Build-Out Report - Base Scenario

Analysis Name: CrackerJax

Tuesday, September 06, 2011, 1:49 PM

Report Contents

Report Summary

This report gives details about a single run of the Build-Out Wizard for this scenario.

- [x] Numeric Build-Out has been run
- [x] Spatial Build-Out has been run
- [x] Visual Build-Out has been run

Numeric Build-Out Settings

Land Use Layer

Layer containing land-use information	CrackerJax
Attribute specifying land-use designation	GP
Attribute specifying unique identifier of each land-use area	FID

Density Rules

Land-Use Designation	Dwelling Units	Floor Area	Efficiency Factor (%)
AMU-R	40 DU per acre	0.8 FAR	65

Mixed Use

Land-Use Designation	Building Use	Percent of Floor Area	Floor Area per DU (sq feet)
AMU-R			
	Commercial	50	0
	Residential	50	0

Building Information

Land-Use Designation	DU per Building	Area (sq feet)	Floors
AMU-R	20	0	4

Spatial Build-Out Settings

Settings

Land-Use Designation	Minimum Separation Distance (feet)	Layout Pattern	Road or Line Layer	Setback (feet)
AMU-R	30	Random	street_all	40

Visual Build-Out Settings

3D Models

Land-Use Designation	3D Model	Path
AMU-R		

Results

Dwelling Unit Quantities

Land-Use Designation	Numeric Build-Out	Spatial Build-Out	Difference	Existing Dwelling Units
AMU-R	720	720	0	0
Total	**720**	**720**	**0**	**0**

Commercial Floor Space

Land-Use Designation	Numeric Build-Out Floor Area (sq. feet)	Spatial Build-Out Floor Area (sq. feet)	Difference	Existing Floor Area
AMU-R	627946.921	627946.921	0	0
Total	**627946.921**	**627946.921**	**0**	**0**

Building Quantities

Land-Use Designation	Numeric Build-Out Units	Spatial Build-Out Units	Difference	Existing Buildings
AMU-R	38	38	0	0
Total	**38**	**38**	**0**	**0**

Buildable Area

Land-Use Designation	Gross Area (sq feet)	Net Buildable Area (sq feet)	Difference (sq feet)
AMU-R	1207589.712	1207589.712	0
Total	**1207589.712**	**1207589.712**	**0**

Exceptions

Land-Use Designation	Number of dwelling units that couldn't be placed because of space constraints	Number of commerical buildings that couldn't be placed because of space constraints	Number of polygons where number of existing buildings exceeds build-out limit
AMU-R	0	0	0
Total	**0**	**0**	**0**

CrackerJax Minor GP Common Impacts

printer-friendly

Report Contents

Analysis Description

Minor General Plan Analysis for the CrackerJax site

Report Summary

Report Date/Time: Tuesday, September 06, 2011 1:50 PM

Scenarios in this Report

What is a scenario?

Base Scenario

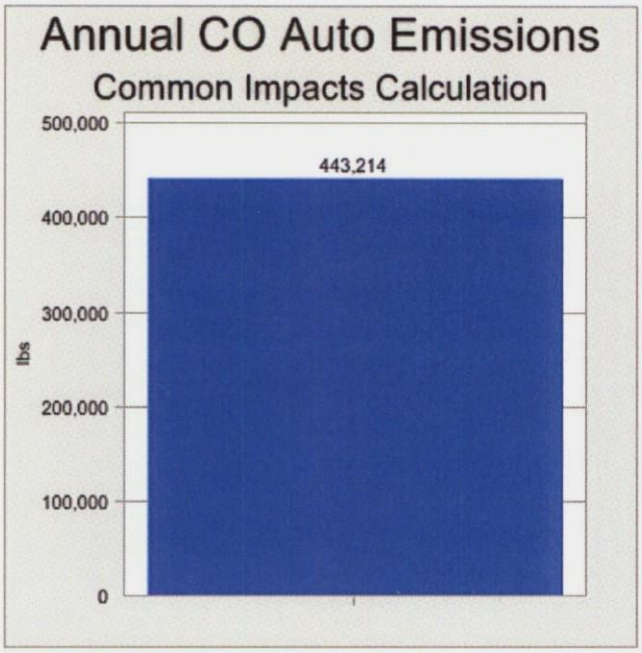
Common Impacts Parameters

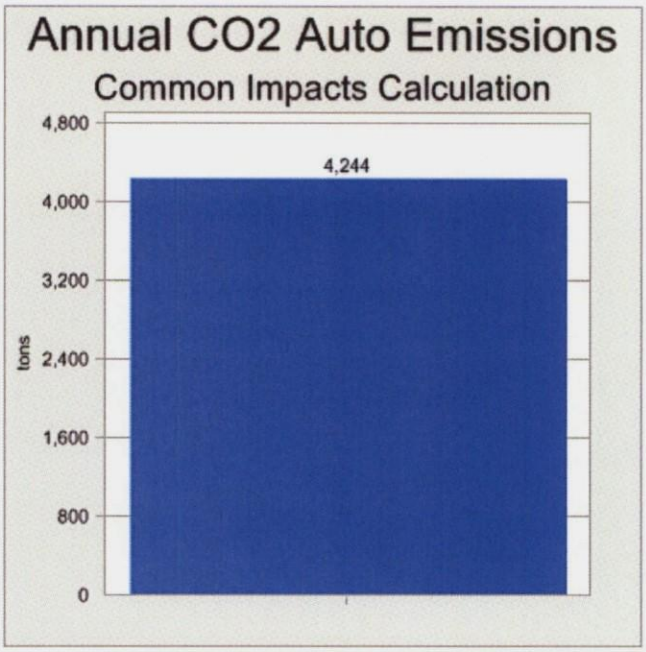
What is a common impacts parameter?

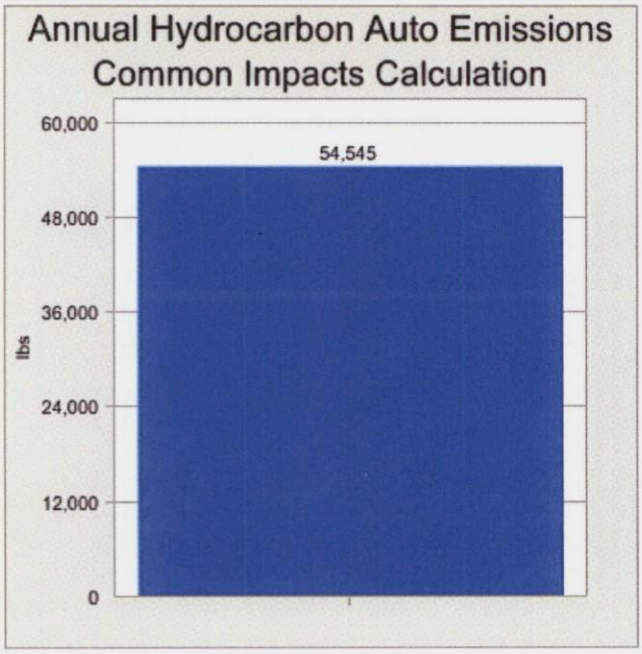
Standard Parameters	
Buildings Layer	Buildings
Dwelling Units per Building	(Attribute: Buildings) Dwelling Units
Commercial Floor Area per Building	(Attribute: Buildings) Floor Area
Commercial Floor Area Units	square feet

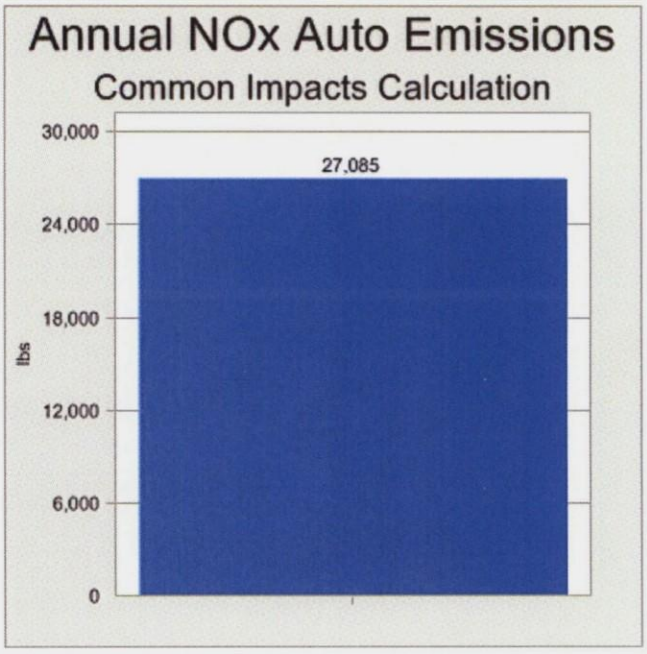
Indicator Charts

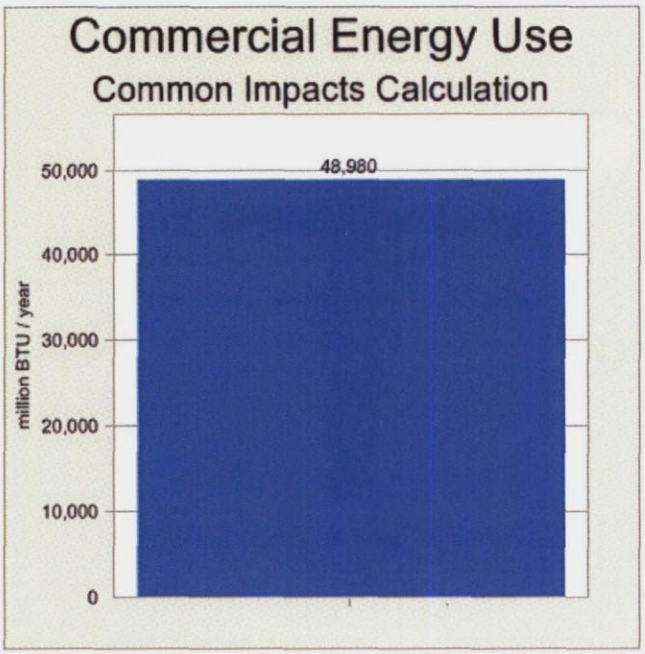
What is an indicator?

