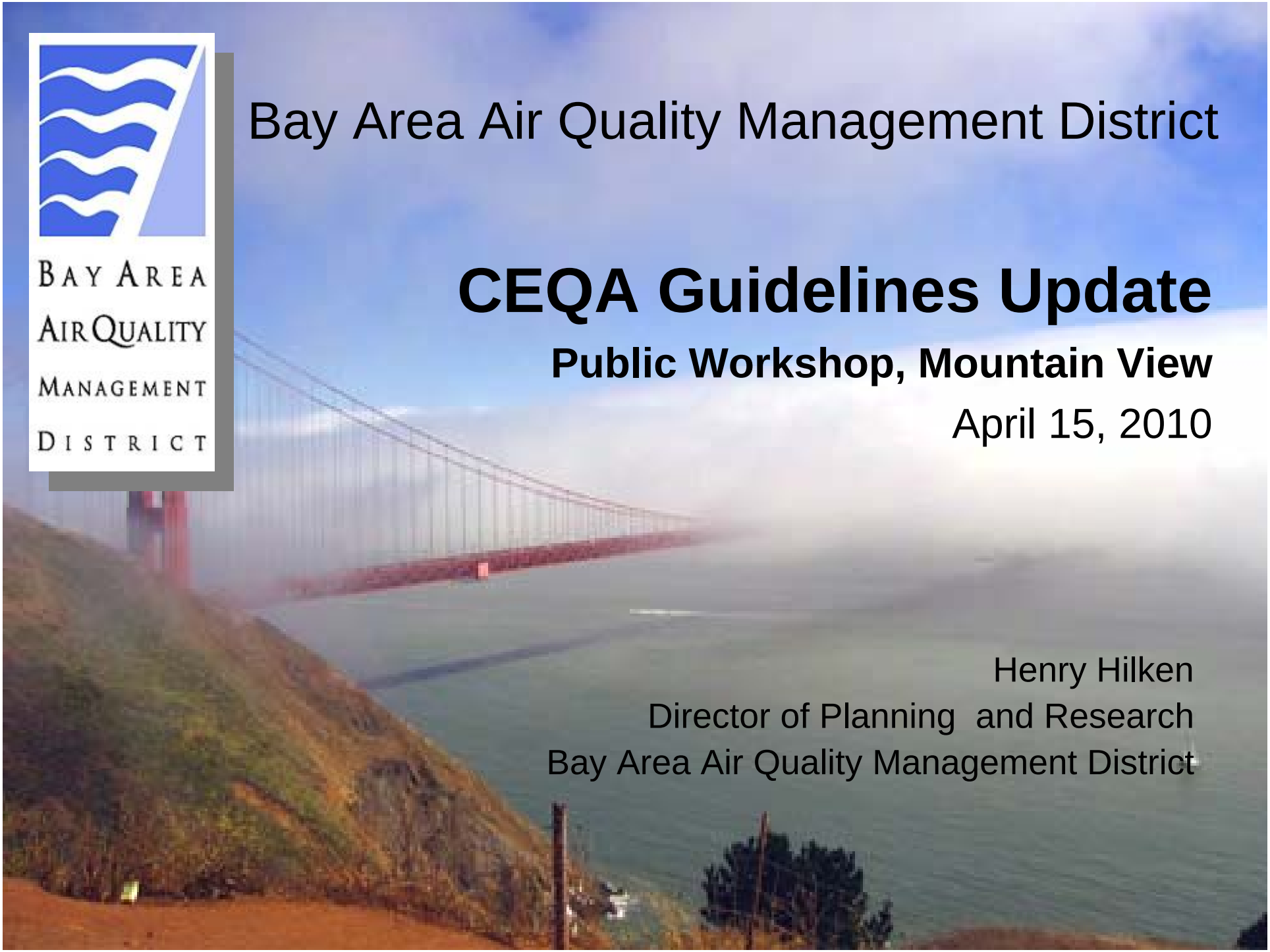


Bay Area Air Quality Management District

CEQA Guidelines Update

Public Workshop, Mountain View

April 15, 2010

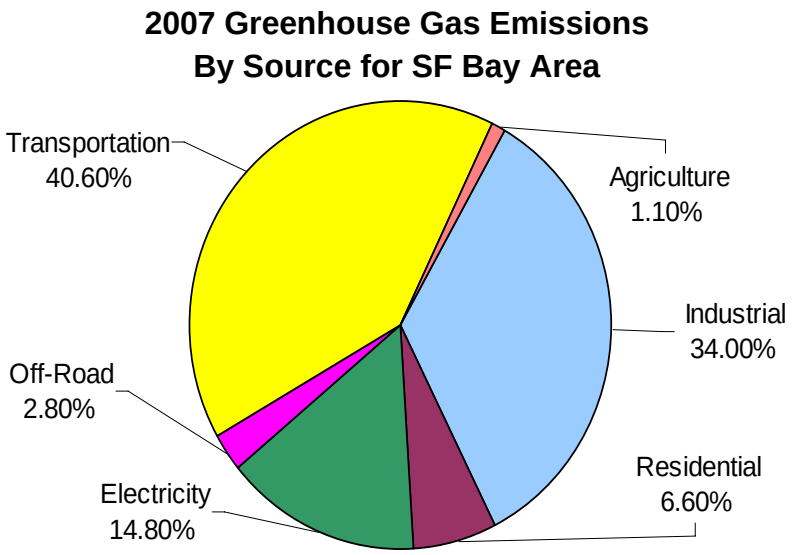
Henry Hilken
Director of Planning and Research
Bay Area Air Quality Management District

Why Update the CEQA Guidelines?

- Attain health-based State and national ambient air quality standards for ozone and fine particulate matter
  - Recent more stringent standards
  - Public health impacts, especially from fine PM
  - Noncompliance threatens federal transportation funding
- Public health impacts associated with toxic air contaminants
  - Highest exposures to toxics & fine PM occur near roadways, heavy industry
  - Pre-term & early childhood exposures to carcinogens 10 times more important than previous estimates
  - Adverse health outcomes of near-roadway exposures: cardiovascular disease, asthma, reduced birth weight, mortality
- GHG reductions needed to achieve SB 375, AB 32, Governor's Executive Order
- Local land use decisions influence transportation emissions

Transportation, Land Use and Air Quality

- Motor vehicles are largest source of air pollution in Bay Area - ozone, PM, toxics, GHGs
- Region still exceeds health based AQ standards
- Low hanging fruit is long gone – need emissions reductions from all sources
- California vehicle fleet is very clean–need to reduce vehicle use
- More efficient land use will be critical to improve air quality, reduce GHGs



Air District Land Use Goals

- Promote strategies that support livable communities
  - Support mixed-use, infill, transit-oriented development
  - Minimize greenfield development
  - Increase transit use, walking, cycling
- Reinforce MTC, ABAG, and local programs
  - FOCUS/PDAs, MTC TOD policy, SB 375 are critical to AQ and GHG improvements
  - Seek to coordinate local AQ studies with local planning processes
- Use caution planning residential, schools, sensitive uses near areas with high emissions – busy freeways, ports, refineries, etc.
- Potential conflicts may often be resolved through site specific analysis and mitigation
  - Site planning/setbacks, project phasing, diesel retrofits, idling limits, truck routes, HVAC, etc.

