# APPENDIX C

## AIR QUALITY WORKSHEETS

## EXPLANATION OF CHANGES MADE TO DEFAULT SETTINGS IN URBEMIS 2002

**Project Name:** SMC Bundy Campus
**nalysis Scenario:** Proposed Project Fleet Mix

The following pages include the printed results of the air pollutant emissions modeling for one of the land use components of the proposed project. The air emissions modeling was conducted using the URBEMIS 2002 for Windows computer program developed for the Yolo-Solano Air Quality Management District in May 2003. URBEMIS 2002 is programmed with EMFAC 2002 emission factors developed by the California Air

As part of this analysis, changes have been made to several of the default values programmed into URBEMIS 2002. These changes were made to more accurately reflect the nature of the proposed land use.

**Vehicle Trip Rates**
The default vehicle trip rate values were changed to be consistent with the traffic impact analysis prepared

**Vehicle Fleet Mix**
URBEMIS 2002 is programmed with the following state-wide average vehicle fleet mix:

| State-Wide Vehicle Type | Total | |
|---|---|---|
| Automobiles | 54.7% | |
| Light-Duty Trucks <3,750 pounds | 15.2% | |
| Light-Duty Trucks 3,751-5,750 pounds | 16.2% | |
| Medium-Duty Trucks 5,751-8,500 pounds | 7.3% | |
| Light-Heavy-Duty Trucks 8,501-10,000 pounds | 1.1% | |
| Light-Heavy-Duty Trucks 10,001-14,000 pound | 0.3% | 10.60% Total Trucl |
| Medium-Heavy-Duty Trucks 14,001-33,000 poi | 1.0% | |
| Heavy-Heavy-Duty Trucks 33,001-60,000 pour | 0.9% | |
| Line-Haul Vehicles | 0.0% | |
| Urban Buses | 0.2% | |
| Motorcycles | 1.6% | |
| School Buses | 0.1% | |
| Motor Homes | 1.4% | |

However, this state-wide average fleet mix is not appropriate for the majority of land use analyses. The project land use assessed in this analysis is identified below along with the total percentage of trucks (medium and heavy) that are expected for this land use. The following vehicle mix was calculated based on the percentage of trucks associated with this land use. The percentage of trucks for each land use

| ITE Code | Project Land Use: | Truck % | ADT | Truck # |
|---|---|---|---|---|
| 540 | Community College | 0.44% | 2,877 | 13 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| | | Project Totals: | 2,877 | 13 |
| | | Project Truck %: | 0.44% | |

| Vehicle Type | Total | |
|---|---|---|
| Automobiles | 60.92% | |
| Light-Duty Trucks <3,750 pounds | 16.93% | |
| Light-Duty Trucks 3,751-5,750 pounds | 18.04% | |
| Medium-Duty Trucks 5,751-8,500 pounds | 0.30% | |
| Light-Heavy-Duty Trucks 8,501-10,000 pounds | 0.05% | |
| Light-Heavy-Duty Trucks 10,001-14,000 pound | 0.01% | 0.44% Total Trucl |
| Medium-Heavy-Duty Trucks 14,001-33,000 poi | 0.04% | |
| Heavy-Heavy-Duty Trucks 33,001-60,000 pour | 0.04% | |
| Line-Haul Vehicles | 0.00% | |
| Urban Buses | 0.22% | |
| Motorcycles | 1.78% | |
| School Buses | 0.11% | |
| Motor Homes | 1.56% | |

## EXPLANATION OF CHANGES MADE TO DEFAULT SETTINGS IN URBEMIS 2002

**Project Name:** SMC Bunday Campus
**nalysis Scenario:** Existing Uses Fleet Mix

The following pages include the printed results of the air pollutant emissions modeling for one of the land use components of the proposed project. The air emissions modeling was conducted using the URBEMIS 2002 for Windows computer program developed for the Yolo-Solano Air Quality Management District in May 2003. URBEMIS 2002 is programmed with EMFAC 2002 emission factors developed by the California Air

As part of this analysis, changes have been made to several of the default values programmed into URBEMIS 2002. These changes were made to more accurately reflect the nature of the proposed land use.

**Vehicle Trip Rates**
The default vehicle trip rate values were changed to be consistent with the traffic impact analysis prepared

**Vehicle Fleet Mix**
URBEMIS 2002 is programmed with the following state-wide average vehicle fleet mix:

| State-Wide Vehicle Type | Total | |
|---|---|---|
| Automobiles | 56.1% | |
| Light-Duty Trucks <3,750 pounds | 15.1% | |
| Light-Duty Trucks 3,751-5,750 pounds | 15.5% | |
| Medium-Duty Trucks 5,751-8,500 pounds | 6.8% | |
| Light-Heavy-Duty Trucks 8,501-10,000 pounds | 1.0% | |
| Light-Heavy-Duty Trucks 10,001-14,000 pound | 0.3% | 9.90% Total Trucl |
| Medium-Heavy-Duty Trucks 14,001-33,000 poi | 1.0% | |
| Heavy-Heavy-Duty Trucks 33,001-60,000 pour | 0.8% | |
| Line-Haul Vehicles | 0.0% | |
| Urban Buses | 0.1% | |
| Motorcycles | 1.6% | |
| School Buses | 0.3% | |
| Motor Homes | 1.4% | |

However, this state-wide average fleet mix is not appropriate for the majority of land use analyses. The project land use assessed in this analysis is identified below along with the total percentage of trucks (medium and heavy) that are expected for this land use. The following vehicle mix was calculated based on the percentage of trucks associated with this land use. The percentage of trucks for each land use

| ITE Code | Project Land Use: | Truck % | ADT | Truck # |
|---|---|---|---|---|
| 540 | Community College | 0.44% | 2,440 | 11 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| 0 | | | 0 | 0 |
| | | Project Totals: | 2,440 | 11 |
| | | Project Truck %: | 0.44% | |

| Vehicle Type | Total | |
|---|---|---|
| Automobiles | 61.99% | |
| Light-Duty Trucks <3,750 pounds | 16.69% | |
| Light-Duty Trucks 3,751-5,750 pounds | 17.13% | |
| Medium-Duty Trucks 5,751-8,500 pounds | 0.30% | |
| Light-Heavy-Duty Trucks 8,501-10,000 pounds | 0.04% | |
| Light-Heavy-Duty Trucks 10,001-14,000 pound | 0.01% | 0.44% Total Trucl |
| Medium-Heavy-Duty Trucks 14,001-33,000 poi | 0.04% | |
| Heavy-Heavy-Duty Trucks 33,001-60,000 pour | 0.04% | |
| Line-Haul Vehicles | 0.00% | |
| Urban Buses | 0.11% | |
| Motorcycles | 1.77% | |
| School Buses | 0.33% | |
| Motor Homes | 1.55% | |

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Existing Operational Emissions.urb
Project Name: Existing Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 0.42 | 0.62 | 1.30 | 0.00 | 0.00 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 19.44 | 19.73 | 268.12 | 0.16 | 21.15 |
| TOTALS (lbs/day, mitigated) | 18.53 | 18.74 | 254.65 | 0.16 | 20.09 |

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 19.86 | 20.35 | 269.42 | 0.16 | 21.15 |

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Existing Operational Emissions.urb
Project Name: Existing Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 0.30 | 0.62 | 0.52 | 0.00 | 0.00 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 21.02 | 29.57 | 259.53 | 0.14 | 21.15 |
| TOTALS (lbs/day, mitigated) | 19.97 | 28.08 | 246.50 | 0.13 | 20.09 |

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 21.32 | 30.18 | 260.05 | 0.14 | 21.15 |

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Existing Operational Emissions.urb
Project Name: Existing Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)

| Source | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Natural Gas | 0.04 | 0.62 | 0.52 | 0 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping - No winter emissions | | | | | |
| Consumer Prdcts | 0.00 | - | - | - | - |
| Architectural Coatings | 0.25 | - | - | - | - |
| TOTALS(lbs/day,unmitigated) | 0.30 | 0.62 | 0.52 | 0.00 | 0.00 |

UNMITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 21.02 | 29.57 | 259.53 | 0.14 | 21.15 |
| TOTAL EMISSIONS (lbs/day) | 21.02 | 29.57 | 259.53 | 0.14 | 21.15 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 50 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 38.13 trips/1000 sq. ft. | 64.00 | 2,440.00 |
| | | Sum of Total Trips | | 2,440.00 |
| | | Total Vehicle Miles Traveled | | 14,005.60 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 61.99 | 2.30 | 97.10 | 0.60 |
| Light Truck < 3,750 lbs | 16.69 | 4.00 | 93.40 | 2.60 |
| Light Truck 3,751- 5,750 | 17.13 | 1.90 | 96.80 | 1.30 |
| Med Truck 5,751- 8,500 | 0.30 | 1.50 | 95.60 | 2.90 |
| Lite-Heavy 8,501-10,000 | 0.04 | 0.00 | 80.00 | 20.00 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 10.00 | 20.00 | 70.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 12.50 | 87.50 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motorcycle | 1.77 | 87.50 | 12.50 | 0.00 |
| School Bus | 0.33 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.55 | 14.30 | 78.60 | 7.10 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

MITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 19.97 | 28.08 | 246.50 | 0.13 | 20.09 |
| TOTAL EMISSIONS (lbs/day) | 19.97 | 28.08 | 246.50 | 0.13 | 20.09 |
| PERCENTAGE REDUCTION % | 5 | 5 | 5 | 5 | 5 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 50 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 36.21 trips/1000 sq. ft. | 64.00 | 2,317.46 |
| | | Sum of Total Trips | | 2,317.46 |
| | | Total Vehicle Miles Traveled | | 13,302.21 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 61.99 | 2.30 | 97.10 | 0.60 |
| Light Truck < 3,750 lbs | 16.69 | 4.00 | 93.40 | 2.60 |
| Light Truck 3,751- 5,750 | 17.13 | 1.90 | 96.80 | 1.30 |
| Med Truck 5,751- 8,500 | 0.30 | 1.50 | 95.60 | 2.90 |
| Lite-Heavy 8,501-10,000 | 0.04 | 0.00 | 80.00 | 20.00 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 10.00 | 20.00 | 70.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 12.50 | 87.50 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motorcycle | 1.77 | 87.50 | 12.50 | 0.00 |
| School Bus | 0.33 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.55 | 14.30 | 78.60 | 7.10 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

# MITIGATION OPTIONS SELECTED

## Non-Residential Mitigation Measures

### Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%
Inputs Selected:
The Presence of Local-Serving Retail checkbox was selected.

### Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.02%
Inputs Selected:
The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 2
The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 0
The Number of Dedicated Daily Shuttle Trips is 0

### Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3%
Inputs Selected:
The Number of Intersections per Square Mile is 0
The Percent of Streets with Sidewalks on One Side is 0%
The Percent of Streets with Sidewalks on Both Sides is 100%
The Percent of Arterials/Collectors with Bike Lanes or where Suitable,
Direct Parallel Routes Exist is 0%

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

The hearth option switch changed from on to off.
The consumer products option switch changed from on to off.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.

Changes made to the default values for Operations

The mitigation option switch changed from off to on.
The light auto percentage changed from 56.1 to 61.99.
The light truck < 3750 lbs percentage changed from 15.1 to 16.69.
The light truck 3751-5750 percentage changed from 15.5 to 17.13.
The med truck 5751-8500 percentage changed from 6.8 to 0.30.
The lite-heavy truck 8501-10000 percentage changed from 1.0 to 0.04.
The lite-heavy truck 10001-14000 percentage changed from 0.3 to 0.01.
The med-heavy truck 14001-33000 percentage changed from 1.0 to 0.04.
The heavy-heavy truck 33001-60000 percentage changed from 0.8 to 0.04.
The urban bus percentage changed from 0.1 to 0.11.
The motorcycle percentage changed from 1.6 to 1.77.
The school bus percentage changed from 0.3 to 0.33.
The motorhome percentage changed from 1.4 to 1.55.
The Res and Non-Res Local-Serving Retail Mitigation changed from off to on.
The Res and Non-Res Transit Service Mitigation changed from off to on.
The Res and Non-Res Ped/Bike Mitigation changed from off to on.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Existing Operational Emissions.urb
Project Name: Existing Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

| Source | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Natural Gas | 0.04 | 0.62 | 0.52 | 0 | 0.00 |
| Hearth - No summer emissions | | | | | |
| Landscaping | 0.12 | 0.00 | 0.78 | 0.00 | 0.00 |
| Consumer Prdcts | 0.00 | - | - | - | - |
| Architectural Coatings | 0.25 | - | - | - | - |
| TOTALS(lbs/day,unmitigated) | 0.42 | 0.62 | 1.30 | 0.00 | 0.00 |

UNMITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 19.44 | 19.73 | 268.12 | 0.16 | 21.15 |
| TOTAL EMISSIONS (lbs/day) | 19.44 | 19.73 | 268.12 | 0.16 | 21.15 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 38.13 trips/1000 sq. ft. | 64.00 | 2,440.00 |
| | | Sum of Total Trips | | 2,440.00 |
| | | Total Vehicle Miles Traveled | | 14,005.60 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 61.99 | 2.30 | 97.10 | 0.60 |
| Light Truck < 3,750 lbs | 16.69 | 4.00 | 93.40 | 2.60 |
| Light Truck 3,751- 5,750 | 17.13 | 1.90 | 96.80 | 1.30 |
| Med Truck 5,751- 8,500 | 0.30 | 1.50 | 95.60 | 2.90 |
| Lite-Heavy 8,501-10,000 | 0.04 | 0.00 | 80.00 | 20.00 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 10.00 | 20.00 | 70.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 12.50 | 87.50 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motorcycle | 1.77 | 87.50 | 12.50 | 0.00 |
| School Bus | 0.33 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.55 | 14.30 | 78.60 | 7.10 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

MITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 18.53 | 18.74 | 254.65 | 0.16 | 20.09 |
| TOTAL EMISSIONS (lbs/day) | 18.53 | 18.74 | 254.65 | 0.16 | 20.09 |
| PERCENTAGE REDUCTION % | 5 | 5 | 5 | 5 | 5 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 36.21 trips/1000 sq. ft. | 64.00 | 2,317.46 |
| | | Sum of Total Trips | | 2,317.46 |
| | | Total Vehicle Miles Traveled | | 13,302.21 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 61.99 | 2.30 | 97.10 | 0.60 |
| Light Truck < 3,750 lbs | 16.69 | 4.00 | 93.40 | 2.60 |
| Light Truck 3,751- 5,750 | 17.13 | 1.90 | 96.80 | 1.30 |
| Med Truck 5,751- 8,500 | 0.30 | 1.50 | 95.60 | 2.90 |
| Lite-Heavy 8,501-10,000 | 0.04 | 0.00 | 80.00 | 20.00 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 10.00 | 20.00 | 70.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 12.50 | 87.50 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motorcycle | 1.77 | 87.50 | 12.50 | 0.00 |
| School Bus | 0.33 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.55 | 14.30 | 78.60 | 7.10 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

# MITIGATION OPTIONS SELECTED

## Non-Residential Mitigation Measures

### Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%
Inputs Selected:
The Presence of Local-Serving Retail checkbox was selected.

### Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.02%
Inputs Selected:
The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 2
The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 0
The Number of Dedicated Daily Shuttle Trips is 0

### Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3%
Inputs Selected:
The Number of Intersections per Square Mile is 0
The Percent of Streets with Sidewalks on One Side is 0%
The Percent of Streets with Sidewalks on Both Sides is 100%
The Percent of Arterials/Collectors with Bike Lanes or where Suitable,
Direct Parallel Routes Exist is 0%

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

The hearth option switch changed from on to off.
The consumer products option switch changed from on to off.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.