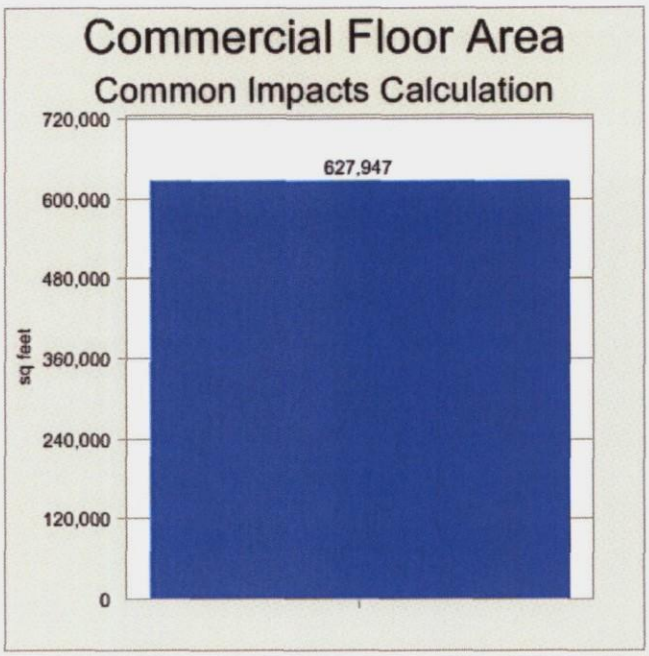

Annual CO Auto Emissions
Common Impacts Calculation
500,000
400,000
300,000
200,000
100,000
0
lbs
443,214

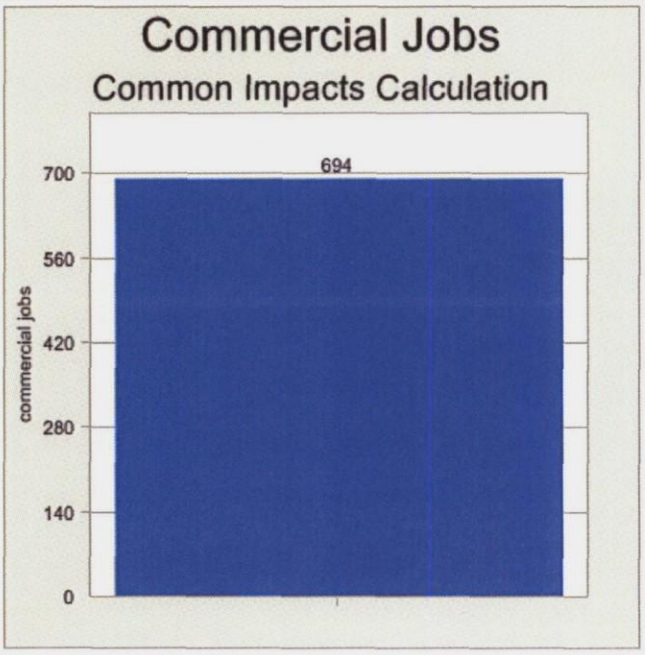

Annual CO2 Auto Emissions
Common Impacts Calculation
4,800
4,000
3,200
2,400
1,600
800
0
tons
4,244

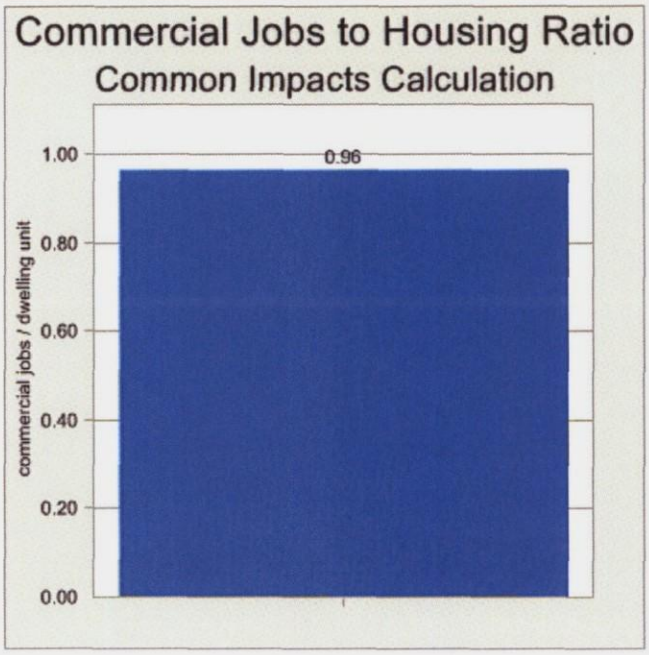

Annual Hydrocarbon Auto Emissions
Common Impacts Calculation
60,000
48,000
36,000
24,000
12,000
0
lbs
54,545

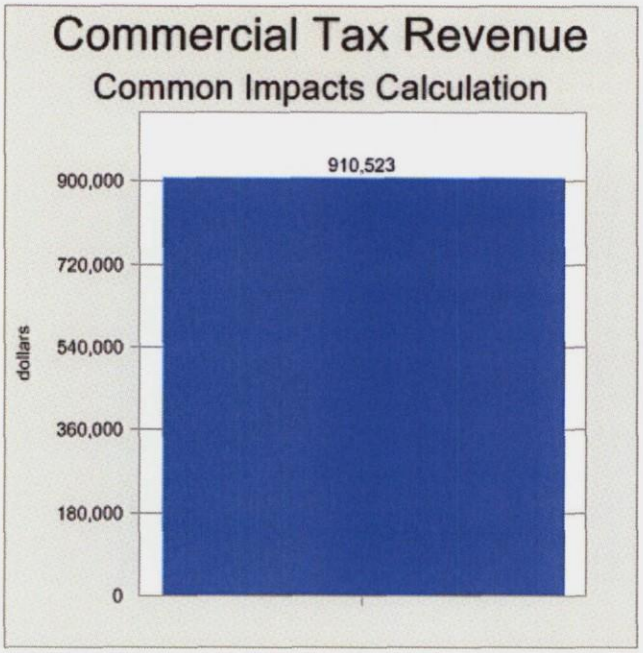

Annual NOx Auto Emissions
Common Impacts Calculation
30,000
24,000
18,000
12,000
6,000
0
lbs
27,085

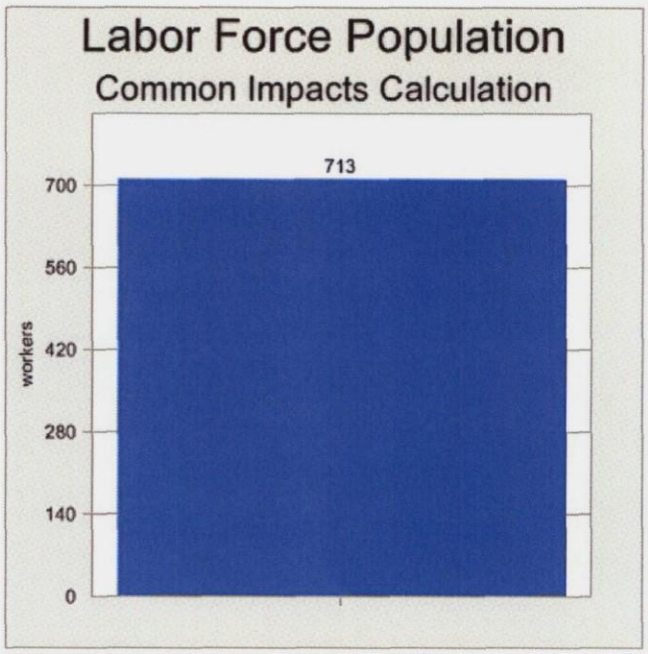

Commercial Energy Use
Common Impacts Calculation
48,980
50,000
40,000
30,000
20,000
10,000
0
million BTU / year

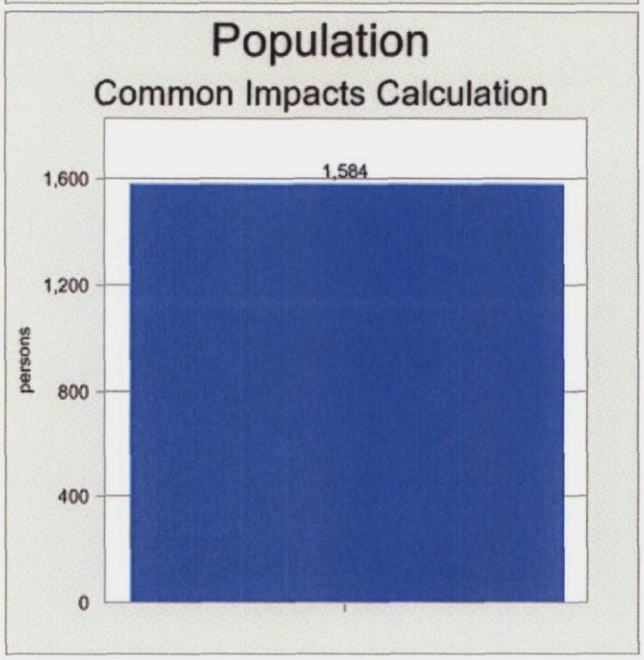

Commercial Floor Area
Common Impacts Calculation
627,947
720,000
600,000
480,000
360,000
240,000
120,000
0
sq feet

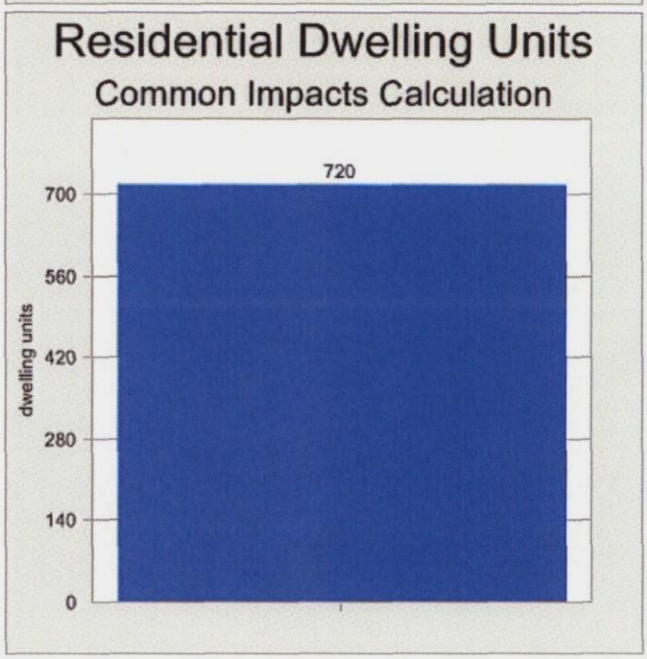

Commercial Jobs
Common Impacts Calculation
694
700
560
420
280
140
0
commercial jobs

