MetroScope Gen 3.5 Detailed Table Definitions

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INPUTS_NONRES

Inputs required for each of the model years. These are generally what you change to create new scenarios.

nonres_supply_acres_added_yearN

Non-residential acres, added in current model year.

ezone	int	integer index, by ezone
farclass	int	integer index, by FAR class
manwar	real	value for manwar (Industrial) - reg.
retgen	real	value for retgen (Commercial) - reg.
medgov	real	value for medgov (Institutional) - reg.
manwarUR	real	value for manwar (Industrial) - ur
retgenUR	real	value for retgen (Commercial) - ur
medgovUR	real	value for medgov (Institutional) - ur

nonres_demand_emp_controls_yearN

Regional employment control totals, by each empclass, for current model year.

empclass	int	integer index, by empclass
emp	real	forecast employment
description	text	description of employment class

Inputs common to all model years. These generally will not change from scenario to scenario.

nonres_general_params

Parameters for both residential and non-residential modules

parameter	int	parameter name
value	real	parameter value
description	text	parameter description

parameter	value	description
supplyA	0.001788	new price ratio param A
supplyB	0.00179	new price ratio param B
supplyBasePriceExp	0.333	supplyBasePriceExp

nonres_demand_access_param

Travel time utility to total employment, total households, employment by class.

empclass	int	integer index, by empclass
totalemp	real	parameter for total employment
totalhh	real	parameter for total households

empclassemp	real	parameter for emcplass employment

nonres_demand_access_time_param

Travel time access to total employment, total households, employment by class.

param	text	name (Total Emp, Total HH, Empclass 1-15)
time	real	parameter value
timesq	real	parameter value
childhh_coeff	real	parameter value (only for class 15 -edu)
childhh_exp	real	parameter value (only for class 15 = edu)
description	text	parameter description

nonres_demand_baseline_distribution_param

Baseline share of emplcass employment into re types. Sum for each emplcass = 1.

empclass	int	integer index, by empclass
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_demand_baseline_sqft_emp

Baseline value of square feet per employee.

empclass	int	integer index, by empclass
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_demand_crossprice_elasticity

Cross price elasticity between real estate types

empclass	int	integer index, by empclass
re	int	integer index, by real estate type
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_demand_directprice_elasticity

Direct price elasticity, by empclass

empclass	int	integer index, by empclass
value	real	direct price elasticity

nonres_demand_directsqft_elasticity

Direct sqft elasticity, by empclass and re type

empclass	int	integer index, by empclass
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_demand_hh_year0

Households by ezone for the calibration model year

ezone	int	integer index, by ezone
totalhh	real	total households
childhh	real	school-age households

nonres_locationprice_year0

Non-residential location price in calibration year.

empclass	int	integer index, by empclass
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_supply_baselandvalue

Base non-residential land value, in dollars per sqft.

ezone	int	integer index, by ezone
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_supply_capitalcost

Base non-residential capital cost, in dollars per sqft.

ezone	int	integer index, by ezone
farclass	int	integer index, by FAR class
manwar	real	value for manwar (Industrial)

retgen	real	value for retgen (Commercial)
medgov	real	value for medgov (Institutional)

nonres_supply_capitalsubsidy

Base non-residential capital subsidy, in dollars per sqft.

ezone	int	integer index, by ezone
farclass	int	integer index, by FAR class
manwar	real	value for manwar (Industrial)
retgen	real	value for retgen (Commercial)
medgov	real	value for medgov (Institutional)

nonres_supply_cbdfactor

Parameters for adjusting nonres supply in the CBD

farclass	int	integer index, by FAR class
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_supply_farclass_param

Nonres supply module parameters for each FAR class

farclass	int	integer index, by FAR class
alpha	real	parameter for nonres supply module
beta	real	parameter for nonres supply module
maxfar	real	maximum value of FAR

nonres_supply_landcost

Base non-residential land cost, in dollars per sqft.

