



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

CARE Program Task Force Meeting

Update on Local Land Use Guidance

**Virginia Lau
November 18, 2008**



Overview

- Background
- Proposed Local Land Use Flow Diagram
- Description of Key Elements
- Threshold Development
- Questions



Background

- Existing Land Use Documents
 - CARB, South Coast, Sacramento Metro, San Francisco Department of Public Health
- Purpose of the Land Use Document
 - Assist cities and counties in local land use decision making
 - Assess the health impact to new residential developments from existing toxic sources
 - Evaluate the health impact from new commercial development to existing residents
 - Determine when mitigation is required and identify possible measures
 - Assess the effectiveness of the measure
- Target Audience
 - Local city and county planners, community, developers, consultants, local decision makers



Fruitvale Village in Oakland

Mixed Commercial/Residential Development near BART





Uptown Plan in Oakland



Mixed Commercial/Residential Development near BART



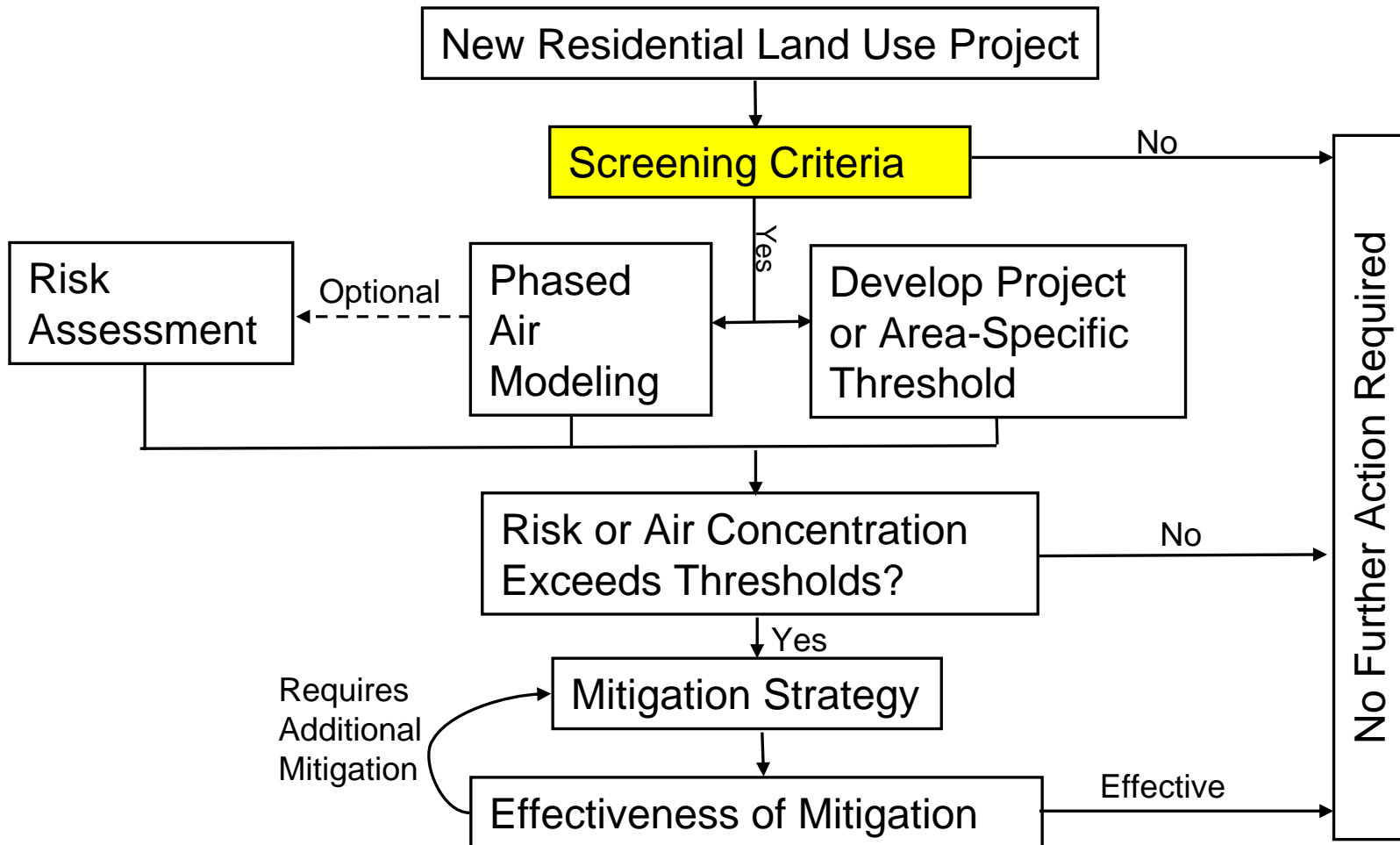
Wood Street Townhomes West Oakland



Scope of Presentation

- Project-level Guidance
 - Guidance for new residential developments
- To be Addressed
 - Planning/zoning level guidance
 - Guidance for new commercial/industrial sources