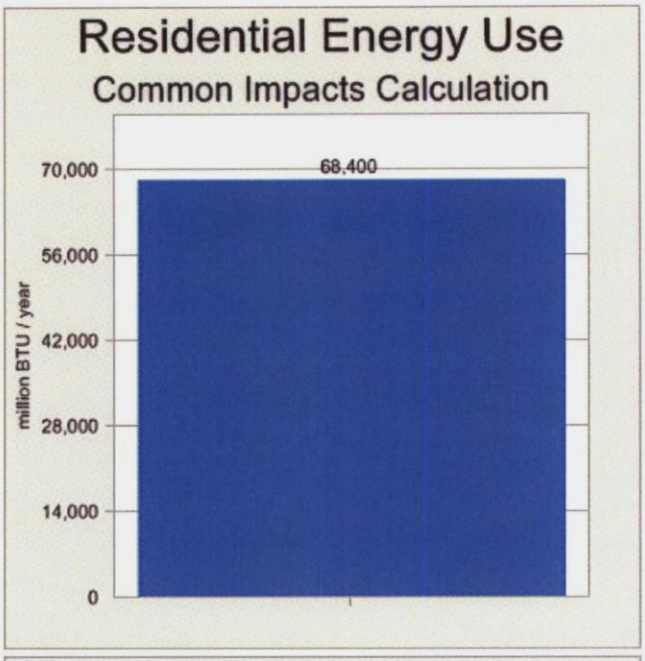

Commercial Jobs to Housing Ratio
Common Impacts Calculation
0.96
1.00
0.80
0.60
0.40
0.20
0.00
commercial jobs / dwelling unit

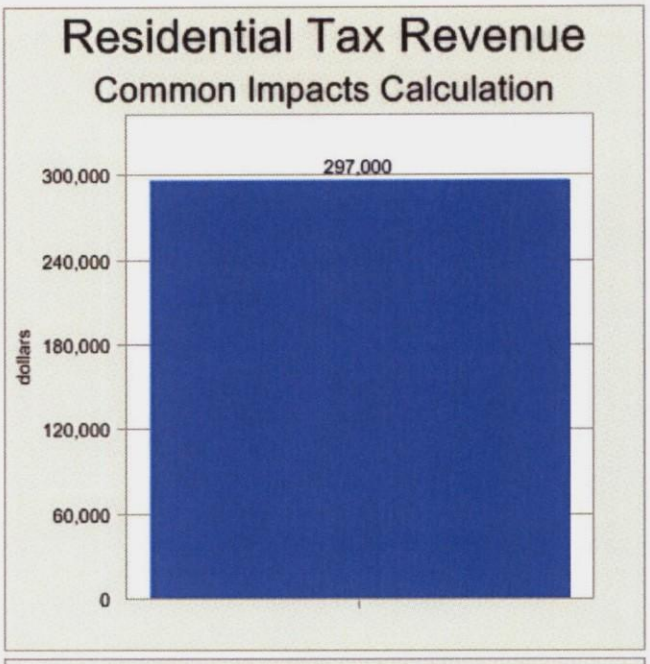

Commercial Tax Revenue
Common Impacts Calculation
910,523
900,000
720,000
540,000
360,000
180,000
0
dollars

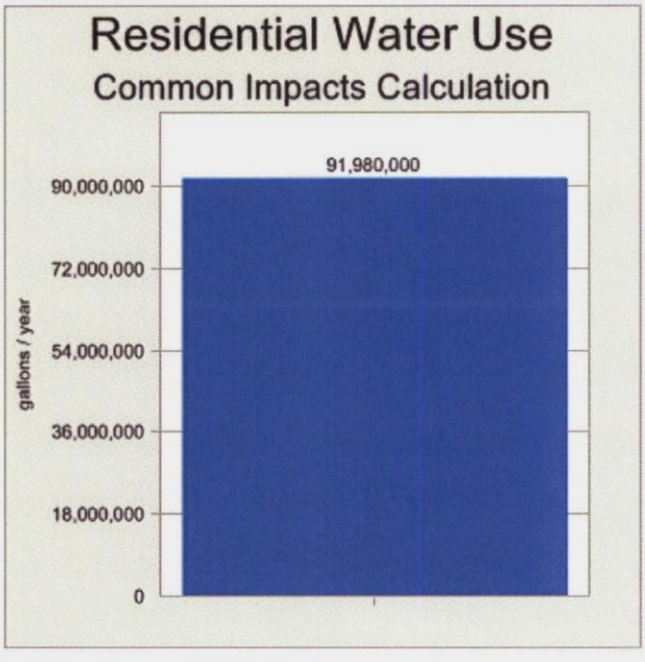

Labor Force Population
Common Impacts Calculation
713
700
560
420
280
140
0
workers

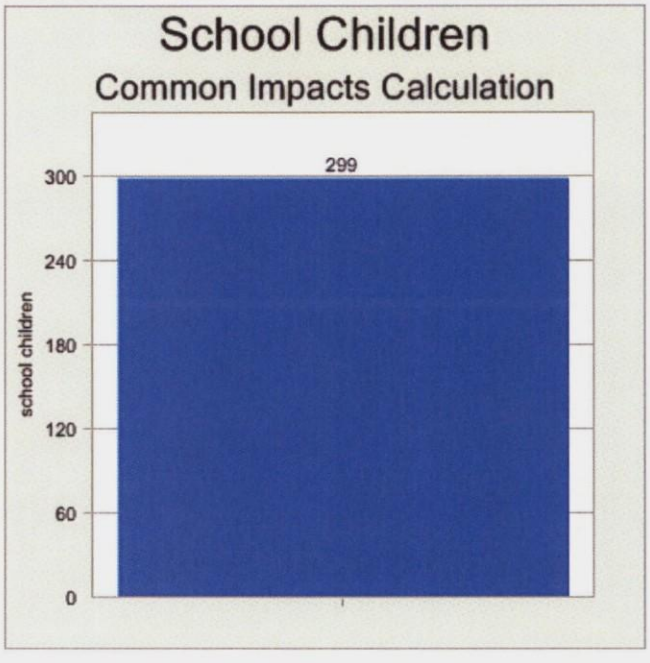

Population
Common Impacts Calculation
1,584
1,600
1,200
800
400
0
persons


Residential Dwelling Units
Common Impacts Calculation
720
700
560
420
280
140
0
dwelling units









Indicators

What is an indicator?

Indicators

Indicator	Base Scenario	Units
Common Impacts - Annual CO Auto Emissions	443,214	lbs
Common Impacts - Annual CO2 Auto Emissions	4,244	tons
Common Impacts - Annual Hydrocarbon Auto Emissions	54,545	lbs
Common Impacts - Annual NOx Auto Emissions	27,085	lbs
Common Impacts - Commercial Energy Use	48,980	million BTU / year

Common Impacts - Commercial Floor Area	627,947	sq feet
Common Impacts - Commercial Jobs	694	commercial jobs
Common Impacts - Commercial Jobs to Housing Ratio	0.96	commercial jobs / dwelling unit
Common Impacts - Commercial Tax Revenue	910,523	dollars
Common Impacts - Labor Force	713	workers
Common Impacts - Population	1,584	persons
Common Impacts - Residential Dwelling Units	720	dwelling units
Common Impacts - Residential Energy Use	68,400	million BTU / year
Common Impacts - Residential Tax Revenue	297,000	dollars
Common Impacts - Residential Water Use	91,980,000	gallons / year
Common Impacts - School Children	299	school children
Common Impacts - Vehicle Trips per Day	4,284	vehicle trips / day

Details

Indicator	Details
Common Impacts - Annual CO Auto Emissions	Units: lbs Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - CO]) / 453.6) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Annual CO2 Auto Emissions	Units: tons Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - CO2]) / 2000) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Annual Hydrocarbon Auto Emissions	Units: lbs Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - Hydrocarbons]) / 453.6) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Annual NOx Auto Emissions	Units: lbs Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - NOx]) / 453.6) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
	Units: million BTU / year Formula:

Common Impacts - Commercial Energy Use	(([Assumption:CI Assumption - Annual Commercial Energy Use] * Sum ([Attribute:Buildings:Floor Area])) / 1000) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Floor Area	Units: sq feet Formula: Sum([Attribute:Buildings:Floor Area]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Jobs	Units: commercial jobs Formula: If([Assumption:CI Assumption - Floor Area per Employee] = 0, Then (0), Else (Sum ([Attribute:Buildings:Floor Area]) / [Assumption:CI Assumption - Floor Area per Employee])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Jobs to Housing Ratio	Units: commercial jobs / dwelling unit Formula: If([Indicator:Common Impacts - Residential Dwelling Units] = 0, Then (0), Else ([Indicator:Common Impacts - Commercial Jobs] / [Indicator:Common Impacts - Residential Dwelling Units])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Tax Revenue	Units: dollars Formula: Sum([Attribute:Buildings:Commercial Floor Area Tax]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Labor Force	Units: workers Formula: ([Assumption:CI Assumption - Percent Employed] * [Indicator:Common Impacts - Population]) / 100 ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Population	Units: persons Formula: [Assumption:CI Assumption - Persons per Household] * Sum([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Dwelling Units	Units: dwelling units Formula: Sum([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Energy Use	Units: million BTU / year Formula: [Assumption:CI Assumption - Annual Household Energy Use] * Sum ([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Tax	Units: dollars Formula: Sum([Attribute:Buildings:Residential Millage Tax])

Revenue	' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Water Use	Units: gallons / year Formula: [Assumption:CI Assumption - Daily Household Water Use] * 365 * Sum ([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - School Children	Units: school children Formula: ([Assumption:CI Assumption - Percent School Children] * [Indicator:Common Impacts - Population]) / 100 ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Vehicle Trips per Day	Units: vehicle trips / day Formula: [Assumption:CI Assumption - Household Vehicle Trips per Day] * Sum ([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.

