# 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** |

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# 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

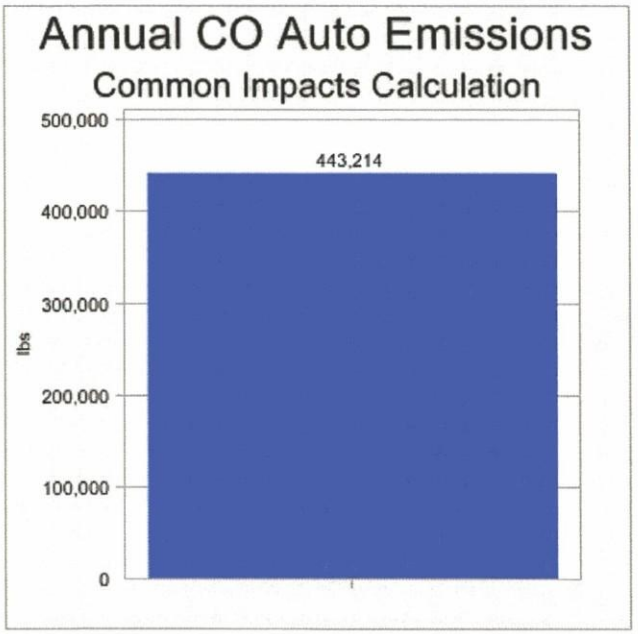
## Common Impacts Parameters

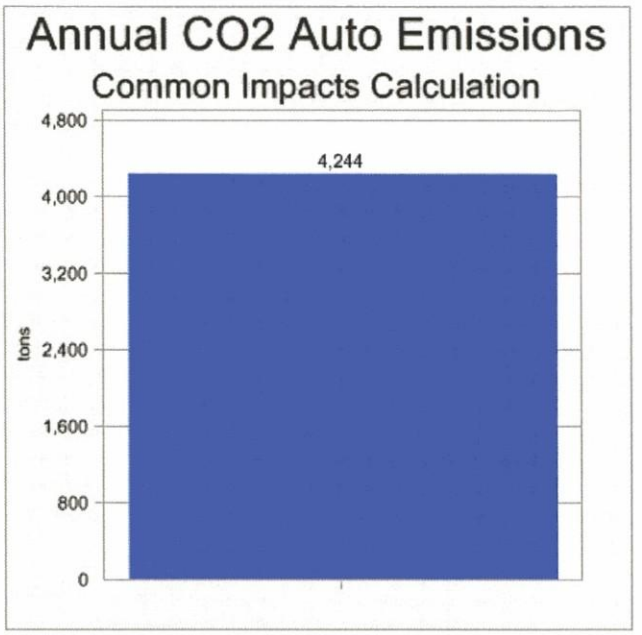
What is a common impacts parameter?

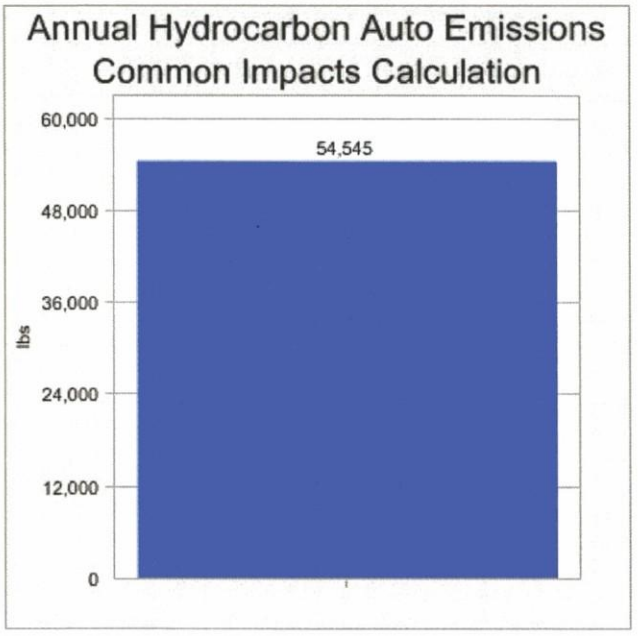
| Standard Parameters | |
|---|---|
| **Buildings Layer** | Buildings |
| **Dwelling Units per Building** | (Attribute: Buildings) Dwelling Units |
| **Commercial Floor Area per Building** | (Attribute: Buildings) Floor Area |
| **Commercial Floor Area Units** | square feet |

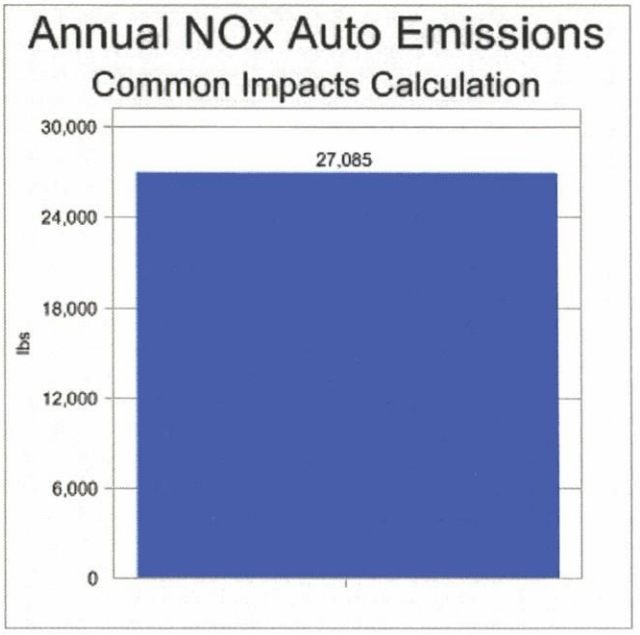
## Indicator Charts

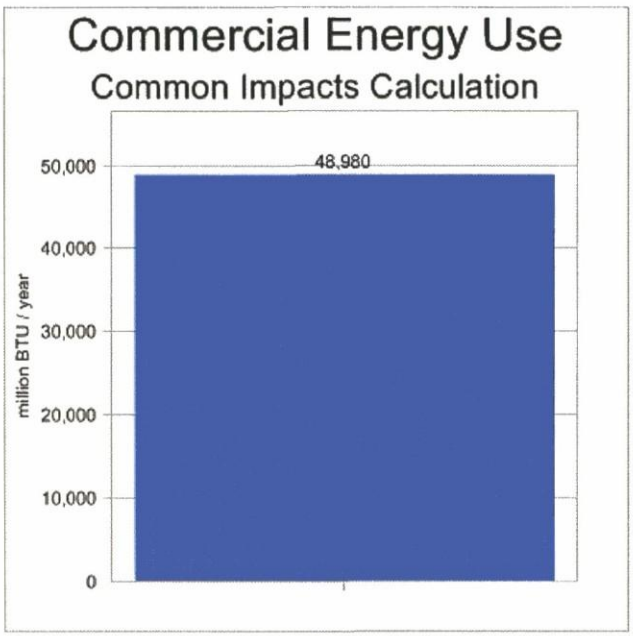
What is an indicator?