Changes made to the default values for Operations

The mitigation option switch changed from off to on.
The light auto percentage changed from 56.1 to 61.99.
The light truck < 3750 lbs percentage changed from 15.1 to 16.69.
The light truck 3751-5750 percentage changed from 15.5 to 17.13.
The med truck 5751-8500 percentage changed from 6.8 to 0.30.
The lite-heavy truck 8501-10000 percentage changed from 1.0 to 0.04.
The lite-heavy truck 10001-14000 percentage changed from 0.3 to 0.01.
The med-heavy truck 14001-33000 percentage changed from 1.0 to 0.04.
The heavy-heavy truck 33001-60000 percentage changed from 0.8 to 0.04.
The urban bus percentage changed from 0.1 to 0.11.
The motorcycle percentage changed from 1.6 to 1.77.
The school bus percentage changed from 0.3 to 0.33.
The motorhome percentage changed from 1.4 to 1.55.
The Res and Non-Res Local-Serving Retail Mitigation changed from off to on.
The Res and Non-Res Transit Service Mitigation changed from off to on.
The Res and Non-Res Ped/Bike Mitigation changed from off to on.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Proposed Project Construction Emis
Project Name: SMC Bundy Campus - Construction Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

| *** 2007 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 6.98 | 90.59 | 44.15 | 0.11 | 238.61 | 2.36 | 236.25 |
| TOTALS (lbs/day, mitigated) | 6.98 | 90.59 | 44.15 | 0.11 | 37.65 | 2.36 | 35.29 |

| *** 2008 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 5.28 | 33.94 | 44.07 | 0.01 | 237.27 | 1.02 | 236.25 |
| TOTALS (lbs/day, mitigated) | 5.28 | 33.94 | 44.07 | 0.01 | 36.31 | 1.02 | 35.29 |

| *** 2009 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 13.25 | 24.59 | 34.14 | 0.00 | 0.82 | 0.80 | 0.02 |
| TOTALS (lbs/day, mitigated) | 13.25 | 24.59 | 34.14 | 0.00 | 0.82 | 0.80 | 0.02 |

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Proposed Project Construction Emis
Project Name: SMC Bundy Campus - Construction Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: January, 2007
Construction Duration: 28
Total Land Use Area to be Developed: 4 acres
Maximum Acreage Disturbed Per Day: 2 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 38205

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

| Source | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| *** 2007*** | | | | | | | |
| Phase 1 - Demolition Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 17.64 | - | 17.64 |
| Off-Road Diesel | 4.18 | 29.41 | 32.52 | - | 1.19 | 1.19 | 0.00 |
| On-Road Diesel | 2.76 | 61.07 | 10.29 | 0.11 | 1.42 | 1.17 | 0.25 |
| Worker Trips | 0.04 | 0.11 | 1.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 6.98 | 90.59 | 43.91 | 0.11 | 20.25 | 2.36 | 17.89 |
| Phase 2 - Site Grading Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 236.22 | - | 236.22 |
| Off-Road Diesel | 5.07 | 30.41 | 43.06 | - | 1.03 | 1.03 | 0.00 |
| On-Road Diesel | 0.20 | 4.33 | 0.73 | 0.01 | 0.10 | 0.08 | 0.02 |
| Worker Trips | 0.03 | 0.02 | 0.36 | 0.00 | 0.01 | 0.00 | 0.01 |
| Maximum lbs/day | 5.30 | 34.76 | 44.15 | 0.01 | 237.36 | 1.11 | 236.25 |
| Phase 3 - Building Construction | | | | | | | |
| Bldg Const Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Bldg Const Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Arch Coatings Off-Gas | 0.00 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Off-Gas | 0.00 | - | - | - | - | - | - |
| Asphalt Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Asphalt On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Max lbs/day all phases | 6.98 | 90.59 | 44.15 | 0.11 | 238.61 | 2.36 | 236.25 |
| *** 2008*** | | | | | | | |
| Phase 1 - Demolition Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phase 2 - Site Grading Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 236.22 | - | 236.22 |
| Off-Road Diesel | 5.07 | 29.97 | 43.06 | - | 0.94 | 0.94 | 0.00 |
| On-Road Diesel | 0.18 | 3.95 | 0.68 | 0.01 | 0.10 | 0.08 | 0.02 |
| Worker Trips | 0.03 | 0.02 | 0.33 | 0.00 | 0.01 | 0.00 | 0.01 |
| Maximum lbs/day | 5.28 | 33.94 | 44.07 | 0.01 | 237.27 | 1.02 | 236.25 |
| Phase 3 - Building Construction | | | | | | | |
| Bldg Const Off-Road Diesel | 2.09 | 12.82 | 17.34 | - | 0.41 | 0.41 | 0.00 |
| Bldg Const Worker Trips | 0.07 | 0.04 | 0.82 | 0.00 | 0.01 | 0.00 | 0.01 |
| Arch Coatings Off-Gas | 0.00 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Off-Gas | 0.00 | - | - | - | - | - | - |
| Asphalt Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Asphalt On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 2.15 | 12.86 | 18.16 | 0.00 | 0.42 | 0.41 | 0.01 |
| Max lbs/day all phases | 5.28 | 33.94 | 44.07 | 0.01 | 237.27 | 1.02 | 236.25 |
| *** 2009*** | | | | | | | |

Phase 1 - Demolition Emissions

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Phase 2 - Site Grading Emissions

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Phase 3 - Building Construction

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bldg Const Off-Road Diesel | 2.09 | 12.63 | 17.48 | - | 0.40 | 0.40 | 0.00 |
| Bldg Const Worker Trips | 0.06 | 0.04 | 0.75 | 0.00 | 0.01 | 0.00 | 0.01 |
| Arch Coatings Off-Gas | 9.03 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 0.06 | 0.04 | 0.75 | 0.00 | 0.01 | 0.00 | 0.01 |
| Asphalt Off-Gas | 0.17 | - | - | - | - | - | - |
| Asphalt Off-Road Diesel | 1.81 | 11.32 | 14.93 | - | 0.39 | 0.39 | 0.00 |
| Asphalt On-Road Diesel | 0.03 | 0.56 | 0.11 | 0.00 | 0.01 | 0.01 | 0.00 |
| Asphalt Worker Trips | 0.01 | 0.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 13.25 | 24.59 | 34.14 | 0.00 | 0.82 | 0.80 | 0.02 |
| Max lbs/day all phases | 13.25 | 24.59 | 34.14 | 0.00 | 0.82 | 0.80 | 0.02 |

Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Jan '07
Phase 1 Duration: 1 months
Building Volume Total (cubic feet): 462000
Building Volume Daily (cubic feet): 41999.034176
On-Road Truck Travel (VMT): 2334
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 1 | Rubber Tired Dozers | 352 | 0.590 | 6.0 |
| 1 | Rubber Tired Loaders | 165 | 0.465 | 6.0 |
| 1 | Skid Steer Loaders | 62 | 0.515 | 6.0 |

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Feb '07
Phase 2 Duration: 14 months
On-Road Truck Travel (VMT): 166
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 1 | Excavators | 180 | 0.580 | 6.0 |
| 1 | Graders | 174 | 0.575 | 6.0 |
| 1 | Off Highway Trucks | 417 | 0.490 | 3.0 |
| 1 | Rubber Tired Loaders | 165 | 0.465 | 6.0 |

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Apr '08
Phase 3 Duration: 13 months
Start Month/Year for SubPhase Building: Apr '08
SubPhase Building Duration: 13 months
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 2 | Rough Terrain Forklifts | 94 | 0.475 | 6.0 |
| 1 | Skid Steer Loaders | 62 | 0.515 | 6.0 |
| 1 | Tractor/Loaders/Backhoes | 79 | 0.465 | 6.0 |

Start Month/Year for SubPhase Architectural Coatings: Mar '09
SubPhase Architectural Coatings Duration: 2 months
Start Month/Year for SubPhase Asphalt: Apr '09
SubPhase Asphalt Duration: 1 months
Acres to be Paved: 1.4
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 1 | Pavers | 132 | 0.590 | 6.0 |
| 1 | Paving Equipment | 111 | 0.530 | 6.0 |

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

| Source | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| *** 2007*** | | | | | | | |
| Phase 1 - Demolition Emissions | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fugitive Dust | - | - | - | - | 17.64 | - | 17.64 |
| Off-Road Diesel | 4.18 | 29.41 | 32.52 | - | 1.19 | 1.19 | 0.00 |
| On-Road Diesel | 2.76 | 61.07 | 10.29 | 0.11 | 1.42 | 1.17 | 0.25 |
| Worker Trips | 0.04 | 0.11 | 1.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 6.98 | 90.59 | 43.91 | 0.11 | 20.25 | 2.36 | 17.89 |
| | | | | | | | |
| Phase 2 - Site Grading Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 35.26 | - | 35.26 |
| Off-Road Diesel | 5.07 | 30.41 | 43.06 | - | 1.03 | 1.03 | 0.00 |
| On-Road Diesel | 0.20 | 4.33 | 0.73 | 0.01 | 0.10 | 0.08 | 0.02 |
| Worker Trips | 0.03 | 0.02 | 0.36 | 0.00 | 0.01 | 0.00 | 0.01 |
| Maximum lbs/day | 5.30 | 34.76 | 44.15 | 0.01 | 36.40 | 1.11 | 35.29 |
| | | | | | | | |
| Phase 3 - Building Construction | | | | | | | |
| Bldg Const Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Bldg Const Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Arch Coatings Off-Gas | 0.00 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Off-Gas | 0.00 | - | - | - | - | - | - |
| Asphalt Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Asphalt On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | |
| Max lbs/day all phases | 6.98 | 90.59 | 44.15 | 0.11 | 37.65 | 2.36 | 35.29 |

*** 2008***

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Phase 1 - Demolition Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | |
| Phase 2 - Site Grading Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 35.26 | - | 35.26 |
| Off-Road Diesel | 5.07 | 29.97 | 43.06 | - | 0.94 | 0.94 | 0.00 |
| On-Road Diesel | 0.18 | 3.95 | 0.68 | 0.01 | 0.10 | 0.08 | 0.02 |
| Worker Trips | 0.03 | 0.02 | 0.33 | 0.00 | 0.01 | 0.00 | 0.01 |
| Maximum lbs/day | 5.28 | 33.94 | 44.07 | 0.01 | 36.31 | 1.02 | 35.29 |
| | | | | | | | |
| Phase 3 - Building Construction | | | | | | | |
| Bldg Const Off-Road Diesel | 2.09 | 12.82 | 17.34 | - | 0.41 | 0.41 | 0.00 |
| Bldg Const Worker Trips | 0.07 | 0.04 | 0.82 | 0.00 | 0.01 | 0.00 | 0.01 |
| Arch Coatings Off-Gas | 0.00 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Off-Gas | 0.00 | - | - | - | - | - | - |
| Asphalt Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Asphalt On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Asphalt Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 2.15 | 12.86 | 18.16 | 0.00 | 0.42 | 0.41 | 0.01 |
| | | | | | | | |
| Max lbs/day all phases | 5.28 | 33.94 | 44.07 | 0.01 | 36.31 | 1.02 | 35.29 |

*** 2009***

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Phase 1 - Demolition Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | |
| Phase 2 - Site Grading Emissions | | | | | | | |
| Fugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| On-Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker Trips | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | |
| Phase 3 - Building Construction | | | | | | | |
| Bldg Const Off-Road Diesel | 2.09 | 12.63 | 17.48 | - | 0.40 | 0.40 | 0.00 |
| Bldg Const Worker Trips | 0.06 | 0.04 | 0.75 | 0.00 | 0.01 | 0.00 | 0.01 |
| Arch Coatings Off-Gas | 9.03 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 0.06 | 0.04 | 0.75 | 0.00 | 0.01 | 0.00 | 0.01 |
| Asphalt Off-Gas | 0.17 | - | - | - | - | - | - |
| Asphalt Off-Road Diesel | 1.81 | 11.32 | 14.93 | - | 0.39 | 0.39 | 0.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Asphalt On-Road Diesel | 0.03 | 0.56 | 0.11 | 0.00 | 0.01 | 0.01 | 0.00 |
| Asphalt Worker Trips | 0.01 | 0.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maximum lbs/day | 13.25 | 24.59 | 34.14 | 0.00 | 0.82 | 0.80 | 0.02 |
| Max lbs/day all phases | 13.25 | 24.59 | 34.14 | 0.00 | 0.82 | 0.80 | 0.02 |

Construction-Related Mitigation Measures

Phase 2: Soil Disturbance: Apply soil stabilizers to inactive areas
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 30.0%)
Phase 2: Soil Disturbance: Replace ground cover in disturbed areas quickly
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 15.0%)
Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Stockpiles: Cover all stock piles with tarps
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 30.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)

Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Jan '07
Phase 1 Duration: 1 months
Building Volume Total (cubic feet): 462000
Building Volume Daily (cubic feet): 41999.034176
On-Road Truck Travel (VMT): 2334
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 1 | Rubber Tired Dozers | 352 | 0.590 | 6.0 |
| 1 | Rubber Tired Loaders | 165 | 0.465 | 6.0 |
| 1 | Skid Steer Loaders | 62 | 0.515 | 6.0 |

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Feb '07
Phase 2 Duration: 14 months
On-Road Truck Travel (VMT): 166
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 1 | Excavators | 180 | 0.580 | 6.0 |
| 1 | Graders | 174 | 0.575 | 6.0 |
| 1 | Off Highway Trucks | 417 | 0.490 | 3.0 |
| 1 | Rubber Tired Loaders | 165 | 0.465 | 6.0 |

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Apr '08
Phase 3 Duration: 13 months
Start Month/Year for SubPhase Building: Apr '08
SubPhase Building Duration: 13 months
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 2 | Rough Terrain Forklifts | 94 | 0.475 | 6.0 |
| 1 | Skid Steer Loaders | 62 | 0.515 | 6.0 |
| 1 | Tractor/Loaders/Backhoes | 79 | 0.465 | 6.0 |

Start Month/Year for SubPhase Architectural Coatings: Mar '09
SubPhase Architectural Coatings Duration: 2 months
Start Month/Year for SubPhase Asphalt: Apr '09
SubPhase Asphalt Duration: 1 months
Acres to be Paved: 1.4
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|
| 1 | Pavers | 132 | 0.590 | 6.0 |
| 1 | Paving Equipment | 111 | 0.530 | 6.0 |

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths
Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0052
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0052
Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
has been changed from off to on.
Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Proposed Project Operational Emiss
Project Name: SMC Bundy Campus - Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 0.27 | 0.38 | 0.94 | 0.00 | 0.00 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 15.00 | 15.12 | 211.14 | 0.15 | 24.90 |
| TOTALS (lbs/day, mitigated) | 14.28 | 14.36 | 200.54 | 0.14 | 23.65 |

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 15.27 | 15.50 | 212.08 | 0.15 | 24.90 |

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Proposed Project Operational Emiss
Project Name: SMC Bundy Campus - Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 0.18 | 0.37 | 0.31 | 0.00 | 0.00 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 16.51 | 22.61 | 204.09 | 0.12 | 24.90 |
| TOTALS (lbs/day, mitigated) | 15.68 | 21.47 | 193.84 | 0.11 | 23.65 |

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 16.69 | 22.97 | 204.40 | 0.12 | 24.90 |

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Proposed Project Operational Emiss
Project Name: SMC Bundy Campus - Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)

| Source | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Natural Gas | 0.03 | 0.37 | 0.31 | 0 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping - No winter emissions | | | | | |
| Consumer Prdcts | 0.00 | - | - | - | - |
| Architectural Coatings | 0.15 | - | - | - | - |
| TOTALS(lbs/day,unmitigated) | 0.18 | 0.37 | 0.31 | 0.00 | 0.00 |

UNMITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 16.51 | 22.61 | 204.09 | 0.12 | 24.90 |
| TOTAL EMISSIONS (lbs/day) | 16.51 | 22.61 | 204.09 | 0.12 | 24.90 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 50 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 75.30 trips/1000 sq. ft. | 38.21 | 2,876.84 |
| | | Sum of Total Trips | | 2,876.84 |
| | | Total Vehicle Miles Traveled | | 16,513.04 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 60.92 | 1.10 | 98.70 | 0.20 |
| Light Truck < 3,750 lbs | 16.93 | 2.00 | 96.00 | 2.00 |
| Light Truck 3,751- 5,750 | 18.04 | 1.20 | 98.10 | 0.70 |
| Med Truck 5,751- 8,500 | 0.30 | 1.40 | 95.90 | 2.70 |
| Lite-Heavy 8,501-10,000 | 0.05 | 0.00 | 81.80 | 18.20 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 0.00 | 20.00 | 80.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 11.10 | 88.90 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.22 | 0.00 | 50.00 | 50.00 |
| Motorcycle | 1.78 | 68.80 | 31.20 | 0.00 |
| School Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.56 | 7.10 | 85.70 | 7.20 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

MITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 15.68 | 21.47 | 193.84 | 0.11 | 23.65 |
| TOTAL EMISSIONS (lbs/day) | 15.68 | 21.47 | 193.84 | 0.11 | 23.65 |
| PERCENTAGE REDUCTION % | 5 | 5 | 5 | 5 | 5 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 50 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 71.52 trips/1000 sq. ft. | 38.21 | 2,732.36 |
| | | Sum of Total Trips | | 2,732.36 |
| | | Total Vehicle Miles Traveled | | 15,683.72 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 60.92 | 1.10 | 98.70 | 0.20 |
| Light Truck < 3,750 lbs | 16.93 | 2.00 | 96.00 | 2.00 |
| Light Truck 3,751- 5,750 | 18.04 | 1.20 | 98.10 | 0.70 |
| Med Truck 5,751- 8,500 | 0.30 | 1.40 | 95.90 | 2.70 |
| Lite-Heavy 8,501-10,000 | 0.05 | 0.00 | 81.80 | 18.20 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 0.00 | 20.00 | 80.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 11.10 | 88.90 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.22 | 0.00 | 50.00 | 50.00 |
| Motorcycle | 1.78 | 68.80 | 31.20 | 0.00 |
| School Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.56 | 7.10 | 85.70 | 7.20 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

# MITIGATION OPTIONS SELECTED

## Non-Residential Mitigation Measures

### Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%
Inputs Selected:
The Presence of Local-Serving Retail checkbox was selected.

### Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.02%
Inputs Selected:
The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 2
The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 0
The Number of Dedicated Daily Shuttle Trips is 0

### Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3%
Inputs Selected:
The Number of Intersections per Square Mile is 0
The Percent of Streets with Sidewalks on One Side is 0%
The Percent of Streets with Sidewalks on Both Sides is 100%
The Percent of Arterials/Collectors with Bike Lanes or where Suitable,
Direct Parallel Routes Exist is 0%

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

The hearth option switch changed from on to off.
The consumer products option switch changed from on to off.
The landscape year changed from 2005 to 2010.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.

Changes made to the default values for Operations

The mitigation option switch changed from off to on.
The light auto percentage changed from 54.7 to 60.92.
The light truck < 3750 lbs percentage changed from 15.2 to 16.93.
The light truck 3751-5750 percentage changed from 16.2 to 18.04.
The med truck 5751-8500 percentage changed from 7.3 to 0.30.
The lite-heavy truck 8501-10000 percentage changed from 1.1 to 0.05.
The lite-heavy truck 10001-14000 percentage changed from 0.3 to 0.01.
The med-heavy truck 14001-33000 percentage changed from 1.0 to 0.04.
The heavy-heavy truck 33001-60000 percentage changed from 0.9 to 0.04.
The urban bus percentage changed from 0.2 to 0.22.
The motorcycle percentage changed from 1.6 to 1.78.
The school bus percentage changed from 0.1 to 0.11.
The motorhome percentage changed from 1.4 to 1.56.
The operational emission year changed from 2005 to 2010.
The Res and Non-Res Local-Serving Retail Mitigation changed from off to on.
The Res and Non-Res Transit Service Mitigation changed from off to on.
The Res and Non-Res Ped/Bike Mitigation changed from off to on.

URBEMIS 2002 For Windows 8.7.0

File Name: F:\MSWord 2005 Projects\SMC Bundy Campus\AQ Data\URBEMIS Runs\Proposed Project Operational Emiss
Project Name: SMC Bundy Campus - Operational Emissions
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

| Source | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Natural Gas | 0.03 | 0.37 | 0.31 | 0 | 0.00 |
| Hearth - No summer emissions | | | | | |
| Landscaping | 0.09 | 0.01 | 0.63 | 0.00 | 0.00 |
| Consumer Prdcts | 0.00 | - | - | - | - |
| Architectural Coatings | 0.15 | - | - | - | - |
| TOTALS(lbs/day,unmitigated) | 0.27 | 0.38 | 0.94 | 0.00 | 0.00 |

UNMITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 15.00 | 15.12 | 211.14 | 0.15 | 24.90 |
| TOTAL EMISSIONS (lbs/day) | 15.00 | 15.12 | 211.14 | 0.15 | 24.90 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 75.30 trips/1000 sq. ft. | 38.21 | 2,876.84 |
| | | Sum of Total Trips | | 2,876.84 |
| | | Total Vehicle Miles Traveled | | 16,513.04 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 60.92 | 1.10 | 98.70 | 0.20 |
| Light Truck < 3,750 lbs | 16.93 | 2.00 | 96.00 | 2.00 |
| Light Truck 3,751- 5,750 | 18.04 | 1.20 | 98.10 | 0.70 |
| Med Truck 5,751- 8,500 | 0.30 | 1.40 | 95.90 | 2.70 |
| Lite-Heavy 8,501-10,000 | 0.05 | 0.00 | 81.80 | 18.20 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 0.00 | 20.00 | 80.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 11.10 | 88.90 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.22 | 0.00 | 50.00 | 50.00 |
| Motorcycle | 1.78 | 68.80 | 31.20 | 0.00 |
| School Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.56 | 7.10 | 85.70 | 7.20 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

MITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Junior college (2 yrs) | 14.28 | 14.36 | 200.54 | 0.14 | 23.65 |
| TOTAL EMISSIONS (lbs/day) | 14.28 | 14.36 | 200.54 | 0.14 | 23.65 |
| PERCENTAGE REDUCTION % | 5 | 5 | 5 | 5 | 5 |

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Acreage | Trip Rate | No. Units | Total Trips |
|---|---|---|---|---|
| Junior college (2 yrs) | | 71.52 trips/1000 sq. ft. | 38.21 | 2,732.36 |
| | | Sum of Total Trips | | 2,732.36 |
| | | Total Vehicle Miles Traveled | | 15,683.72 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 60.92 | 1.10 | 98.70 | 0.20 |
| Light Truck < 3,750 lbs | 16.93 | 2.00 | 96.00 | 2.00 |
| Light Truck 3,751- 5,750 | 18.04 | 1.20 | 98.10 | 0.70 |
| Med Truck 5,751- 8,500 | 0.30 | 1.40 | 95.90 | 2.70 |
| Lite-Heavy 8,501-10,000 | 0.05 | 0.00 | 81.80 | 18.20 |
| Lite-Heavy 10,001-14,000 | 0.01 | 0.00 | 66.70 | 33.30 |
| Med-Heavy 14,001-33,000 | 0.04 | 0.00 | 20.00 | 80.00 |
| Heavy-Heavy 33,001-60,000 | 0.04 | 0.00 | 11.10 | 88.90 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.22 | 0.00 | 50.00 | 50.00 |
| Motorcycle | 1.78 | 68.80 | 31.20 | 0.00 |
| School Bus | 0.11 | 0.00 | 0.00 | 100.00 |
| Motor Home | 1.56 | 7.10 | 85.70 | 7.20 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Rural Trip Length (miles) | 11.5 | 4.9 | 6.0 | 10.3 | 5.5 | 5.5 |
| Trip Speeds (mph) | 35.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| % of Trips - Residential | 20.0 | 37.0 | 43.0 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Junior college (2 yrs) | | | | 5.0 | 2.5 | 92.5 |

# MITIGATION OPTIONS SELECTED

## Non-Residential Mitigation Measures

### Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%
Inputs Selected:
The Presence of Local-Serving Retail checkbox was selected.

### Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.02%
Inputs Selected:
The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 2
The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 0
The Number of Dedicated Daily Shuttle Trips is 0

### Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3%
Inputs Selected:
The Number of Intersections per Square Mile is 0
The Percent of Streets with Sidewalks on One Side is 0%
The Percent of Streets with Sidewalks on Both Sides is 100%
The Percent of Arterials/Collectors with Bike Lanes or where Suitable,
Direct Parallel Routes Exist is 0%

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

The hearth option switch changed from on to off.
The consumer products option switch changed from on to off.
The landscape year changed from 2005 to 2010.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0052.

Changes made to the default values for Operations

The mitigation option switch changed from off to on.
The light auto percentage changed from 54.7 to 60.92.
The light truck < 3750 lbs percentage changed from 15.2 to 16.93.
The light truck 3751-5750 percentage changed from 16.2 to 18.04.
The med truck 5751-8500 percentage changed from 7.3 to 0.30.
The lite-heavy truck 8501-10000 percentage changed from 1.1 to 0.05.
The lite-heavy truck 10001-14000 percentage changed from 0.3 to 0.01.
The med-heavy truck 14001-33000 percentage changed from 1.0 to 0.04.
The heavy-heavy truck 33001-60000 percentage changed from 0.9 to 0.04.
The urban bus percentage changed from 0.2 to 0.22.
The motorcycle percentage changed from 1.6 to 1.78.
The school bus percentage changed from 0.1 to 0.11.
The motorhome percentage changed from 1.4 to 1.56.
The operational emission year changed from 2005 to 2010.
The Res and Non-Res Local-Serving Retail Mitigation changed from off to on.
The Res and Non-Res Transit Service Mitigation changed from off to on.
The Res and Non-Res Ped/Bike Mitigation changed from off to on.

**Two Acre Site Example - Demolition Phase**

| Example | | Construction Activity | | |
|---|---|---|---|---|
| Two Acre Site | | Demolition (2007) | 33,055 | Square Foot Structure[a] |
| **Demolition Schedule -** | **22** | **days**[a] | | |

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Skid Steer Loaders | 1 | 6.0 | 8 |
| Rubber Tired Dozers | 1 | 6.0 | |
| Rubber Tired Loaders | 1 | 6.0 | |

**Construction Equipment Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| **Equipment Type[c]** | lb/hr | lb/hr | lb/hr |
| Skid Steer Loaders | 0.204 | 0.287 | 0.025 |
| Rubber Tired Dozers | 1.024 | 2.817 | 0.112 |
| Rubber Tired Loaders | 0.425 | 1.111 | 0.063 |

**Building Dimensions**

| Description[a] | Width of Building | Length of Building | Height of Building |
|---|---|---|---|
| | ft | ft | ft |
| Total Project | 70 | 220 | 30 |

**Fugitive Dust Material Handling**

| Aerodynamic Particle Size Multiplier[d] | Mean Wind Speed[e] | Moisture Content[f] | Debris Handled[g] |
|---|---|---|---|
| | mph | | ton/day |
| 0.35 | 10 | 2.0 | 69 |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[h] | 0.026167 | 0.034155 | 0.000626 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day[i] | One Way Trip Length[j] (miles) |
|---|---|---|
| Haul Truck | 5 | 0.1 |

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

**Equation:** Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

| Equipment Type | CO lb/day | NOx lb/day | PM10 lb/day |
|---|---|---|---|
| Skid Steer Loaders | 1.22 | 1.72 | 0.15 |
| Rubber Tired Dozers | 6.14 | 16.90 | 0.67 |
| Rubber Tired Loaders | 2.55 | 6.67 | 0.38 |
| **Total** | **9.9** | **25.3** | **1.2** |

**Incremental Increase in Onsite Fugitive Dust Emissions from Construction Equipment**

Material Handling[k]: (0.0032 x Aerodynamic Particle Size Multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x debris handled (ton/day)) x (1 - control efficiency) = PM10 Emissions (lb/day)

| Description | Control Efficiency % | PM10 Mitigated[m] lb/day |
|---|---|---|
| Material Handling (Demolition)[l] | 68 | 0.06 |
| Material Handling (Debris) | 68 | 0.06 |
| **Total** | | **0.12** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| Vehicle | CO lb/day | NOx lb/day | PM10 lb/day |
|---|---|---|---|
| Haul Truck | 0.03 | 0.03 | 0.001 |
| **Total** | **0.03** | **0.03** | **0.001** |

**Two Acre Site Example - Demolition Phase**

| **Total Incremental Localized Emissions from Construction Activities** | | | |
|---|---|---|---|
| | **CO** | **NOx** | **PM10** |
| **Sources** | lb/day | lb/day | lb/day |
| On-site Emissions (Mitigated) | **9.9** | **25.3** | **1.3** |
| **Significance Threshold[n]** | ***658*** | ***208*** | ***6*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** |

**Notes:**

Project specific data may be entered into shaded cells. Changing the values in the shaded cells will not affect the integrity of the worksheets. Verify that units of values entered match units for cell. Adding lines or entering values with units different than those associated with the shaded cells may alter the integrity of the sheets or produce incorrect results.

a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Aug 2004. Assumed equipment is diesel fueled.

d) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm

e) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

f) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28

g) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, p 2-28. Debris weight to area ratio = 0.046 ton/sq ft
(33,055 sq ft x 0.046 ton/sq ft)/22 days = 69 ton/day

h) CARB, EMFAC2002 (version 2.2) Burden Model, Winter 2005, 75 F, 40% RH: EF, lb/yr = (EF, ton/yr x 2,000 lb/ton)/VMT

i) Assumed 20 cubic yd truck capacity [(69.115 ton/day x 2,000 lb/ton x cyd/1,620 lb = 85 cyd)/20 cyd/truck = 5 one-way truck trips/day, building debris density is assumed to be 1,620 lb/cyd]
Multiple trucks can be used.

j) Assumed trucks travel 0.1 mile through project site.

k) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28. EPA suggusts using the material handling equation for demolition emission estimates.

l) EPA suggusts using the material handling equation for demolition emission estimates.

m) Includes watering at least three times a day per Rule 403 (68% control efficiency)

n) Illustration purpose showing the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

**Two Acre Site Example - Site Preparation Phase**

| Example | Construction Activity | | |
|---|---|---|---|
| Two Acre Site | Site Preparation (2007) | 87,120 | Square Feet[a] |
| **Site Preparation Schedule -** | **5** | **days[a]** | |

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Rubber Tired Loaders | 1 | 6.0 | 5 |
| Graders | 0 | 8.0 | |
| Tractors/Loaders/Backhoes | 2 | 6.0 | |

**Construction Equipment Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| **Equipment Type[c]** | lb/hr | lb/hr | lb/hr |
| Rubber Tired Loaders | 0.425 | 1.111 | 0.063 |
| Graders | 0.546 | 1.442 | 0.074 |
| Tractors/Loaders/Backhoes | 0.419 | 0.816 | 0.083 |

**Fugitive Dust Clearing Parameters**

| Silt Content[d] | Moisture Content[d] |
|---|---|
| 6.9 | 7.9 |

**Fugitive Dust Stockpiling Parameters**

| Silt Content[d] | Precipitation Days[e] | Mean Wind Speed Percent[f] | TSP Fraction | Area (acres)[g] |
|---|---|---|---|---|
| 6.9 | 10 | 100 | 0.5 | 0.06 |

**Fugitive Dust Material Handling**

| Aerodynamic Particle Size Multiplier[h] | Mean Wind Speed[i] | Moisture Content[d] | Dirt Handled[a] | Debris Handled[a] | Dirt Handled[j] |
|---|---|---|---|---|---|
| | mph | | cy | cy | lb/day |
| 0.35 | 10 | 7.9 | 2,000 | 48 | 1,000,000 |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[l] | 0.026167 | 0.034155 | 0.000626 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | One WayTrip Length (miles) |
|---|---|---|
| Haul Truck[k] | 21 | 0.1 |
| Water Truck[m] | 3 | 2.8 |

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

**Equation:** Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day

| | CO | NOx | PM10 |
|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day |
| Rubber Tired Loaders | 2.55 | 6.67 | 0.38 |
| Graders | 0.00 | 0.00 | 0.00 |
| Tractors/Loaders/Backhoes | 5.03 | 9.79 | 1.00 |
| **Total** | **7.6** | **16.5** | **1.4** |

**Incremental Increase in Fugitive Dust Emissions from Construction Operations**

**Equations:**

Clearing[n]: PM10 Emissions (lb/day) = 0.75 x (silt content$^{1.5}$)/(moisture content$^{1.4}$) x hours operated (hr/day) x (1 - control efficiency)

Storage Piles[o]: PM10 Emissions (lb/day) = 1.7 x (silt content/1.5) x ((365-precipitation days)/235) x wind speed percent/15 x TSP fraction x Area) x (1 - control efficiency)

Material Handling[p] PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x dirt handled (lb/day)/2,000 (lb/ton) (1 - control efficiency)

| | Control Efficiency | PM10[q] |
|---|---|---|
| **Description** | % | lb/day |
| Clearing | 68 | 1.45 |
| Storage Piles | 68 | 0.76 |
| Material Handling | 68 | 0.06 |
| **Total** | | **2.27** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | CO | NOx | PM10 |
|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day |
| Haul Truck | 0.11 | 0.14 | 0.00 |
| Water Truck | 0.44 | 0.57 | 0.011 |
| **Total** | **0.55** | **0.71** | **0.01** |

**Total Incremental Localized Emissions from Construction Activities**

| | CO | NOx | PM10 |
|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day |
| On-site Emissions | **8.1** | **17.2** | **3.7** |
| **Significance Threshold[r]** | ***658*** | ***208*** | ***6*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** |

**Notes:**

Project specific data may be entered into shaded cells. Changing the values in the shaded cells will not affect the integrity of the worksheets. Verify that units of values entered match units for cell. Adding lines or entering values with units different than those associated with the shaded cells may alter the integrity of the sheets or produce incorrect results.

a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Aug 2004. Assumed equipment is diesel fueled.

d) USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Corection Factors Applicable to the Predictive Emission Factor Equations

e) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993

f) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph.