Indicator Descriptions

Indicator	Description
Common Impacts - Annual CO Auto Emissions	Total carbon monoxide emissions generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Annual CO2 Auto Emissions	Total carbon dioxide emissions generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Annual Hydrocarbon Auto Emissions	Total hydrocarbon emissions generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Annual NOx Auto Emissions	Total emissions of oxides of nitrogen generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Commercial Energy Use	Total annual energy used by commercial buildings in the Common Impacts buildings layer for all applications, including electricity and heating. See Help for details and disclaimer.
Common Impacts - Commercial Floor Area	Total commercial floor area in the Common Impacts buildings layer.
Common Impacts - Commercial Jobs	Total jobs associated with commercial floor space in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Commercial Jobs to Housing Ratio	Common Impacts Commercial Jobs divided by Common Impacts Residential Dwelling Units. See Help for details and disclaimer.
Common Impacts - Commercial Tax Revenue	Annual tax revenue from commercial floor space in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Labor Force	Total number of jobholders living in the dwelling units in the Common Impacts building layer. See Help for details and disclaimer.
Common Impacts - Population	Total number of people living in the dwelling units in the Common Impacts building layer. See Help for details and disclaimer.
Common Impacts - Residential Dwelling Units	Total number of residential dwelling units in the Common Impacts building layer.
Common Impacts - Residential Energy Use	Total annual energy used by residential buildings for all applications, including electricity and heating. See Help for details and disclaimer.
Common Impacts - Residential Tax Revenue	Annual tax revenue from residential taxes in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Residential Water Use	Total annual water use by dwelling units in the Common Impacts building layer for all indoor and outdoor applications. See Help for details and disclaimer.
	Total number of school children living in the dwelling units in the

Common Impacts - School Children	buildings layer. See Help for details and disclaimer.
Common Impacts - Vehicle Trips per Day	Total number of motorized trips taken each day, on average, by residential households (dwelling units) in the Common Impacts buildings layer. See Help for details and disclaimer.

Dynamic Attributes

What is a dynamic attribute?

Attributes

Attribute	Details
Buildings	
Commercial Floor Area Tax	Type: Double Formula: If ((([Attribute:Buildings:Dwelling Units] >= 0.5) Or ([Attribute:Buildings:Floor Area] > 0)), Then ([Assumption:CI Assumption - Commercial Usage Rate] * [Attribute:Buildings:Floor Area]), Else (0)) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Residential Millage Tax	Type: Double Formula: If ((([Attribute:Buildings:Dwelling Units] >= 0.5) Or ([Attribute:Buildings:Floor Area] > 0)), Then (([Assumption:CI Assumption - Residential Millage Rate] * [Assumption:CI Assumption - Mean Residential Property Value] * [Attribute:Buildings:Dwelling Units]) / 1000), Else (0)) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.

Attribute Descriptions

Attribute	Description
Buildings	
Commercial Floor Area Tax	Commercial use taxes for this building feature based on floor area. (Annual taxes are implied.)
Residential Millage Tax	Residential taxes for this building feature based on millage rate. (Annual taxes are implied.)

Assumptions

What is an assumption?

Assumptions

Assumption	Default	Base Scenario	Units
CI Assumption - Annual Commercial Energy Use	85.1	78.0	thousand BTU / sq foot
CI Assumption - Annual Household Energy Use	101	95	million BTU / household / year
CI Assumption - Auto Emissions - CO	476.76	450.00	grams / gallon
CI Assumption - Auto Emissions - CO2	19.70	19.00	lbs / gallon
CI Assumption - Auto Emissions - Hydrocarbons	60.22	55.38	grams / gallon
CI Assumption - Auto Emissions - NOx	29.89	27.50	grams / gallon
CI Assumption - Average Vehicle Trip Length	9.78	8.00	miles
CI Assumption - Commercial Usage Rate	1.45	1.45	dollars / sq foot
CI Assumption - Daily Household			

Water Use	391	350	gallons / household / day
CI Assumption - Floor Area per Employee	823	905	square feet / employee
CI Assumption - Household Vehicle Trips per Day	5.95	5.95	household vehicle trips / day
CI Assumption - Mean Residential Property Value	250000	250,000	dollars
CI Assumption - Passenger Car Fuel Efficiency	24	28.0	miles / gallon
CI Assumption - Percent Employed	40.89	45.00	percent of population
CI Assumption - Percent School Children	18.9	18.9	percent of population
CI Assumption - Persons per Household	2.56	2.20	persons / household
CI Assumption - Residential Millage Rate	1.65	1.65	mills

Assumption Descriptions

Assumption	Description
CI Assumption - Annual Commercial Energy Use	Average annual energy used by each commercial building for all applications, including electricity and heating. Default value is from "Commercial Buildings Energy Consumption Survey (1999)," Form EIA-871A, Energy Information Administration, Office of Energy Markets and End Use.
CI Assumption - Annual Household Energy Use	Average annual energy used by each residential building for all applications, including electricity and heating. Default value is from "Residential Energy Consumption Survey (1997)," Energy Information Administration.
CI Assumption - Auto Emissions - CO	Carbon monoxide emissions generated by vehicles associated with each dwellilng unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Auto Emissions - CO2	Carbon dioxide emissions generated by vehicles associated with each dwelling unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Auto Emissions - Hydrocarbons	Hydrocarbon emissions generated by vehicles associated with each dwelling unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Auto Emissions - NOx	Emissions of oxides of nitrogen generated by vehicles associated with each dwelling unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Average Vehicle Trip Length	Average length of trip for vehicles associated with the dwelling units. Default value is from the US Bureau of Transportation Statistics (2001).
CI Assumption - Commercial Usage Rate	Annual tax rate for commercial floor space in terms of tax per unit area.
CI Assumption - Daily Household Water Use	Average daily water use by each dwelling unit for all indoor and outdoor applications. Default value is from "Estimated Use of Water in the United States in 2000," USGS Circular 1268, United States Geological Survey.
CI Assumption - Floor Area per Employee	Average amount of commercial floor area that equates to one job. Default value is from "Commercial Buildings Energy Consumption Survey (1999)," Energy Information Administration.
CI Assumption - Household Vehicle Trips per Day	Number of motorized trips taken by residential households each day, on average. Default value is from Transportation Energy Data Book (2001), chapter 8, edition 24, US Department of Energy, Energy Efficiency and Renewable Energy.
CI Assumption - Mean Residential Property Value	Average value of each residential dwelling unit.
CI Assumption - Passenger Car Fuel Efficiency	Average fuel efficiency of cars used by residents. Default value is

	from the US Bureau of Transportation Statistics (2004).
CI Assumption - Percent Employed	Number of jobholders living in the dwelling units in the buildings layer, represented as a percent of total population. Default value is from "Private nonfarm employment (2001)," U.S. Census Bureau, 2000 Census of Population, State and County Quick Facts.
CI Assumption - Percent School Children	Number of school children living in the dwelling units in the buildings layer, represented as a percent of total population. Default value is from "USA Population by Age (2000)," U.S. Census Bureau, 2000 Census of Population, Profiles of General Demographic Characteristics.
CI Assumption - Persons per Household	Number of people living the dwelling units of the building layer. Default value is from "Households, Persons Per Household, and Households with Individuals Under 18 Years (2000)," U.S. Bureau of the Census, 2000 Census of Population, Profiles of General Demographic Characteristics.
CI Assumption - Residential Millage Rate	Tax rate for residences based on tax per thousand units of value.

Potentially Useful References

What is a common impacts reference?

Assumption	Source
CI Assumption - Annual Commercial Energy Use	*Commercial Buildings Energy Consumption Survey (1999)*, Form EIA-871A, Energy Information Administration, Office of Energy Markets and End Use.
CI Assumption - Annual Household Energy Use	*Residential Energy Consumption Survey (1997)*, Energy Information Administration.
CI Assumption - Average Vehicle Trip Length	*Bureau of Transportation Statistics (2001)*
CI Assumption - Daily Household Water Use	*Estimated Use of Water in the United States in 2000*USGS Circular 1268, United States Geological Survey. *Denver Water Consumption Table (1994 and 2001)*, (good for arid climates), Denver Water, Denver, CO.
CI Assumption - Floor Area per Employee	*Commercial Buildings Energy Consumption Survey (1999)*, Energy Information Administration.
CI Assumption - Household Vehicle Trips per Day	*Transportation Energy Data Book (2001), chapter 8*, edition 24, US Department of Energy, Energy Efficiency and Renewable Energy.
CI Assumption - Passenger Car Fuel Efficiency	*Bureau of Transportation Statistics (2004)*
CI Assumption - Percent Employed	*Private nonfarm employment (2001)*, U.S. Census Bureau, 2000 Census of Population, State and County Quick Facts.
CI Assumption - Percent School Children	*USA Population by Age (2000)* U.S. Census Bureau, 2000 Census of Population, Profiles of General Demographic Characteristics (updated every 10 years).
CI Assumption - Persons per Household	*Households, Persons Per Household, and Households with Individuals Under 18 Years (2000)*, U.S. Bureau of the Census, 2000 Census of Population, Profiles of General Demographic Characteristics (updated every 10 years).
Auto Emissions	*Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)*, US Environmental Protection Agency.

Expand All Return to Top Collapse All

How do I turn on active content for this report?

Analysis powered by communityviz®

Build-Out Report - Base Scenario

Analysis Name: CrackerJax

Tuesday, September 06, 2011, 1:49 PM

Report Contents

Report Summary

This report gives details about a single run of the Build-Out Wizard for this scenario.