ezone	int	integer index, by ezone
farclass	int	integer index, by FAR class
manwar	real	value for manwar (Industrial)
retgen	real	value for retgen (Commercial)
medgov	real	value for medgov (Institutional)

nonres_supply_retype_param

Nonres supply module parameters for each FAR class.

re	int	integer index, by re type
landprice	real	TODO: description
landsub	real	TODO: description
salesfract	real	Fraction of acres made available in current year.

nonres_supply_totalsupply_year0

Total sqft supply in calibration year.

ezone	int	integer index, by ezone
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

INPUT_RES

Inputs required for each of the model years. These are generally what you change to create new scenarios.

res_supply_acres_added_yearN

Land use supply accounting for current model year.

rzone	int	integer index, by rzone
zclass	int	integer index, by zclass
added_osf_reg	real	regular acres, owner, single family
added_omf_reg	real	regular acres, owner, multi- family
added_rsf_reg	real	regular acres, renter, single family
added_rmf_reg	real	regular acres, renter, multi- family
added_osf_ur	real	UR acres, owner, single family
added_omf_ur	real	UR acres, owner, multi- family
added_rsf_ur	real	UR acres, renter, single family
added_rmf_ur	real	UR acres, renter, multi- family

res_demand_khia_shares_yearN

Controls of regional household shares by KHIA, current model year.

khianum	int	integer index, for khia categories
khia	str	string associated with category (K1 H2 I3 A3)
share	int	HH share of each khia category (sum = 1)

res_demand_hh_controls

Regional control total for dwelling units, for all model years. Only one file, with forecast values in each row.

year	int	forecast year (2015, 2020, ...)
totalhh	real	forecast households
totaldu	int	forecast dwelling units (typically HH * 1.05)

Inputs common to all model years. These generally will not change from scenario to scenario.

res_general_params

Parameters for both residential and non-residential modules

parameter	int	parameter name

value	real	parameter value
description	text	parameter description

parameter	value	description
alphaParamLP	0.00001	alpha parameter for location price calc
betaParamLP	2	beta parameter for location price calc
converge	0.5	converge
sfland	6500	sfland
sfbldg	2000	sfbldg
cost_land	14.5	cost_land
cost_bldg	100	cost_bldg
capland_sub	-0.6	capland_sub (- sign in vb code)
init_sales_fract	0	XXX NOT USED
housesize_cost_exponent	0.1	housesize_cost_exponent
supply_utility_exponent	2.5	supply_utility_exponent
landPriceChangeA	0.001788	landPriceChangeA
landPriceChangeB	1.599215	landPriceChangeB
landPriceChangeC	-0.00179	landPriceChangeC
hedonic_inflation_factor	0.74	converts 2000 dollars into 1994 dollars for travel model

res_general_rzone_lut

Lookup table for the ezone corresponding to each rzone

rzone	int	integer index, by rzone
ezone	int	integer

res_demand_accessindex_nscore

Location weights for auto access, neighborhood

rzone	int	integer index, by rzone
accessindex	real	auto access weight
nscore	real	neighborhood score weight

res_demand_binshares_year0

Location weights for each housing price bin, from calibration year. Sum for each bin, htype = 0.

rzone	int	integer index, by rzone
bin	int	integer index, by bin
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_emp_yearN

Employment by ezone from non-residential model , in current model year.

ezone	int	integer index, by ezone
emp	real	total employment

res_demand_hedonic_params

Parameters for residential housing cost calculation.

parameter	int	parameter name
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family
description	text	parameter description

res_demand_housesize_params

Parameters for residential housing size choice.

parameter	int	parameter name
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family
description	text	parameter description

res_demand_housingtype_params

Parameters for residential housing type choice.

parameter	int	parameter name
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family
description	text	parameter description

res_demand_khia_categories

Values for each KHIA market segment

khiavar	text	category type (k, h, i, or a)
khiacat	int	category index (1,2,3,…)
minval	real	low end of range
nomval	real	nominal value within range
maxval	real	high end of range

res_demand_khia_params

Parameters for each KHIA market segment

khianum	int	integer index, for khia categories
khia	str	string associated with category (K1 H2 I3 A3)
k	int	k category index (0,1)
h	int	h category index (1,2,3,…)
i	int	i category index (1,2,3,…)
a	int	a category index (1,2,3,…)
sort	int	sort value, derived from baseline OSF housing cost

res_demand_kshare_params

Location weights for households with school-age children.