g) Assumed storage piles are 0.06 acres in size

h) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 μm

i) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

j) Assuming 2000 cubic yards of dirt handled [(2000 cyd x 2,500 lb/cyd)/5 days = 1,000,000 lb/day]

k) CARB, EMFAC2002 (version 2.2) Burden Model, Winter 2005, 75 F, 40% RH: EF, lb/yr = (EF, ton/yr x 2,000 lb/ton)/VMT

l) Assumed 20 cubic yd truck capacity for 2000 cyd of dirt and 48 cyd of debris [(2048 cy x truck/20 cy)/5 days = 21 one-way truck trips/day]

m) Assumed six foot wide water truck traverses over 87,120 square feet of disturbed area

n) USEPA, AP-42, July 1998, Table 11.9-1, Equation for bulldozer, overburden, ≤ 10 μm

o) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12

p) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, Equation 1

q) Includes watering at least three times a day per Rule 403 (68% control efficiency).

r) Illustration purpose showing the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

**Two Acre Site Example - Grading Phase**

| Example | Construction Activity | | |
|---|---|---|---|
| Two Acre Site | Grading & Excavation (2007) | 87,120 | Square Feet[a] |

**Site Preparation Schedule -** **237** **days**[a]

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Rubber Tired Loaders | 1 | 6.0 | 5 |
| Graders | 1 | 6.0 | |
| Excavators | 1 | 6.0 | |

**Construction Equipment Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| **Equipment Type**[c] | lb/hr | lb/hr | lb/hr |
| Rubber Tired Loaders | 0.425 | 1.111 | 0.063 |
| Graders | 0.546 | 1.442 | 0.074 |
| Excavators | 0.472 | 1.138 | 0.060 |

**Fugitive Dust Grading Parameters**

| Vehicle Speed (mph)[d] | Vehicle Miles Traveled[e] |
|---|---|
| 3 | 0.01 |

**Fugitive Dust Stockpiling Parameters**

| Silt Content[f] | Precipitation Days[g] | Mean Wind Speed Percent[h] | TSP Fraction | Area (acres)[i] |
|---|---|---|---|---|
| 6.9 | 10 | 100 | 0.5 | 0.06 |

**Fugitive Dust Material Handling**

| Aerodynamic Particle Size Multiplier[j] | Mean Wind Speed[k] | Moisture Content[f] | Dirt Handled[a] | Dirt Handled[l] |
|---|---|---|---|---|
| | mph | | cy | lb/day |
| 0.35 | 10 | 7.9 | 51,000 | 537,975 |

**Two Acre Site Example - Grading Phase**

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[m] | 0.026167 | 0.034155 | 0.000626 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | One WayTrip Length (miles) |
|---|---|---|
| Haul Truck[n] | 638 | 0.1 |
| Water Truck[o] | 3 | 2.8 |

**Incremental Increase in Onsite Combustion Emissions from Construction Equipmen**

**Equation:** Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

| | CO | NOx | PM10 |
|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day |
| Rubber Tired Loaders | 2.55 | 6.67 | 0.38 |
| Graders | 3.28 | 8.65 | 0.44 |
| Excavators | 2.83 | 6.83 | 0.36 |
| **Total** | **8.7** | **22.1** | **1.18** |

**Incremental Increase in Fugitive Dust Emissions from Construction Operations**

**Equations:**

Grading[p]: PM10 Emissions (lb/day) = 0.60 x 0.051 x mean vehicle speed$^{2.0}$ x VMT x (1 - control efficiency)

Storage Piles[q]: PM10 Emissions (lb/day) = 1.7 x (silt content/1.5) x ((365-precipitation days)/235) x wind speed percent/15 x TSP fraction x Area) x (1 - control efficiency)

Material Handling[r] PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x dirt handled (lb/day)/2,000 (lb/ton) (1 - control efficiency)

| | Control Efficiency | PM10[s] |
|---|---|---|
| **Description** | % | lb/day |
| Earthmoving | 68 | 0.00 |
| Storage Piles | 68 | 0.76 |
| Material Handling | 68 | 0.03 |
| **Total** | | **0.79** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicle**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | CO | NOx | PM10 |
|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day |
| Haul Truck | 3.34 | 4.36 | 0.08 |
| Water Truck | 0.44 | 0.57 | 0.011 |
| **Total** | **3.78** | **4.93** | **0.09** |

**Total Incremental Localized Emissions from Construction Activities**

| | CO | NOx | PM10 |
|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day |
| On-site Emissions | **12.4** | **27.1** | **2.1** |
| **Significance Threshold[t]** | ***658*** | ***208*** | ***6*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** |

**Notes:**

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a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Aug 2004. Assumed equipment is diesel fueled.

d) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.

e) Assumed 13 foot wide blade with 2 foot overlap (11 foot wide). Vehicle miles traveled (VMT) = (87,120 sq ft/11 foot x mile/5,280 ft)/237 days = 0.01miles

f) USEPA, AP-42, Jan 1995, Table 11.9-3 Typical Values for Corection Factors Applicable to the Predictive Emission Factor Equations

g) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993

h) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph. At least one meteorological site recorded wind speeds greater than 12 mph over a 24-hour period in 1981.

i) Assumed storage piles are 0.06 acres in size

j) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm

k) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

l) Assuming 51000 cubic yards of dirt handled [(51000 cyd x 2,500 lb/cyd)/237 days = 537,975 lb/day]

m) CARB, EMFAC2002 (version 2.2) Burden Model, Winter 2005, 75 F, 40% RH: EF, lb/yr = (EF, ton/yr x 2,000 lb/ton)/VMT

n) Assumed 20 cubic yd truck capacity for 51000 cyd of dirt [(51000 cyd x truck/20 cyd)/237 days = 638 one-way truck trips/day]. Multiple trucks may be used.

o) Assumed six foot wide water truck traverses over 87,120 square feet of disturbed area

p) USEPA, AP-42, Jan 1995, Table 11.9-1, Equation for Site Grading ≤ 10 µm

q) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12

r) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, Equation 1

s) Includes watering at least three times a day per Rule 403 (68% control efficiency).

t) Illustration purpose showing the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

**Two Acre Site Example - Grading Phase**

| Example | Construction Activity | | |
|---|---|---|---|
| Two Acre Site | Grading & Excavation 2008 | 87,120 | Square Feet[a] |

**Site Preparation Schedule -** **66** **days**[a]

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Rubber Tired Loaders | 1 | 6.0 | 5 |
| Graders | 1 | 6.0 | |
| Excavators | 1 | 6.0 | |

**Construction Equipment Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| **Equipment Type**[c] | lb/hr | lb/hr | lb/hr |
| Rubber Tired Loaders | 0.421 | 1.022 | 0.059 |
| Graders | 0.540 | 1.331 | 0.069 |
| Excavators | 0.469 | 1.029 | 0.055 |

**Fugitive Dust Grading Parameters**

| Vehicle Speed (mph)[d] | Vehicle Miles Traveled[e] |
|---|---|
| 3 | 0.02 |

**Fugitive Dust Stockpiling Parameters**

| Silt Content[f] | Precipitation Days[g] | Mean Wind Speed Percent[h] | TSP Fraction | Area (acres)[i] |
|---|---|---|---|---|
| 6.9 | 10 | 100 | 0.5 | 0.06 |

**Fugitive Dust Material Handling**

| Aerodynamic Particle Size Multiplier[j] | Mean Wind Speed[k] | Moisture Content[f] | Dirt Handled[a] | Dirt Handled[l] |
|---|---|---|---|---|
| | mph | | cy | lb/day |
| 0.35 | 10 | 7.9 | 51,000 | 1,931,818 |

**Two Acre Site Example - Grading Phase**

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[m] | 0.026167 | 0.034155 | 0.000626 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | One WayTrip Length (miles) |
|---|---|---|
| Haul Truck[n] | 638 | 0.1 |
| Water Truck[o] | 3 | 2.8 |

**Incremental Increase in Onsite Combustion Emissions from Construction Equipmen**

**Equation:** Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

| | CO | NOx | PM10 |
|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day |
| Rubber Tired Loaders | 2.53 | 6.13 | 0.35 |
| Graders | 3.24 | 7.99 | 0.41 |
| Excavators | 2.81 | 6.17 | 0.33 |
| **Total** | **8.6** | **20.3** | **1.10** |

**Incremental Increase in Fugitive Dust Emissions from Construction Operations**

**Equations:**

Grading[p]: PM10 Emissions (lb/day) = 0.60 x 0.051 x mean vehicle speed$^{2.0}$ x VMT x (1 - control efficiency)

Storage Piles[q]: PM10 Emissions (lb/day) = 1.7 x (silt content/1.5) x ((365-precipitation days)/235) x wind speed percent/15 x TSP fraction x Area) x (1 - control efficiency)

Material Handling[r] PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x dirt handled (lb/day)/2,000 (lb/ton)
(1 - control efficiency)

| | Control Efficiency | PM10[s] |
|---|---|---|
| **Description** | % | lb/day |
| Earthmoving | 68 | 0.00 |
| Storage Piles | 68 | 0.76 |
| Material Handling | 68 | 0.12 |
| **Total** | | **0.88** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicle**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | CO | NOx | PM10 |
|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day |
| Haul Truck | 3.34 | 4.36 | 0.08 |
| Water Truck | 0.44 | 0.57 | 0.011 |
| **Total** | **3.78** | **4.93** | **0.09** |

**Total Incremental Localized Emissions from Construction Activities**

| | CO | NOx | PM10 |
|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day |
| On-site Emissions | **12.4** | **25.2** | **2.1** |
| **Significance Threshold[t]** | ***658*** | ***208*** | ***6*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** |

**Notes:**

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a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Aug 2004. Assumed equipment is diesel fueled.

d) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.

e) Assumed 13 foot wide blade with 2 foot overlap (11 foot wide). Vehicle miles traveled (VMT) = (87,120 sq ft/11 foot x mile/5,280 ft)/66 days = 0.02miles

f) USEPA, AP-42, Jan 1995, Table 11.9-3 Typical Values for Corection Factors Applicable to the Predictive Emission Factor Equations

g) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993

h) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph. At least one meteorological site recorded wind speeds greater than 12 mph over a 24-hour period in 1981.

i) Assumed storage piles are 0.06 acres in size

j) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm

k) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

l) Assuming 51000 cubic yards of dirt handled [(51000 cyd x 2,500 lb/cyd)/66 days = 1,931,818 lb/day]

m) CARB, EMFAC2002 (version 2.2) Burden Model, Winter 2005, 75 F, 40% RH: EF, lb/yr = (EF, ton/yr x 2,000 lb/ton)/VMT

n) Assumed 20 cubic yd truck capacity for 51000 cyd of dirt [(51000 cyd x truck/20 cyd)/66 days = 638 one-way truck trips/day]. Multiple trucks may be used.

o) Assumed six foot wide water truck traverses over 87,120 square feet of disturbed area

p) USEPA, AP-42, Jan 1995, Table 11.9-1, Equation for Site Grading ≤ 10 µm

q) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12

r) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, Equation 1

s) Includes watering at least three times a day per Rule 403 (68% control efficiency).

t) Illustration purpose showing the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

## Two Acre Site Example - Structure Construction

| Example | Construction Activity | | |
|---|---|---|---|
| Two Acre Site | Building (2008) | 38,205 | Square Foot Structure[a] |

**Construction Schedule**

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Rough Terrain Forklifts | 2 | 6.0 | 8 |
| Skid Steer Loaders | 1 | 6.0 | |
| Tractors/Loaders/Backhoes | 1 | 6.0 | |
| Generator Sets | 0 | 8.0 | |
| Electric Welders | 0 | 8.0 | |

**Construction Equipment Combustion Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| Equipment Type[c] | lb/hr | lb/hr | lb/hr |
| Rough Terrain Forklifts | 0.442 | 0.754 | 0.067 |
| Skid Steer Loaders | 0.194 | 0.270 | 0.022 |
| Tractors/Loaders/Backhoes | 0.420 | 0.799 | 0.083 |
| Generator Sets | 0.315 | 0.635 | 0.047 |
| Electric Welders | N/A | N/A | N/A |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[d] | 0.026167 | 0.034155 | 0.000626 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | One WayTrip Length (miles) |
|---|---|---|
| Flatbed Truck[a,e] | 30 | 0.1 |
| Water Truck[f] | 3 | 3.2 |

**Two Acre Site Example - Structure Construction**

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

**Equation:** Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day |
| Rough Terrain Forklifts | 5.30 | 9.05 | 0.80 |
| Skid Steer Loaders | 1.16 | 1.62 | 0.13 |
| Tractors/Loaders/Backhoes | 2.52 | 4.79 | 0.50 |
| Generator Sets | 0.00 | 0.00 | 0.00 |
| Electric Welders | N/A | N/A | N/A |
| **Total** | **8.98** | **15.46** | **1.43** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day |
| Flatbed Truck | 0.16 | 0.20 | 0.004 |
| Water Truck | 0.5 | 0.66 | 0.012 |
| **Total** | **0.66** | **0.86** | **0.02** |

**Total Incremental Combustion Emissions from Construction Activities**

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day |
| On-Site Emissions | **9.6** | **16.3** | **1.4** |
| **Significance Threshold**[g] | ***658*** | ***208*** | ***6*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** |

## Two Acre Site Example - Structure Construction

**Notes:**

Project specific data may be entered into shaded cells. Changing the values in the shaded cells will not affect the integrity of the worksheets. Verify that units of values entered match units for cell. Adding lines or entering values with units different than those associated with the shaded cells may alter the integrity of the sheets or produce incorrect results.

a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Aug 2004. Assumed equipment is diesel fueled except the welders which are powered by the generator.

d) CARB, EMFAC2002 (version 2.2) Burden Model, Winter 2005, 75 F, 40% RH: EF, lb/yr = (EF, ton/yr x 2,000 lb/ton)/VMT

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) Illustration purpose showing the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

## Two Acre Site Example - Structure Construction

| Example | Construction Activity | | |
|---|---|---|---|
| Two Acre Site | Building (2009) | 38,205 | Square Foot Structure[a] |

**Construction Schedule**

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Rough Terrain Forklifts | 2 | 6.0 | 8 |
| Skid Steer Loaders | 1 | 6.0 | |
| Tractors/Loaders/Backhoes | 1 | 6.0 | |
| Generator Sets | 0 | 8.0 | |
| Electric Welders | 0 | 8.0 | |

**Construction Equipment Combustion Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| Equipment Type[c] | lb/hr | lb/hr | lb/hr |
| Rough Terrain Forklifts | 0.437 | 0.691 | 0.061 |
| Skid Steer Loaders | 0.186 | 0.252 | 0.019 |
| Tractors/Loaders/Backhoes | 0.419 | 0.777 | 0.082 |
| Generator Sets | 0.307 | 0.614 | 0.046 |
| Electric Welders | N/A | N/A | N/A |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | PM10 |
|---|---|---|---|
| | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[d] | 0.026167 | 0.034155 | 0.000626 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | One WayTrip Length (miles) |
|---|---|---|
| Flatbed Truck[a,e] | 30 | 0.1 |
| Water Truck[f] | 3 | 3.2 |

**Two Acre Site Example - Structure Construction**

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

**Equation:** Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day |
| Rough Terrain Forklifts | 5.24 | 8.29 | 0.73 |
| Skid Steer Loaders | 1.12 | 1.51 | 0.11 |
| Tractors/Loaders/Backhoes | 2.51 | 4.66 | 0.49 |
| Generator Sets | 0.00 | 0.00 | 0.00 |
| Electric Welders | N/A | N/A | N/A |
| **Total** | **8.87** | **14.46** | **1.33** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day |
| Flatbed Truck | 0.16 | 0.20 | 0.004 |
| Water Truck | 0.5 | 0.66 | 0.012 |
| **Total** | **0.66** | **0.86** | **0.02** |

**Total Incremental Combustion Emissions from Construction Activities**

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day |
| On-Site Emissions | **9.5** | **15.3** | **1.3** |
| **Significance Threshold**[g] | ***658*** | ***208*** | ***6*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** |

## Two Acre Site Example - Structure Construction

**Notes:**

Project specific data may be entered into shaded cells. Changing the values in the shaded cells will not affect the integrity of the worksheets. Verify that units of values entered match units for cell. Adding lines or entering values with units different than those associated with the shaded cells may alter the integrity of the sheets or produce incorrect results.

a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Aug 2004. Assumed equipment is diesel fueled except the welders which are powered by the generator.

d) CARB, EMFAC2002 (version 2.2) Burden Model, Winter 2005, 75 F, 40% RH: EF, lb/yr = (EF, ton/yr x 2,000 lb/ton)/VMT

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) Illustration purpose showing the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

**Two Acre Site Example - Architectural Coating and Asphalt Paving**

| **Example** | **Construction Activity** |
|---|---|
| Two Acre Site | Architectural Coating and Asphalt Paving of Parking Lot |