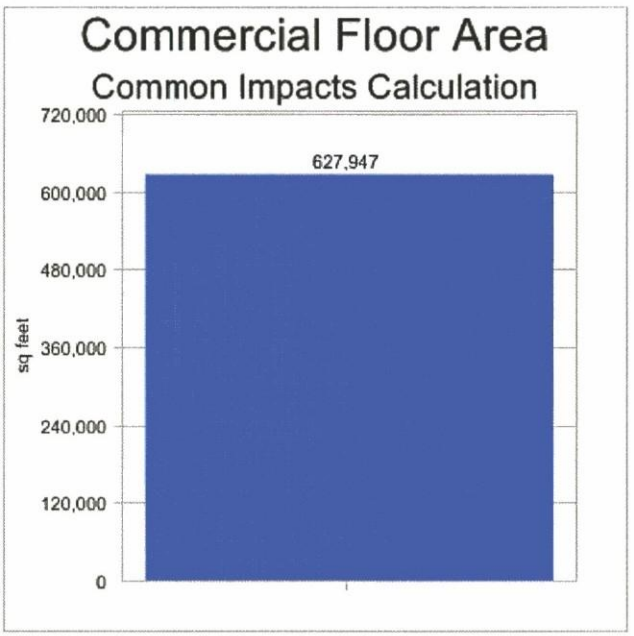

Annual CO Auto Emissions
Common Impacts Calculation
500,000
400,000
300,000
200,000
100,000
0
lbs
443,214

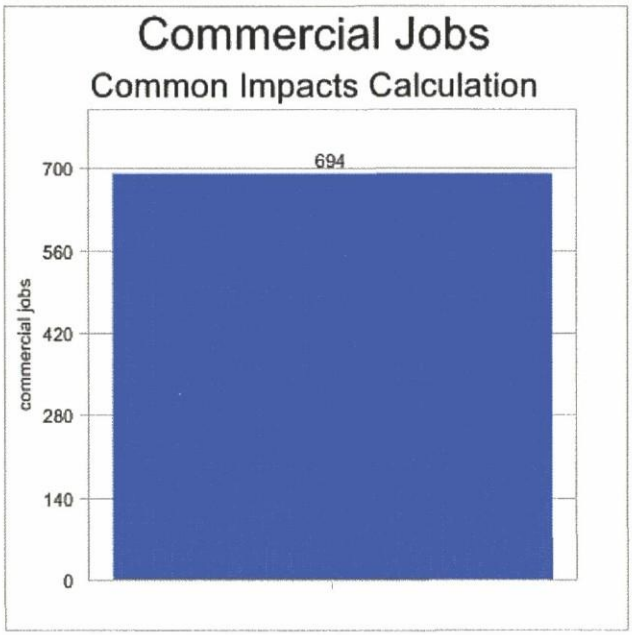

Annual CO2 Auto Emissions
Common Impacts Calculation
4,800
4,000
3,200
2,400
1,600
800
0
tons
4,244

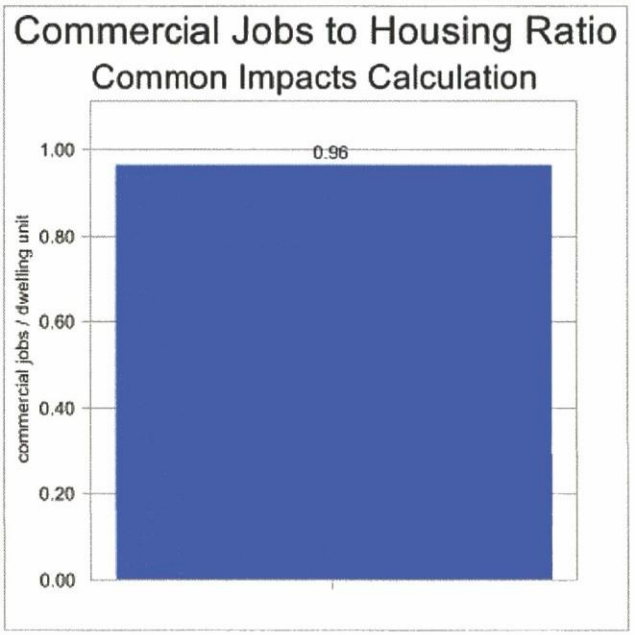

Annual Hydrocarbon Auto Emissions
Common Impacts Calculation
60,000
48,000
36,000
24,000
12,000
0
lbs
54,545

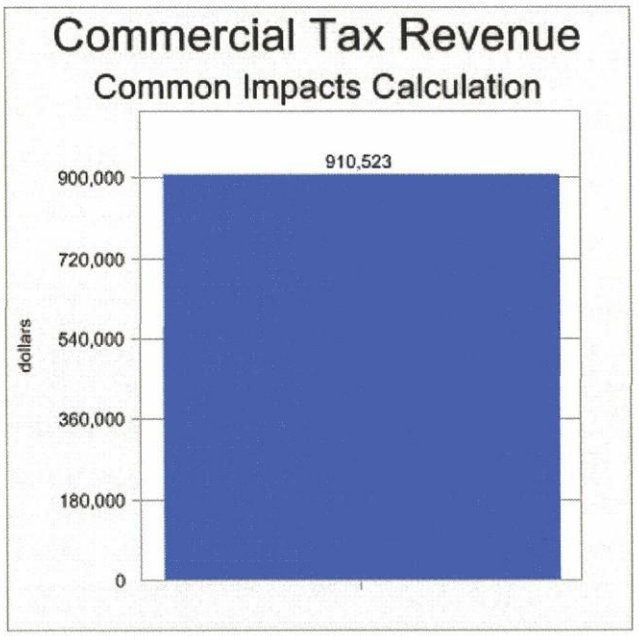

Annual NOx Auto Emissions
Common Impacts Calculation
30,000
24,000
18,000
12,000
6,000
0
lbs
27,085