Key Milestones

- 14 month process with public workshops held in:
  - April 2010
  - Dec 2009
  - Sept/Oct 2009
  - April 2009
  - Feb 2009
- Additional meetings with stakeholders
- Board Hearings
  - Nov 18, Dec 2, and Jan 6
- Draft documents available
  - Draft CEQA Guidelines
  - Draft Thresholds Report
  - Public comments and responses

Workshop Purpose

- Address concerns raised during update process:
  - Hinders infill development and PDAs
  - Need further developed methodologies and tools
  - Guidance needed on community risk reduction plans and GHG reduction strategies
- Focus on GHG and risk assessments, methodologies, and mitigation strategies
- Provide county-specific case studies for applying proposed thresholds
- Address specific local issues

Proposed GHG Thresholds

- Address critical void
  - No guidance on GHGs in CEQA currently exists
  - Legal scrutiny by AG, others
- Based on AB 32 and Scoping Plan
- Thresholds options – land use projects
  - Plan based – consistency with GHG reduction strategy OR
  - “Bright line” – 1,100 metric tons/yr OR
  - Efficiency based – 4.6 tons/service population/year (residents & employees)
- Take credit for lower vehicle/efficiencies of infill, mixed use projects
- Thresholds will be revisited if/when State guidance available

Importance of GHG Thresholds

- Consistent with State CEQA Guidelines (SCG)
  - SCG encourages addressing GHG in CEQA docs, but does not recommend threshold
  - Significance determination must still be made even without significance thresholds
  - SCG "encourage lead agencies to rely on thresholds established by local air quality management districts"
- Guidelines provide certainty in determining significance of impacts and consistency in mitigation
  - Provide legally defensible approach to analyzing GHG impacts
  - Provide level playing field throughout Bay Area
  - Supported by AG and major environmental groups

GHG Tools & Resources

- GHG Off-Model Spreadsheet Calculator for Projects
  - Imports URBEMIS results
  - Estimates additional GHG emissions from transportation and electricity use
  - Covers additional GHG mitigation measures
  - Will be available June 2010
- GHG Reduction Strategy Guidance
  - Interpretation of State CEQA Guidelines
  - GHG Methodology Guidance – will offer recommended data sources, resources, and tools for quantifying GHG emissions and inventories; will address key issues such as, emission factors, forecasting, and VMT

GHG Tools & Resources

- GHG Mitigation Measure Quantification
  - Developed through CAPCOA by Environ
  - Provides GHG range of effectiveness estimates for measures and guidance on how to interpret/assign effectiveness
  - Offers quantification assumptions, methodologies, and data sources and references for quantifying mitigation measures
  - Will be available June 2010
- Potential Offsite Mitigation Program
  - Allow project developers to mitigate their project emissions offsite to a less than significant level after all available onsite mitigation measures have been considered
- URBEMIS/GHG off-model training classes
- Technical assistance during project review

GHG Reduction Strategy

Similar to ICLEI approach:

A) Community baseline inventory
B) Forecast of future emissions
C) Target consistent with AB 32
D) Quantified GHG reductions from policies/measures
E) Implementation strategy
F) Environmental review
G) Demonstrate new projects are consistent

GHG Quantification Guidance

- Purpose: to address questions and issues raised by local governments
- Draws from existing, established methods and standards
- Discusses key issues related to community inventories, forecasting, mitigation measures and implementation strategies
- Will be continuously updated – seeking input from local government staff, stakeholders

Case Study: Bay Meadows II, San Mateo

Project Characteristics:

- 1018 multi-family units
- 24 single family units
- 950,000 sq. ft. office use
- 75,000 sq. ft. retail use
- 17,800 sq. ft. restaurant use
- Adjacent to Caltrain station

Case Study:
Bay Meadows II, San Mateo

Residents: 2,790 **Employees: 3,707** **Service Pop: 6,497**	**BAAQMD Methodology**
CO2e Emissions in Metric Tons	
Transportation	12,171
Electricity	7,266
Other (NG, water, waste)	10,201
Total Emissions	**29,638**
Metric Ton/Service Population	**4.56**

Case Study: Japantown Corp. Yard, San Jose

Project Characteristics:

- 600 apartments
- 30,000 sq. ft. commercial use
- 20,000 sq. ft. community use
- Downtown San Jose
- Near Civic Center VTA Station, excellent bus service

Case Study: Japantown Corp. Yard, San Jose

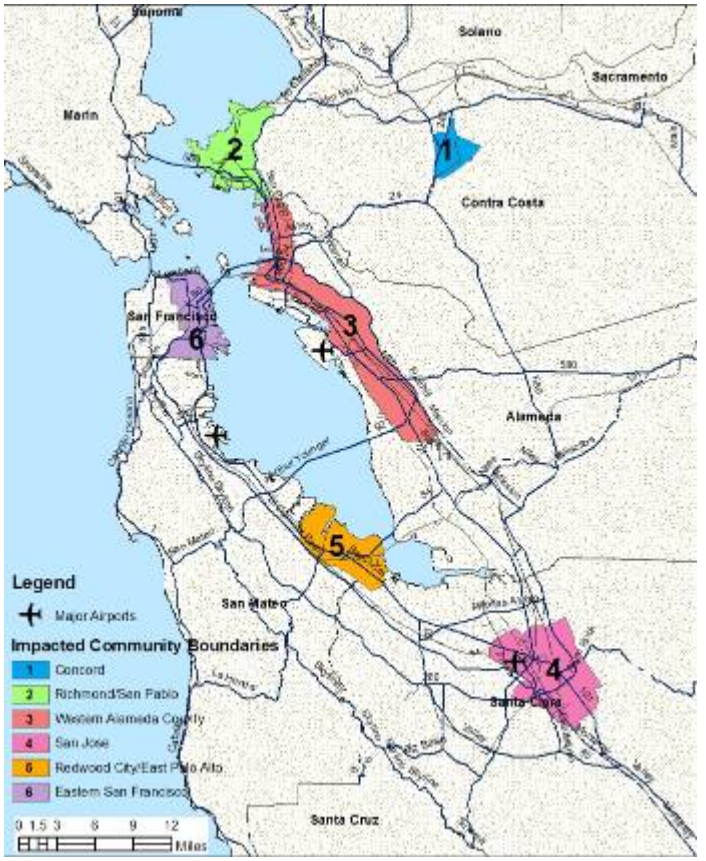
Residents: 1,908 **Employees: 95** **Service Pop: 2003**	**BAAQMD Methodology**
CO2e Emissions in Metric Tons	
Transportation	3,398
Electricity	1,040
Other (NG, water, waste)	1,087
Total Emissions	**5,525**
Metric Ton/Service Population	**2.76**

Notes:
Default assumptions from project DEIR.
Proposed methods considers access to local retail, transit, mix of uses, jobs in area, and street network density.

Questions or Comments?

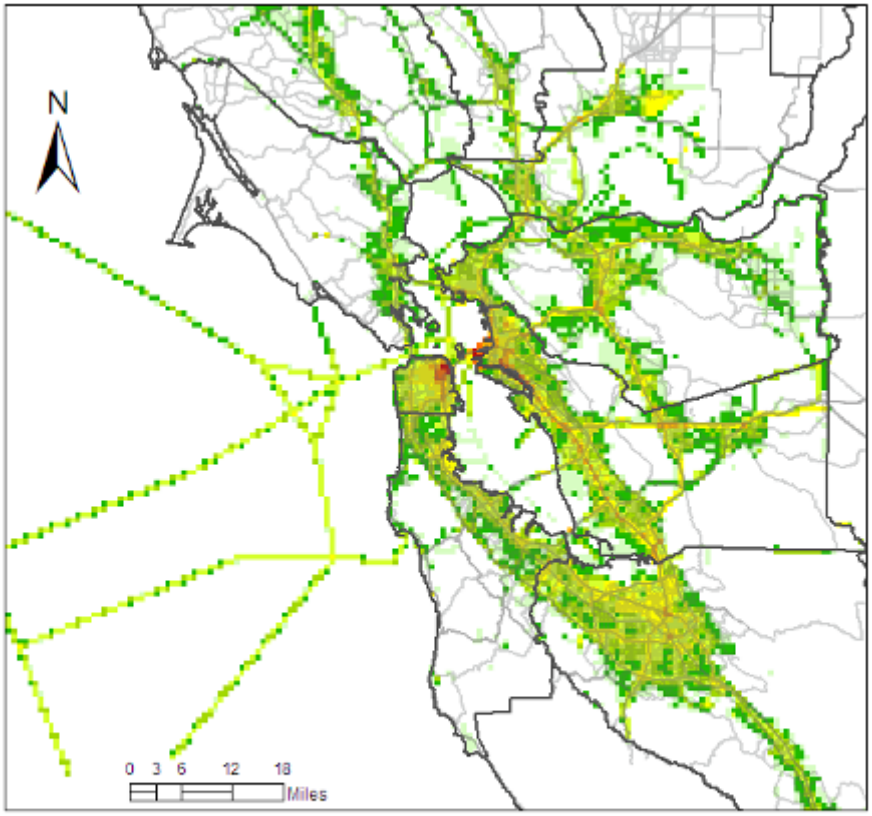
Purpose of Community Risks and Hazards Thresholds

