



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

# Board of Directors Retreat/Special Meeting

January 16, 2019

Jack P. Broadbent  
Executive Officer/APCO





BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

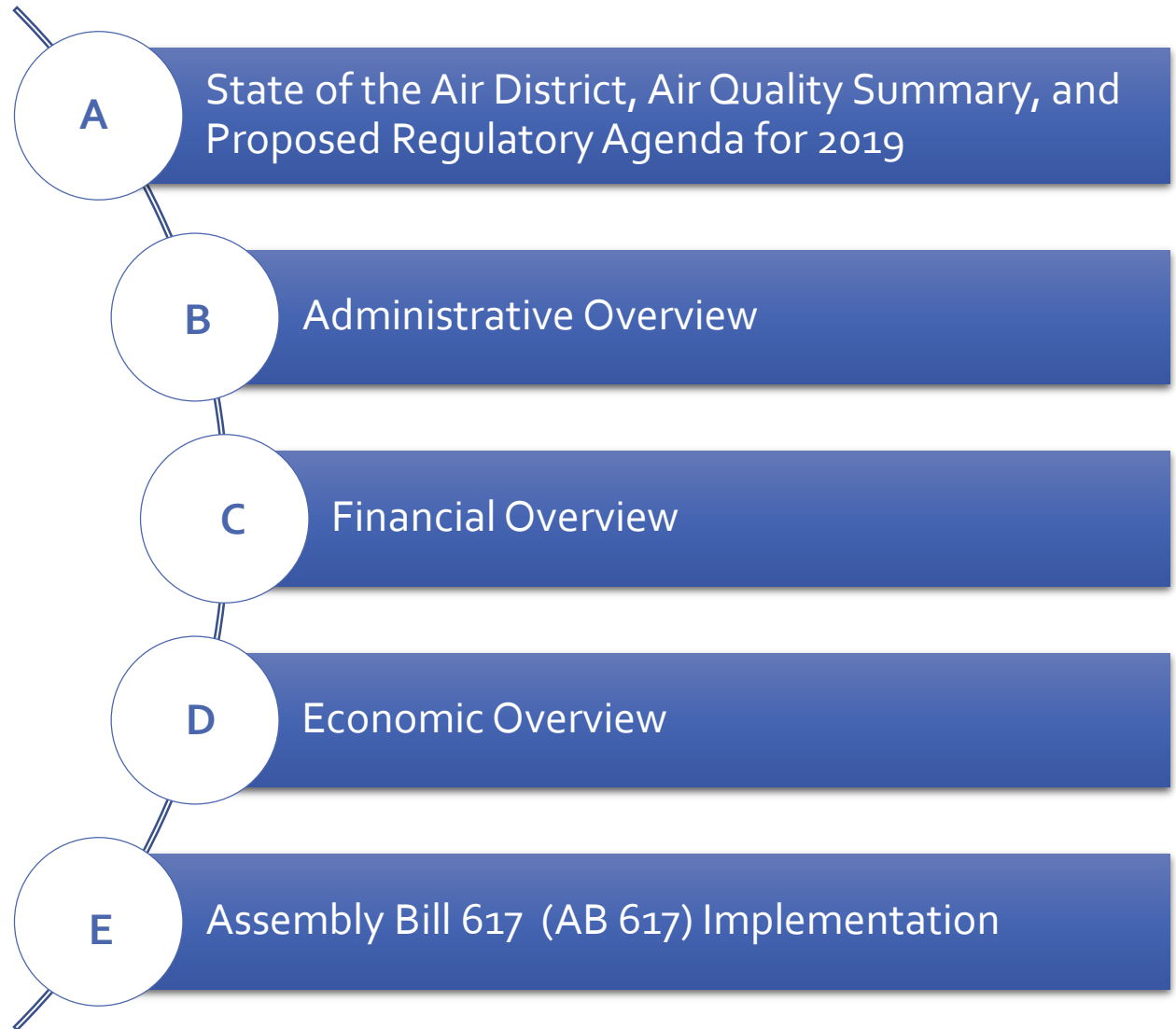
# Opening Comments

**Chairperson Katie Rice**

Board of Directors



# Overview



# Overview (Cont.)



AGENDA: 11A

# State of the Air District, Air Quality Summary and the Proposed Regulatory Agenda for 2019

**Jack P. Broadbent**

Executive Officer/Air Pollution Control Officer



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT





# State of the Air District

- Air Quality Continues to Improve
  - Focus Increasingly on Community Level Health Impacts
  - Experienced Worst Air Quality from Wild Fires
- Continued leadership critical
- Financially secure, need to remain mindful of resources
- Implementation efforts crucial
- Key Policy Initiatives