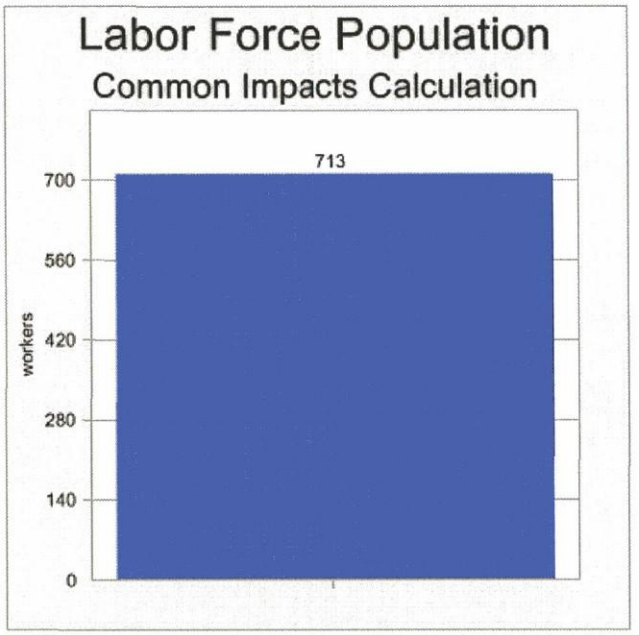

Commercial Energy Use
Common Impacts Calculation
48,980
50,000
40,000
30,000
20,000
10,000
0
million BTU / year

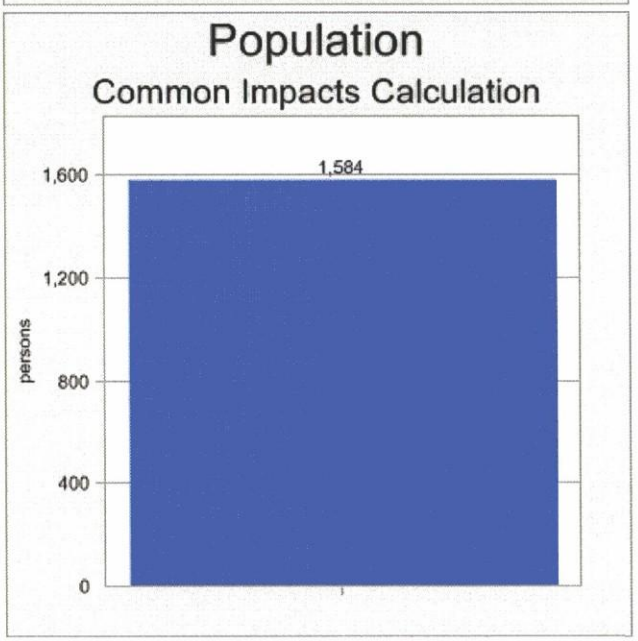

Commercial Floor Area
Common Impacts Calculation
627,947
720,000
600,000
480,000
360,000
240,000
120,000
0
sq feet

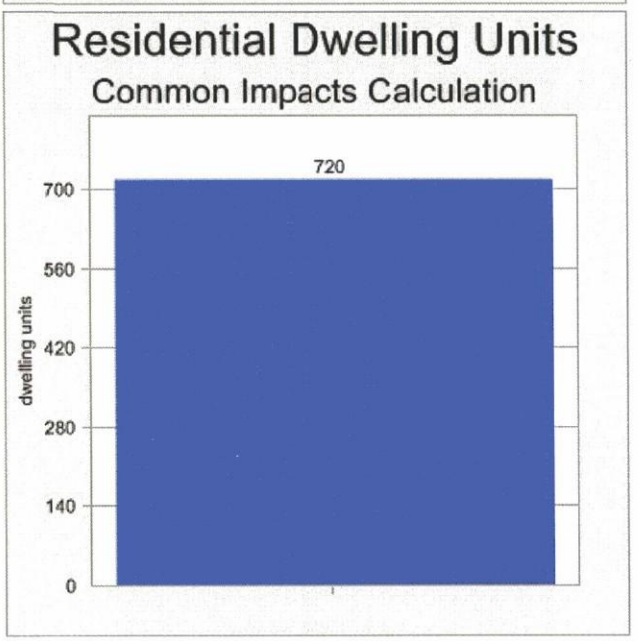

Commercial Jobs
Common Impacts Calculation
694
700
560
420
280
140
0
commercial jobs

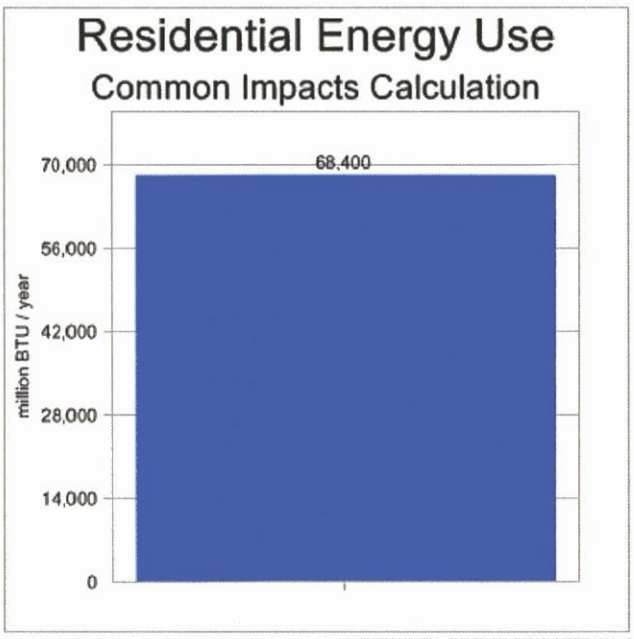

Commercial Jobs to Housing Ratio
Common Impacts Calculation
0.96
1.00
0.80
0.60
0.40
0.20
0.00
commercial jobs / dwelling unit