- CARE program identifies 6 priority communities in Bay Area
  - High emissions, concentrations of toxics, PM
  - Vulnerable populations
- Seek to reduce impacts from land use, transportation decisions
- Promote infill, while protecting residents
- Address new sources of pollution *and* new receptors near existing sources (eg, freeways)

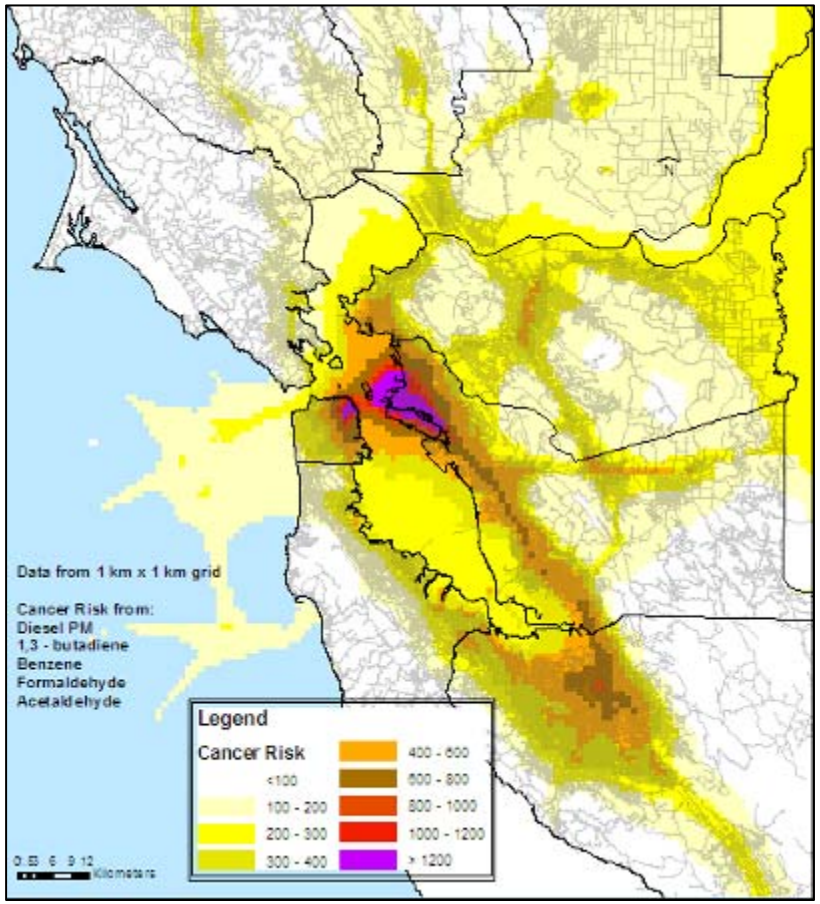


Emissions and Modeled Air Toxics (2005)

Risk-weighted Emissions



Modeled Air Toxics Risk



Proposed Local Community Risks and Hazards Thresholds

Single source (Source or Receptor)	Compliance with Qualified Risk Reduction Plan **OR** • Increased cancer risk >10.0 in a million • Increased non-cancer risk > 1.0 Hazard Index (Chronic or Acute) • Ambient $PM_{2.5}$ increase: > 0.3 µg/m^3 annual average Zone of Influence: 1,000-foot radius from proposed project
Cumulative (Source or Receptor)	Compliance with Qualified Risk Reduction Plan **OR** • Cancer: > 100 in a million (from all local sources) • Non-cancer: > 10.0* Hazard Index (from all local sources) (Chronic) • $PM_{2.5}$: > 0.8 µg/m^3 annual average (from all local sources) Zone of Influence: 1,000-foot radius from proposed project

* Threshold proposal revised since December 7, 2009 draft Guidelines

Community Risk Reduction Plans

- Supports community wide planning approach to reduce cumulative impacts
- Collaborative effort between local governments and Air District
- CRRP Elements:
  1. Defined CRRP Planning Area
  2. Emission Inventories
  3. Risk Modeling
  4. Goal or Reduction Target, e.g.,
     a) No Net Increase/Net Reduction
     b) Percent Reduction from Baseline Conditions
     c) Equivalent to Regional Average Risk
  5. Emission Reduction Measures
  6. Monitoring and Updating Mechanism
  7. Public Involvement and CEQA Process

Developing CRRPs/Support Local Planning Activities

- District staff to work closely with local government staff
  - District:
    - Template for plans and methodology for developing targets and mitigations
    - Emissions inventory & modeling
    - Identify areas with high emissions and exposures
    - Assist with mitigation
  - Local government
    - Planning/policy framework
    - Public outreach
    - Assist with mitigation
- Initiate pilot projects – San Jose, San Francisco
- Integrate with and assist local planning
  - Support FOCUS, PDAs, infill
  - Coordinate CRRPs with general plan updates, specific plans, etc.
  - District budget funds for local government assistance for plans

Risk & Hazards Tools & Resources

- Construction risk screening spreadsheet
  - User defined equipment list
  - Estimates risk and $PM_{2.5}$ concentration near site
- Stationary source risk screening tables
  - Database of District permitted sources including location, type of source, emissions, and risks
  - Google map application
- Roadway risk screening tables
  - Risks based on distance from all California highways
  - Surface street risks based on vehicle volumes
- Detailed Phased Modeling Methodology
  - Use of site specific inputs in more complex, sophisticated models

