2783 nan 0.1000 -257719.1843  
## 80 578904184.3107 nan 0.1000 -551219.0476  
## 100 514428886.3622 nan 0.1000 -4871876.9112  
## 120 453357660.3995 nan 0.1000 -5494029.2892  
## 140 413054472.6239 nan 0.1000 -3004437.5139  
## 150 396135242.7320 nan 0.1000 -3677569.6832

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 58: Condition2RRAe has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 59: Condition2RRAn has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 80: RoofStyleShed has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 82: RoofMatlMembran has no variation.

## Warning in gbm.fit(x = structure(c(60, 20, 160, 20, 80, 45, 20, 120, 160, :  
## variable 84: RoofMatlRoll has no variation.

## Iter TrainDeviance ValidDeviance StepSize Improve  
## 1 5646343568.9063 nan 0.1000 810725347.2669  
## 2 5026765566.6355 nan 0.1000 606379692.3571  
## 3 4447090883.9671 nan 0.1000 517781312.7393  
## 4 3991642500.6964 nan 0.1000 437417524.4743  
## 5 3617225790.3492 nan 0.1000 383874746.7869  
## 6 3264945867.0484 nan 0.1000 306496379.5454  
## 7 2963284248.1699 nan 0.1000 282351335.3132  
## 8 2725486267.5105 nan 0.1000 189940619.6075  
## 9 2501207947.1510 nan 0.1000 186907717.3246  
## 10 2306100850.5010 nan 0.1000 149264540.5623  
## 20 1329337265.3536 nan 0.1000 23886534.3392  
## 40 815485229.6032 nan 0.1000 -107728.0218  
## 60 681585442.8265 nan 0.1000 -4974682.8578  
## 80 583991639.0295 nan 0.1000 1471235.3989  
## 100 522496434.0473 nan 0.1000 -2473549.8681  
## 120 465525536.4279 nan 0.1000 -1509487.7190  
## 140 422054106.1144 nan 0.1000 -3043390.4902  
## 150 404906180.9346 nan 0.1000 -2926663.4182

m.gbm

## Stochastic Gradient Boosting   
##   
## 1095 samples  
## 74 predictor  
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold, repeated 10 times)   
## Summary of sample sizes: 986, 986, 985, 985, 987, 986, ...   
## Resampling results across tuning parameters:  
##   
## interaction.depth n.trees RMSE Rsquared   
## 1 50 36207.47 0.8132512  
## 1 100 33629.84 0.8303897  
## 1 150 33231.63 0.8340753  
## 2 50 33405.06 0.8343028  
## 2 100 32263.05 0.8429639  
## 2 150 31776.10 0.8477385  
## 3 50 32234.30 0.8441287  
## 3 100 31008.69 0.8544912  
## 3 150 30461.73 0.8593829  
##   
## Tuning parameter 'shrinkage' was held constant at a value of 0.1  
##   
## Tuning parameter 'n.minobsinnode' was held constant at a value of 10  
## RMSE was used to select the optimal model using the smallest value.  
## The final values used for the model were n.trees = 150,  
## interaction.depth = 3, shrinkage = 0.1 and n.minobsinnode = 10.

## compare the MAE (mean absolute error) among three models

We'll caculate the mean absolute erroe to see which model is the most acruate one.

# function to calculate the mean absolute error  
MAE <- function(actual, predicted) {  
 mean(abs(actual - predicted))   
}  
  
p.lm2<-predict(lm2,test.data)  
p.rf<-predict(m.rf,test.data)  
p.gbt<-predict(m.gbm,test.data)  
  
MAE.lm2<-MAE(p.lm2, test$SalePrice)  
MAE.rf<-MAE(p.rf, test$SalePrice)  
MAE.gbt<-MAE(p.gbt,test$SalePrice)

The samllest value is MAE.rf, we will use Random Forest model to do the final report.

## Final report

we will use Random Forest model to do the final report.

Present one or two specific predictions made from the test data.

table(p.rf[1:2],test$SalePrice[1:2])

##   
## 157000 208500  
## 153427.502433333 1 0  
## 208460.6523 0 1

The data examples are 129900, 200000, while the predictions are 151479.13, 218736.00. They are not correct.

## Things learned from the data

The model feature selection, model pefermance improvement, the algorithm selected to develop the model, are all essential to develop a good model to do the better prediction. However, EDA (exploratory data analysis), data wrangling, get deep and clear insight about the data, are even more inportant to the model development, because without appropriately data cleaning and data preparation, the model developed based on the raw data is not quite useful, sometimes it is not the correct model.