**Construction Schedule -** **22** **days**[a]

| **Equipment Type**[a,b] | **No. of Equipment** | **hr/day** | **Crew Size** |
|---|---|---|---|
| Pavers | 1 | 6.0 | 8 |
| Paving Equipment | 1 | 6.0 | |
| Rollers | 0 | 7.0 | |
| Cement and Mortar Mixers | 0 | 6.0 | |
| Tractors/Loaders/Backhoes | 0 | 8.0 | |

**Construction Equipment Combustion Emission Factors**

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Equipment Type**[c] | lb/hr | lb/hr | lb/hr |
| Pavers | 0.423 | 0.685 | 0.049 |
| Paving Equipment | 0.406 | 0.856 | 0.064 |
| Rollers | 0.356 | 0.593 | 0.042 |
| Cement and Mortar Mixers | 0.045 | 0.068 | 0.005 |
| Tractors/Loaders/Backhoes | 0.419 | 0.777 | 0.082 |

**Construction Vehicle (Mobile Source) Emission Factors**

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[d] | 0.026167 | 0.034155 | 0.000626 |

**Construction Worker Number of Trips and Trip Length**

| **Vehicle** | **No. of One-Way Trips/Day** | **One WayTrip Length (miles)** |
|---|---|---|
| Delivery Truck[e] | 3 | 0.1 |
| Water Truck[f] | 3 | 3.2 |

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

**Equation:** Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day |
| Pavers | 2.54 | 4.11 | 0.29 |
| Paving Equipment | 2.44 | 5.14 | 0.38 |
| Rollers | 0.00 | 0.00 | 0.00 |
| Cement and Mortar Mixers | 0.00 | 0.00 | 0.00 |
| Tractors/Loaders/Backhoes | 0.00 | 0.00 | 0.00 |
| **Total** | **4.98** | **9.25** | **0.67** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day |
| Delivery Truck | 0.02 | 0.02 | 0.0004 |
| Water Truck | 0.50 | 0.66 | 0.01 |
| **Total** | **0.52** | **0.68** | **0.01** |

**Total Incremental Combustion Emissions from Construction Activities**

| | **CO** | **NOx** | **PM10** |
|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day |
| On-Site Emissions | **5.5** | **9.9** | **0.7** |
| **Significance Threshold**[g] | ***658*** | ***208*** | ***6*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** |

## Two Acre Site Example - Architectural Coating and Asphalt Paving

**Notes:**

Project specific data may be entered into shaded cells. Changing the values in the shaded cells will not affect the integrity of the worksheets. Verify that units of values entered match units for cell. Adding lines or entering values with units different than those associated with the shaded cells may alter the integrity of the sheets or produce incorrect results.

a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Aug 2004. Assumed equipment is diesel fueled.

d) CARB, EMFAC2002 (version 2.2) Burden Model, Winter 2005, 75 F, 40% RH: EF, lb/yr = (EF, ton/yr x 2,000 lb/ton)/VMT

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) Illustration purpose showing the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

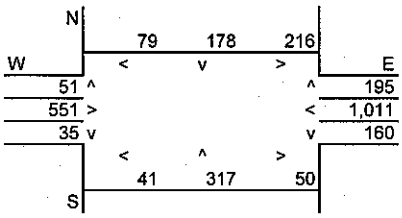
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

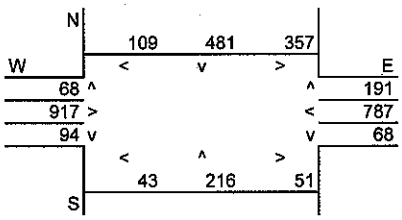
Intersection: 20th Street and Pico Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 20th Street | At Grade | 4 | 20 | 20 |
| East-West Roadway: | Pico Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,036 | N-S Road: | 1,422 |
| E-W Road: | 2,183 | E-W Road: | 2,371 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,036 | 6.93 | 0.24 | 0.19 | 0.16 | 0.12 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,183 | 6.93 | 1.80 | 1.06 | 0.82 | 0.58 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,422 | 6.93 | 0.33 | 0.26 | 0.22 | 0.17 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,371 | 6.93 | 1.96 | 1.15 | 0.89 | 0.62 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.0 | 5.3 | 3.7 |
| 25 Feet from Roadway Edge | 4.2 | 4.4 | 3.1 |
| 50 Feet from Roadway Edge | 4.0 | 4.1 | 2.9 |
| 100 Feet from Roadway Edge | 3.7 | 3.8 | 2.7 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

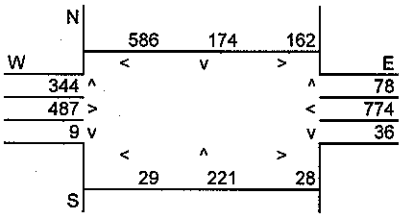
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

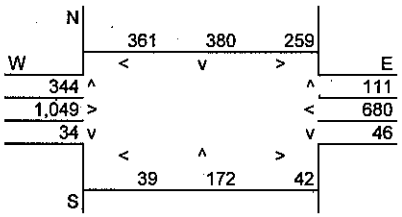
Intersection: Cloverfield Boulevard and Pico Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Cloverfield Boulevard | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Pico Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,565 | N-S Road: | 1,627 |
| E-W Road: | 2,229 | E-W Road: | 2,507 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,565 | 6.93 | 0.40 | 0.29 | 0.24 | 0.18 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,229 | 6.93 | 1.84 | 1.08 | 0.83 | 0.59 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,627 | 6.93 | 0.42 | 0.30 | 0.25 | 0.19 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,507 | 6.93 | 2.07 | 1.22 | 0.94 | 0.66 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.2 | 5.5 | 3.8 |
| 25 Feet from Roadway Edge | 4.4 | 4.5 | 3.2 |
| 50 Feet from Roadway Edge | 4.1 | 4.2 | 2.9 |
| 100 Feet from Roadway Edge | 3.8 | 3.9 | 2.7 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

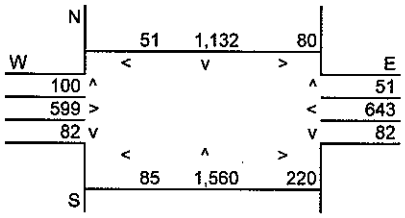
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

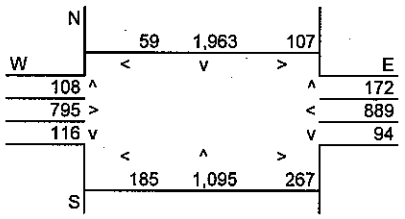
Intersection: Bundy Drive and Pico Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 6 | 20 | 5 |
| East-West Roadway: | Pico Boulevard | At Grade | 4 | 20 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,161 | N-S Road: | 3,720 |
| E-W Road: | 1,675 | E-W Road: | 2,324 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 9.5 | 6.1 | 4.9 | 3.5 | 3,161 | 6.93 | 2.08 | 1.34 | 1.07 | 0.77 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,675 | 6.93 | 0.38 | 0.30 | 0.26 | 0.20 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 9.5 | 6.1 | 4.9 | 3.5 | 3,720 | 12.26 | 4.33 | 2.78 | 2.24 | 1.60 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 2,324 | 12.26 | 0.94 | 0.74 | 0.63 | 0.48 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.5 | 8.3 | 5.8 |
| 25 Feet from Roadway Edge | 4.6 | 6.5 | 4.6 |
| 50 Feet from Roadway Edge | 4.3 | 5.9 | 4.1 |
| 100 Feet from Roadway Edge | 4.0 | 5.1 | 3.6 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

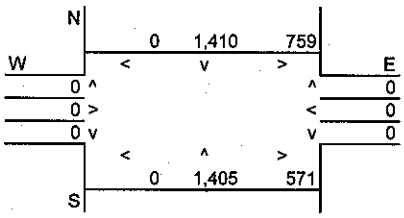
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

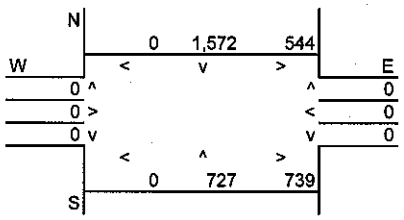
Intersection: Bundy Drive and I-10 Freeway EB On-Ramp
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 10 | 20 |
| East-West Roadway: | I-10 Freeway EB On-Ramp | At Grade | 2 | 10 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,574 | N-S Road: | 3,038 |
| E-W Road: | 1,330 | E-W Road: | 1,283 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,574 | 9.74 | 4.14 | 2.44 | 1.88 | 1.32 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,330 | 9.74 | 0.48 | 0.35 | 0.28 | 0.22 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,038 | 6.93 | 2.51 | 1.47 | 1.14 | 0.80 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,283 | 6.93 | 0.33 | 0.24 | 0.20 | 0.15 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 7.6 | 5.8 | 5.3 |
| 25 Feet from Roadway Edge | 5.8 | 4.7 | 4.0 |
| 50 Feet from Roadway Edge | 5.2 | 4.3 | 3.6 |
| 100 Feet from Roadway Edge | 4.5 | 4.0 | 3.2 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

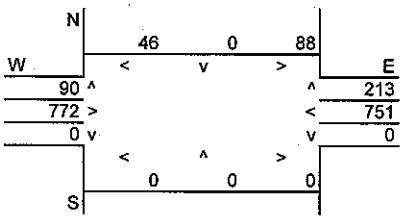
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

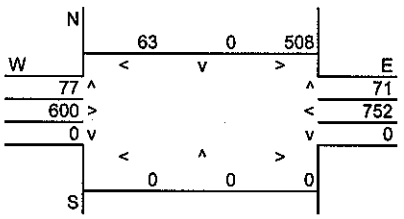
Intersection: 20th Street and Ocean Park Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 20th Street | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 437 | N-S Road: | 719 |
| E-W Road: | 1,824 | E-W Road: | 1,931 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 437 | 6.93 | 0.11 | 0.08 | 0.07 | 0.05 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 1,824 | 6.93 | 1.50 | 0.89 | 0.68 | 0.48 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 719 | 6.93 | 0.18 | 0.13 | 0.11 | 0.08 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 1,931 | 6.93 | 1.59 | 0.94 | 0.72 | 0.51 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.6 | 4.8 | 3.3 |
| 25 Feet from Roadway Edge | 4.0 | 4.1 | 2.9 |
| 50 Feet from Roadway Edge | 3.7 | 3.8 | 2.7 |
| 100 Feet from Roadway Edge | 3.5 | 3.6 | 2.5 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

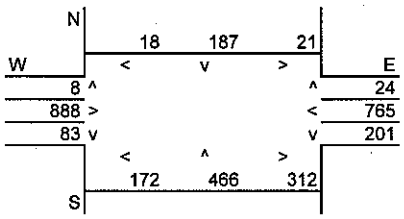
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

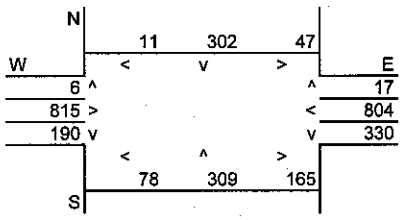
Intersection: 23rd Street and Ocean Park Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 23rd Street | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,421 | N-S Road: | 1,374 |
| E-W Road: | 2,211 | E-W Road: | 2,178 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ Reference CO Concentrations E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,421 | 6.93 | 0.36 | 0.27 | 0.22 | 0.17 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,211 | 6.93 | 1.82 | 1.07 | 0.83 | 0.58 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,374 | 6.93 | 0.35 | 0.26 | 0.21 | 0.16 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,178 | 6.93 | 1.80 | 1.06 | 0.82 | 0.57 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.2 | 5.1 | 3.6 |
| 25 Feet from Roadway Edge | 4.3 | 4.3 | 3.0 |
| 50 Feet from Roadway Edge | 4.0 | 4.0 | 2.8 |
| 100 Feet from Roadway Edge | 3.7 | 3.7 | 2.6 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

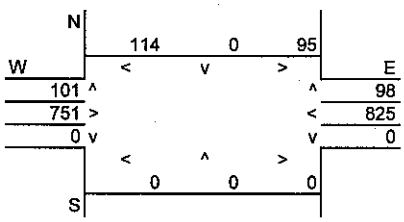
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

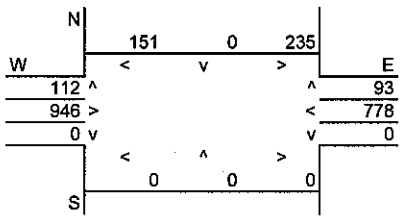
Intersection: Cloverfield Boulevard and Ocean Park Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Cloverfield Boulevard | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 408 | N-S Road: | 591 |
| E-W Road: | 1,791 | E-W Road: | 2,052 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ Reference CO Concentrations E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 408 | 6.93 | 0.10 | 0.08 | 0.06 | 0.05 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 1,791 | 6.93 | 1.48 | 0.87 | 0.67 | 0.47 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 591 | 6.93 | 0.15 | 0.11 | 0.09 | 0.07 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,052 | 6.93 | 1.69 | 1.00 | 0.77 | 0.54 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.6 | 4.8 | 3.4 |
| 25 Feet from Roadway Edge | 3.9 | 4.1 | 2.9 |
| 50 Feet from Roadway Edge | 3.7 | 3.9 | 2.7 |
| 100 Feet from Roadway Edge | 3.5 | 3.6 | 2.5 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

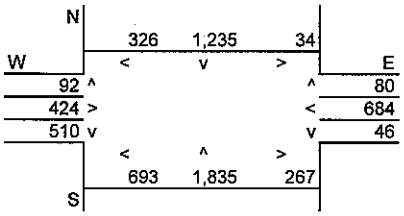
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

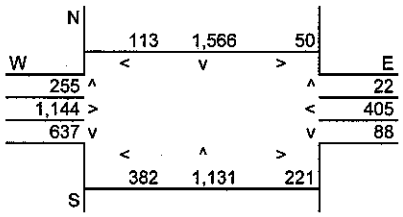
Intersection: Bundy Drive and Ocean Park Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 5 | 5 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 4,586 | N-S Road: | 4,025 |
| E-W Road: | 2,729 | E-W Road: | 2,936 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ Reference CO Concentrations E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,586 | 12.26 | 6.69 | 3.94 | 3.04 | 2.14 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 2,729 | 12.26 | 1.10 | 0.87 | 0.74 | 0.57 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,025 | 12.26 | 5.87 | 3.46 | 2.67 | 1.88 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 2,936 | 12.26 | 1.19 | 0.94 | 0.79 | 0.61 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 10.8 | 10.1 | 7.6 |
| 25 Feet from Roadway Edge | 7.8 | 7.4 | 5.5 |
| 50 Feet from Roadway Edge | 6.8 | 6.5 | 4.7 |
| 100 Feet from Roadway Edge | 5.7 | 5.5 | 4.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

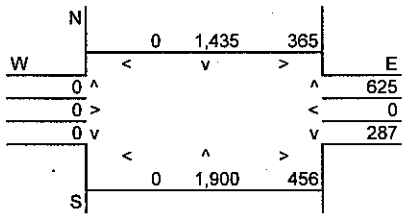
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

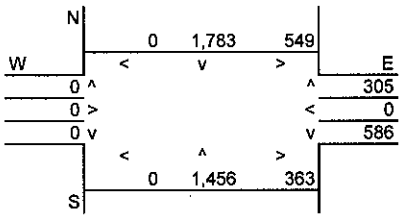
Intersection: Bundy Drive and National Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 5 | 15 |
| East-West Roadway: | National Boulevard | At Grade | 4 | 5 | 15 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 4,325 | N-S Road: | 4,188 |
| E-W Road: | 1,733 | E-W Road: | 1,803 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,325 | 12.26 | 6.31 | 3.71 | 2.86 | 2.02 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,733 | 12.26 | 0.70 | 0.55 | 0.47 | 0.36 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,188 | 8.10 | 4.04 | 2.37 | 1.83 | 1.29 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,803 | 8.10 | 0.48 | 0.38 | 0.32 | 0.25 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 10.0 | 7.5 | 7.0 |
| 25 Feet from Roadway Edge | 7.3 | 5.8 | 5.1 |
| 50 Feet from Roadway Edge | 6.3 | 5.2 | 4.4 |
| 100 Feet from Roadway Edge | 5.4 | 4.5 | 3.8 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

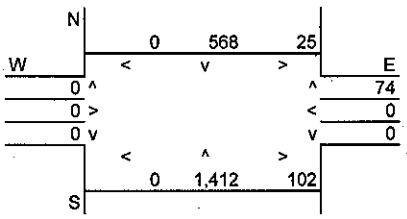
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