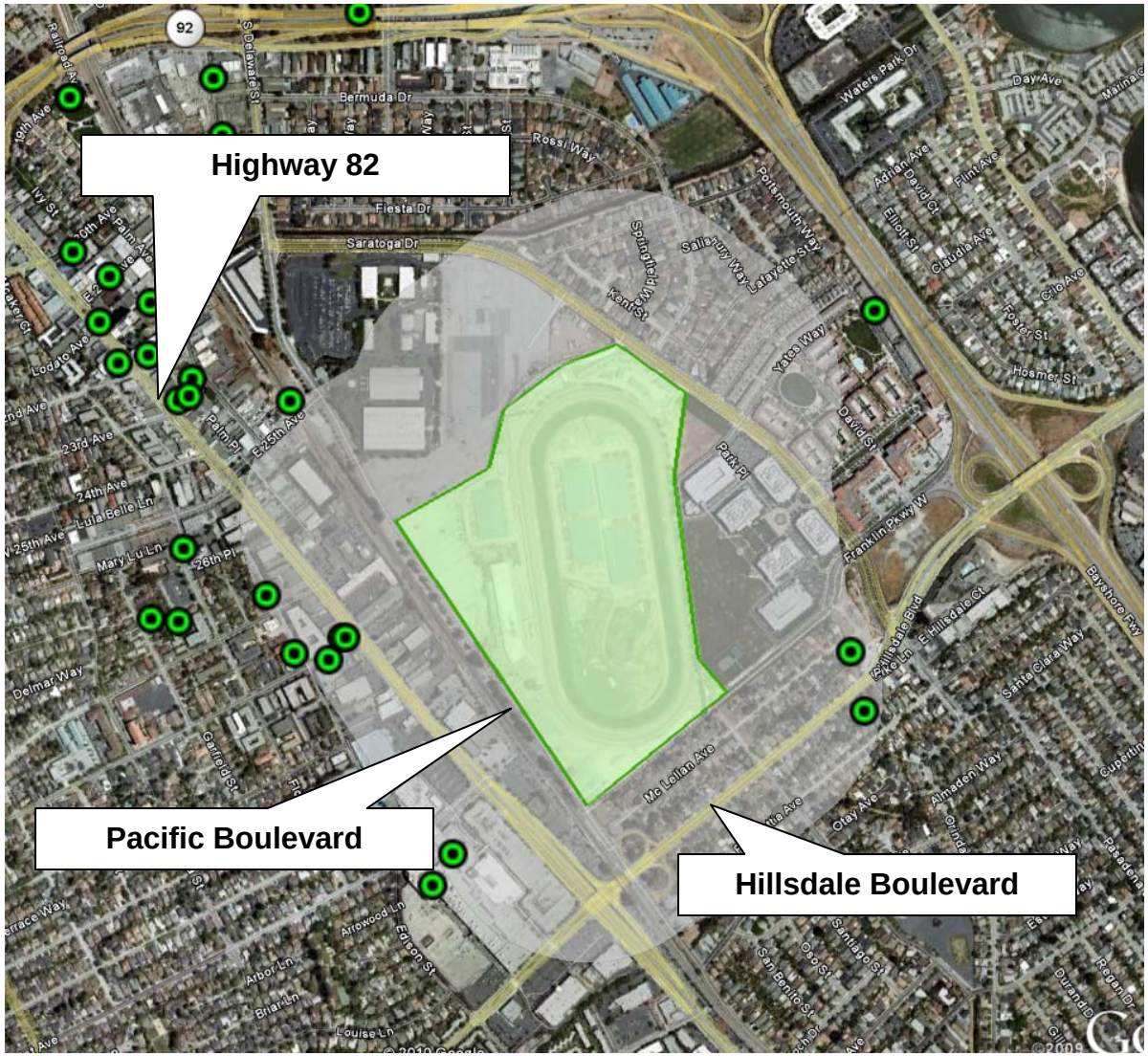
Phased Approach for New Sources & Receptors

- Project proposal submitted
- All major roadways and sources > 1,000' away → Done
- If not, use screening tables using site, roadway information
  - $PM_{2.5}$ and air toxics < CEQA thresholds → Report results
- If not, conduct site-specific air dispersion modeling and risk assessment
  - $PM_{2.5}$ and air toxics < CEQA thresholds → Report results
- If not, recommend mitigation measures

Case Studies

- Case Studies for
  - Bay Meadows II, San Mateo
  - Japantown Redevelopment Project, San Jose
- Demonstrate Use of Screening Tables
  - California Highways
  - Surface Streets
  - Permitted Stationary Sources
  - Railroads

Case Study: Bay Meadows II, San Mateo



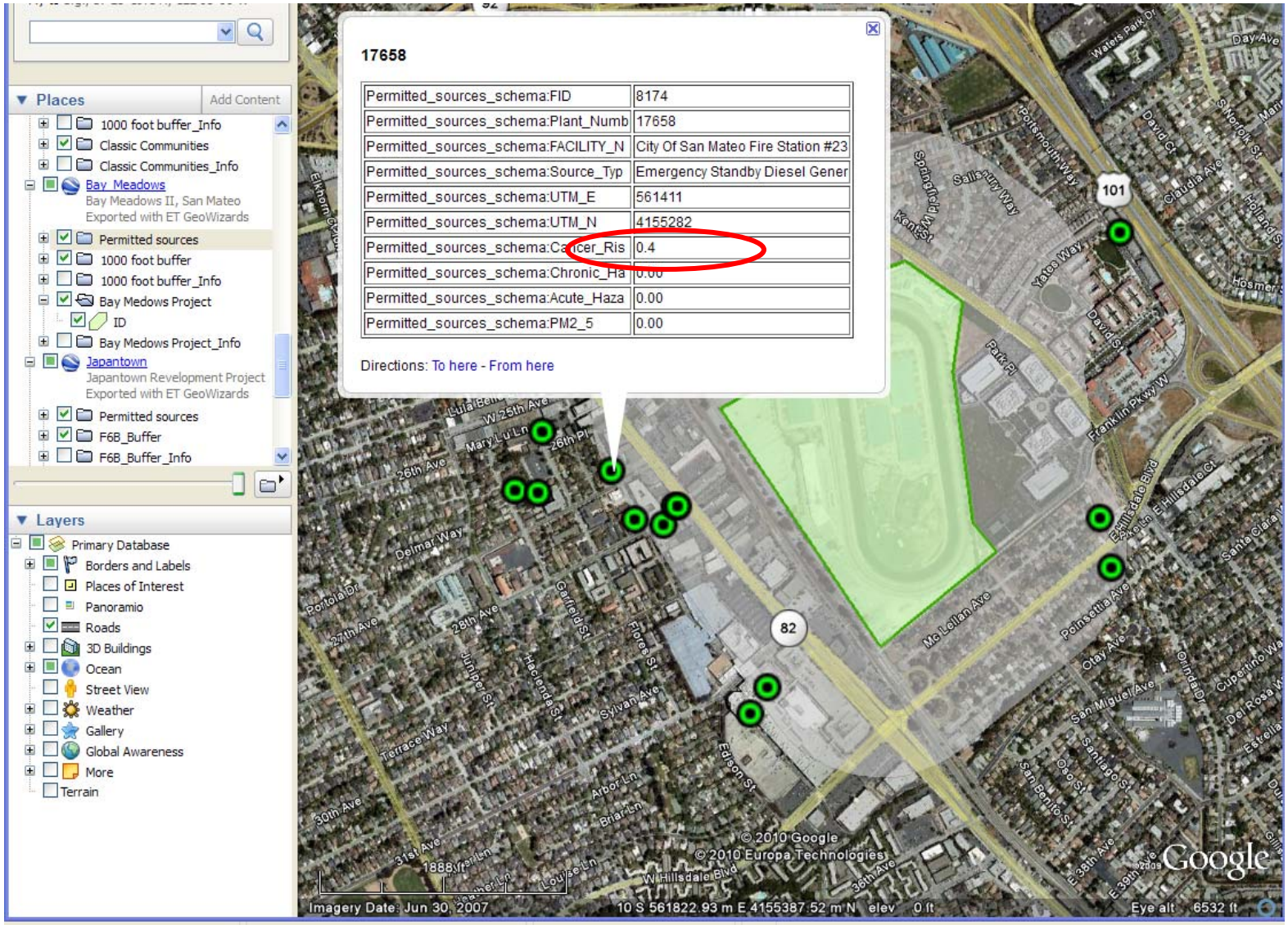
Step 1 – Determine 1,000 foot radius

Step 2 – Identify local roads (>10,000 vehicles/day) and freeways to be evaluated