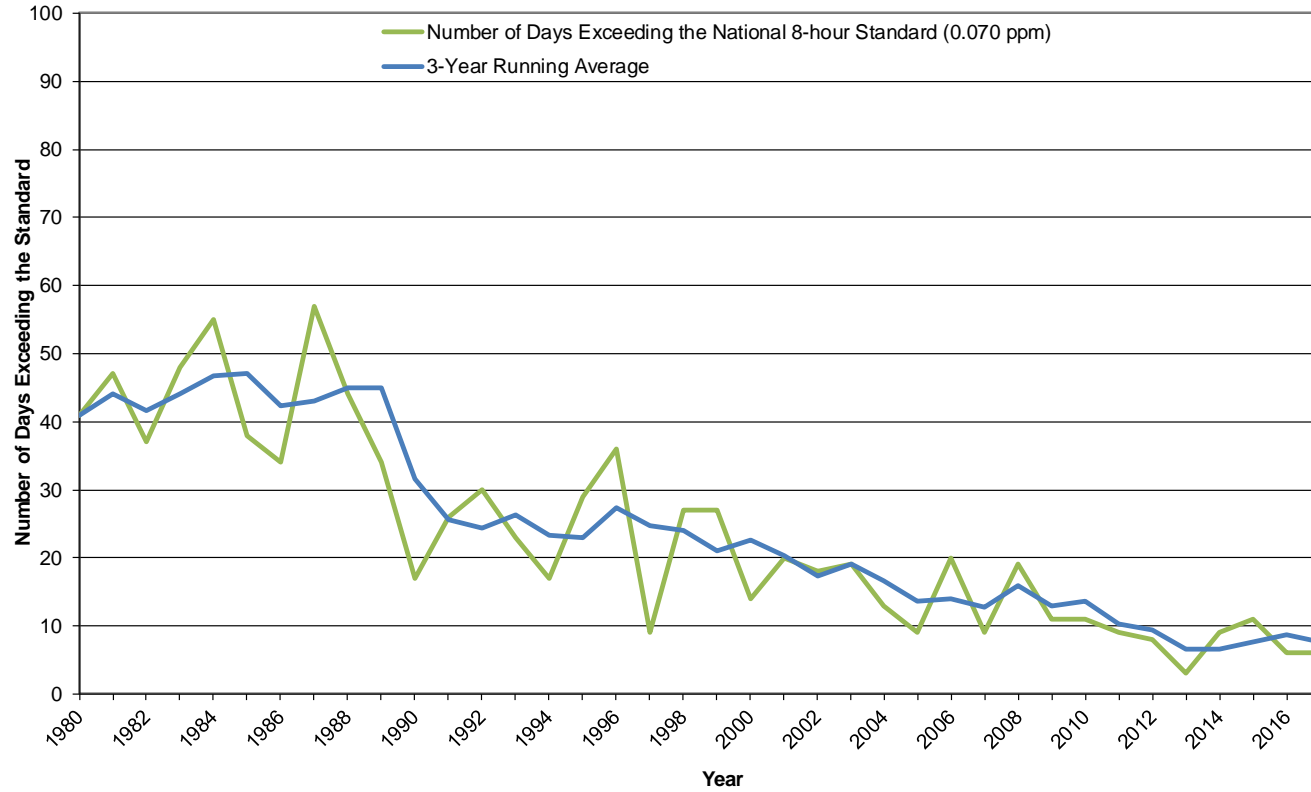


# Air Quality Summary

- Regional Pollutants
  - Ozone (O<sub>3</sub>)
  - Fine Particulate Matter (PM<sub>2.5</sub>)
  - Toxic Air Contaminants (TACs)
- Climate Pollutants (e.g. GHGs)
- Focus on local exposure
- Monitoring technology continues to evolve
- Public support and interest continues to grow