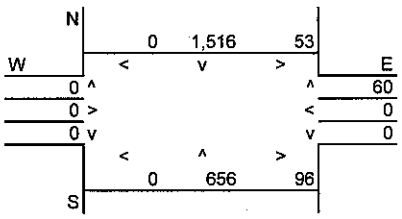
| | |
|---|---|
| Intersection: | 23rd Street/Walgrove Avenue and Airport Avenue |
| Analysis Condition: | Existing (2005) Traffic Conditions |

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 23rd Street/Walgrove Avenu | At Grade | 2 | 10 | 20 |
| East-West Roadway: | Airport Avenue | At Grade | 2 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 2,082 | N-S Road: | 2,285 |
| E-W Road: | 201 | E-W Road: | 209 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ Reference CO Concentrations E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,082 | 9.74 | 2.84 | 1.54 | 1.16 | 0.81 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 201 | 12.26 | 0.09 | 0.07 | 0.05 | 0.04 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,285 | 6.93 | 2.22 | 1.20 | 0.90 | 0.63 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 209 | 12.26 | 0.09 | 0.07 | 0.06 | 0.04 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.9 | 5.3 | 4.2 |
| 25 Feet from Roadway Edge | 4.6 | 4.3 | 3.2 |
| 50 Feet from Roadway Edge | 4.2 | 4.0 | 2.9 |
| 100 Feet from Roadway Edge | 3.9 | 3.7 | 2.7 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

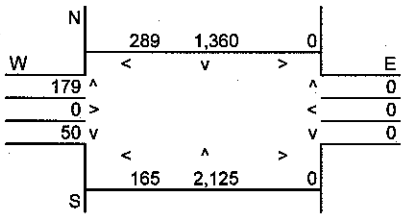
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

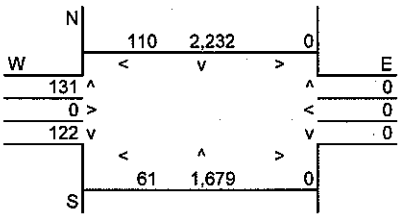
Intersection: Bundy Drive and Airport Avenue
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 20 | 15 |
| East-West Roadway: | Airport Avenue | At Grade | 2 | 20 | 15 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,953 | N-S Road: | 4,152 |
| E-W Road: | 683 | E-W Road: | 424 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,953 | 6.93 | 3.26 | 1.92 | 1.48 | 1.04 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 683 | 6.93 | 0.18 | 0.13 | 0.10 | 0.08 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,152 | 8.10 | 4.00 | 2.35 | 1.82 | 1.28 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 424 | 8.10 | 0.13 | 0.09 | 0.08 | 0.06 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 6.4 | 7.1 | 5.0 |
| 25 Feet from Roadway Edge | 5.0 | 5.4 | 3.8 |
| 50 Feet from Roadway Edge | 4.6 | 4.9 | 3.4 |
| 100 Feet from Roadway Edge | 4.1 | 4.3 | 3.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

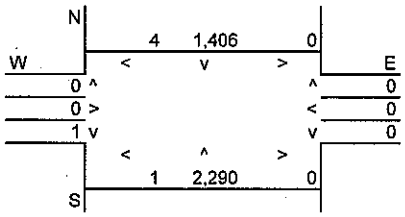
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

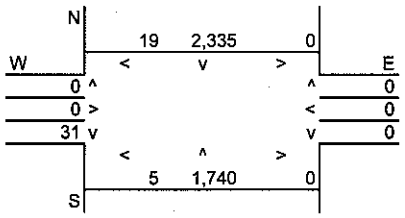
| | |
|---|---|
| Intersection: | Bundy Drive and Project Driveway |
| Analysis Condition: | Existing (2005) Traffic Conditions |

| | | Roadway Type | No. of Lanes | Average Speed, A.M. | Average Speed, P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 20 | 15 |
| East-West Roadway: | Project Driveway | At Grade | 2 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,700 | N-S Road: | 4,111 |
| E-W Road: | 6 | E-W Road: | 55 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,700 | 6.93 | 3.05 | 1.80 | 1.39 | 0.97 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 6 | 12.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,111 | 8.10 | 3.96 | 2.33 | 1.80 | 1.27 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 55 | 12.26 | 0.02 | 0.02 | 0.01 | 0.01 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 6.1 | 7.0 | 4.9 |
| 25 Feet from Roadway Edge | 4.8 | 5.3 | 3.7 |
| 50 Feet from Roadway Edge | 4.4 | 4.8 | 3.4 |
| 100 Feet from Roadway Edge | 4.0 | 4.3 | 3.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

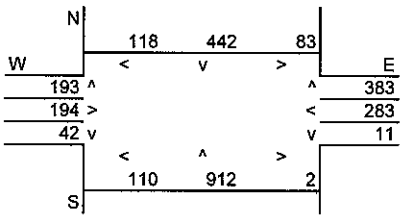
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

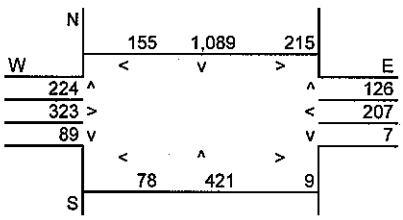
| | |
|---|---|
| Intersection: | Walgrove Avenue and Rose Avenue |
| Analysis Condition: | Existing (2005) Traffic Conditions |

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Walgrove Avenue | At Grade | 2 | 5 | 5 |
| East-West Roadway: | Rose Avenue | At Grade | 2 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 2,131 | N-S Road: | 2,230 |
| E-W Road: | 956 | E-W Road: | 1,076 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,131 | 12.26 | 3.66 | 1.99 | 1.49 | 1.05 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 956 | 12.26 | 0.43 | 0.32 | 0.26 | 0.20 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,230 | 12.26 | 3.83 | 2.08 | 1.56 | 1.09 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,076 | 12.26 | 0.49 | 0.36 | 0.29 | 0.22 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 7.1 | 7.3 | 5.1 |
| 25 Feet from Roadway Edge | 5.3 | 5.4 | 3.8 |
| 50 Feet from Roadway Edge | 4.7 | 4.8 | 3.4 |
| 100 Feet from Roadway Edge | 4.2 | 4.3 | 3.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

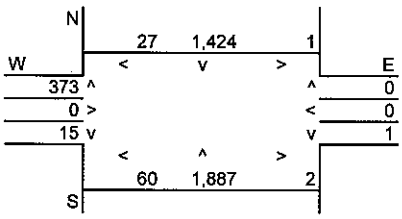
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

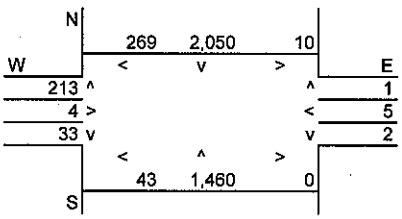
Intersection: Centinela Avenue and Rose Avenue
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Centinela Avenue | At Grade | 4 | 20 | 15 |
| East-West Roadway: | Rose Avenue | At Grade | 2 | 20 | 15 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,712 | N-S Road: | 4,003 |
| E-W Road: | 475 | E-W Road: | 567 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,712 | 6.93 | 3.06 | 1.80 | 1.39 | 0.98 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 475 | 6.93 | 0.12 | 0.09 | 0.07 | 0.06 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,003 | 8.10 | 3.86 | 2.27 | 1.75 | 1.23 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 567 | 8.10 | 0.17 | 0.12 | 0.10 | 0.08 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 6.2 | 7.0 | 4.9 |
| 25 Feet from Roadway Edge | 4.9 | 5.4 | 3.8 |
| 50 Feet from Roadway Edge | 4.5 | 4.9 | 3.4 |
| 100 Feet from Roadway Edge | 4.0 | 4.3 | 3.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

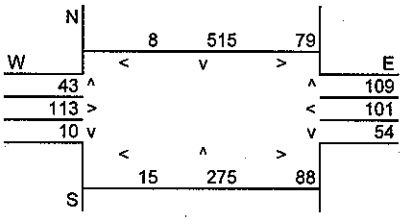
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

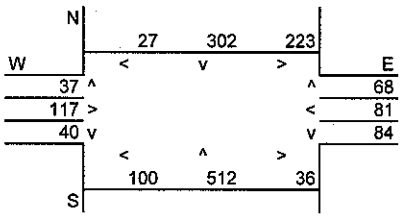
Intersection: Walgrove Avenue and Palms Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Walgrove Avenue | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Palms Boulevard | At Grade | 2 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,029 | N-S Road: | 1,169 |
| E-W Road: | 544 | E-W Road: | 609 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 1,029 | 6.93 | 1.00 | 0.54 | 0.41 | 0.29 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 544 | 6.93 | 0.14 | 0.10 | 0.08 | 0.06 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 1,169 | 6.93 | 1.13 | 0.62 | 0.46 | 0.32 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 609 | 6.93 | 0.16 | 0.11 | 0.09 | 0.07 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.1 | 4.3 | 3.0 |
| 25 Feet from Roadway Edge | 3.6 | 3.7 | 2.6 |
| 50 Feet from Roadway Edge | 3.5 | 3.6 | 2.5 |
| 100 Feet from Roadway Edge | 3.3 | 3.4 | 2.4 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

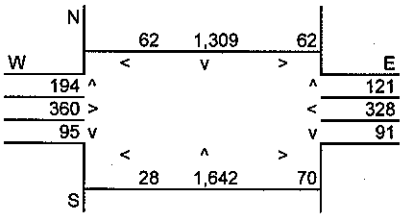
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

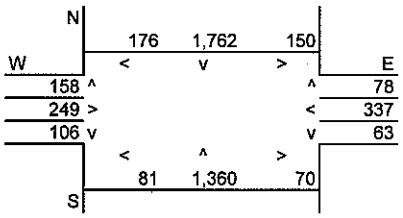
Intersection: Centinela Avenue and Palms Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Centinela Avenue | At Grade | 4 | 10 | 5 |
| East-West Roadway: | Palms Boulevard | At Grade | 2 | 10 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,390 | N-S Road: | 3,684 |
| E-W Road: | 1,067 | E-W Road: | 1,107 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,390 | 9.74 | 3.93 | 2.31 | 1.78 | 1.25 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,067 | 9.74 | 0.38 | 0.28 | 0.23 | 0.18 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,684 | 12.26 | 5.38 | 3.16 | 2.44 | 1.72 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,107 | 12.26 | 0.50 | 0.37 | 0.30 | 0.23 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 7.3 | 8.9 | 6.2 |
| 25 Feet from Roadway Edge | 5.6 | 6.5 | 4.6 |
| 50 Feet from Roadway Edge | 5.0 | 5.7 | 4.0 |
| 100 Feet from Roadway Edge | 4.4 | 4.9 | 3.5 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

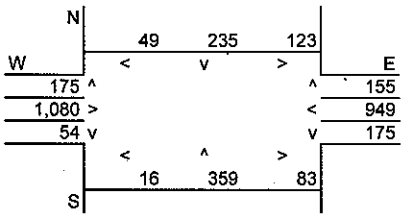
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

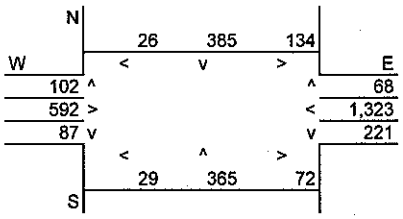
Intersection: Walgrove Avenue and Venice Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Walgrove Avenue | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Venice Boulevard | At Grade | 6 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,096 | N-S Road: | 1,159 |
| E-W Road: | 2,565 | E-W Road: | 2,410 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,096 | 6.93 | 0.28 | 0.21 | 0.17 | 0.13 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 2,565 | 6.93 | 1.69 | 1.08 | 0.87 | 0.62 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,159 | 6.93 | 0.30 | 0.22 | 0.18 | 0.14 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 2,410 | 6.93 | 1.59 | 1.02 | 0.82 | 0.58 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.0 | 4.9 | 3.5 |
| 25 Feet from Roadway Edge | 4.3 | 4.2 | 3.0 |
| 50 Feet from Roadway Edge | 4.0 | 4.0 | 2.8 |
| 100 Feet from Roadway Edge | 3.8 | 3.7 | 2.6 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

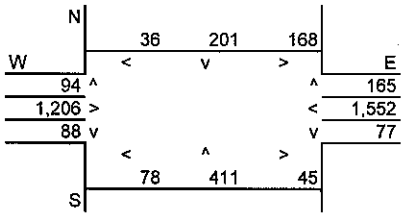
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

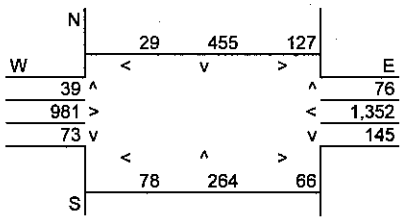
| | |
|---|---|
| Intersection: | Beethoven Street and Venice Boulevard |
| Analysis Condition: | Existing (2005) Traffic Conditions |

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Beethoven Street | At Grade | 2 | 15 | 20 |
| East-West Roadway: | Venice Boulevard | At Grade | 2 | 15 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,075 | N-S Road: | 1,081 |
| E-W Road: | 3,213 | E-W Road: | 2,747 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,075 | 8.10 | 0.32 | 0.24 | 0.19 | 0.15 |
| East-West Road | 14.0 | 7.6 | 5.7 | 4.0 | 3,213 | 8.10 | 3.64 | 1.98 | 1.48 | 1.04 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,081 | 6.93 | 0.28 | 0.20 | 0.16 | 0.13 |
| East-West Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,747 | 6.93 | 2.67 | 1.45 | 1.09 | 0.76 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 7.0 | 5.9 | 4.9 |
| 25 Feet from Roadway Edge | 5.2 | 4.6 | 3.6 |
| 50 Feet from Roadway Edge | 4.7 | 4.3 | 3.3 |
| 100 Feet from Roadway Edge | 4.2 | 3.9 | 2.9 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

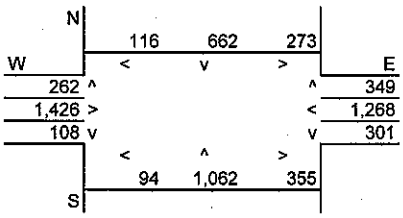
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

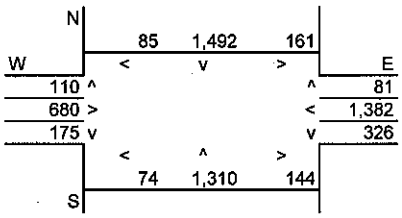
Intersection: Centinela Avenue and Venice Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Centinela Avenue | At Grade | 4 | 5 | 10 |
| East-West Roadway: | Venice Boulevard | At Grade | 2 | 5 | 10 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 2,724 | N-S Road: | 3,521 |
| E-W Road: | 3,972 | E-W Road: | 2,774 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.3 | 2.6 | 2.2 | 1.7 | 2,724 | 12.26 | 1.10 | 0.87 | 0.73 | 0.57 |
| East-West Road | 14.0 | 7.6 | 5.7 | 4.0 | 3,972 | 12.26 | 6.82 | 3.70 | 2.78 | 1.95 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,521 | 9.74 | 4.08 | 2.40 | 1.85 | 1.30 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 2,774 | 9.74 | 1.00 | 0.73 | 0.59 | 0.46 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 10.9 | 8.1 | 7.6 |
| 25 Feet from Roadway Edge | 7.6 | 6.1 | 5.3 |
| 50 Feet from Roadway Edge | 6.5 | 5.4 | 4.6 |
| 100 Feet from Roadway Edge | 5.5 | 4.8 | 3.9 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

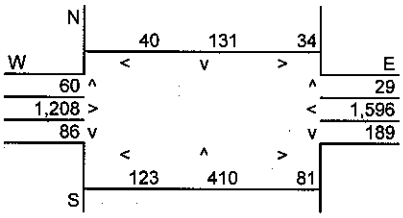
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2005 |

### Roadway Data

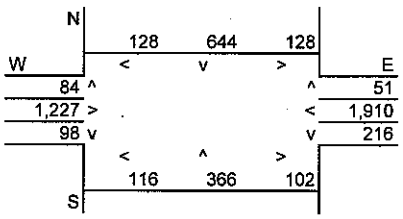
Intersection: Inglewood Boulevard and Venice Boulevard
Analysis Condition: Existing (2005) Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Inglewood Boulevard | At Grade | 2 | 15 | 5 |
| East-West Roadway: | Venice Boulevard | At Grade | 6 | 15 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,020 | N-S Road: | 1,542 |
| E-W Road: | 3,137 | E-W Road: | 3,634 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,020 | 8.10 | 0.31 | 0.22 | 0.18 | 0.14 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 3,137 | 8.10 | 2.41 | 1.55 | 1.24 | 0.89 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,542 | 12.26 | 0.70 | 0.51 | 0.42 | 0.32 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 3,634 | 12.26 | 4.23 | 2.72 | 2.18 | 1.56 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.7 | 7.9 | 5.6 |
| 25 Feet from Roadway Edge | 4.8 | 6.2 | 4.4 |
| 50 Feet from Roadway Edge | 4.4 | 5.6 | 3.9 |
| 100 Feet from Roadway Edge | 4.0 | 4.9 | 3.4 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