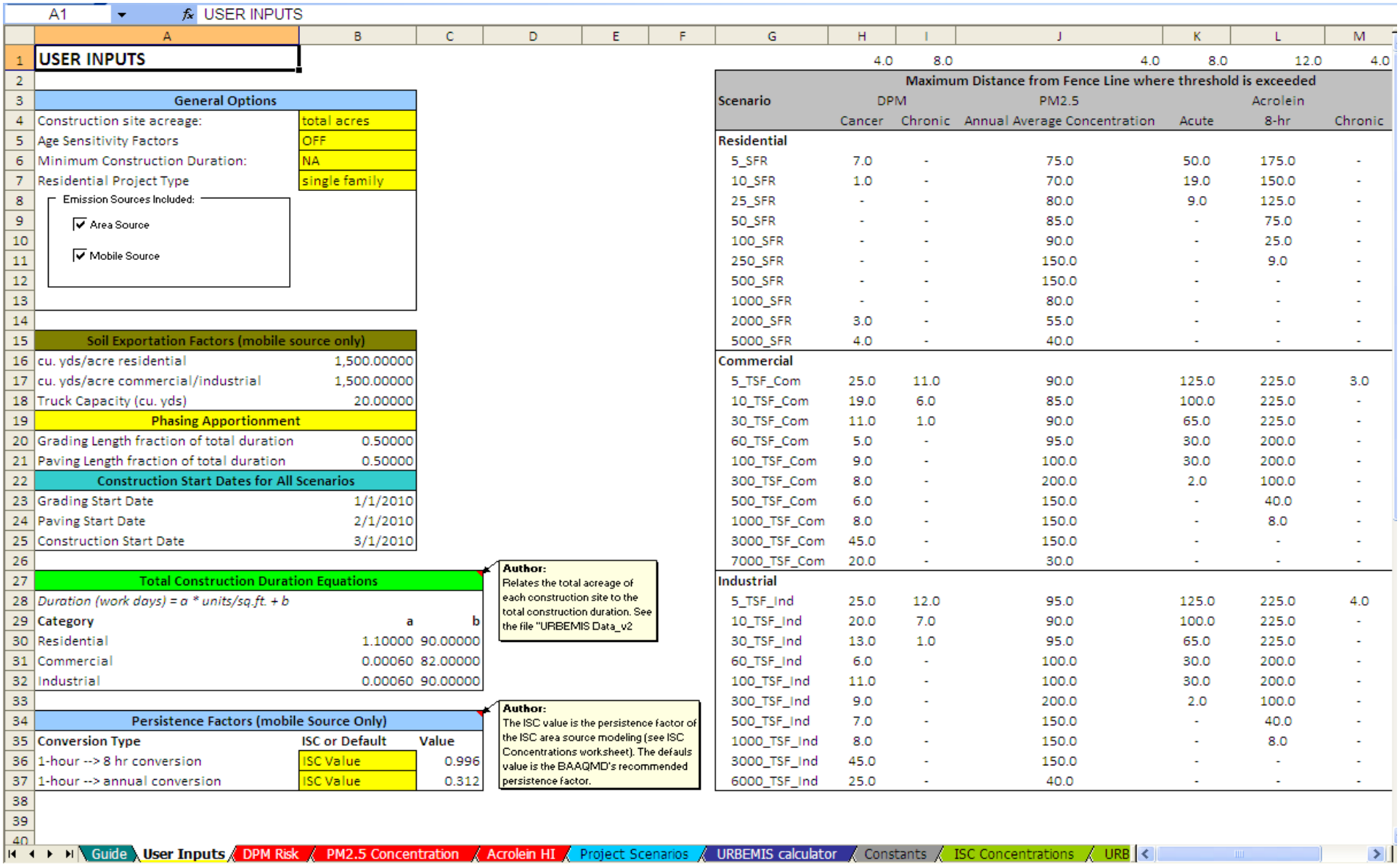
Step 3 – Identify local permitted sources

Step 4 – Identify other sources

Permitted Source Application through Google Earth



Construction Risk Screening Spreadsheet



A1 fx USER INPUTS

USER INPUTS

General Options	
Construction site acreage:	total acres
Age Sensitivity Factors	OFF
Minimum Construction Duration:	NA
Residential Project Type	single family

Emission Sources Included:
- [x] Area Source
- [x] Mobile Source

Soil Exportation Factors (mobile source only)	
cu. yds/acre residential	1,500.00000
cu. yds/acre commercial/industrial	1,500.00000
Truck Capacity (cu. yds)	20.00000
Phasing Apportionment	
Grading Length fraction of total duration	0.50000
Paving Length fraction of total duration	0.50000
Construction Start Dates for All Scenarios	
Grading Start Date	1/1/2010
Paving Start Date	2/1/2010
Construction Start Date	3/1/2010

Total Construction Duration Equations

*Duration (work days) = a * units/sq.ft. + b*

Category	a	b
Residential	1.10000	90.00000
Commercial	0.00060	82.00000
Industrial	0.00060	90.00000

Author: Relates the total acreage of each construction site to the total construction duration. See the file "URBEMIS Data_v2

Persistence Factors (mobile Source Only)		
Conversion Type	ISC or Default	Value
1-hour --> 8 hr conversion	ISC Value	0.996
1-hour --> annual conversion	ISC Value	0.312

Author: The ISC value is the persistence factor of the ISC area source modeling (see ISC Concentrations worksheet). The defauls value is the BAAQMD's recommended persistence factor.

	DPM		PM2.5	Acrolein		
	4.0	8.0	4.0	8.0	12.0	4.0
Scenario	Maximum Distance from Fence Line where threshold is exceeded					
	Cancer	Chronic	Annual Average Concentration	Acute	8-hr	Chronic
Residential						
5_SFR	7.0	-	75.0	50.0	175.0	-
10_SFR	1.0	-	70.0	19.0	150.0	-
25_SFR	-	-	80.0	9.0	125.0	-
50_SFR	-	-	85.0	-	75.0	-
100_SFR	-	-	90.0	-	25.0	-
250_SFR	-	-	150.0	-	9.0	-
500_SFR	-	-	150.0	-	-	-
1000_SFR	-	-	80.0	-	-	-
2000_SFR	3.0	-	55.0	-	-	-
5000_SFR	4.0	-	40.0	-	-	-
Commercial						
5_TSF_Com	25.0	11.0	90.0	125.0	225.0	3.0
10_TSF_Com	19.0	6.0	85.0	100.0	225.0	-
30_TSF_Com	11.0	1.0	90.0	65.0	225.0	-
60_TSF_Com	5.0	-	95.0	30.0	200.0	-
100_TSF_Com	9.0	-	100.0	30.0	200.0	-
300_TSF_Com	8.0	-	200.0	2.0	100.0	-
500_TSF_Com	6.0	-	150.0	-	40.0	-
1000_TSF_Com	8.0	-	150.0	-	8.0	-
3000_TSF_Com	45.0	-	150.0	-	-	-
7000_TSF_Com	20.0	-	30.0	-	-	-
Industrial						
5_TSF_Ind	25.0	12.0	95.0	125.0	225.0	4.0
10_TSF_Ind	20.0	7.0	90.0	100.0	225.0	-
30_TSF_Ind	13.0	1.0	95.0	65.0	225.0	-
60_TSF_Ind	6.0	-	100.0	30.0	200.0	-
100_TSF_Ind	11.0	-	100.0	30.0	200.0	-
300_TSF_Ind	9.0	-	200.0	2.0	100.0	-
500_TSF_Ind	7.0	-	150.0	-	40.0	-
1000_TSF_Ind	8.0	-	150.0	-	8.0	-
3000_TSF_Ind	45.0	-	150.0	-	-	-
6000_TSF_Ind	25.0	-	40.0	-	-	-

Guide | User Inputs | DPM Risk | PM2.5 Concentration | Acrolein HI | Project Scenarios | URBEMIS calculator | Constants | ISC Concentrations | URB