- ☑ Numeric Build-Out has been run
- ☑ Spatial Build-Out has been run
- ☑ Visual Build-Out has been run

Numeric Build-Out Settings

Land Use Layer

Layer containing land-use information	CrackerJax
Attribute specifying land-use designation	GP
Attribute specifying unique identifier of each land-use area	FID

Density Rules

Land-Use Designation	Dwelling Units	Floor Area	Efficiency Factor (%)
AMU-R	40 DU per acre	0.8 FAR	65

Mixed Use

Land-Use Designation	Building Use	Percent of Floor Area	Floor Area per DU (sq feet)
AMU-R			
	Commercial	50	0
	Residential	50	0

Building Information

Land-Use Designation	DU per Building	Area (sq feet)	Floors
AMU-R	20	0	4

Spatial Build-Out Settings

Settings

Land-Use Designation	Minimum Separation Distance (feet)	Layout Pattern	Road or Line Layer	Setback (feet)
AMU-R	30	Random	street_all	40

Visual Build-Out Settings

3D Models

Land-Use Designation	3D Model	Path
AMU-R		

Results

Dwelling Unit Quantities

Land-Use Designation	Numeric Build-Out	Spatial Build-Out	Difference	Existing Dwelling Units
AMU-R	720	720	0	0
Total	**720**	**720**	**0**	**0**

Commercial Floor Space

Land-Use Designation	Numeric Build-Out Floor Area (sq. feet)	Spatial Build-Out Floor Area (sq. feet)	Difference	Existing Floor Area
AMU-R	627946.921	627946.921	0	0
Total	**627946.921**	**627946.921**	**0**	**0**

Building Quantities

Land-Use Designation	Numeric Build-Out Units	Spatial Build-Out Units	Difference	Existing Buildings
AMU-R	38	38	0	0
Total	**38**	**38**	**0**	**0**

Buildable Area

Land-Use Designation	Gross Area (sq feet)	Net Buildable Area (sq feet)	Difference (sq feet)
AMU-R	1207589.712	1207589.712	0
Total	**1207589.712**	**1207589.712**	**0**

Exceptions

Land-Use Designation	Number of dwelling units that couldn't be placed because of space constraints	Number of commerical buildings that couldn't be placed because of space constraints	Number of polygons where number of existing buildings exceeds build-out limit
AMU-R	0	0	0
Total	**0**	**0**	**0**

CrackerJax Minor GP Common Impacts

printer-friendly

Report Contents

Analysis Description

Minor General Plan Analysis for the CrackerJax site

Report Summary

Report Date/Time: Tuesday, September 06, 2011 1:50 PM

Scenarios in this Report

What is a scenario?

Base Scenario

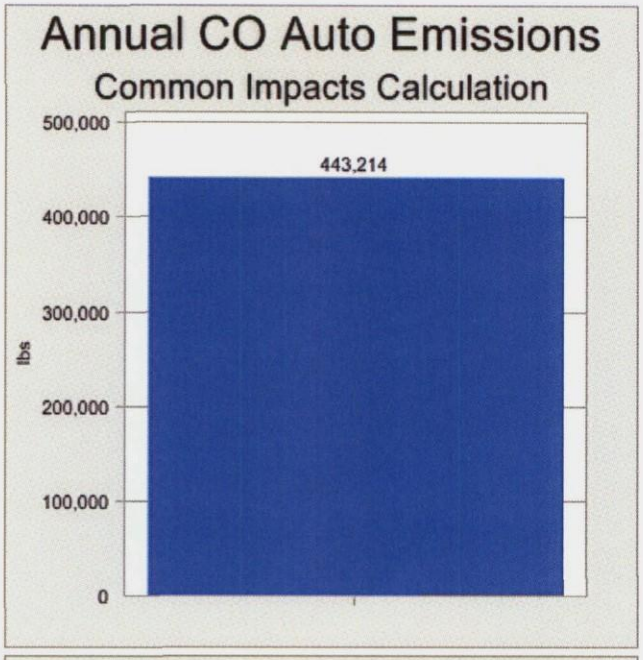
Common Impacts Parameters

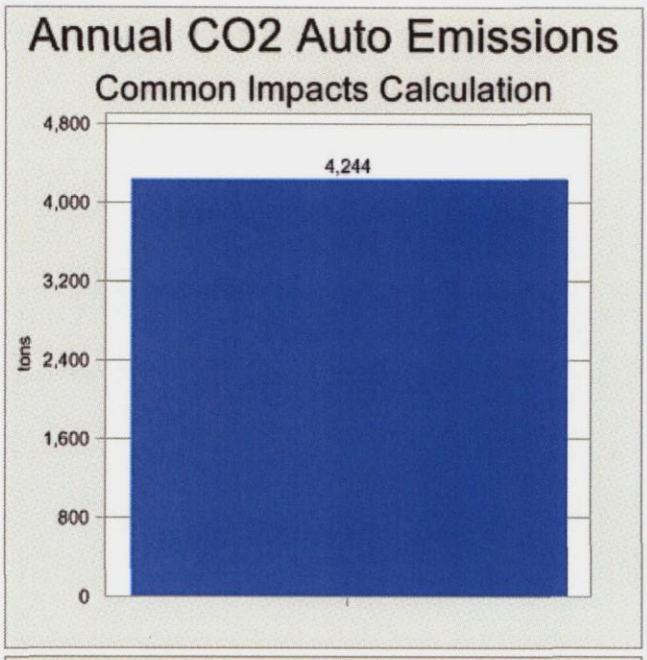
What is a common impacts parameter?

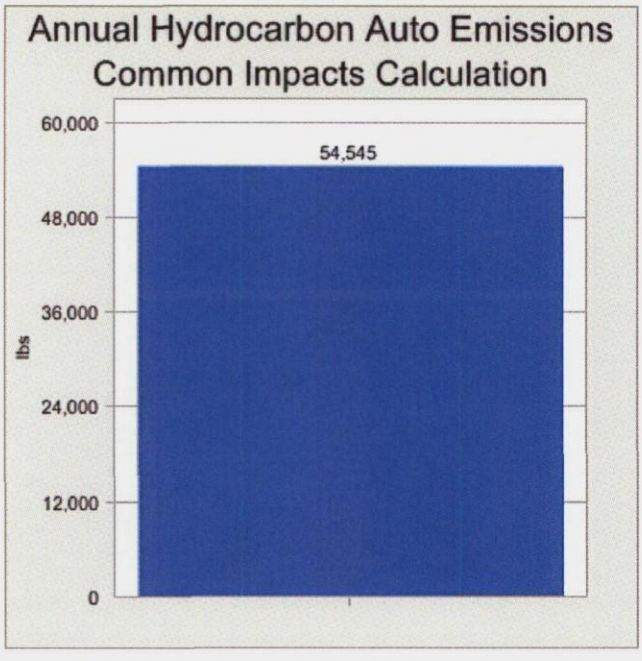
Standard Parameters	
Buildings Layer	Buildings
Dwelling Units per Building	(Attribute: Buildings) Dwelling Units
Commercial Floor Area per Building	(Attribute: Buildings) Floor Area
Commercial Floor Area Units	square feet

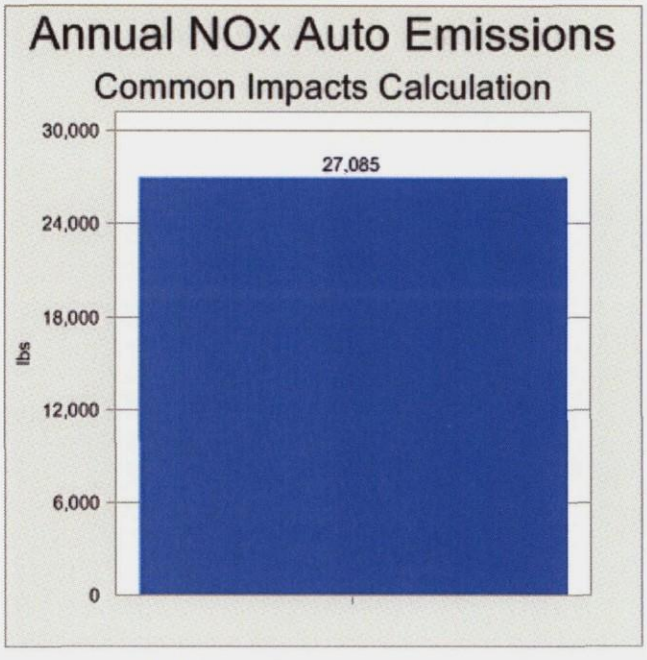
Indicator Charts

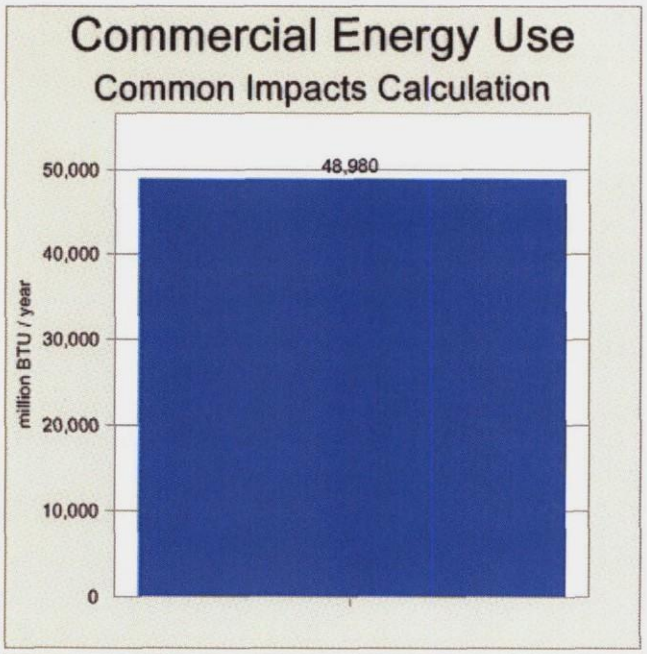
What is an indicator?