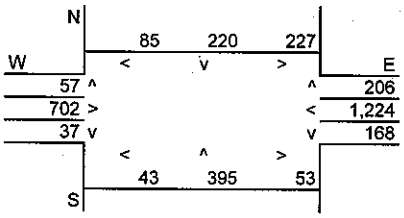
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

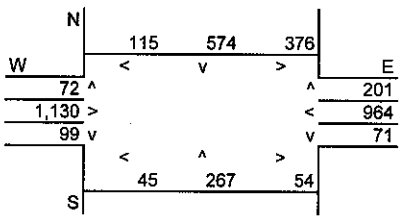
Intersection: 20th Street and Pico Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 20th Street | At Grade | 4 | 20 | 20 |
| East-West Roadway: | Pico Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,190 | N-S Road: | 1,605 |
| E-W Road: | 2,580 | E-W Road: | 2,796 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,190 | 4.51 | 0.18 | 0.14 | 0.12 | 0.09 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,580 | 4.51 | 1.38 | 0.81 | 0.63 | 0.44 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,605 | 4.51 | 0.24 | 0.19 | 0.16 | 0.12 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,796 | 4.51 | 1.50 | 0.88 | 0.68 | 0.48 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.6 | 4.7 | 3.3 |
| 25 Feet from Roadway Edge | 4.0 | 4.1 | 2.8 |
| 50 Feet from Roadway Edge | 3.7 | 3.8 | 2.7 |
| 100 Feet from Roadway Edge | 3.5 | 3.6 | 2.5 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

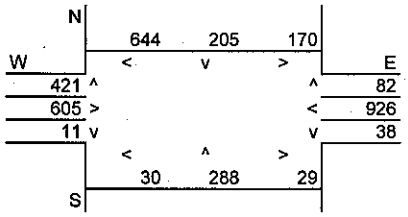
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

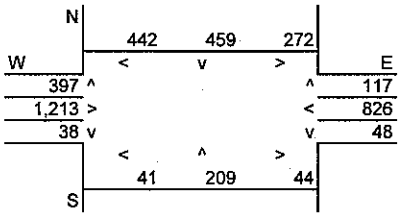
| | |
|---|---|
| Intersection: | Cloverfield Boulevard and Pico Boulevard |
| Analysis Condition: | Future (2010) With Project Traffic Conditions |

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Cloverfield Boulevard | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Pico Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,810 | N-S Road: | 1,896 |
| E-W Road: | 2,637 | E-W Road: | 2,957 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,810 | 4.51 | 0.30 | 0.22 | 0.18 | 0.14 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,637 | 4.51 | 1.41 | 0.83 | 0.64 | 0.45 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,896 | 4.51 | 0.32 | 0.23 | 0.19 | 0.15 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,957 | 4.51 | 1.59 | 0.93 | 0.72 | 0.51 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.7 | 4.9 | 3.4 |
| 25 Feet from Roadway Edge | 4.1 | 4.2 | 2.9 |
| 50 Feet from Roadway Edge | 3.8 | 3.9 | 2.7 |
| 100 Feet from Roadway Edge | 3.6 | 3.7 | 2.6 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

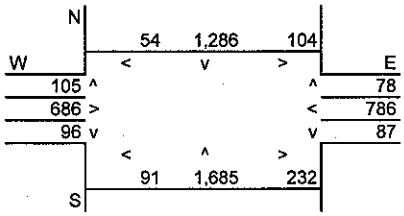
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

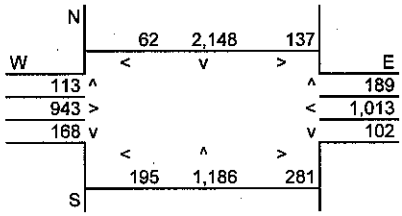
Intersection: Bundy Drive and Pico Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 6 | 15 | 5 |
| East-West Roadway: | Pico Boulevard | At Grade | 4 | 15 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,477 | N-S Road: | 4,080 |
| E-W Road: | 1,973 | E-W Road: | 2,665 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 9.5 | 6.1 | 4.9 | 3.5 | 3,477 | 5.23 | 1.73 | 1.11 | 0.89 | 0.64 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,973 | 5.23 | 0.34 | 0.27 | 0.23 | 0.18 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 9.5 | 6.1 | 4.9 | 3.5 | 4,080 | 7.75 | 3.00 | 1.93 | 1.55 | 1.11 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 2,665 | 7.75 | 0.68 | 0.54 | 0.45 | 0.35 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.1 | 6.7 | 4.7 |
| 25 Feet from Roadway Edge | 4.4 | 5.5 | 3.8 |
| 50 Feet from Roadway Edge | 4.1 | 5.0 | 3.5 |
| 100 Feet from Roadway Edge | 3.8 | 4.5 | 3.1 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

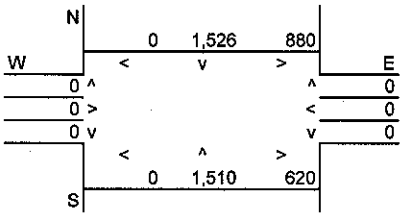
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

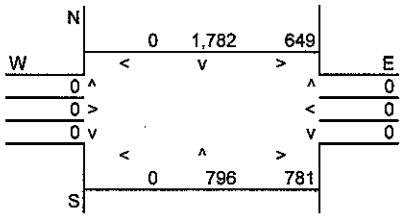
Intersection: Bundy Drive and I-10 Freeway EB On-Ramp
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 5 | 15 |
| East-West Roadway: | I-10 Freeway EB On-Ramp | At Grade | 2 | 5 | 15 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,916 | N-S Road: | 3,359 |
| E-W Road: | 1,500 | E-W Road: | 1,430 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,916 | 7.75 | 3.61 | 2.12 | 1.64 | 1.15 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,500 | 7.75 | 0.43 | 0.31 | 0.26 | 0.20 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,359 | 5.23 | 2.09 | 1.23 | 0.95 | 0.67 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,430 | 5.23 | 0.28 | 0.20 | 0.16 | 0.13 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 7.0 | 5.4 | 4.9 |
| 25 Feet from Roadway Edge | 5.4 | 4.4 | 3.8 |
| 50 Feet from Roadway Edge | 4.9 | 4.1 | 3.4 |
| 100 Feet from Roadway Edge | 4.4 | 3.8 | 3.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

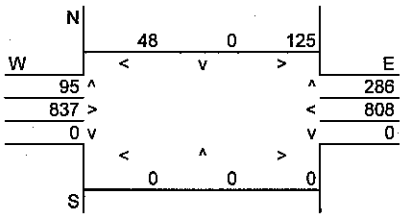
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

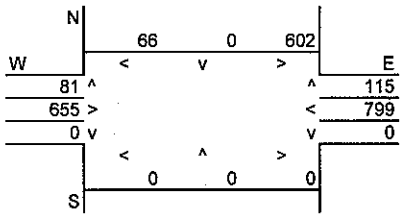
Intersection: 20th Street and Ocean Park Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 20th Street | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 554 | N-S Road: | 864 |
| E-W Road: | 2,056 | E-W Road: | 2,171 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 554 | 4.51 | 0.09 | 0.07 | 0.05 | 0.04 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,056 | 4.51 | 1.10 | 0.65 | 0.50 | 0.35 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 864 | 4.51 | 0.14 | 0.11 | 0.09 | 0.07 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,171 | 4.51 | 1.16 | 0.68 | 0.53 | 0.37 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.2 | 4.3 | 3.0 |
| 25 Feet from Roadway Edge | 3.7 | 3.8 | 2.7 |
| 50 Feet from Roadway Edge | 3.6 | 3.6 | 2.5 |
| 100 Feet from Roadway Edge | 3.4 | 3.4 | 2.4 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

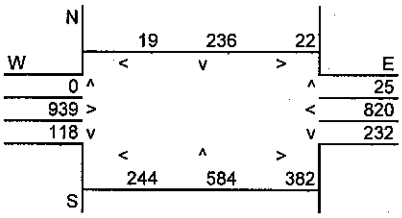
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

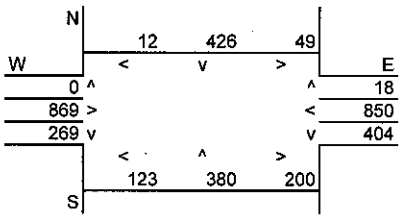
Intersection: 23rd Street and Ocean Park Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 23rd Street | At Grade | 2 | 15 | 5 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 15 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,796 | N-S Road: | 1,802 |
| E-W Road: | 2,420 | E-W Road: | 2,390 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,796 | 5.23 | 0.35 | 0.25 | 0.21 | 0.16 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,420 | 5.23 | 1.50 | 0.89 | 0.68 | 0.48 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,802 | 7.75 | 0.52 | 0.38 | 0.31 | 0.24 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,390 | 7.75 | 2.20 | 1.30 | 1.00 | 0.70 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.9 | 5.7 | 4.0 |
| 25 Feet from Roadway Edge | 4.1 | 4.7 | 3.3 |
| 50 Feet from Roadway Edge | 3.9 | 4.3 | 3.0 |
| 100 Feet from Roadway Edge | 3.6 | 3.9 | 2.8 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

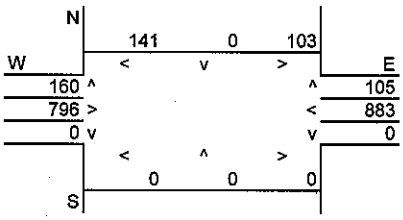
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

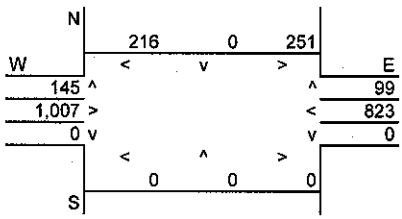
Intersection: Cloverfield Boulevard and Ocean Park Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Cloverfield Boulevard | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 509 | N-S Road: | 711 |
| E-W Road: | 1,980 | E-W Road: | 2,191 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 509 | 4.51 | 0.08 | 0.06 | 0.05 | 0.04 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 1,980 | 4.51 | 1.06 | 0.62 | 0.48 | 0.34 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 711 | 4.51 | 0.12 | 0.09 | 0.07 | 0.05 |
| East-West Road | 11.9 | 7.0 | 5.4 | 3.8 | 2,191 | 4.51 | 1.17 | 0.69 | 0.53 | 0.38 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.1 | 4.3 | 3.0 |
| 25 Feet from Roadway Edge | 3.7 | 3.8 | 2.6 |
| 50 Feet from Roadway Edge | 3.5 | 3.6 | 2.5 |
| 100 Feet from Roadway Edge | 3.4 | 3.4 | 2.4 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

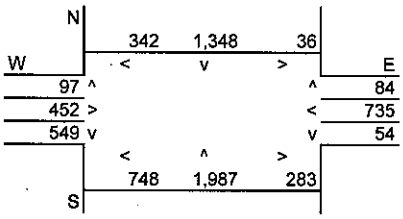
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

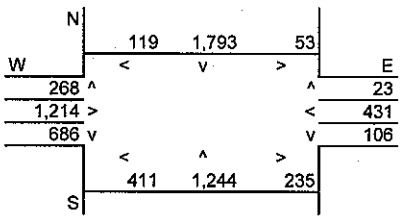
Intersection: Bundy Drive and Ocean Park Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 5 | 5 |
| East-West Roadway: | Ocean Park Boulevard | At Grade | 4 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 4,969 | N-S Road: | 4,475 |
| E-W Road: | 2,923 | E-W Road: | 3,129 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,969 | 7.75 | 4.58 | 2.69 | 2.08 | 1.46 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 2,923 | 7.75 | 0.75 | 0.59 | 0.50 | 0.38 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,475 | 7.75 | 4.12 | 2.43 | 1.87 | 1.32 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 3,129 | 7.75 | 0.80 | 0.63 | 0.53 | 0.41 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 8.3 | 7.9 | 5.8 |
| 25 Feet from Roadway Edge | 6.3 | 6.1 | 4.4 |
| 50 Feet from Roadway Edge | 5.6 | 5.4 | 3.9 |
| 100 Feet from Roadway Edge | 4.8 | 4.7 | 3.4 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

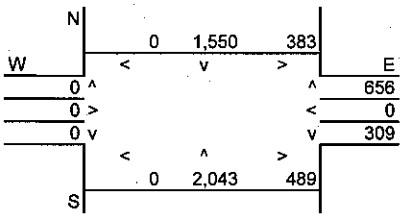
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

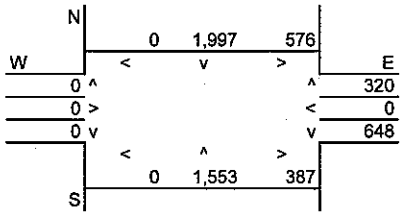
Intersection: Bundy Drive and National Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 5 | 10 |
| East-West Roadway: | National Boulevard | At Grade | 4 | 5 | 10 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | A.M. | P.M. |
|---|---|---|
| N-S Road: | 4,632 | 4,585 |
| E-W Road: | 1,837 | 1,931 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,632 | 7.75 | 4.27 | 2.51 | 1.94 | 1.36 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,837 | 7.75 | 0.47 | 0.37 | 0.31 | 0.24 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,585 | 6.25 | 3.41 | 2.00 | 1.55 | 1.09 |
| East-West Road | 3.3 | 2.6 | 2.2 | 1.7 | 1,931 | 6.25 | 0.40 | 0.31 | 0.27 | 0.21 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 7.7 | 6.8 | 5.4 |
| 25 Feet from Roadway Edge | 5.9 | 5.3 | 4.1 |
| 50 Feet from Roadway Edge | 5.3 | 4.8 | 3.7 |
| 100 Feet from Roadway Edge | 4.6 | 4.3 | 3.2 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

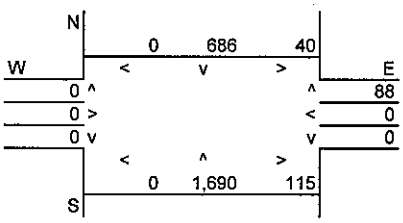
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

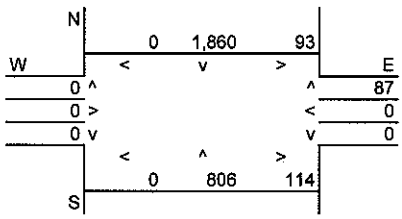
Intersection: 23rd Street/Walgrove Avenue and Airport Avenue
Analysis Condition: Futue (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | 23rd Street/Walgrove Avenu | At Grade | 2 | 5 | 20 |
| East-West Roadway: | Airport Avenue | At Grade | 2 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 2,504 | N-S Road: | 2,846 |
| E-W Road: | 243 | E-W Road: | 294 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | | | | | | |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,504 | 7.75 | 2.72 | 1.47 | 1.11 | 0.78 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 243 | 7.75 | 0.07 | 0.05 | 0.04 | 0.03 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,846 | 4.51 | 1.80 | 0.97 | 0.73 | 0.51 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 294 | 7.75 | 0.08 | 0.06 | 0.05 | 0.04 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.8 | 4.9 | 4.0 |
| 25 Feet from Roadway Edge | 4.5 | 4.0 | 3.2 |
| 50 Feet from Roadway Edge | 4.1 | 3.8 | 2.9 |
| 100 Feet from Roadway Edge | 3.8 | 3.6 | 2.7 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

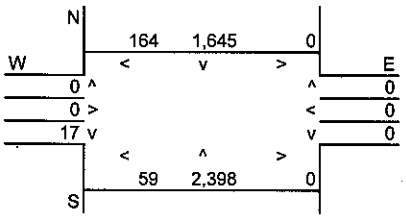
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

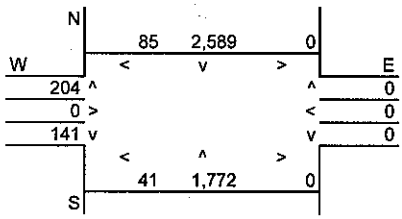
Intersection: Bundy Drive and Airport Avenue
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 20 | 10 |
| East-West Roadway: | Airport Avenue | At Grade | 2 | 20 | 10 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 4,207 | N-S Road: | 4,650 |
| E-W Road: | 240 | E-W Road: | 471 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,207 | 4.51 | 2.26 | 1.33 | 1.02 | 0.72 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 240 | 4.51 | 0.04 | 0.03 | 0.02 | 0.02 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,650 | 6.25 | 3.46 | 2.03 | 1.57 | 1.10 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 471 | 6.25 | 0.11 | 0.08 | 0.06 | 0.05 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.3 | 6.6 | 4.6 |
| 25 Feet from Roadway Edge | 4.4 | 5.1 | 3.6 |
| 50 Feet from Roadway Edge | 4.0 | 4.6 | 3.2 |
| 100 Feet from Roadway Edge | 3.7 | 4.2 | 2.9 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