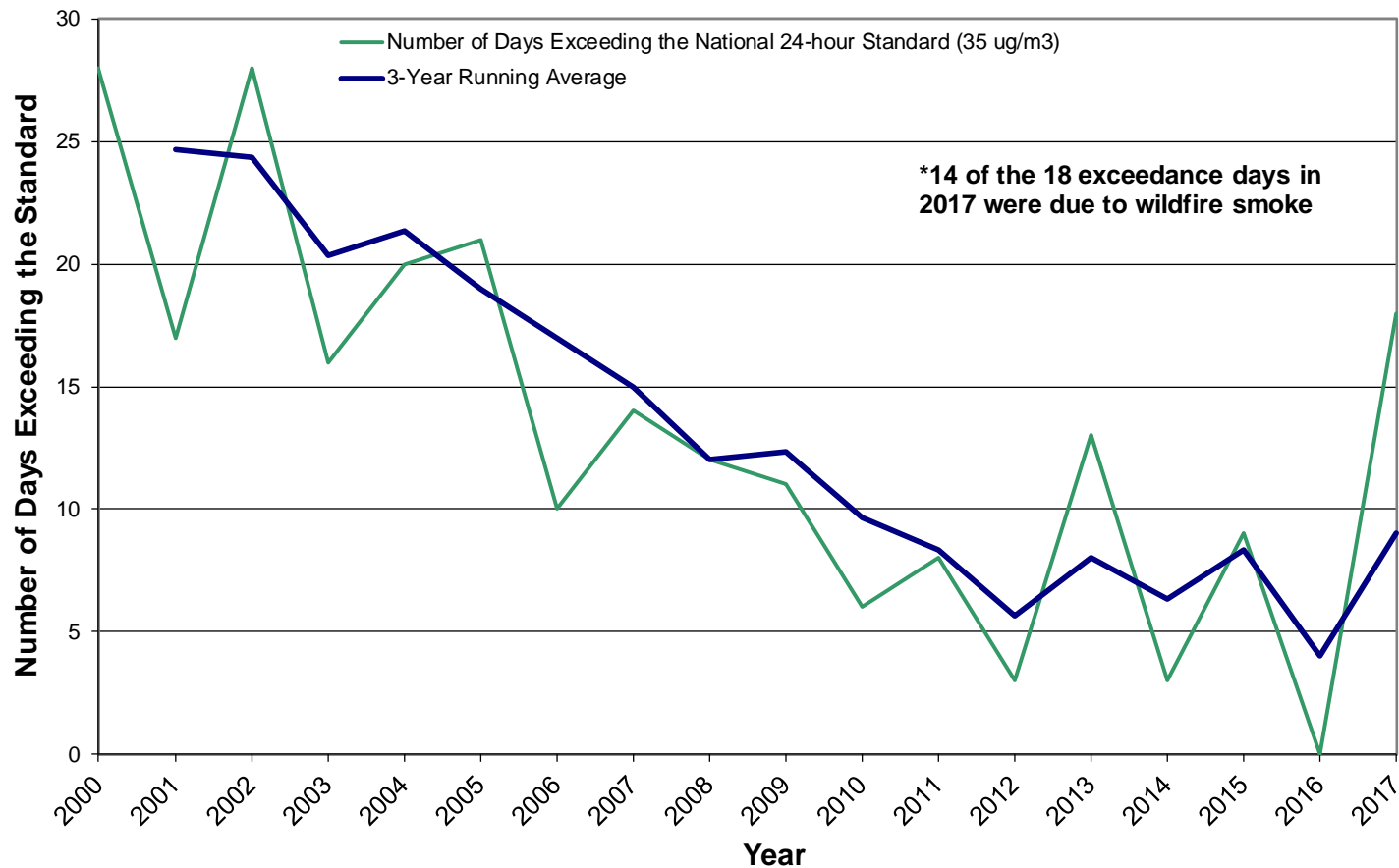
## Bay Area Ozone Trends







## Bay Area PM<sub>2.5</sub> Exceedance Trends





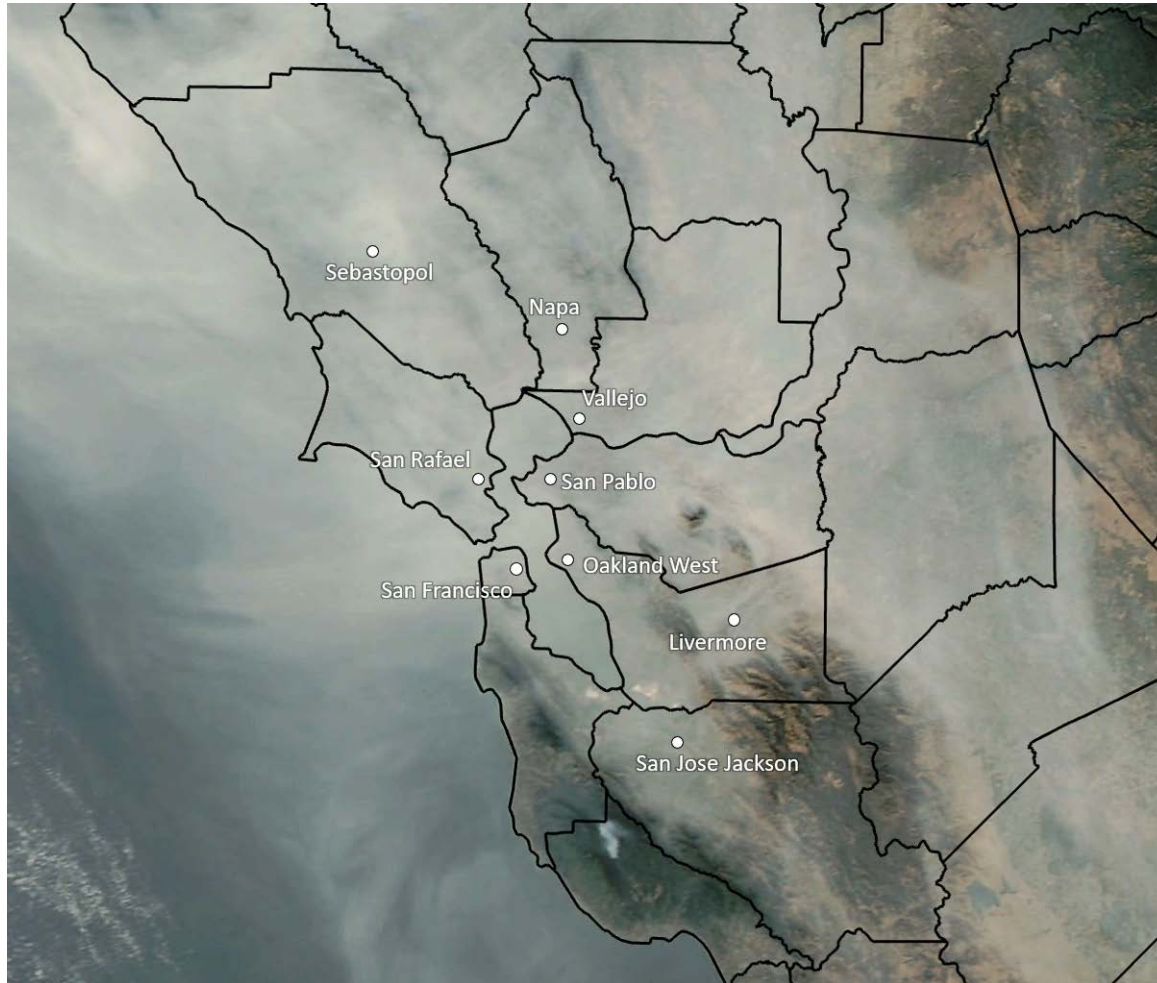
# Marin County – Mount Tamalpais





## Localized Fire Impacts Seen on October 12, 2017 –

Station	24-hour Avg. Concentration ( $\mu\text{g}/\text{m}^3$ )	1-hour Max. Concentration ( $\mu\text{g}/\text{m}^3$ )
Sebastopol	20	46
Napa	113	323
Vallejo	80	176
San Rafael	56	120
San Pablo	59	148
Oakland West	55	82
San Francisco	50	88
Livermore	34	64
San Jose Jackson	34	80