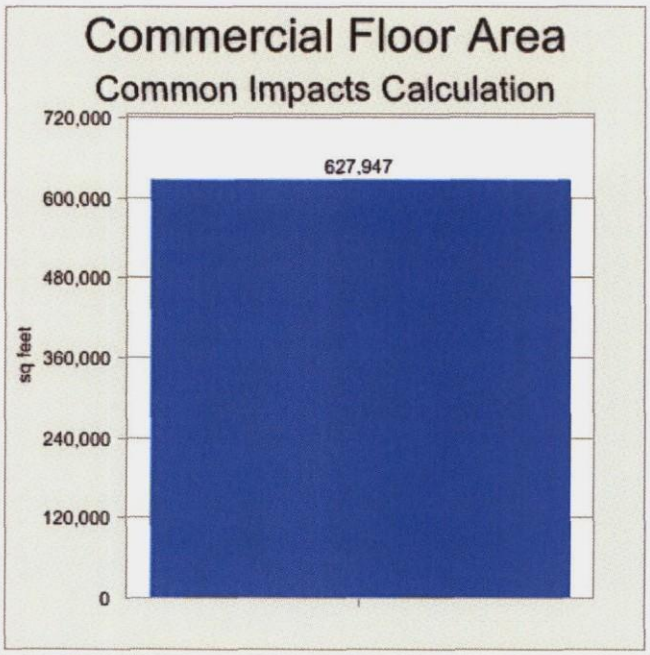

Annual CO Auto Emissions
Common Impacts Calculation
500,000
400,000
300,000
200,000
100,000
0
lbs
443,214

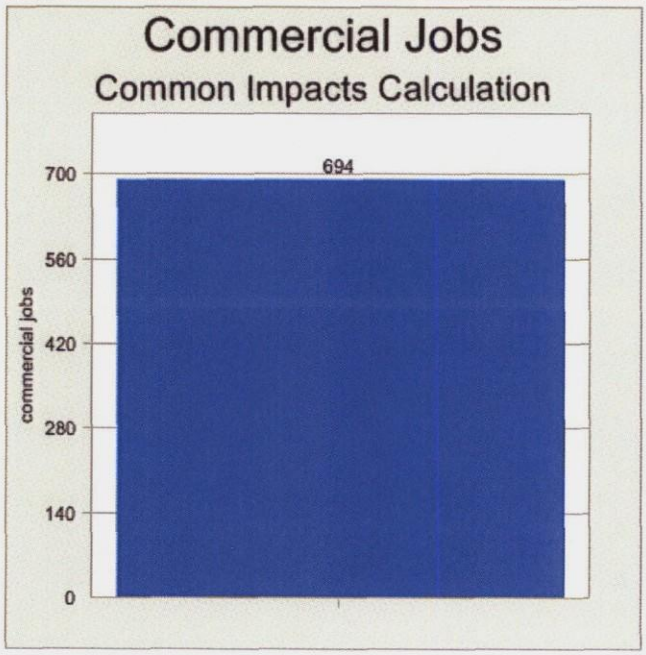

Annual CO2 Auto Emissions
Common Impacts Calculation
4,800
4,000
3,200
2,400
1,600
800
0
tons
4,244

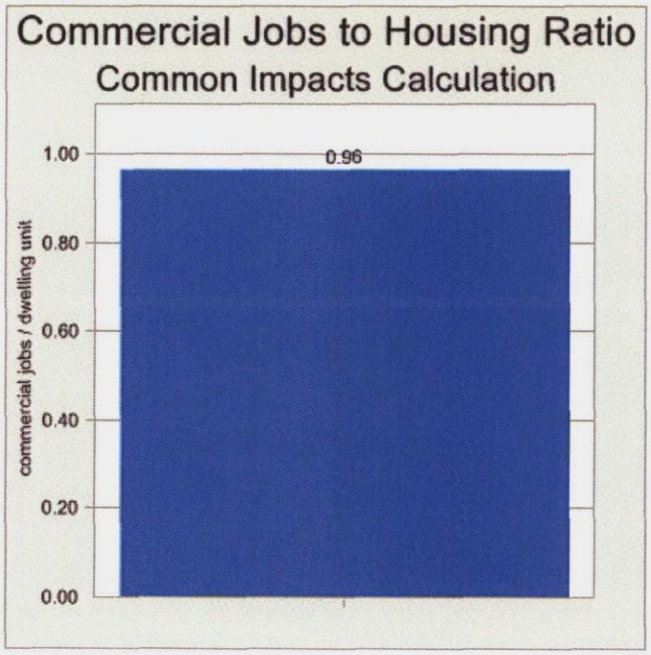

Annual Hydrocarbon Auto Emissions
Common Impacts Calculation
60,000
48,000
36,000
24,000
12,000
0
lbs
54,545

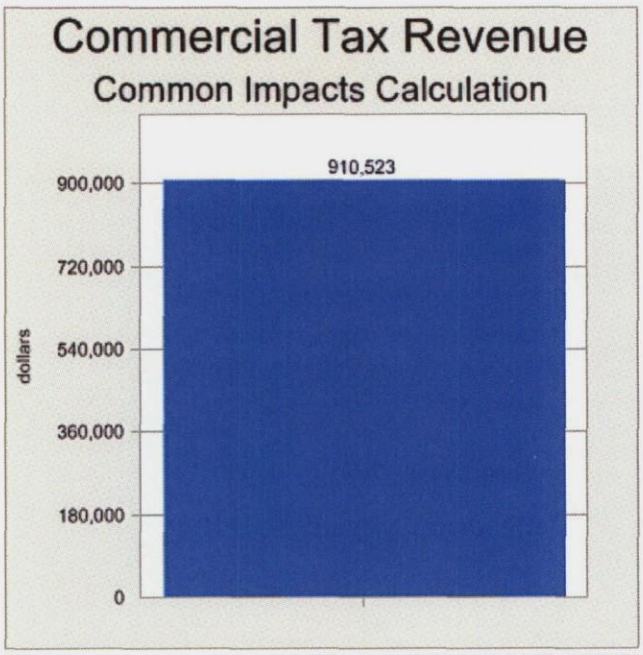

Annual NOx Auto Emissions
Common Impacts Calculation
30,000
24,000
18,000
12,000
6,000
0
lbs
27,085

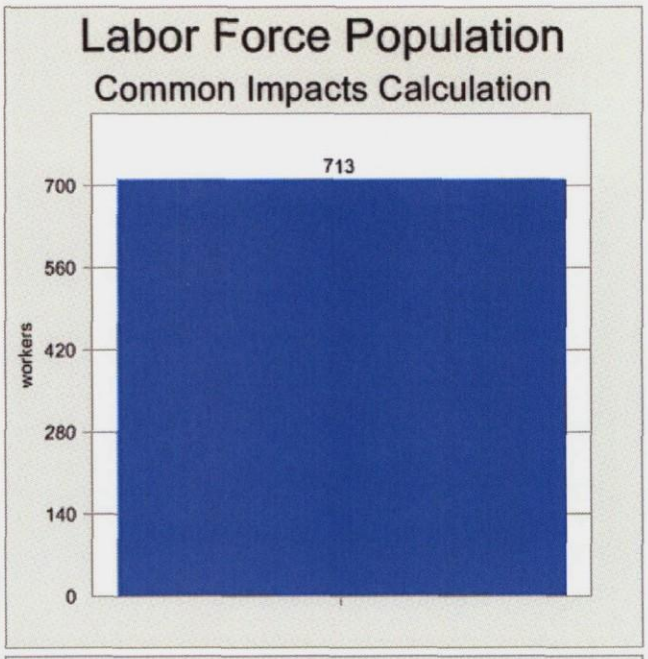

Commercial Energy Use
Common Impacts Calculation
48,980
50,000
40,000
30,000
20,000
10,000
0
million BTU / year

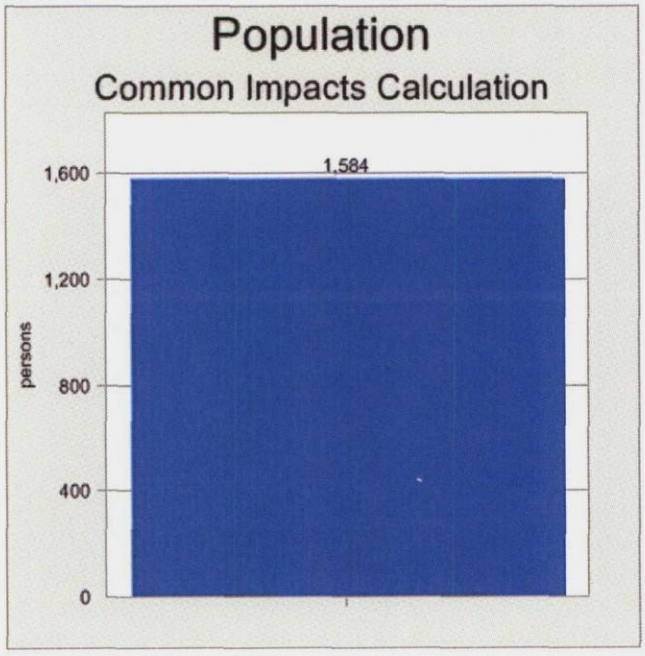

Commercial Floor Area
Common Impacts Calculation
627,947
720,000
600,000
480,000
360,000
240,000
120,000
0
sq feet

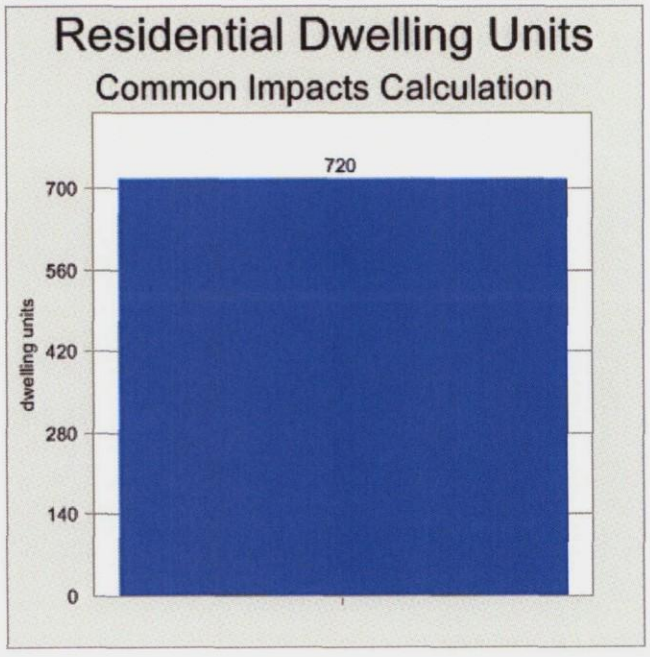

Commercial Jobs
Common Impacts Calculation
694
700
560
420
280
140
0
commercial jobs