Proposed Flow Diagram



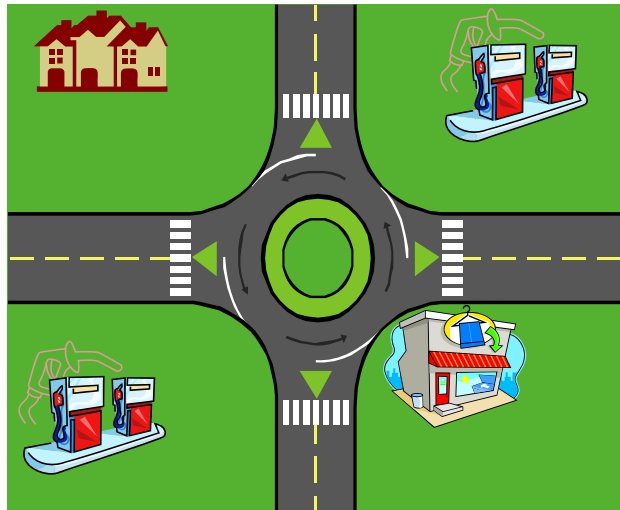
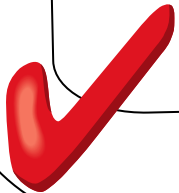
Example Screening Criteria

SINGLE SOURCE SCREEN

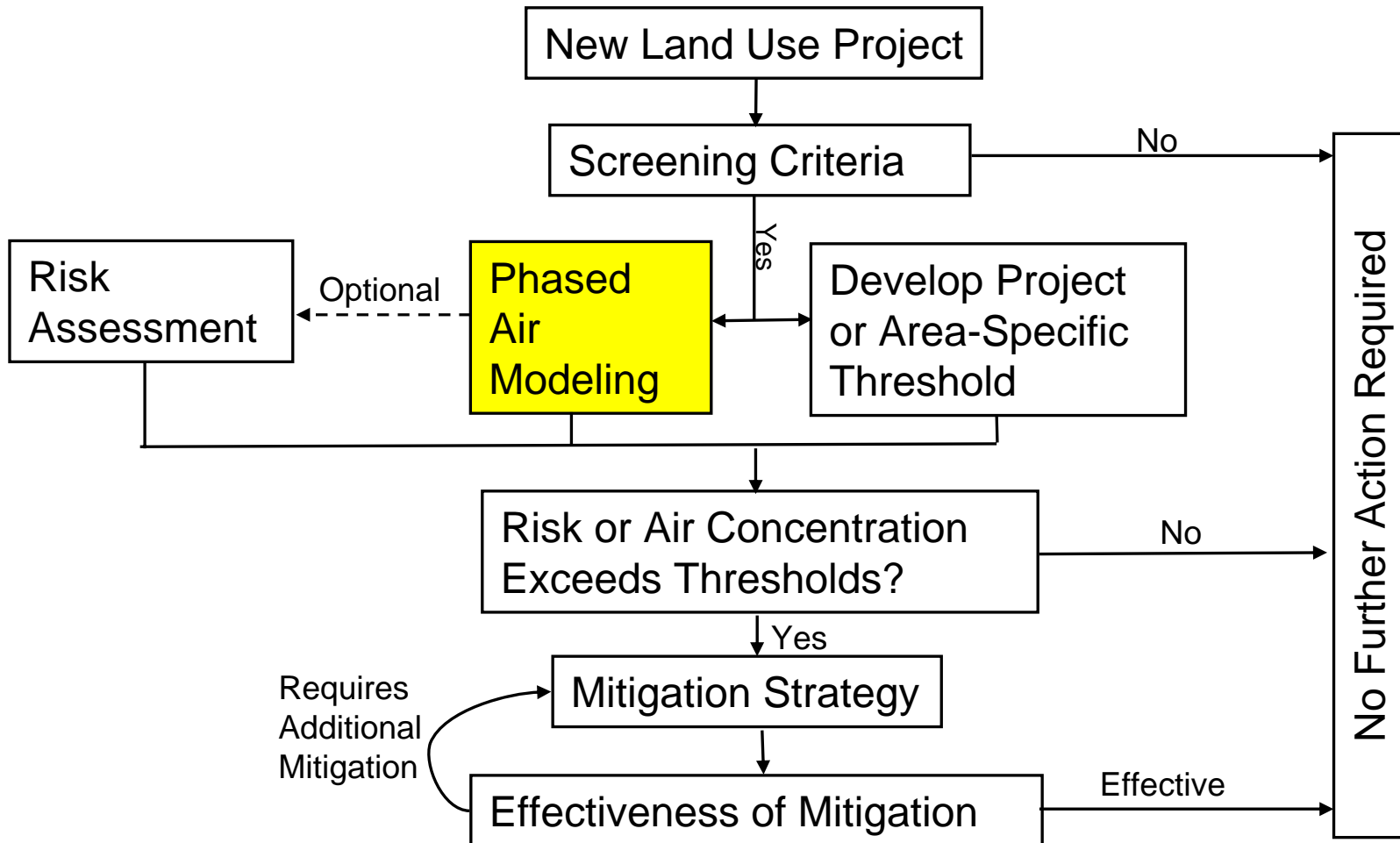
500 feet from freeway
1,000 feet from distribution center
300 feet from dry cleaner
300 feet from gas station