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_locationchoice_params

Parameters for residential location choice.

parameter	int	parameter name
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family
description	text	parameter description

res_demand_lotsize_params

Parameters for residential location choice.

parameter	int	parameter name
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family
description	text	parameter description

res_demand_tenure_params

Parameters for residential tenure choice.

parameter	int	parameter name
value	real	parameter value
description	text	parameter description

res_locationprice_year0

Residential location price from calibration year

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_supply_base_bldgcost

Base building cost

zclass	int	integer index, by zclass
bldgcost	real	cost per square foot

res_supply_base_lotprice

Base lot price

rzone	int	integer index, by rzone
zclass	int	integer index, by zclass
baselotprice	real	cost per square foot

res_supply_basesalesfraction

Base fraction of land supply becoming available in current model year. (Range between 0 and 1)

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_supply_feesubsidy

Cost or subsidy to building cost of each unit.

rzone	int	integer index, by rzone
fee	real	lot fee -- add to cost to build
subsidy	real	lot subsidy -- subtract from cost to build

res_supply_zclass_lotsize

Available lot sizes for each zoning class

zclass	int	integer index, by zclass
minsize	real	low end of range, in sqft
lotsize	real	nominal value, in sqft
maxsize	real	high end of range, in sqft
zoning	text	optional name for zoning class
zonetype	text	optional name zoning type

res_totalsupply_year0

Total DU supply from calibration year

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

INPUTS_TRANSPORT

Inputs required for each of the model years. These are generally what you change to create new scenarios.

nonres_traveltime_yearN

Non-residential ezone-to-ezone travel times

ezone_from	int	integer index, by "from" ezone
ezone_to	int	integer index, by "to" ezone
traveltime_year1	real	zone-to-zone travel times

res_traveltime_yearN

Residential ezone-to-rzone travel times

ezone_from	int	integer index, by "from" ezone
rzone_to	int	integer index, by "to" rzone
traveltime_year1	real	zone-to-zone travel times

OUTPUTS_YEAR N -- Non-residential

nonres_supply_acres_consumed_yearN

Non-residential regular acres, consumed in current model year.

ezone	int	integer index, by ezone
farclass	int	integer index, by FAR class
manwar	real	value for manwar (Industrial) - reg.
retgen	real	value for retgen (Commercial) - reg.
medgov	real	value for medgov (Institutional) - reg.
manwarUR	real	value for manwar (Industrial) - ur
retgenUR	real	value for retgen (Commercial) - ur
medgovUR	real	value for medgov (Institutional) - ur

nonres_supply_acres_remaining_yearN

Non-residential regular acres, consumed in current model year.

ezone	int	integer index, by ezone
farclass	int	integer index, by FAR class
manwar	real	value for manwar (Industrial) - reg.
retgen	real	value for retgen (Commercial) - reg.
medgov	real	value for medgov (Institutional) - reg.
manwarUR	real	value for manwar (Industrial) - ur
retgenUR	real	value for retgen (Commercial) - ur
medgovUR	real	value for medgov (Institutional) - ur

nonres_demand_emp_yearN

Total employment demand, by ezone, emplcass, and re type

ezone	int	integer index, by ezone
empclass	int	integer index, by empclass

man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_demand_empclass_emp_yearN

Total employment demand, by ezone, emplcass, and re type

ezone	int	integer index, by ezone
empclass1	real	value for employment class 1
empclass2	real	value for employment class 2
empclass3	real	value for employment class 3
empclass4	real	value for employment class 4
empclass5	real	value for employment class 5
empclass6	real	value for employment class 6
empclass7	real	value for employment class 7
empclass8	real	value for employment class 8
empclass9	real	value for employment class 9
empclass10	real	value for employment class 10
empclass11	real	value for employment class 11
empclass12	real	value for employment class 12
empclass13	real	value for employment class 13
empclass14	real	value for employment class 14
empclass15	real	value for employment class 15

nonres_demand_hh_yearN

Households by ezone, from residential model

ezone	int	integer index, by ezone
totalhh	real	total households
childhh	real	school-age households

nonres_demand_sqft_yearN

Total square foot demand

ezone	int	integer index, by ezone
empclass	int	integer index, by empclass
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_locationprice_yearN