## Camp Fire Impacts November 16, 2018

Station	24-hour Avg. Concentration ( $\mu\text{g}/\text{m}^3$ )	1-hour Max. Concentration ( $\mu\text{g}/\text{m}^3$ )
Sebastopol	89	104
Napa	118	154
Vallejo	197	245
San Rafael	168	218
San Pablo	195	301
Oakland West	169	210
San Francisco	178	241
Livermore	172	287
San Jose Jackson	131	151



# Proposed Regulatory Agenda for 2019

- Assembly Bill (AB 617) Implementation
- Best Available Retrofit Control Technology (BARCT) Rulemaking
- Wildfire Air Quality Response Program
- Groundbreaking Methane Rules
- Implementation of Key Programs



- Direct Grants and Incentives to Cities, Counties and Public Agencies
- Monitor Progress
- Consider Rulemaking Based on Progress



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

# Administrative Overview

AGENDA: 11B

**Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

**Rex Sanders**

Chief Administrative Officer





# Human Resources Update

- Staffing
- Organizational Audit
- Labor Contract





# Air District Financial Overview



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

AGENDA: 110

**Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

**Jeff McKay**

Chief Financial Officer





# Fiscal Update

- 405 positions
- \$99 M Budget
- Healthy Reserves
- Real Estate Diversification
- Accelerated Paydown of Unfunded Liabilities