MULTIPLE SOURCE SCREEN

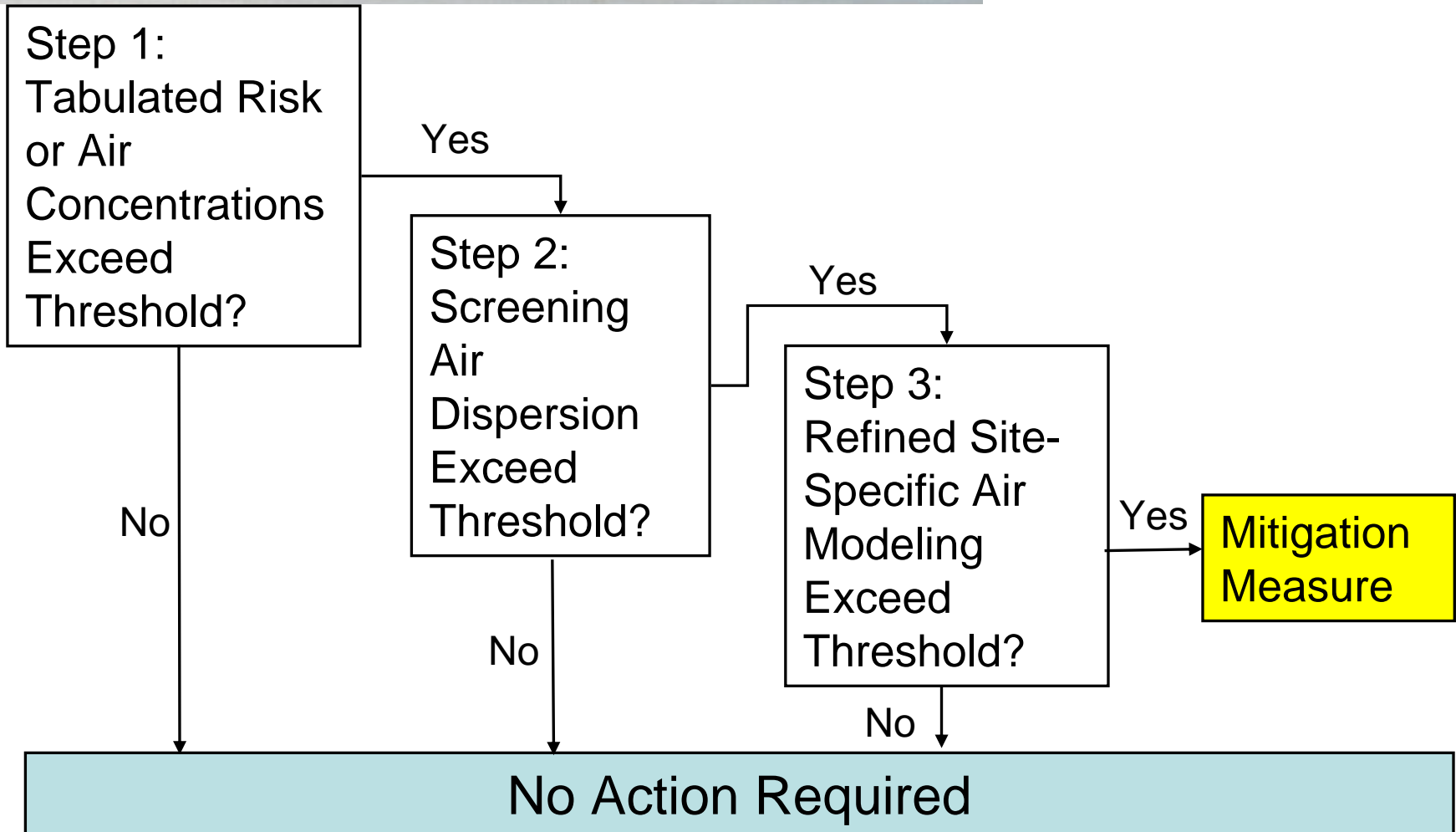
No more than (3) Type A sources within 300 feet
No more than (2) Type B sources within 500 feet
No more than (1) Type C sources within 1,000 feet