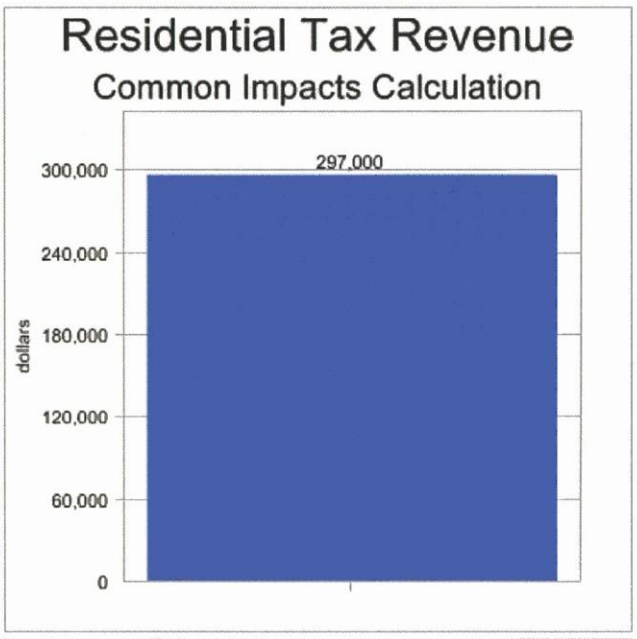

Commercial Tax Revenue
Common Impacts Calculation
910,523
900,000
720,000
540,000
360,000
180,000
0
dollars

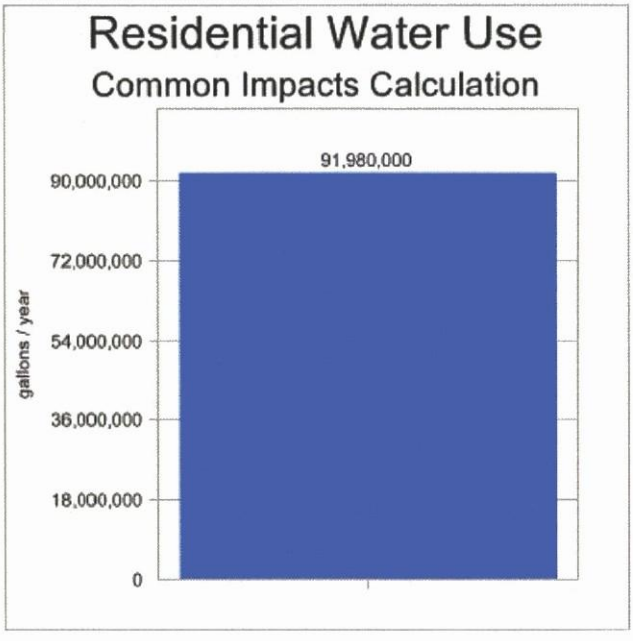

Labor Force Population
Common Impacts Calculation
713
700
560
420
280
140
0
workers

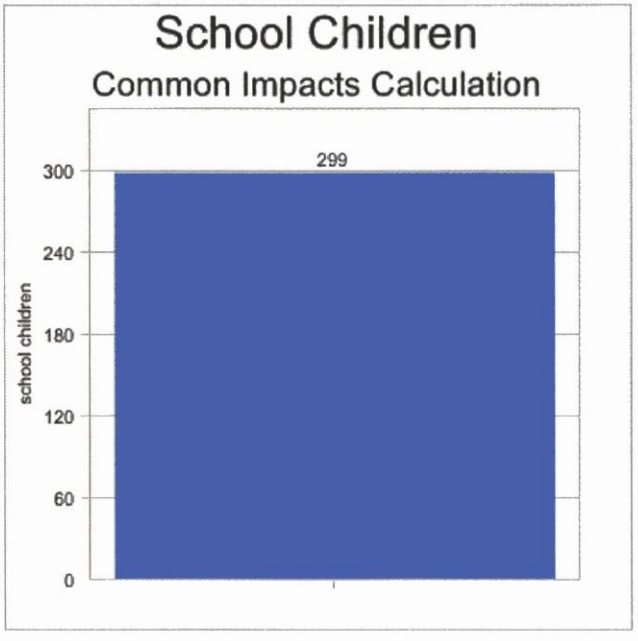

Population
Common Impacts Calculation
1,584
1,600
1,200
800
400
0
persons


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<br>Formula:<br>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 ] ) )<br><br>' 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<br>Formula:<br>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 ] ) )<br><br>' 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<br>Formula:<br>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 ] ) )<br><br>' 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<br>Formula:<br>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 ] ) )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| | Units: million BTU / year<br>Formula: |

| | |
|---|---|
| Common Impacts - Commercial Energy Use | ( ( [ Assumption:CI Assumption - Annual Commercial Energy Use ] * Sum ( [ Attribute:Buildings:Floor Area ] ) ) / 1000 )<br><br>' 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<br>Formula:<br>Sum( [ Attribute:Buildings:Floor Area ] )<br><br>' 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<br>Formula:<br>If( [ Assumption:CI Assumption - Floor Area per Employee ] = 0, Then ( 0 ), Else ( Sum ( [ Attribute:Buildings:Floor Area ] ) / [ Assumption:CI Assumption - Floor Area per Employee ] ) )<br><br>' 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<br>Formula:<br>If( [ Indicator:Common Impacts - Residential Dwelling Units ] = 0, Then ( 0 ), Else ( [ Indicator:Common Impacts - Commercial Jobs ] / [ Indicator:Common Impacts - Residential Dwelling Units ] ) )<br><br>' 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<br>Formula:<br>Sum( [Attribute:Buildings:Commercial Floor Area Tax] )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Common Impacts - Labor Force | Units: workers<br>Formula:<br>( [ Assumption:CI Assumption - Percent Employed ] * [ Indicator:Common Impacts - Population ] ) / 100<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Common Impacts - Population | Units: persons<br>Formula:<br>[ Assumption:CI Assumption - Persons per Household ] * Sum( [ Attribute:Buildings:Dwelling Units ] )<br><br>' 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<br>Formula:<br>Sum( [ Attribute:Buildings:Dwelling Units ] )<br><br>' 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<br>Formula:<br>[ Assumption:CI Assumption - Annual Household Energy Use ] * Sum ( [ Attribute:Buildings:Dwelling Units ] )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Common Impacts - Residential Tax | Units: dollars<br>Formula:<br>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<br>Formula:<br>[ Assumption:CI Assumption - Daily Household Water Use ] * 365 * Sum ( [ Attribute:Buildings:Dwelling Units ] )<br>' 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<br>Formula:<br>( [ Assumption:CI Assumption - Percent School Children ] * [ Indicator:Common Impacts - Population ] ) / 100<br>' 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<br>Formula:<br>[ Assumption:CI Assumption - Household Vehicle Trips per Day ] * Sum ( [ Attribute:Buildings:Dwelling Units ] )<br>' 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<br>Formula:<br>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 ) )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Residential Millage Tax | Type: Double<br>Formula:<br>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 ) )<br><br>' 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.<br>*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. |

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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