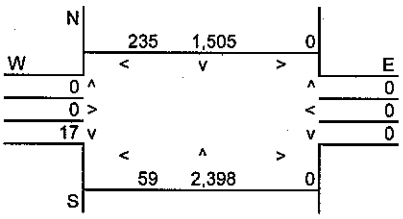
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

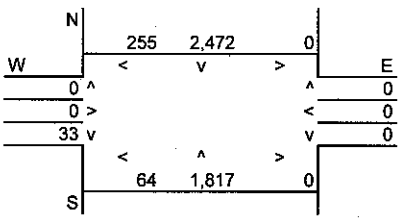
Intersection: Bundy Drive and Project Driveway
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Bundy Drive | At Grade | 4 | 15 | 15 |
| East-West Roadway: | Project Driveway | At Grade | 2 | 15 | 15 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 4,138 | N-S Road: | 4,544 |
| E-W Road: | 311 | E-W Road: | 352 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ Reference CO Concentrations E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,138 | 5.23 | 2.57 | 1.51 | 1.17 | 0.82 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 311 | 5.23 | 0.06 | 0.04 | 0.04 | 0.03 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,544 | 5.23 | 2.83 | 1.66 | 1.28 | 0.90 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 352 | 5.23 | 0.07 | 0.05 | 0.04 | 0.03 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.6 | 5.9 | 4.1 |
| 25 Feet from Roadway Edge | 4.6 | 4.7 | 3.3 |
| 50 Feet from Roadway Edge | 4.2 | 4.3 | 3.0 |
| 100 Feet from Roadway Edge | 3.8 | 3.9 | 2.8 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

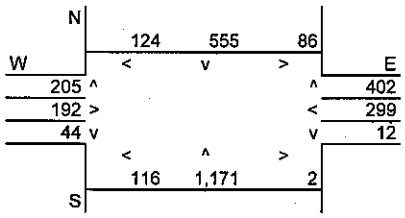
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

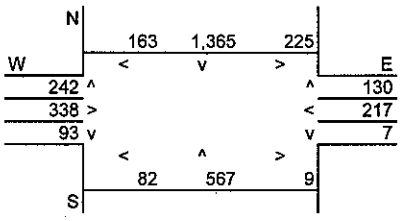
Intersection: Walgrove Avenue and Rose Avenue
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Walgrove Avenue | At Grade | 2 | 5 | 5 |
| East-West Roadway: | Rose Avenue | At Grade | 2 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 2,543 | N-S Road: | 2,692 |
| E-W Road: | 993 | E-W Road: | 1,135 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,543 | 7.75 | 2.76 | 1.50 | 1.12 | 0.79 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 993 | 7.75 | 0.28 | 0.21 | 0.17 | 0.13 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,692 | 7.75 | 2.92 | 1.58 | 1.19 | 0.83 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,135 | 7.75 | 0.33 | 0.24 | 0.19 | 0.15 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 6.0 | 6.2 | 4.4 |
| 25 Feet from Roadway Edge | 4.7 | 4.8 | 3.4 |
| 50 Feet from Roadway Edge | 4.3 | 4.4 | 3.1 |
| 100 Feet from Roadway Edge | 3.9 | 4.0 | 2.8 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

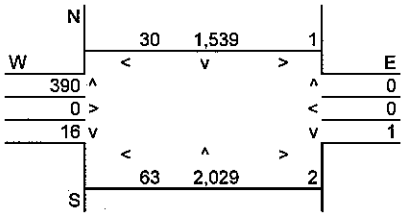
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

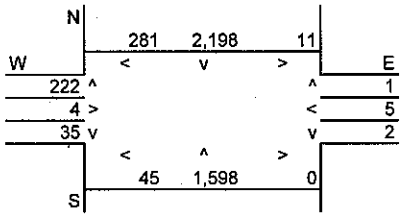
Intersection: Centinela Avenue and Rose Avenue
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Centinela Avenue | At Grade | 4 | 20 | 10 |
| East-West Roadway: | Rose Avenue | At Grade | 2 | 20 | 10 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | A.M. | P.M. |
|---|---|---|
| N-S Road: | 3,989 | 4,311 |
| E-W Road: | 499 | 592 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | | | | | | |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,989 | 4.51 | 2.14 | 1.26 | 0.97 | 0.68 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 499 | 4.51 | 0.08 | 0.06 | 0.05 | 0.04 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 4,311 | 6.25 | 3.20 | 1.88 | 1.45 | 1.02 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 592 | 6.25 | 0.14 | 0.10 | 0.08 | 0.06 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.2 | 6.3 | 4.4 |
| 25 Feet from Roadway Edge | 4.3 | 5.0 | 3.5 |
| 50 Feet from Roadway Edge | 4.0 | 4.5 | 3.2 |
| 100 Feet from Roadway Edge | 3.7 | 4.1 | 2.9 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

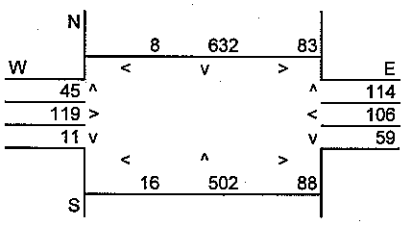
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

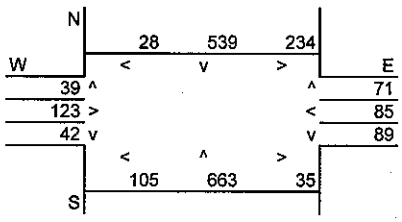
Intersection: Walgrove Avenue and Palms Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Walgrove Avenue | At Grade | 2 | 20 | 20 |
| East-West Roadway: | Palms Boulevard | At Grade | 2 | 20 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,384 | N-S Road: | 1,574 |
| E-W Road: | 569 | E-W Road: | 637 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ Reference CO Concentrations E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 1,384 | 4.51 | 0.87 | 0.47 | 0.36 | 0.25 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 569 | 4.51 | 0.09 | 0.07 | 0.06 | 0.04 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 14.0 | 7.6 | 5.7 | 4.0 | 1,574 | 4.51 | 0.99 | 0.54 | 0.40 | 0.28 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 637 | 4.51 | 0.11 | 0.08 | 0.06 | 0.05 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.0 | 4.1 | 2.9 |
| 25 Feet from Roadway Edge | 3.5 | 3.6 | 2.5 |
| 50 Feet from Roadway Edge | 3.4 | 3.5 | 2.4 |
| 100 Feet from Roadway Edge | 3.3 | 3.3 | 2.3 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

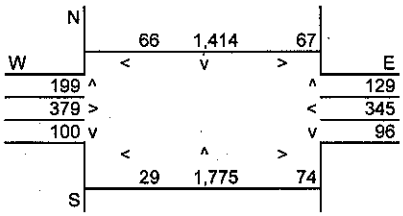
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

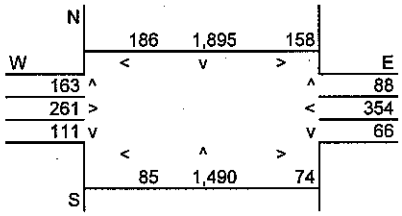
Intersection: Centinela Avenue and Palms Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Centinela Avenue | At Grade | 4 | 5 | 5 |
| East-West Roadway: | Palms Boulevard | At Grade | 2 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 3,650 | N-S Road: | 3,980 |
| E-W Road: | 1,118 | E-W Road: | 1,160 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,650 | 7.75 | 3.36 | 1.98 | 1.53 | 1.07 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,118 | 7.75 | 0.32 | 0.23 | 0.19 | 0.15 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,980 | 7.75 | 3.67 | 2.16 | 1.66 | 1.17 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,160 | 7.75 | 0.33 | 0.24 | 0.20 | 0.15 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 6.7 | 7.0 | 4.9 |
| 25 Feet from Roadway Edge | 5.2 | 5.4 | 3.8 |
| 50 Feet from Roadway Edge | 4.7 | 4.9 | 3.4 |
| 100 Feet from Roadway Edge | 4.2 | 4.3 | 3.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

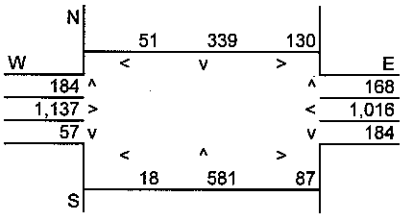
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

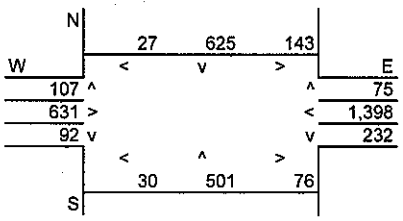
Intersection: Walgrove Avenue and Venice Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Walgrove Avenue | At Grade | 2 | 10 | 10 |
| East-West Roadway: | Venice Boulevard | At Grade | 6 | 10 | 10 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,453 | N-S Road: | 1,556 |
| E-W Road: | 2,722 | E-W Road: | 2,555 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,453 | 6.25 | 0.34 | 0.24 | 0.20 | 0.15 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 2,722 | 6.25 | 1.61 | 1.04 | 0.83 | 0.59 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,556 | 6.25 | 0.36 | 0.26 | 0.21 | 0.17 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 2,555 | 6.25 | 1.52 | 0.97 | 0.78 | 0.56 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.0 | 4.9 | 3.5 |
| 25 Feet from Roadway Edge | 4.3 | 4.2 | 3.0 |
| 50 Feet from Roadway Edge | 4.0 | 4.0 | 2.8 |
| 100 Feet from Roadway Edge | 3.7 | 3.7 | 2.6 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

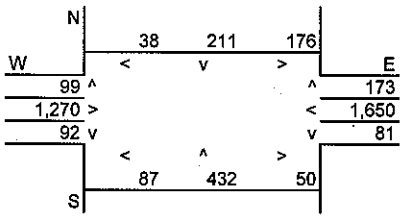
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

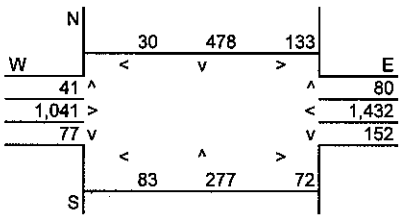
Intersection: Beethoven Street and Venice Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Beethoven Street | At Grade | 2 | 15 | 20 |
| East-West Roadway: | Venice Boulevard | At Grade | 2 | 15 | 20 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | A.M. | P.M. |
|---|---|---|
| N-S Road: | 1,129 | 1,139 |
| E-W Road: | 3,400 | 2,910 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,129 | 5.23 | 0.22 | 0.16 | 0.13 | 0.10 |
| East-West Road | 14.0 | 7.6 | 5.7 | 4.0 | 3,400 | 5.23 | 2.49 | 1.35 | 1.01 | 0.71 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,139 | 4.51 | 0.19 | 0.14 | 0.11 | 0.09 |
| East-West Road | 14.0 | 7.6 | 5.7 | 4.0 | 2,910 | 4.51 | 1.84 | 1.00 | 0.75 | 0.52 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 5.7 | 5.0 | 4.0 |
| 25 Feet from Roadway Edge | 4.5 | 4.1 | 3.2 |
| 50 Feet from Roadway Edge | 4.1 | 3.9 | 2.9 |
| 100 Feet from Roadway Edge | 3.8 | 3.6 | 2.7 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

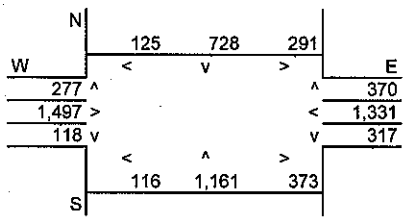
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

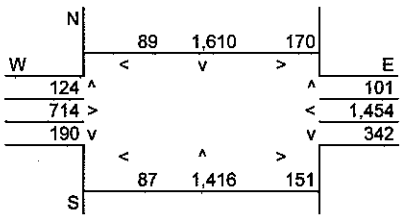
Intersection: Centinela Avenue and Venice Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Centinela Avenue | At Grade | 4 | 5 | 5 |
| East-West Roadway: | Venice Boulevard | At Grade | 2 | 5 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 2,952 | N-S Road: | 3,796 |
| E-W Road: | 4,179 | E-W Road: | 2,932 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| Roadway | $A_1$ E.O.R. | $A_2$ 25 Feet | $A_3$ 50 Feet | $A_4$ 100 Feet | B Traffic Volume | C Emission Factors[2] | Estimated CO Concentrations E.O.R. | 25 Feet | 50 Feet | 100 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | | | | | | |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.3 | 2.6 | 2.2 | 1.7 | 2,952 | 7.75 | 0.75 | 0.59 | 0.50 | 0.39 |
| East-West Road | 14.0 | 7.6 | 5.7 | 4.0 | 4,179 | 7.75 | 4.53 | 2.46 | 1.85 | 1.29 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 11.9 | 7.0 | 5.4 | 3.8 | 3,796 | 7.75 | 3.50 | 2.06 | 1.59 | 1.12 |
| East-West Road | 3.7 | 2.7 | 2.2 | 1.7 | 2,932 | 7.75 | 0.84 | 0.61 | 0.50 | 0.39 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 8.3 | 7.3 | 5.8 |
| 25 Feet from Roadway Edge | 6.1 | 5.7 | 4.2 |
| 50 Feet from Roadway Edge | 5.3 | 5.1 | 3.7 |
| 100 Feet from Roadway Edge | 4.7 | 4.5 | 3.3 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

## SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

**Project Title:** SMC Bundy Campus

### Background Information

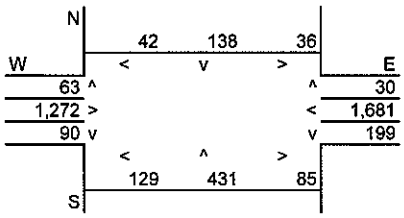
| | |
|---|---|
| Nearest Air Monitoring Station measuring CO: | SCAQMD Station 091 |
| Background 1-hour CO Concentration (ppm): | 3.0 |
| Background 8-hour CO Concentration (ppm): | 2.1 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2010 |

### Roadway Data

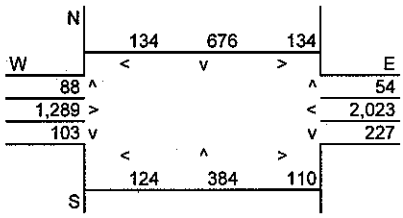
Intersection: Inglewood Boulevard and Venice Boulevard
Analysis Condition: Future (2010) With Project Traffic Conditions

| | | Roadway Type | No. of Lanes | Average Speed A.M. | Average Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Inglewood Boulevard | At Grade | 2 | 15 | 5 |
| East-West Roadway: | Venice Boulevard | At Grade | 6 | 15 | 5 |

A.M. Peak Hour Traffic Volumes




P.M. Peak Hour Traffic Volumes




Highest Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road: | 1,072 | N-S Road: | 1,624 |
| E-W Road: | 3,303 | E-W Road: | 3,837 |

### Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ | B | C | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reference CO Concentrations | | | | Traffic | Emission | Estimated CO Concentrations | | | |
| Roadway | E.O.R. | 25 Feet | 50 Feet | 100 Feet | Volume | Factors[2] | E.O.R. | 25 Feet | 50 Feet | 100 Feet |
| A.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,072 | 5.23 | 0.21 | 0.15 | 0.12 | 0.10 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 3,303 | 5.23 | 1.64 | 1.05 | 0.85 | 0.60 |
| P.M. Peak Traffic Hour | | | | | | | | | | |
| North-South Road | 3.7 | 2.7 | 2.2 | 1.7 | 1,624 | 7.75 | 0.47 | 0.34 | 0.28 | 0.21 |
| East-West Road | 9.5 | 6.1 | 4.9 | 3.5 | 3,837 | 7.75 | 2.82 | 1.81 | 1.46 | 1.04 |

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

### Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| Roadway Edge | 4.8 | 6.3 | 4.4 |
| 25 Feet from Roadway Edge | 4.2 | 5.2 | 3.6 |
| 50 Feet from Roadway Edge | 4.0 | 4.7 | 3.3 |
| 100 Feet from Roadway Edge | 3.7 | 4.3 | 3.0 |

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).