Proposed Flow Diagram



Phased Air Modeling





Phased Air Modeling

- Step 1

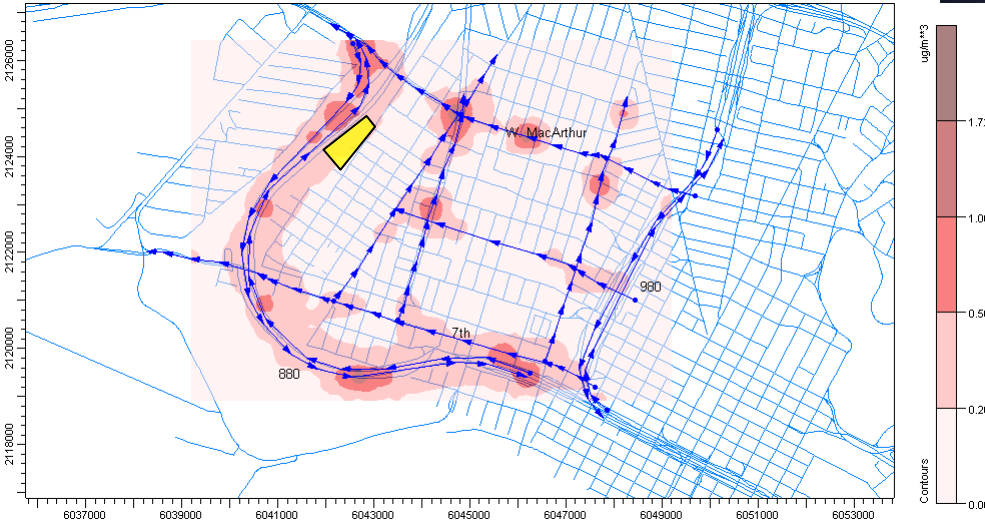
Area-specific lookup risk or PM concentration tables (example) based on the peak number of vehicles/hr and distance to road

Peak Hour Traffic (vehicle/hr)	Receptor Distance from Edge of Nearest Travel Lane (feet)			
	50	100	200	300
EXAMPLE Incremental Cancer Risk North of East-West Roadway: downwind (North)				
5,000	630×10^{-6}	558×10^{-6}	462×10^{-6}	339×10^{-6}
10,000	837×10^{-6}	741×10^{-6}	615×10^{-6}	453×10^{-6}
15,000	$1,047 \times 10^{-6}$	927×10^{-6}	768×10^{-6}	567×10^{-6}
20,000	$1,257 \times 10^{-6}$	$1,113 \times 10^{-6}$	924×10^{-6}	681×10^{-6}