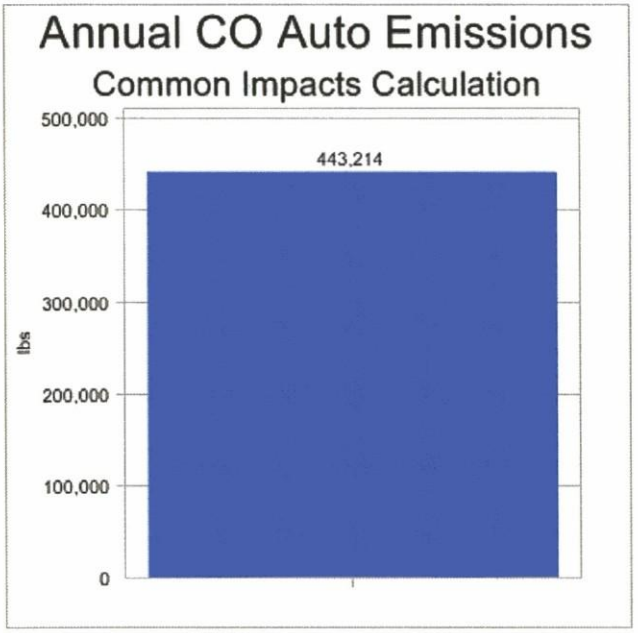
## Common Impacts Parameters

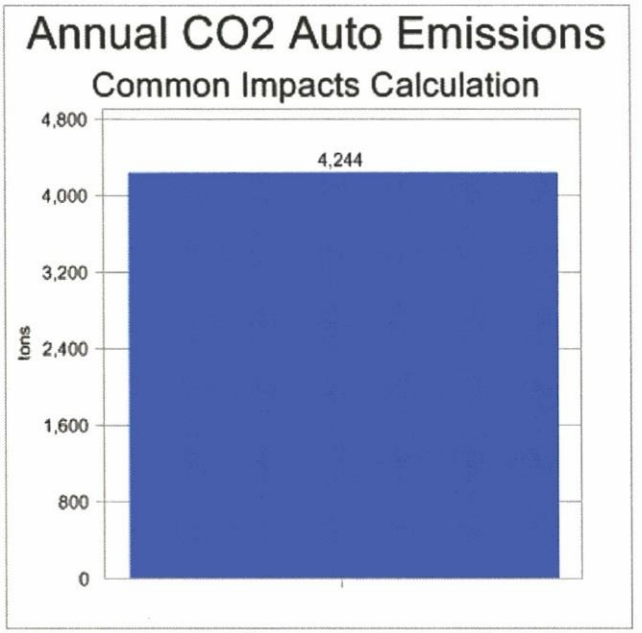
What is a common impacts parameter?

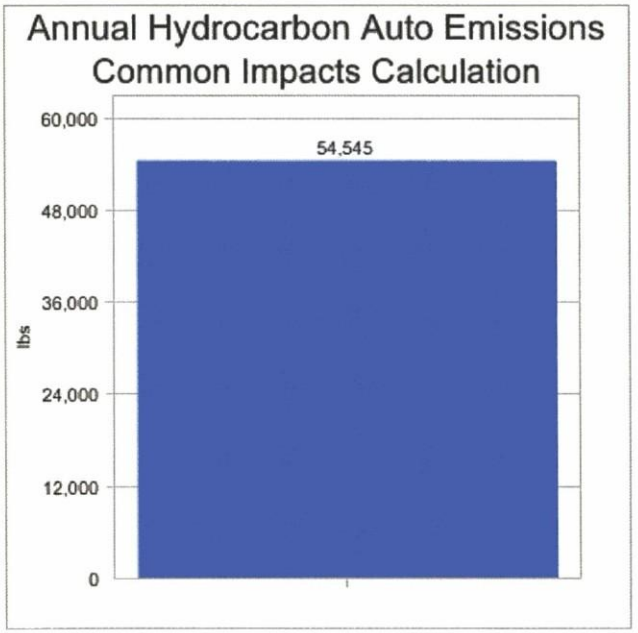
| Standard Parameters | |
|---|---|
| **Buildings Layer** | Buildings |
| **Dwelling Units per Building** | (Attribute: Buildings) Dwelling Units |
| **Commercial Floor Area per Building** | (Attribute: Buildings) Floor Area |
| **Commercial Floor Area Units** | square feet |

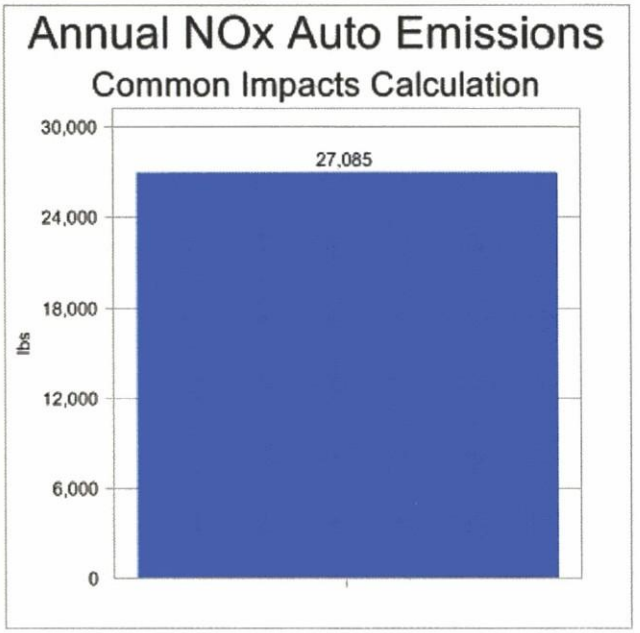
## Indicator Charts

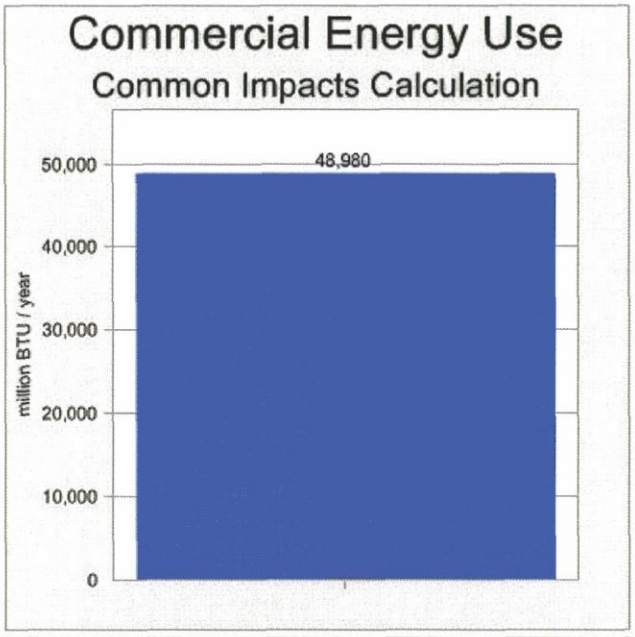
What is an indicator?