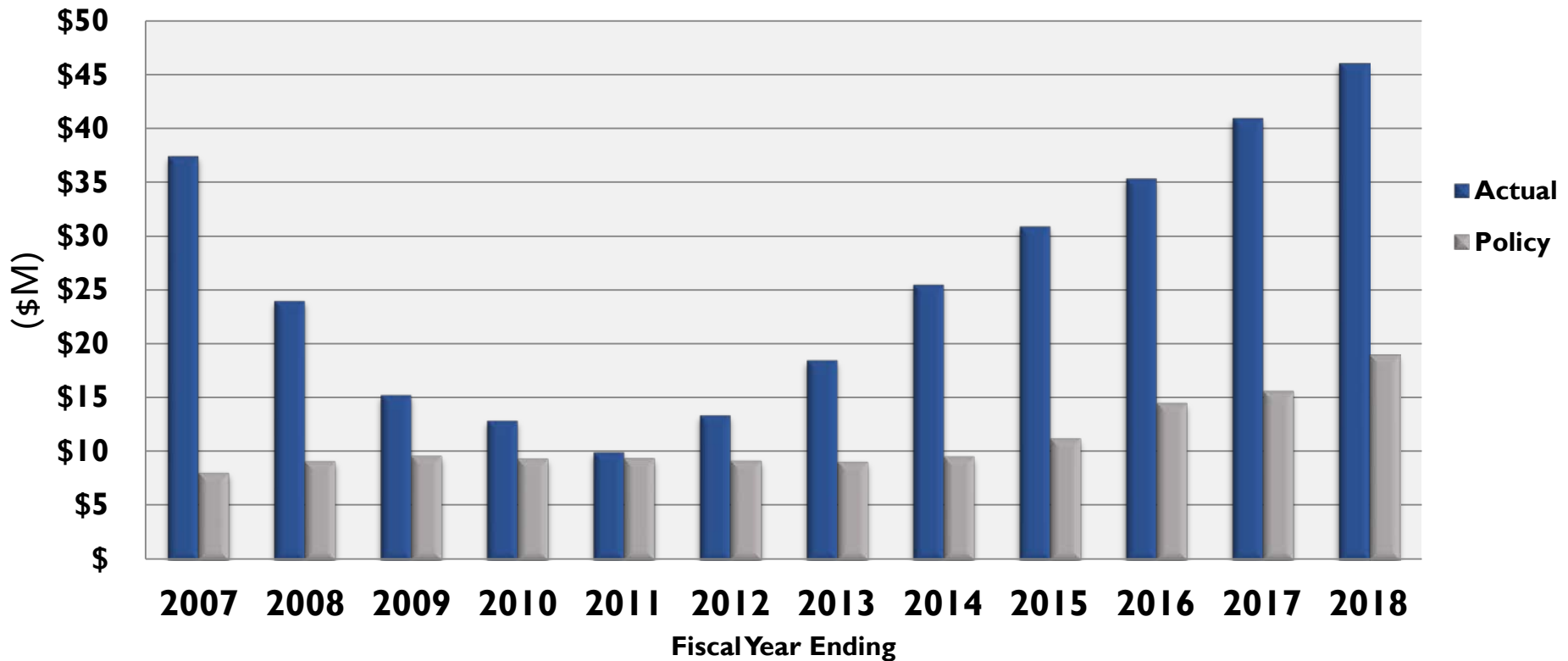




# Actual Reserves & Policy

Excluding Building Sale Proceeds

## General Fund Reserves: Actual Compared With Policy



In 2016, Policy change from 15% to 20% of General Fund Budget



# Real Estate Update

- 375 Beale Street  
Additional Purchase
- Air District East Bay Facility

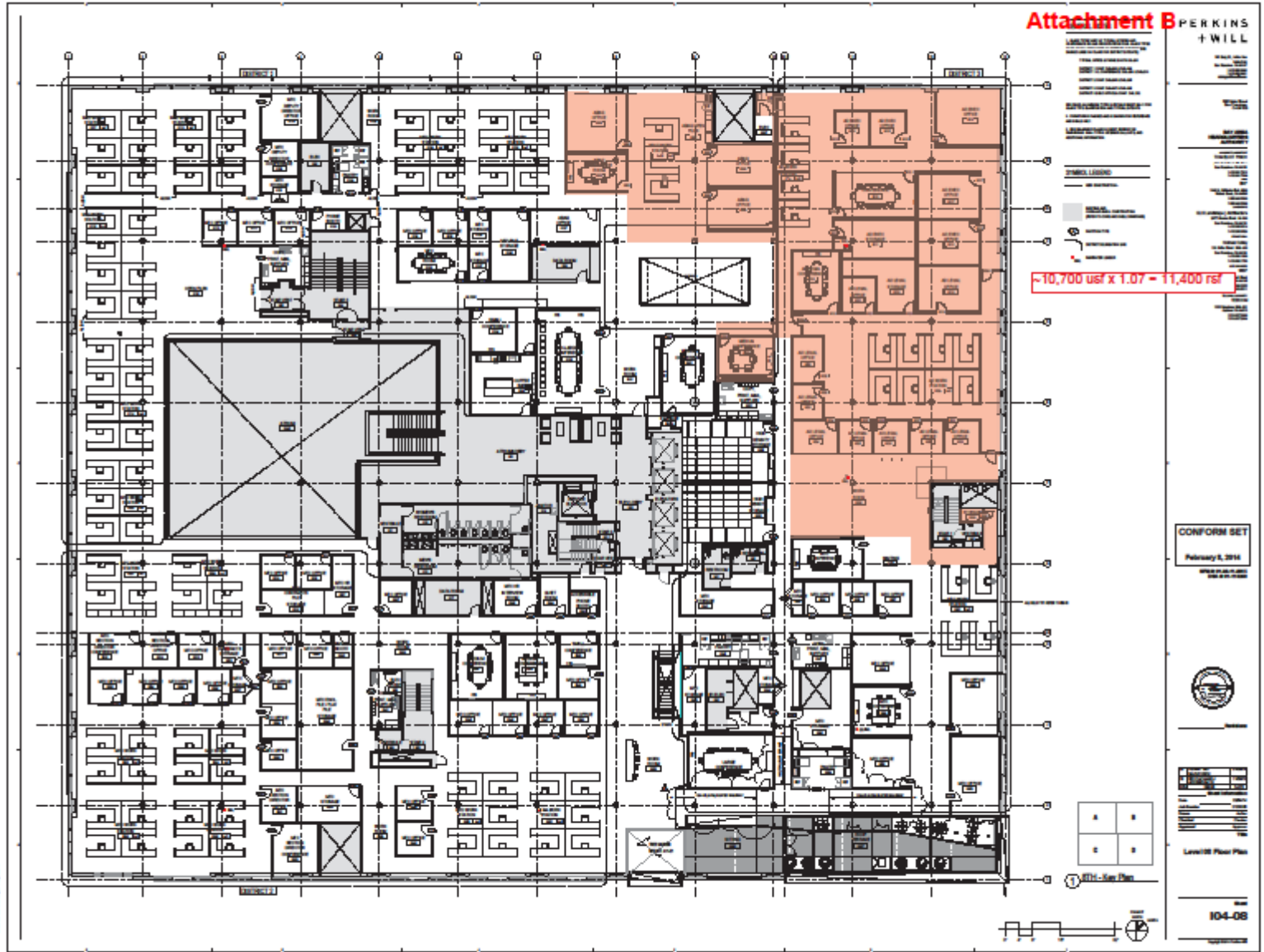




## Eighth Floor Purchase Completed

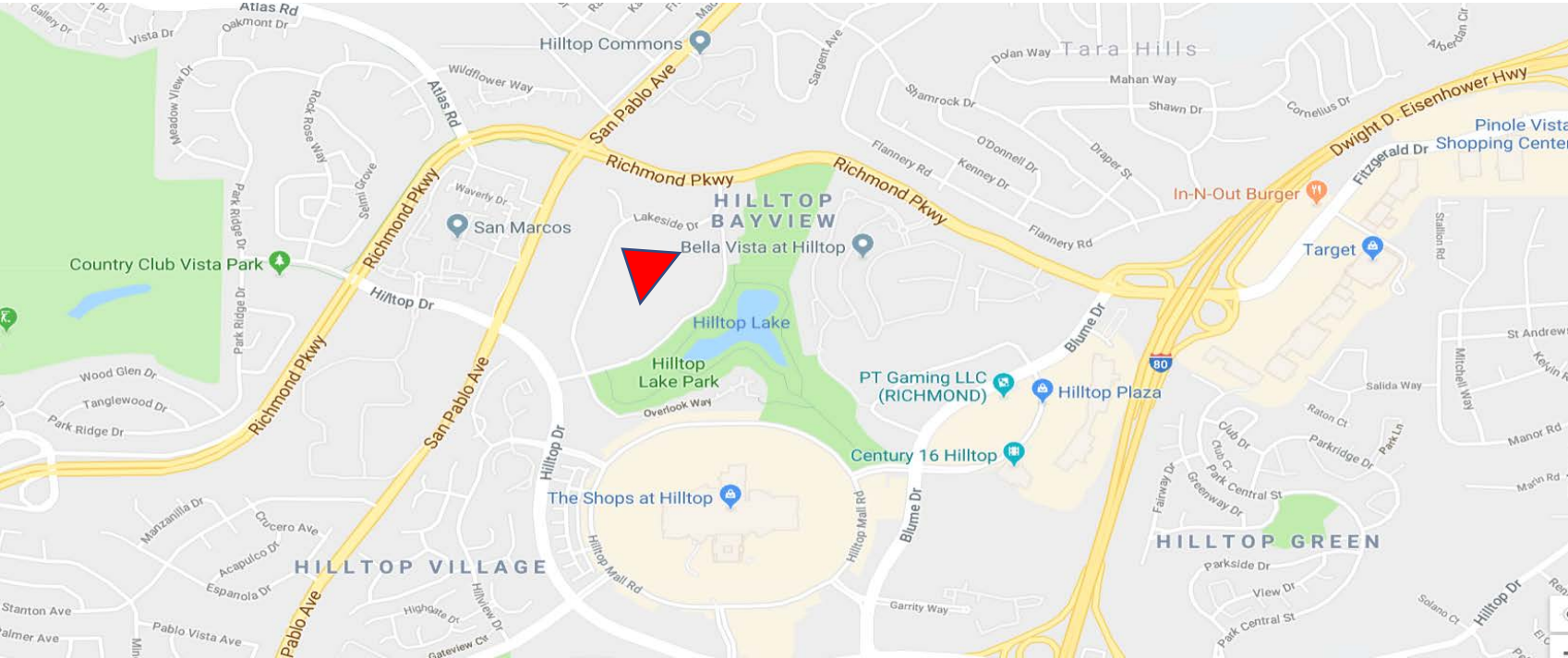
- Addition to existing Condominium Unit 3
- Currently occupied by Air District
- 11,400 regional square foot (rsf)
- Northeast corner of Floor 8
- \$385 / rsf fully furnished
- Total \$4.4 M (cash)

# Purchase of Eighth Floor Space Outline





# East Bay Air District Facility Purchase





# East Bay Air District Facility Purchase Completed

- 45,000 square foot Facility in the City of Richmond
- \$8,650,000 purchase price (cash)
- Phased Move / Lease Back
- USES
  - Staff and Operations
  - Business Continuity / Incident Response
  - Videoconferencing
  - Drop-in Workstations
  - Community Services







BAY AREA AIR QUALITY  
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# Economic Overview