Phased Air Modeling

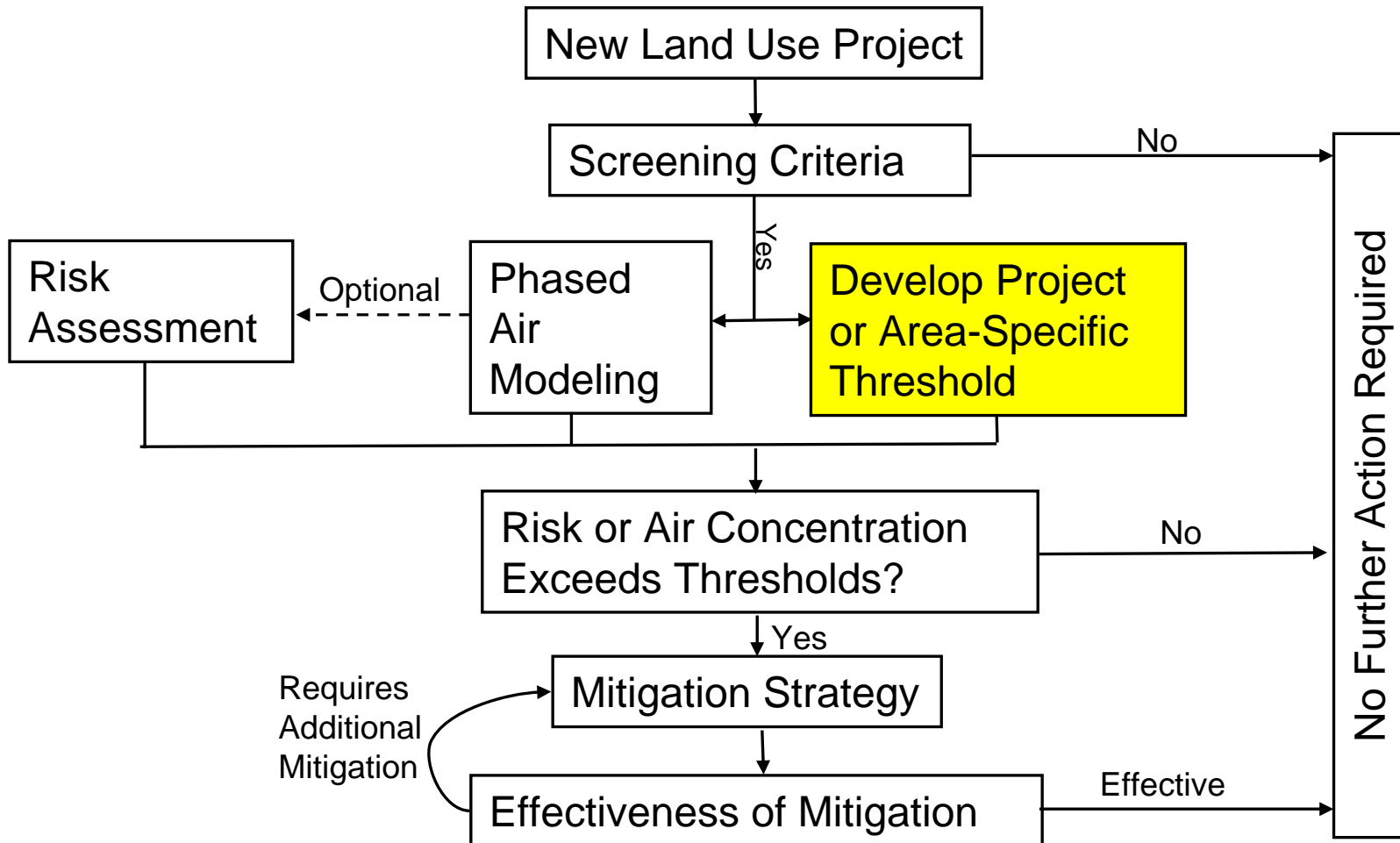
- Step 2
Screening air dispersion runs with default parameters
- Step 3
Refined air modeling using site-specific meteorology and site conditions