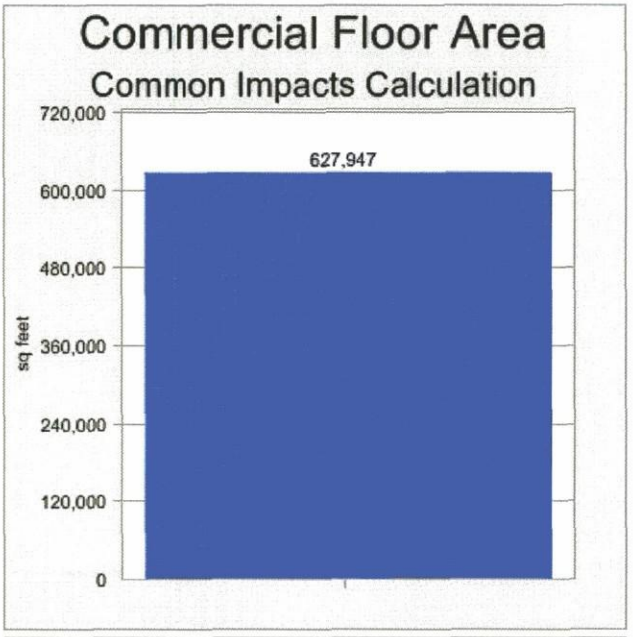

Annual CO Auto Emissions
Common Impacts Calculation
500,000
400,000
300,000
200,000
100,000
0
lbs
443,214

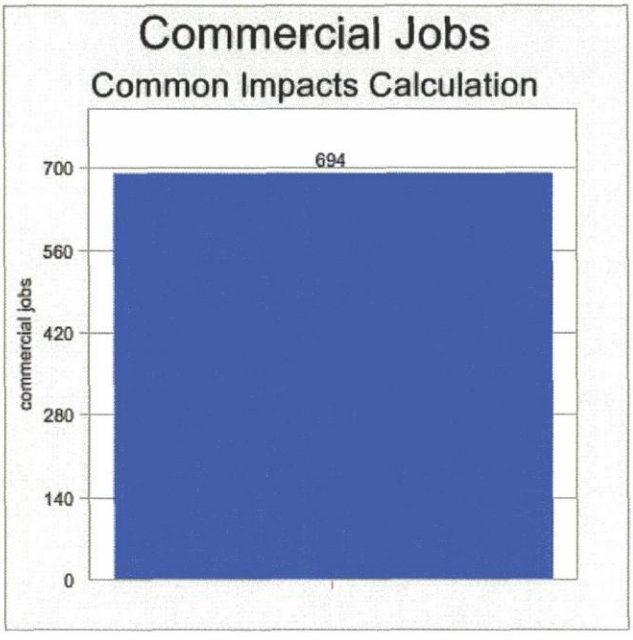

Annual CO2 Auto Emissions
Common Impacts Calculation
4,800
4,000
3,200
2,400
1,600
800
0
tons
4,244

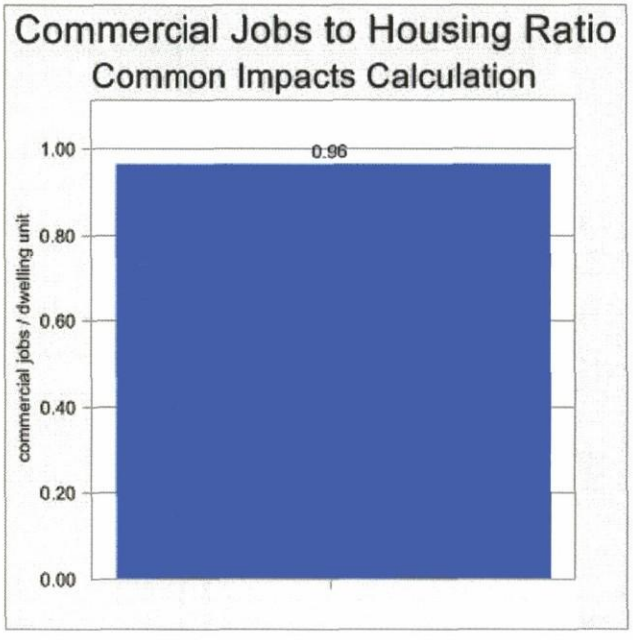

Annual Hydrocarbon Auto Emissions
Common Impacts Calculation
60,000
48,000
36,000
24,000
12,000
0
lbs
54,545

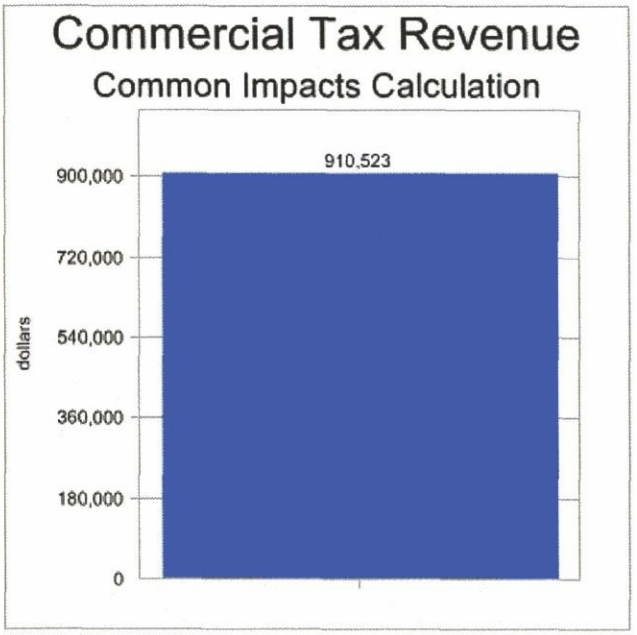

Annual NOx Auto Emissions
Common Impacts Calculation
30,000
24,000
18,000
12,000
6,000
0
lbs
27,085