Non-residential location price

empclass	int	integer index, by empclass
re	int	integer index, by real estate type

man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_sqft_newsupply_yearN

New regular sqft supply built in current year

ezone	int	integer index, by ezone
far	int	integer index, by FAR class
re	int	integer index, by real estate type
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_sqftUR_newsupply_yearN

New UR sqft supply built in current year

ezone	int	integer index, by ezone
far	int	integer index, by FAR class
re	int	integer index, by real estate type
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

nonres_supply_totalsupply_yearN

Total sqft supply

ezone	int	integer index, by ezone
re	int	integer index, by real estate type
man	real	value for manufacturing real estate
war	real	value for warehousing real estate
ret	real	value for retail real estate
gen	real	value for general office real estate
med	real	value for medical real estate
gov	real	value for government real estate

OUTPUTS_YEAR N

res_supply_acres_consumed_yearN

Residential regular acres consumed in the current model year.

rzone	int	integer index, by rzone

zclass	int	integer index, by zclass
osf	real	regular acres, owner, single family
omf	real	regular acres, owner, multi- family
rsf	real	regular acres, renter, single family
rmf	real	regular acres, renter, multi- family
osfUR	real	UR acres, owner, single family
omfUR	real	UR acres, owner, multi- family
rsfUR	real	UR acres, renter, single family
rmfUR	real	UR acres, renter, multi- family

res_supply_acres_remaining_yearN

Residential regular acres consumed in the current model year.

rzone	int	integer index, by rzone
zclass	int	integer index, by zclass
osf	real	regular acres, owner, single family
omf	real	regular acres, owner, multi- family
rsf	real	regular acres, renter, single family
rmf	real	regular acres, renter, multi- family
osfUR	real	UR acres, owner, single family
omfUR	real	UR acres, owner, multi- family
rsfUR	real	UR acres, renter, single family
rmfUR	real	UR acres, renter, multi- family

res_demand_avghedonic_bin_yearN

Average hedonic prices for each housing bin

rzone	int	integer index, by rzone
bin	int	integer index, by bin
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_avghousesize_bin_yearN

Average house size for each housing bin, in sqft

rzone	int	integer index, by rzone
bin	int	integer index, by bin
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_avglotsize_bin_yearN

Average lot size for each housing bin, in sqft

rzone	int	integer index, by rzone
bin	int	integer index, by bin
osf	real	value for owner, single family
omf	real	value for owner, multi- family

rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_binshares_yearN

Location weights for each housing price bin. Sum for each bin, htype = 0.

rzone	int	integer index, by rzone
bin	int	integer index, by bin
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_RzBin_yearN

Total demand for current year, by rzone and housing bin

rzone	int	integer index, by rzone
bin	int	integer index, by bin
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_RzEz_yearN

Total demand for current year, by rzone and ezone

rzone	int	integer index, by rzone
ezone	int	integer index, by ezone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_RzKHIA_yearN

Total demand for current year, by KHIA market segment

khianum	int	khia index - refer to "rzone_demand_khia_param"
khia	str	string associated with category (K1 H2 I3 A3)
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_demand_rzone_yearN

Total demand for current year, by rzone

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family

rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_locationprice_yearN

Residential location price

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_newsupply_yearN

New regular households built in current year

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_newsupplyUR_yearN

New UR households built in current year

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family

res_totalsupply_yearN

total households in current year

rzone	int	integer index, by rzone
osf	real	value for owner, single family
omf	real	value for owner, multi- family
rsf	real	value for renter, single family
rmf	real	value for renter, multi- family