AGENDA: 11D

**Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

**Jeff McKay**

Chief Financial Officer

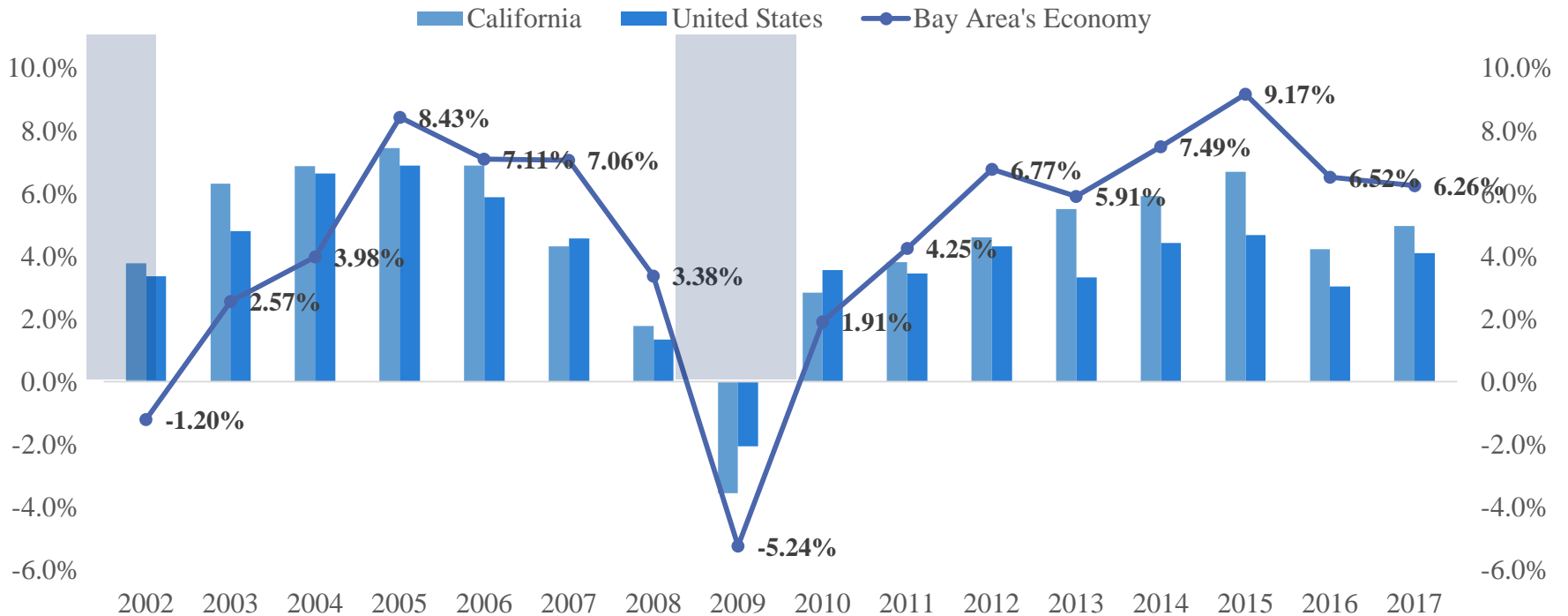
**Leonid Bak**

Economist





# Comparison of Bay Area's Economic Performance Compared to California and US, 2001-2017 – Annual GDP Change

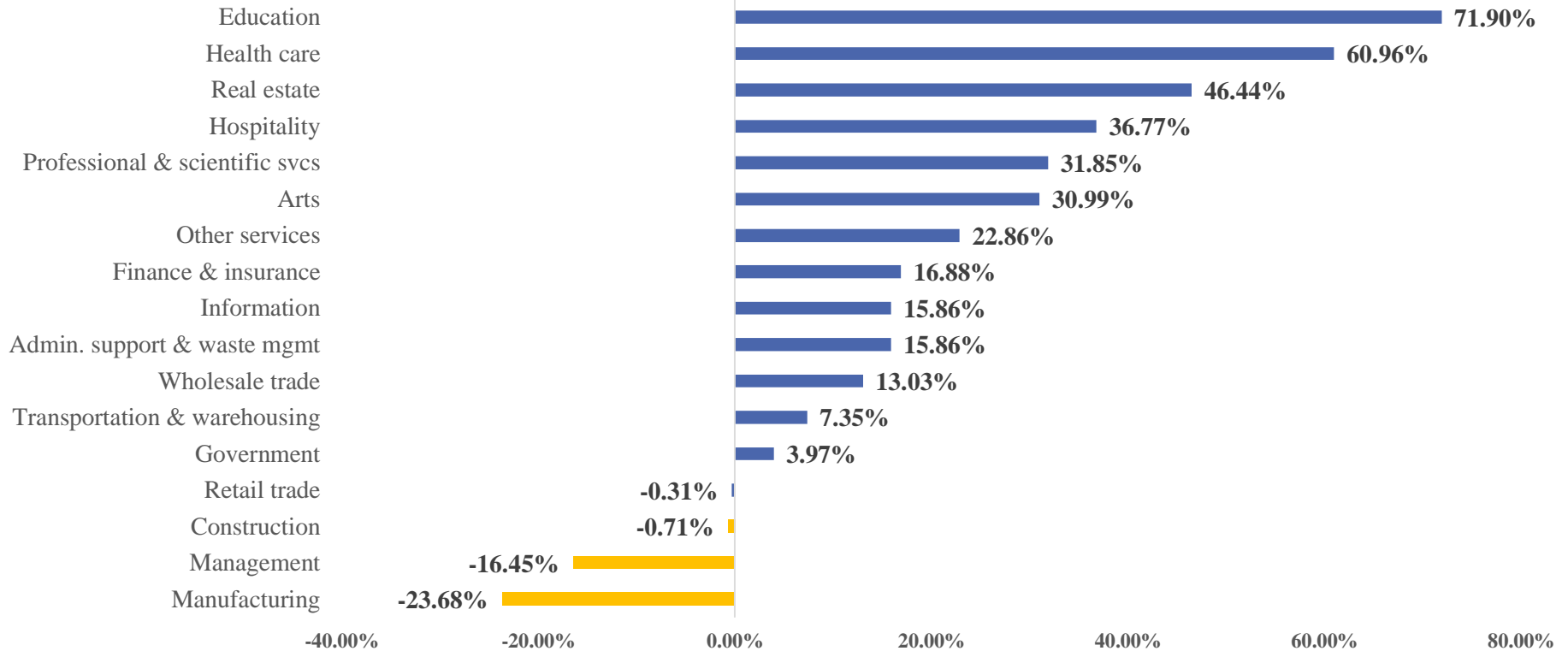


Source: US Bureau of Economic Analysis, BAAQMD  
*Shaded areas indicate US economic recessions*