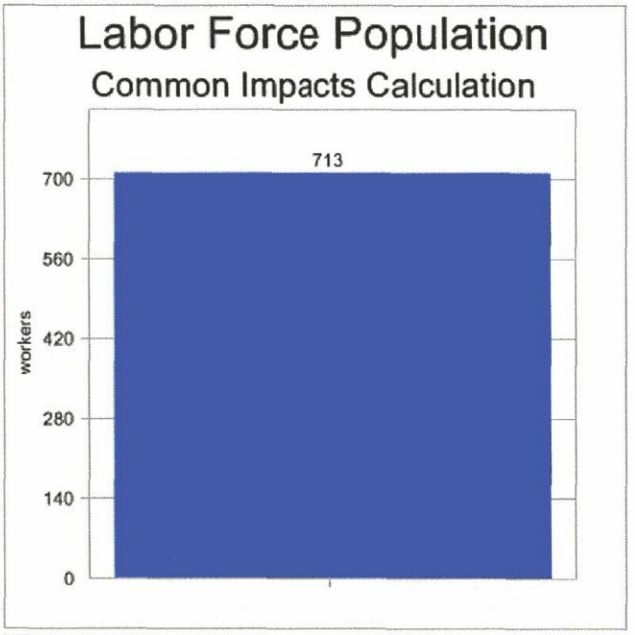

Commercial Energy Use
Common Impacts Calculation
48,980
50,000
40,000
30,000
20,000
10,000
0
million BTU / year

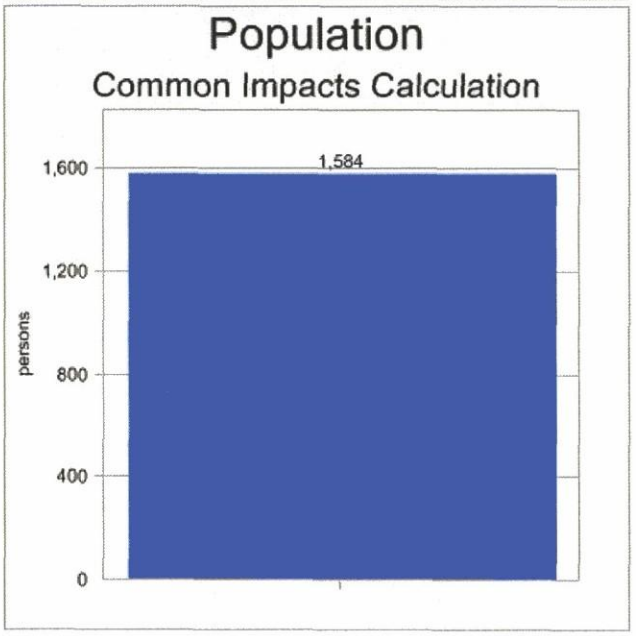

Commercial Floor Area
Common Impacts Calculation
627,947
720,000
600,000
480,000
360,000
240,000
120,000
0
sq feet

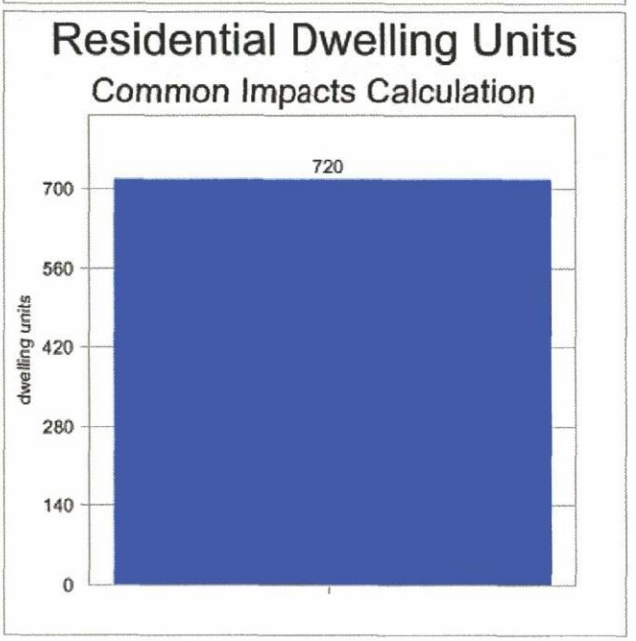

Commercial Jobs
Common Impacts Calculation
694
700
560
420
280
140
0
commercial jobs

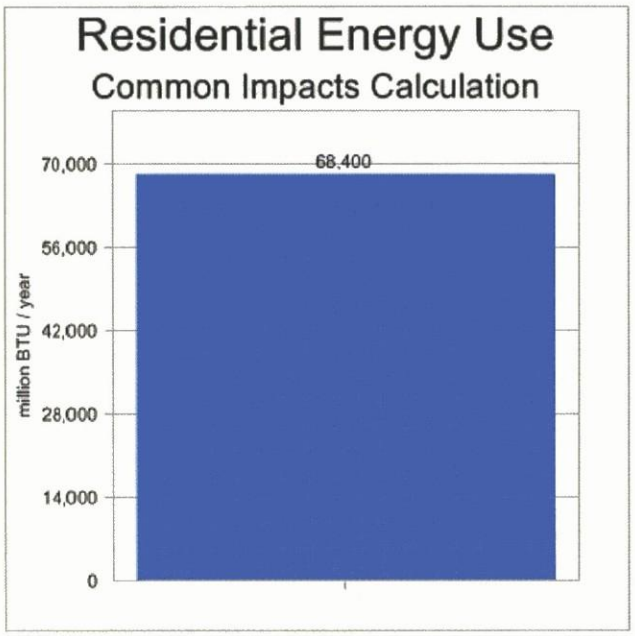

Commercial Jobs to Housing Ratio
Common Impacts Calculation
0.96
1.00
0.80
0.60
0.40
0.20
0.00
commercial jobs / dwelling unit