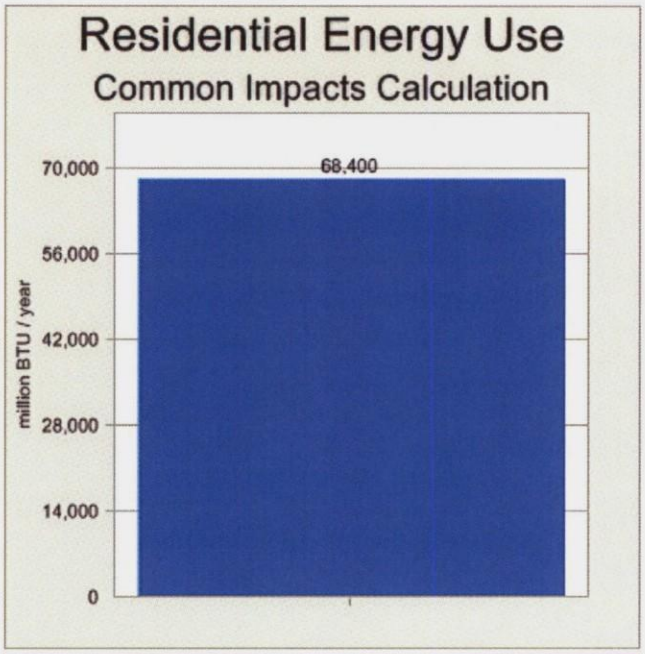

Commercial Jobs to Housing Ratio
Common Impacts Calculation
0.96
1.00
0.80
0.60
0.40
0.20
0.00
commercial jobs / dwelling unit

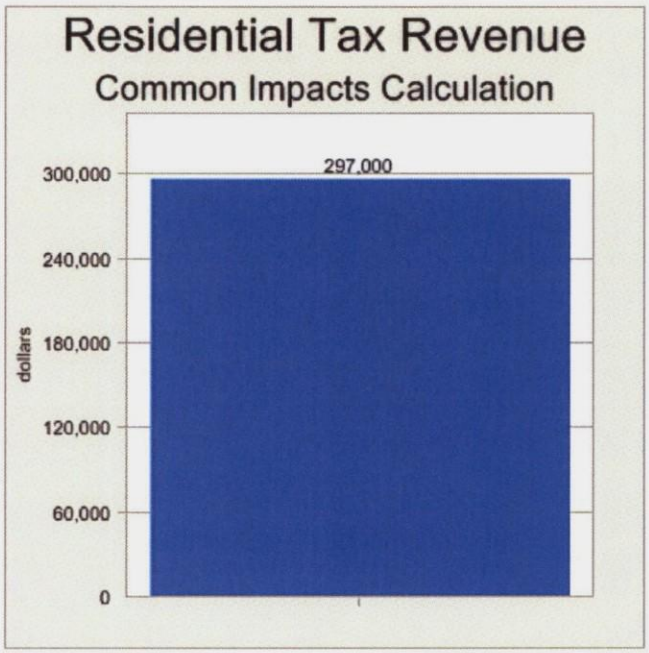

Commercial Tax Revenue
Common Impacts Calculation
910,523
900,000
720,000
540,000
360,000
180,000
0
dollars

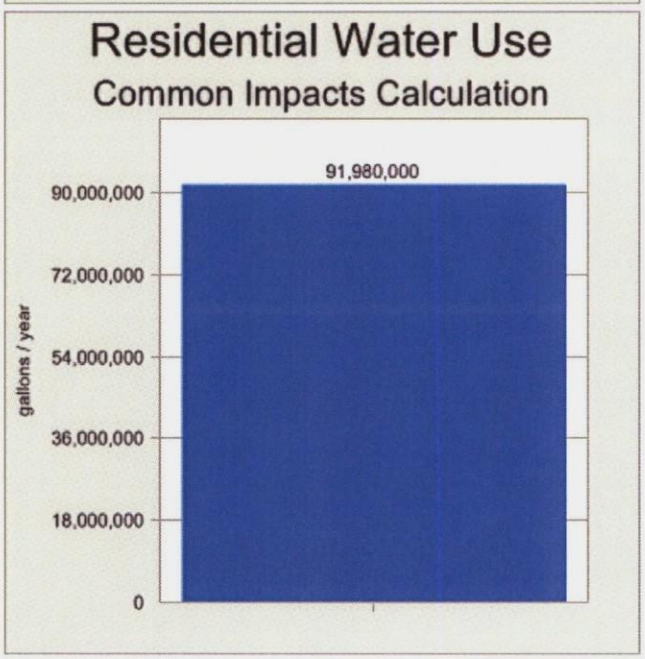

Labor Force Population
Common Impacts Calculation
713
700
560
420
280
140
0
workers

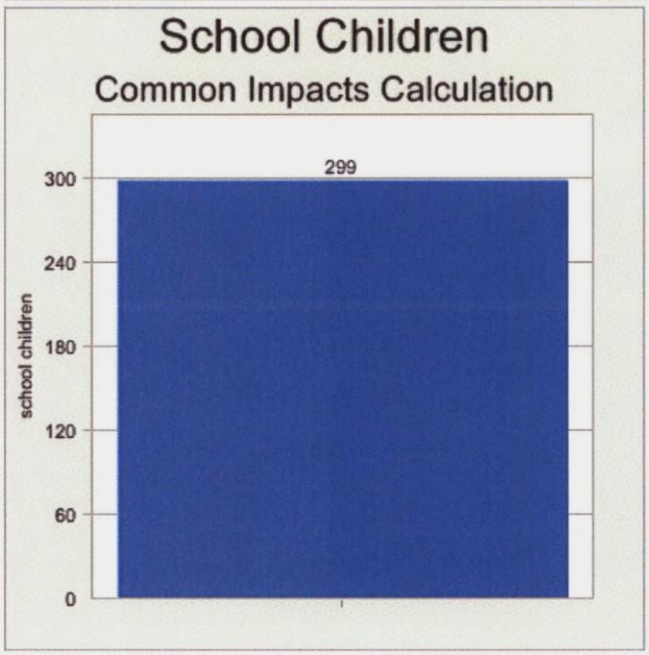

Population
Common Impacts Calculation
1,584
1,600
1,200
800
400
0
persons


Residential Dwelling Units
Common Impacts Calculation
720
700
560
420
280
140
0
dwelling units









Indicators

What is an indicator?

Indicators

Indicator	Base Scenario	Units
Common Impacts - Annual CO Auto Emissions	443,214	lbs
Common Impacts - Annual CO2 Auto Emissions	4,244	tons
Common Impacts - Annual Hydrocarbon Auto Emissions	54,545	lbs
Common Impacts - Annual NOx Auto Emissions	27,085	lbs
Common Impacts - Commercial Energy Use	48,980	million BTU / year

Common Impacts - Commercial Floor Area	627,947	sq feet
Common Impacts - Commercial Jobs	694	commercial jobs
Common Impacts - Commercial Jobs to Housing Ratio	0.96	commercial jobs / dwelling unit
Common Impacts - Commercial Tax Revenue	910,523	dollars
Common Impacts - Labor Force	713	workers
Common Impacts - Population	1,584	persons
Common Impacts - Residential Dwelling Units	720	dwelling units
Common Impacts - Residential Energy Use	68,400	million BTU / year
Common Impacts - Residential Tax Revenue	297,000	dollars
Common Impacts - Residential Water Use	91,980,000	gallons / year
Common Impacts - School Children	299	school children
Common Impacts - Vehicle Trips per Day	4,284	vehicle trips / day

Details

Indicator	Details
Common Impacts - Annual CO Auto Emissions	Units: lbs Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - CO]) / 453.6) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Annual CO2 Auto Emissions	Units: tons Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - CO2]) / 2000) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Annual Hydrocarbon Auto Emissions	Units: lbs Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - Hydrocarbons]) / 453.6) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Annual NOx Auto Emissions	Units: lbs Formula: If([Assumption:CI Assumption - Passenger Car Fuel Efficiency] = 0, Then (0), Else (((([Assumption:CI Assumption - Average Vehicle Trip Length] / [Assumption:CI Assumption - Passenger Car Fuel Efficiency]) * [Assumption:CI Assumption - Auto Emissions - NOx]) / 453.6) * 365 * [Indicator:Common Impacts - Vehicle Trips per Day])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
	Units: million BTU / year Formula:

Common Impacts - Commercial Energy Use	(([Assumption:CI Assumption - Annual Commercial Energy Use] * Sum ([Attribute:Buildings:Floor Area])) / 1000) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Floor Area	Units: sq feet Formula: Sum([Attribute:Buildings:Floor Area]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Jobs	Units: commercial jobs Formula: If([Assumption:CI Assumption - Floor Area per Employee] = 0, Then (0), Else (Sum ([Attribute:Buildings:Floor Area]) / [Assumption:CI Assumption - Floor Area per Employee])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Jobs to Housing Ratio	Units: commercial jobs / dwelling unit Formula: If([Indicator:Common Impacts - Residential Dwelling Units] = 0, Then (0), Else ([Indicator:Common Impacts - Commercial Jobs] / [Indicator:Common Impacts - Residential Dwelling Units])) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Commercial Tax Revenue	Units: dollars Formula: Sum([Attribute:Buildings:Commercial Floor Area Tax]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Labor Force	Units: workers Formula: ([Assumption:CI Assumption - Percent Employed] * [Indicator:Common Impacts - Population]) / 100 ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Population	Units: persons Formula: [Assumption:CI Assumption - Persons per Household] * Sum([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Dwelling Units	Units: dwelling units Formula: Sum([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Energy Use	Units: million BTU / year Formula: [Assumption:CI Assumption - Annual Household Energy Use] * Sum ([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Tax	Units: dollars Formula: Sum([Attribute:Buildings:Residential Millage Tax])

Revenue	' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Residential Water Use	Units: gallons / year Formula: [Assumption:CI Assumption - Daily Household Water Use] * 365 * Sum ([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - School Children	Units: school children Formula: ([Assumption:CI Assumption - Percent School Children] * [Indicator:Common Impacts - Population]) / 100 ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Common Impacts - Vehicle Trips per Day	Units: vehicle trips / day Formula: [Assumption:CI Assumption - Household Vehicle Trips per Day] * Sum ([Attribute:Buildings:Dwelling Units]) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.