San Mateo County Screening Tables
Particulate Matter less than 2.5 microns (ug/m^3) Generated from Roadways

San Mateo County State Highways			
Highway Number	**Average Daily 2-Way Traffic Volumes (vehicles/day)**	**Start Location**	**End Location**
1	65,000	Pebble Beach Road to Pescadero	Daly City, North Highway 280
35	32,500	Alpine/Page Mill Roads	Daly City, John Daly Boulevard
82 (El Camino Real)	49,000	Menlo Park, Santa Cruz Avenue	Daly City, Mission Street
84	60,000	Highway 1, West San Gregorio	Menlo Park, Dumbarton Bridge
92	144,000	Half Moon Bay, Highway 1	San Mateo-Hayward Bridge
101	254,000	Menlo Park, University Avenue	Brisbane, Candlestick Park
109	23,800	Menlo Park, Notre Dame Avenue	Menlo Park, Highway 84, Dumbarton Bridge
114	42,000	Menlo Park, Highway 101	East Palo Alto, Highway 84
280	220,000	Sand Hill Road	Daly City, North Highway 1
380	145,000	San Bruno, Highway 280	South San Francisco, Highway 101

How to use the screening tables:

- Distance is from the edge of the nearest highway travel lane to the facility or development
- When two or more highways are within the influence area, sum the contribution from each freeway

NORTH OR SOUTH OF SAN MATEO COUNTY HIGHWAY					
	Distance North or South of freeway - PM2.5 Concentrations (ug/m^3)				
Highway	100 feet	200 feet	500 feet	700 feet	1,000 feet
1	0.36	0.24	0.10	0.084	0.060
35	0.020	0	0	0	0
82	0.28	0.14	0.066	0.050	0.034
84	0.36	0.22	0.10	0.074	0.048
92	1.2	0.36	0.17	0.12	0.086
101	1.4	0.76	0.36	0.28	0.18
109	0.16	0.10	0.040	0.034	0.028
114	0.30	0.14	0.060	0.040	0.032
280	1.0	0.76	0.32	0.26	0.17
380	0.36	0.30	0.20	0.15	0.11

EAST OR WEST OF SAN MATEO COUNTY HIGHWAY					
	Distance East or West of freeway - PM2.5 Concentrations (ug/m^3)				
Highway	100 feet	200 feet	500 feet	700 feet	1,000 feet
1	0.60	0.34	0.15	0.11	0.076
35	0.10	0.012	0	0	0
82	0.48	0.20	0.080	0.056	0.036
84	0.56	0.34	0.12	0.10	0.068
92	1.2	0.38	0.17	0.13	0.10
101	1.6	1.0	0.48	0.36	0.24
109	0.30	0.18	0.050	0.030	0.019
114	0.30	0.20	0.080	0.044	0.034
280	1.8	1.0	0.44	0.32	0.22
380	0.48	0.42	0.26	0.19	0.14

- Screening tables based on meteorological data collected from San Mateo Sewage Treatment Plant in 2005.

Roadway Screening Tables

Surface Streets Screening Tables Particulate Matter less than 2.5 microns (ug/m3) Generated from Roadways

How to use the screening tables:

- Distance is from the edge of the nearest highway travel lane to the facility or development
- When two or more highways are within the influence area, sum the contribution from each freeway

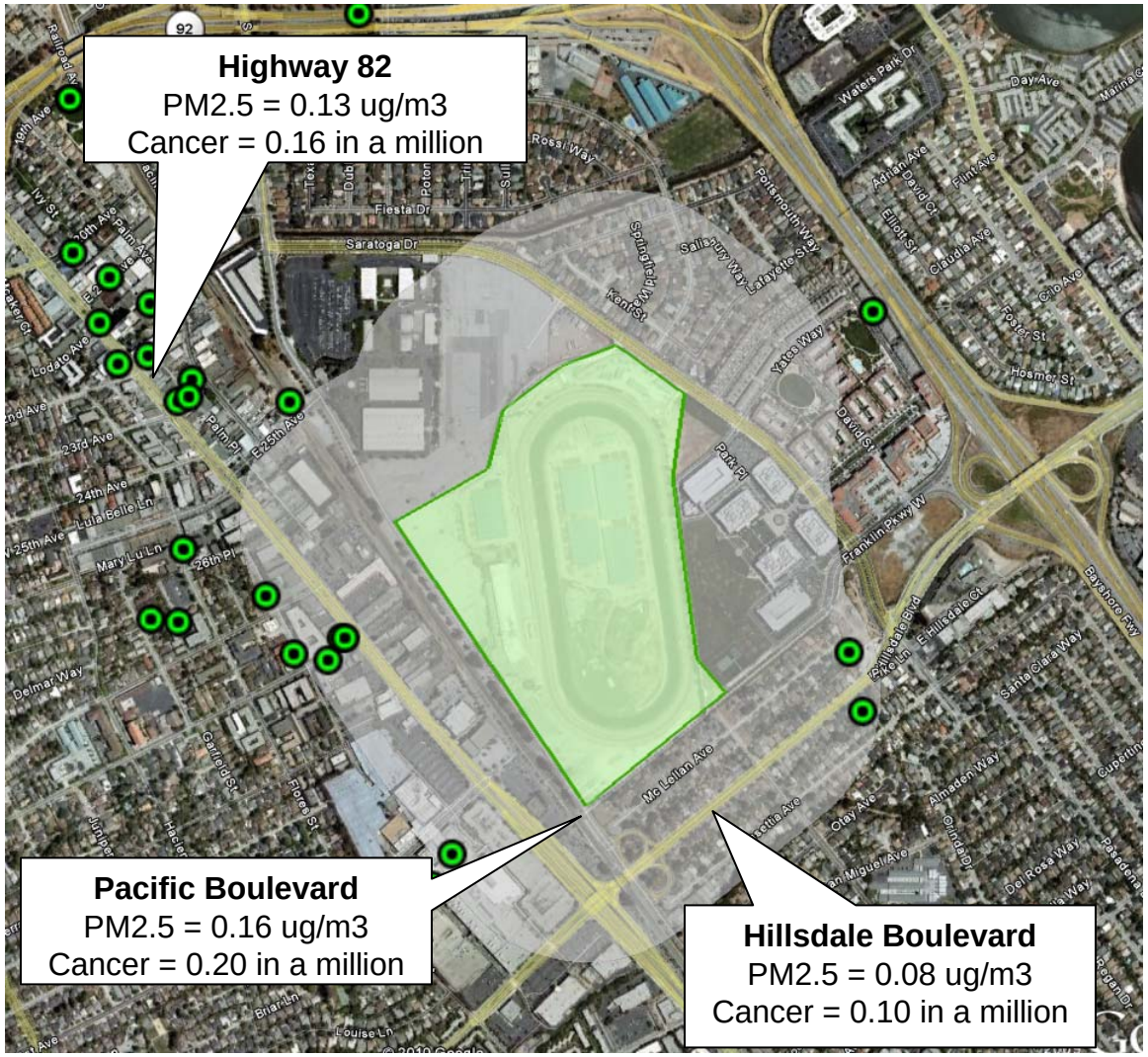
NORTH-SOUTH DIRECTIONAL ROADWAY

Average Annual Daily Traffic	Distance East or West of Roadway - PM2.5 Concentrations (ug/m^3)				
	100 feet	200 feet	500 feet	700 feet	1,000 feet
1,000	No analysis required				
5,000					
10,000					
20,000	0.14	0.090	0.037	0.029	0.021
30,000	0.21	0.14	0.056	0.043	0.032
40,000	0.28	0.18	0.074	0.057	0.042
50,000	0.35	0.23	0.093	0.071	0.053
60,000	0.42	0.27	0.11	0.086	0.063
70,000	0.49	0.32	0.13	0.10	0.074
80,000	0.56	0.36	0.15	0.11	0.084
90,000	0.63	0.41	0.17	0.13	0.095
100,000	0.70	0.45	0.19	0.14	0.11