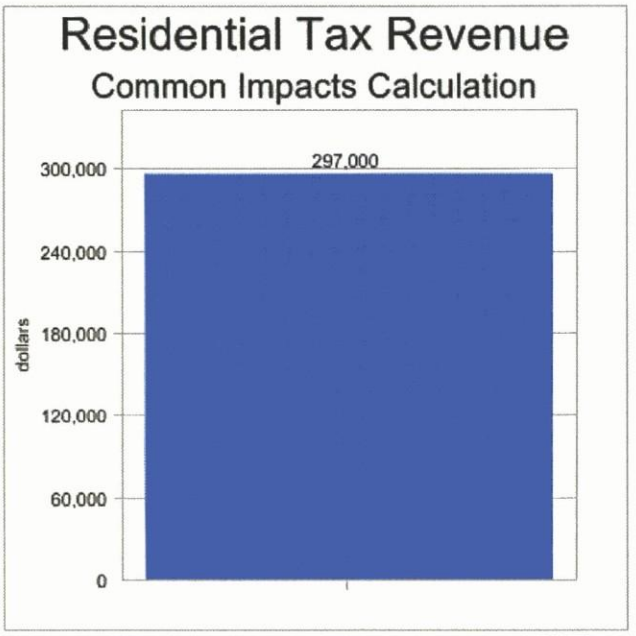

Commercial Tax Revenue
Common Impacts Calculation
910,523
900,000
720,000
540,000
360,000
180,000
0
dollars

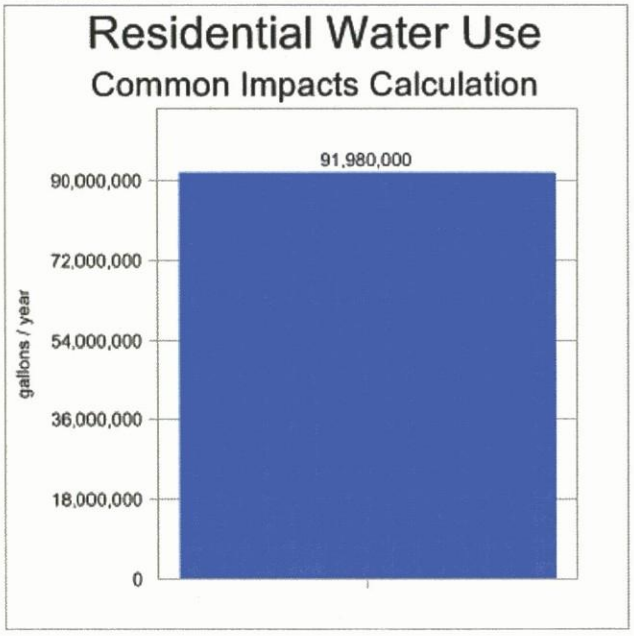

Labor Force Population
Common Impacts Calculation
713
700
560
420
280
140
0
workers

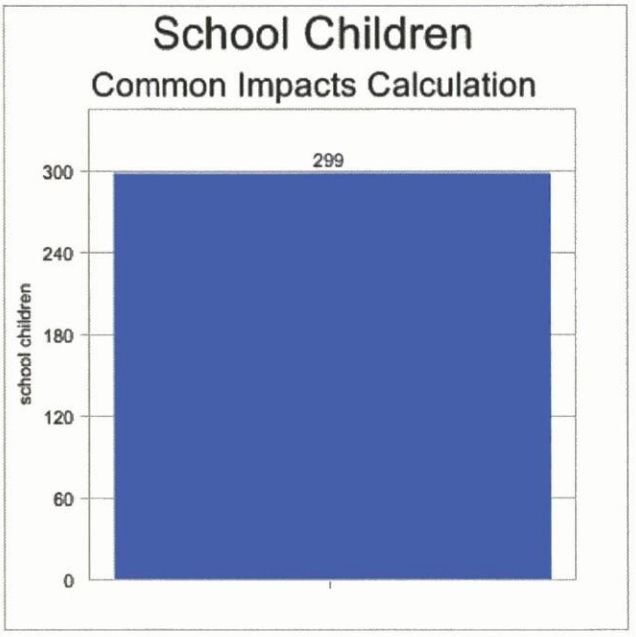

Population
Common Impacts Calculation
1,584
1,600
1,200
800
400
0
persons


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<br>Formula:<br>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 ] ) )<br><br>' 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<br>Formula:<br>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 ] ) )<br><br>' 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<br>Formula:<br>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 ] ) )<br><br>' 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<br>Formula:<br>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 ] ) )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| | Units: million BTU / year<br>Formula: |

| | |
|---|---|
| Common Impacts - Commercial Energy Use | ( ( [ Assumption:CI Assumption - Annual Commercial Energy Use ] * Sum ( [ Attribute:Buildings:Floor Area ] ) ) / 1000 )<br><br>' 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<br>Formula:<br>Sum( [ Attribute:Buildings:Floor Area ] )<br><br>' 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<br>Formula:<br>If( [ Assumption:CI Assumption - Floor Area per Employee ] = 0, Then ( 0 ), Else ( Sum ( [ Attribute:Buildings:Floor Area ] ) / [ Assumption:CI Assumption - Floor Area per Employee ] ) )<br><br>' 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<br>Formula:<br>If( [ Indicator:Common Impacts - Residential Dwelling Units ] = 0, Then ( 0 ), Else ( [ Indicator:Common Impacts - Commercial Jobs ] / [ Indicator:Common Impacts - Residential Dwelling Units ] ) )<br><br>' 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<br>Formula:<br>Sum( [Attribute:Buildings:Commercial Floor Area Tax] )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Common Impacts - Labor Force | Units: workers<br>Formula:<br>( [ Assumption:CI Assumption - Percent Employed ] * [ Indicator:Common Impacts - Population ] ) / 100<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Common Impacts - Population | Units: persons<br>Formula:<br>[ Assumption:CI Assumption - Persons per Household ] * Sum( [ Attribute:Buildings:Dwelling Units ] )<br><br>' 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<br>Formula:<br>Sum( [ Attribute:Buildings:Dwelling Units ] )<br><br>' 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<br>Formula:<br>[ Assumption:CI Assumption - Annual Household Energy Use ] * Sum ( [ Attribute:Buildings:Dwelling Units ] )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Common Impacts - Residential Tax | Units: dollars<br>Formula:<br>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<br>Formula:<br>[ Assumption:CI Assumption - Daily Household Water Use ] * 365 * Sum ( [ Attribute:Buildings:Dwelling Units ] )<br><br>' 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<br>Formula:<br>( [ Assumption:CI Assumption - Percent School Children ] * [ Indicator:Common Impacts - Population ] ) / 100<br><br>' 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<br>Formula:<br>[ Assumption:CI Assumption - Household Vehicle Trips per Day ] * Sum ( [ Attribute:Buildings:Dwelling Units ] )<br><br>' 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<br>Formula:<br>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 ) )<br><br>' This formula was automatically created by the Common Impacts Wizard to describe impacts associated with the layer 'Buildings'. |
| Residential Millage Tax | Type: Double<br>Formula:<br>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 ) )<br><br>' 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.<br>*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. |

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