Wood Street Townhomes West Oakland

Proposed Flow Diagram



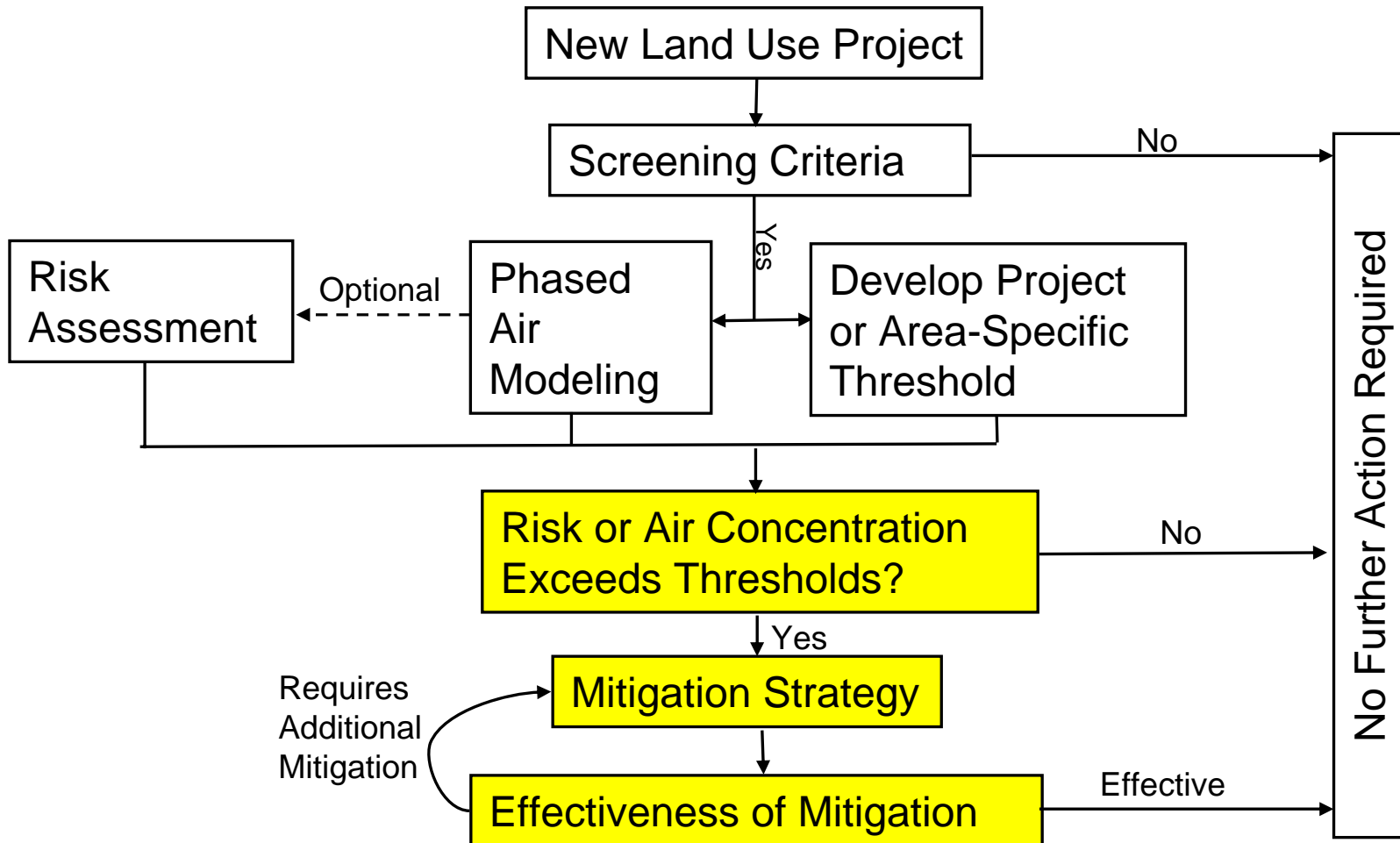


Threshold Development

- Recommend Single Threshold for the Bay Area
 - Use safety factors to adjust threshold based on proximity to industrial and road sources

EXAMPLE Sources within 500 feet radius of the project	Safety Factor
Petroleum dry cleaners, gas stations, auto body shop, printing shop	A
Landfill, waste water treatment plant (POTW), medical waste incinerator, recycling/garbage transfer station, livestock or dairy operation, construction site, roadways (<100,000 to 50,000 cars/day)	B
Gasoline refinery, shipbuilding and repair, hazardous waste incinerator, freight distribution center, truck stop and weighing station, freeway or main arterial roadways (>100,000 cars/day) , railyard, Ports	C

Proposed Flow Diagram



Examples of Mitigation Measures

- Source Specific Measures
 - Install controls or BACT, use green equipment, reduce idling, electrify auxiliary power, use low sulfur fuel, limit hours of activity, install barriers, synchronize signals, enforce truck routes
- Land Use and Design Features
 - Follow setbacks, add landscaping, relocate industrial sources, install ventilation system, move local services closer to community, change location of doors and windows
- Regulations and Incentives
 - Air Toxic Control Measures, Grant funding



Measure Effective Mitigation

- Comparison of pre and post mitigation using refined analysis (e.g., emission calculations or modeling)
- Monitoring (e.g., field van or stations)
- Community Feedback
- Unquantifiable





Questions

- Should the District set a Bay Area-wide threshold or present a methodology for cities and counties to establish their own threshold?
- What factors should be considered in developing the thresholds?
- Should threshold be based on particulate matter concentrations or cancer risk or something else?
- General opinion on the concepts?