EAST-WEST DIRECTIONAL ROADWAY

Average Annual Daily Traffic	Distance North or South of Roadway - PM2.5 Concentrations (ug/m^3)				
	100 feet	200 feet	500 feet	700 feet	1,000 feet
1,000	No analysis required				
5,000					
10,000					
20,000	0.16	0.10	0.040	0.030	0.018
30,000	0.25	0.17	0.075	0.048	0.028
40,000	0.28	0.21	0.092	0.072	0.046
50,000	0.35	0.26	0.12	0.090	0.070
60,000	0.42	0.31	0.14	0.11	0.084
70,000	0.49	0.36	0.17	0.13	0.10
80,000	0.56	0.42	0.19	0.14	0.11
90,000	0.63	0.47	0.22	0.16	0.13
100,000	0.70	0.52	0.24	0.18	0.14

Roadway Impacts: Bay Meadows II, San Mateo



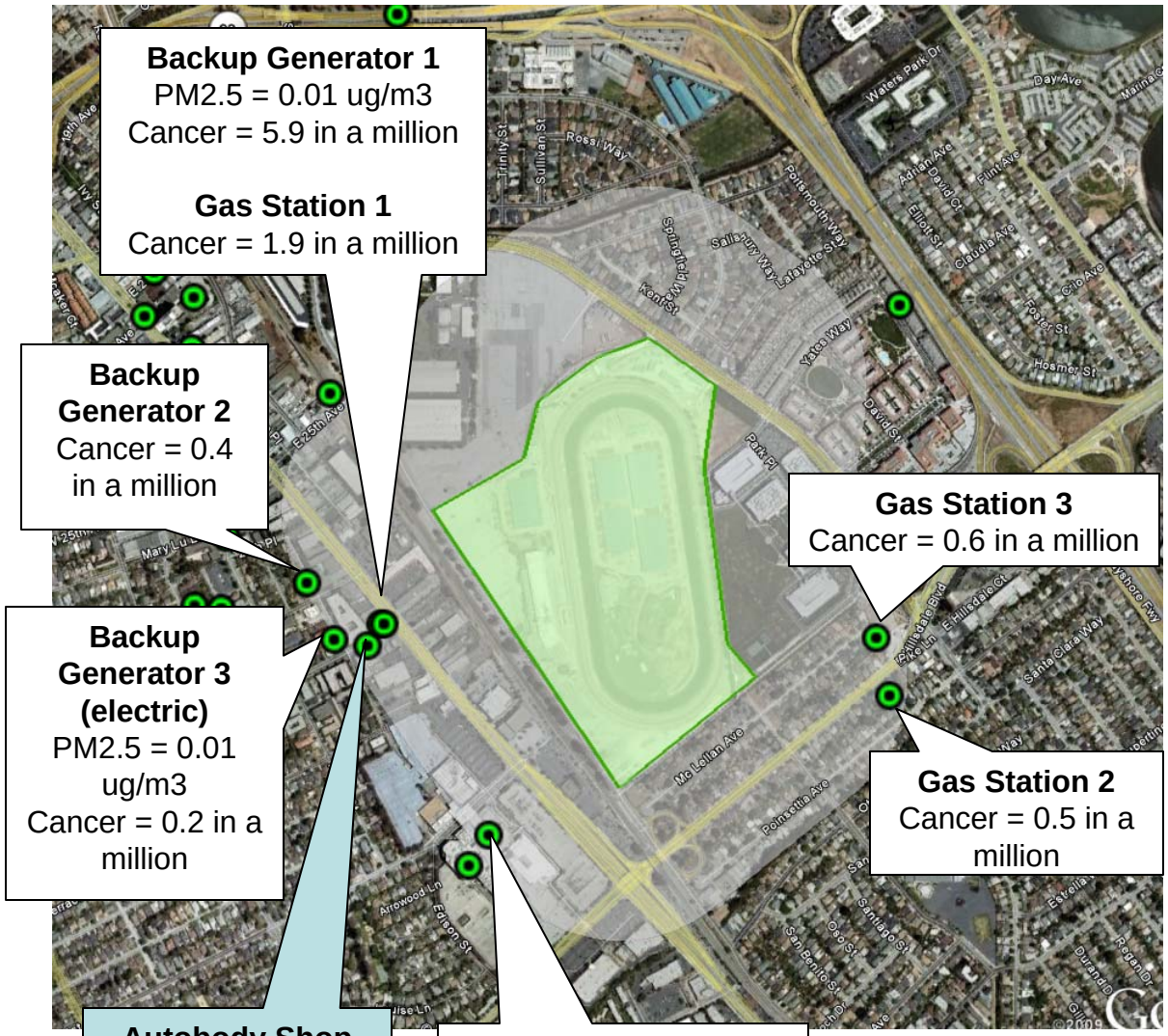
PM2.5 Impacts:

Roads	PM2.5 (ug/m3)	CEQA Threshold
Highway 82 El Camino Real	0.13	0.3
Pacific Blvd	0.16	
Hillsdale Blvd	0.08	

Cancer Impacts:

Roads	Cancer (in millions)	CEQA Threshold
Highway 82 El Camino Real	0.16	10
Pacific Blvd	0.20	
Hillsdale Blvd	0.10	

Permitted Source Impacts: Bay Meadows II, San Mateo



PM2.5 Impacts:

Source	PM2.5 (ug/m3)	CEQA Threshold
Generator 1	0.01	0.30
Generator 3	0.01	

Cancer Impacts:

Source	Cancer (in millions)	CEQA Threshold
Generator 1	5.9	10
Gas Station 1	1.9	
Generator 2	0.4	
Generator 3	0.2	
Generator 4	2.0	
Gas Station 2	0.5	
Gas Station 3	0.6	