Indicator Descriptions

Indicator	Description
Common Impacts - Annual CO Auto Emissions	Total carbon monoxide emissions generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Annual CO2 Auto Emissions	Total carbon dioxide emissions generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Annual Hydrocarbon Auto Emissions	Total hydrocarbon emissions generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Annual NOx Auto Emissions	Total emissions of oxides of nitrogen generated by vehicles associated with residential buildings in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Commercial Energy Use	Total annual energy used by commercial buildings in the Common Impacts buildings layer for all applications, including electricity and heating. See Help for details and disclaimer.
Common Impacts - Commercial Floor Area	Total commercial floor area in the Common Impacts buildings layer.
Common Impacts - Commercial Jobs	Total jobs associated with commercial floor space in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Commercial Jobs to Housing Ratio	Common Impacts Commercial Jobs divided by Common Impacts Residential Dwelling Units. See Help for details and disclaimer.
Common Impacts - Commercial Tax Revenue	Annual tax revenue from commercial floor space in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Labor Force	Total number of jobholders living in the dwelling units in the Common Impacts building layer. See Help for details and disclaimer.
Common Impacts - Population	Total number of people living in the dwelling units in the Common Impacts building layer. See Help for details and disclaimer.
Common Impacts - Residential Dwelling Units	Total number of residential dwelling units in the Common Impacts building layer.
Common Impacts - Residential Energy Use	Total annual energy used by residential buildings for all applications, including electricity and heating. See Help for details and disclaimer.
Common Impacts - Residential Tax Revenue	Annual tax revenue from residential taxes in the Common Impacts buildings layer. See Help for details and disclaimer.
Common Impacts - Residential Water Use	Total annual water use by dwelling units in the Common Impacts building layer for all indoor and outdoor applications. See Help for details and disclaimer.
	Total number of school children living in the dwelling units in the

Common Impacts - School Children	buildings layer. See Help for details and disclaimer.
Common Impacts - Vehicle Trips per Day	Total number of motorized trips taken each day, on average, by residential households (dwelling units) in the Common Impacts buildings layer. See Help for details and disclaimer.

Dynamic Attributes

What is a dynamic attribute?

Attributes

Attribute	Details
Buildings	
Commercial Floor Area Tax	Type: Double Formula: If ((([Attribute:Buildings:Dwelling Units] >= 0.5) Or ([Attribute:Buildings:Floor Area] > 0)), Then ([Assumption:CI Assumption - Commercial Usage Rate] * [Attribute:Buildings:Floor Area]), Else (0)) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.
Residential Millage Tax	Type: Double Formula: If ((([Attribute:Buildings:Dwelling Units] >= 0.5) Or ([Attribute:Buildings:Floor Area] > 0)), Then (([Assumption:CI Assumption - Residential Millage Rate] * [Assumption:CI Assumption - Mean Residential Property Value] * [Attribute:Buildings:Dwelling Units]) / 1000), Else (0)) ' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'.

Attribute Descriptions

Attribute	Description
Buildings	
Commercial Floor Area Tax	Commercial use taxes for this building feature based on floor area. (Annual taxes are implied.)
Residential Millage Tax	Residential taxes for this building feature based on millage rate. (Annual taxes are implied.)

Assumptions

What is an assumption?

Assumptions

Assumption	Default	Base Scenario	Units
CI Assumption - Annual Commercial Energy Use	85.1	78.0	thousand BTU / sq foot
CI Assumption - Annual Household Energy Use	101	95	million BTU / household / year
CI Assumption - Auto Emissions - CO	476.76	450.00	grams / gallon
CI Assumption - Auto Emissions - CO2	19.70	19.00	lbs / gallon
CI Assumption - Auto Emissions - Hydrocarbons	60.22	55.38	grams / gallon
CI Assumption - Auto Emissions - NOx	29.89	27.50	grams / gallon
CI Assumption - Average Vehicle Trip Length	9.78	8.00	miles
CI Assumption - Commercial Usage Rate	1.45	1.45	dollars / sq foot
CI Assumption - Daily Household			

Water Use	391	350	gallons / household / day
CI Assumption - Floor Area per Employee	823	905	square feet / employee
CI Assumption - Household Vehicle Trips per Day	5.95	5.95	household vehicle trips / day
CI Assumption - Mean Residential Property Value	250000	250,000	dollars
CI Assumption - Passenger Car Fuel Efficiency	24	28.0	miles / gallon
CI Assumption - Percent Employed	40.89	45.00	percent of population
CI Assumption - Percent School Children	18.9	18.9	percent of population
CI Assumption - Persons per Household	2.56	2.20	persons / household
CI Assumption - Residential Millage Rate	1.65	1.65	mills

Assumption Descriptions

Assumption	Description
CI Assumption - Annual Commercial Energy Use	Average annual energy used by each commercial building for all applications, including electricity and heating. Default value is from "Commercial Buildings Energy Consumption Survey (1999)," Form EIA-871A, Energy Information Administration, Office of Energy Markets and End Use.
CI Assumption - Annual Household Energy Use	Average annual energy used by each residential building for all applications, including electricity and heating. Default value is from "Residential Energy Consumption Survey (1997)," Energy Information Administration.
CI Assumption - Auto Emissions - CO	Carbon monoxide emissions generated by vehicles associated with each dwellilng unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Auto Emissions - CO2	Carbon dioxide emissions generated by vehicles associated with each dwelling unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Auto Emissions - Hydrocarbons	Hydrocarbon emissions generated by vehicles associated with each dwelling unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Auto Emissions - NOx	Emissions of oxides of nitrogen generated by vehicles associated with each dwelling unit. Default value is from "Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)," US Environmental Protection Agency.
CI Assumption - Average Vehicle Trip Length	Average length of trip for vehicles associated with the dwelling units. Default value is from the US Bureau of Transportation Statistics (2001).
CI Assumption - Commercial Usage Rate	Annual tax rate for commercial floor space in terms of tax per unit area.
CI Assumption - Daily Household Water Use	Average daily water use by each dwelling unit for all indoor and outdoor applications. Default value is from "Estimated Use of Water in the United States in 2000," USGS Circular 1268, United States Geological Survey.
CI Assumption - Floor Area per Employee	Average amount of commercial floor area that equates to one job. Default value is from "Commercial Buildings Energy Consumption Survey (1999)," Energy Information Administration.
CI Assumption - Household Vehicle Trips per Day	Number of motorized trips taken by residential households each day, on average. Default value is from Transportation Energy Data Book (2001), chapter 8, edition 24, US Department of Energy, Energy Efficiency and Renewable Energy.
CI Assumption - Mean Residential Property Value	Average value of each residential dwelling unit.
CI Assumption - Passenger Car Fuel Efficiency	Average fuel efficiency of cars used by residents. Default value is

	from the US Bureau of Transportation Statistics (2004).
CI Assumption - Percent Employed	Number of jobholders living in the dwelling units in the buildings layer, represented as a percent of total population. Default value is from "Private nonfarm employment (2001)," U.S. Census Bureau, 2000 Census of Population, State and County Quick Facts.
CI Assumption - Percent School Children	Number of school children living in the dwelling units in the buildings layer, represented as a percent of total population. Default value is from "USA Population by Age (2000)," U.S. Census Bureau, 2000 Census of Population, Profiles of General Demographic Characteristics.
CI Assumption - Persons per Household	Number of people living the dwelling units of the building layer. Default value is from "Households, Persons Per Household, and Households with Individuals Under 18 Years (2000)," U.S. Bureau of the Census, 2000 Census of Population, Profiles of General Demographic Characteristics.
CI Assumption - Residential Millage Rate	Tax rate for residences based on tax per thousand units of value.

Potentially Useful References

What is a common impacts reference?

Assumption	Source
CI Assumption - Annual Commercial Energy Use	*Commercial Buildings Energy Consumption Survey (1999)*, Form EIA-871A, Energy Information Administration, Office of Energy Markets and End Use.
CI Assumption - Annual Household Energy Use	*Residential Energy Consumption Survey (1997)*, Energy Information Administration.
CI Assumption - Average Vehicle Trip Length	*Bureau of Transportation Statistics (2001)*
CI Assumption - Daily Household Water Use	*Estimated Use of Water in the United States in 2000*USGS Circular 1268, United States Geological Survey. *Denver Water Consumption Table (1994 and 2001)*, (good for arid climates), Denver Water, Denver, CO.
CI Assumption - Floor Area per Employee	*Commercial Buildings Energy Consumption Survey (1999)*, Energy Information Administration.
CI Assumption - Household Vehicle Trips per Day	*Transportation Energy Data Book (2001), chapter 8*, edition 24, US Department of Energy, Energy Efficiency and Renewable Energy.
CI Assumption - Passenger Car Fuel Efficiency	*Bureau of Transportation Statistics (2004)*
CI Assumption - Percent Employed	*Private nonfarm employment (2001)*, U.S. Census Bureau, 2000 Census of Population, State and County Quick Facts.
CI Assumption - Percent School Children	*USA Population by Age (2000)* U.S. Census Bureau, 2000 Census of Population, Profiles of General Demographic Characteristics (updated every 10 years).
CI Assumption - Persons per Household	*Households, Persons Per Household, and Households with Individuals Under 18 Years (2000)*, U.S. Bureau of the Census, 2000 Census of Population, Profiles of General Demographic Characteristics (updated every 10 years).
Auto Emissions	*Figures for average annual emissions and fuel consumption for passenger cars and light trucks (July, 2000)*, US Environmental Protection Agency.

Expand All Return to Top Collapse All

How do I turn on active content for this report?

Analysis powered by communityviz®