Cumulative Impacts: Bay Meadows II, San Mateo

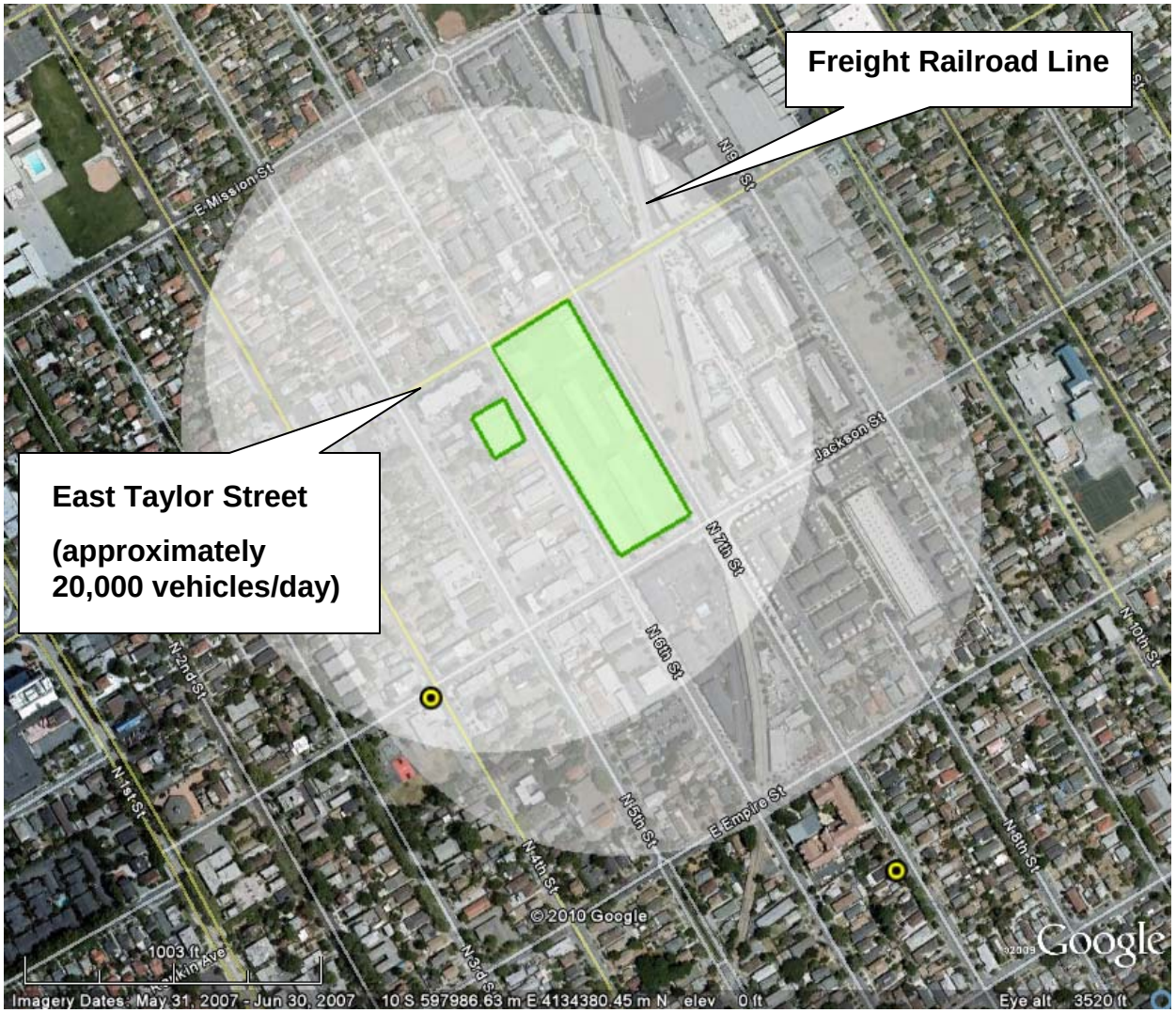
PM2.5 Impacts:

Source	PM2.5 (ug/m3)	CEQA Threshold
Roads	0.37	0.80
Stationary Sources	0.02	
CUMULATIVE	0.39	

Cancer Impacts:

Source	Cancer (in millions)	CEQA Threshold
Roads	0.46	100
Stationary Sources	12	
CUMULATIVE	13	

Case Study: Japantown Redevelopment Project, San Jose



Step 1 – Determine 1,000 foot radius

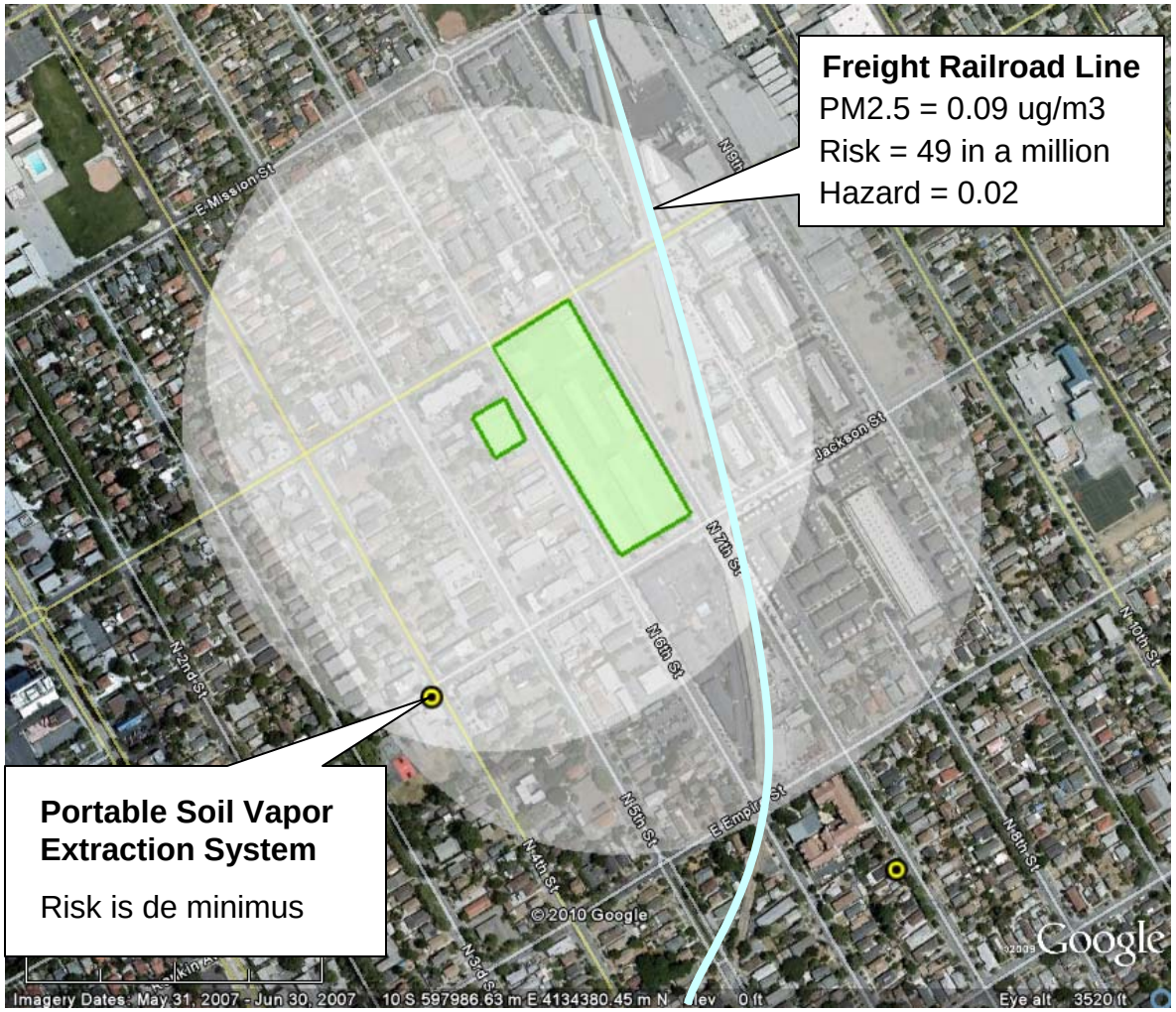
Step 2 – Identify local roads (>10,000 vehicles/day) and freeways to be evaluated

Step 3 – Identify local permitted sources

Step 4 – Identify other sources

- Freight railroad line

Japantown Redevelopment Project, San Jose



NOTE: Portable soil vapor extraction system has de minimus risk and consequently, the risks were not added to the cumulative evaluation

Roadway Impacts:

Type	100 feet from roadway	CEQA Threshold
PM2.5	0.22	0.3
Risk	1.8	10
Hazard	Below 0.01	1

Freight Rail Line Impacts:

Type	100 feet from railroad	CEQA Threshold
PM2.5	0.09	0.3
Risk	49	10
Hazard	0.02	1

CUMULATIVE IMPACTS:

Type	Roadway and Stationary Sources	CEQA Threshold
PM2.5	0.31	0.8
Risk	51	100
Hazard	0.02	10

Next Steps

- Workshops in each county with local staff – April
- Public workshops for interested stakeholders – April
- CAPCOA HRA/Land Use Workshop – May 3
- URBEMIS/GHG off-model training - May
- Seek Air District Board approval of significance thresholds in June 2010

Questions or Comments?