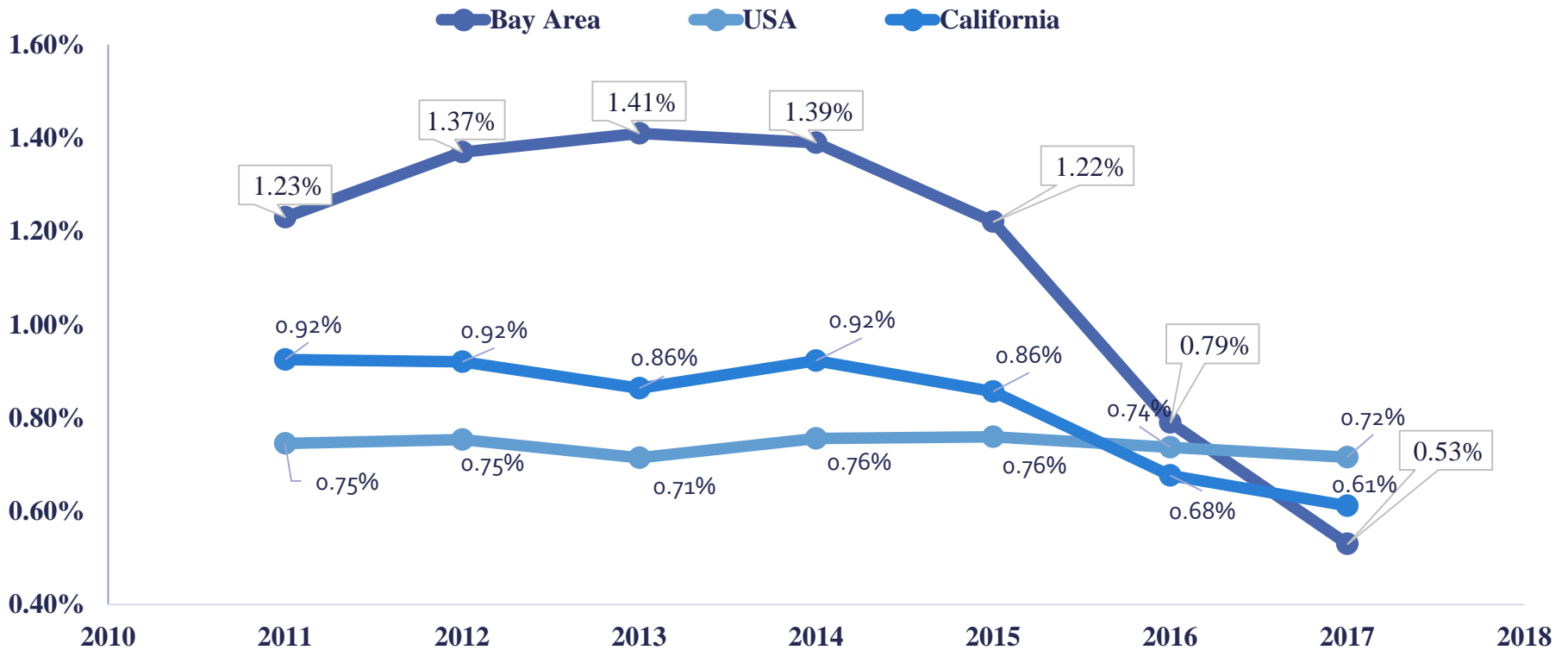
# Gainer and Loser Industries in the Bay Area's Changing Jobs Landscape: Cumulative Change in Industry Employment between 2001 and 2016

Cumulative Change in Total Employment by Industry (percent change in the number of jobs by industry)



Source: US Dept. of Commerce, Bureau of Economic Analysis, Data for the Combined Statistical Area San Jose – San Francisco

# Bay Area Total Annual Population Growth Rates Compared with California and the US, 2010 - 2017

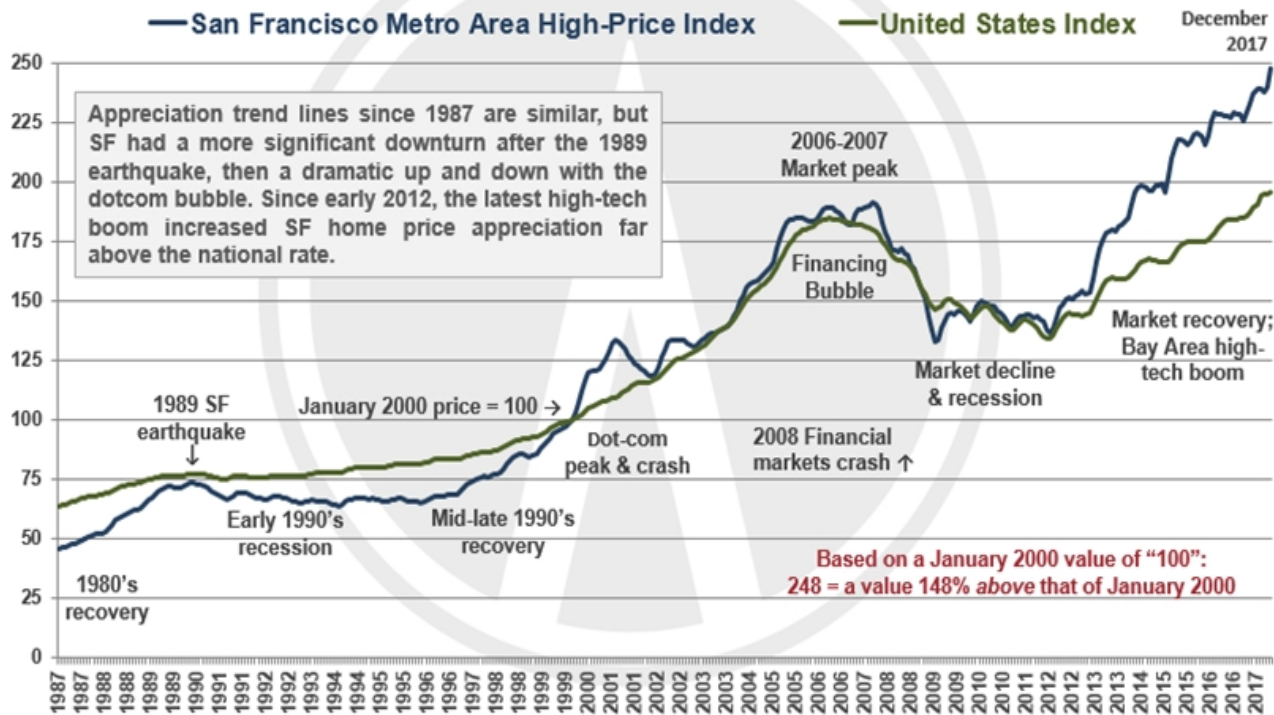


Source: US Census, BAAQMD

# So, how does the Bay Area Real Estate Market Compare to the United States Average?

**CoreLogic S&P Case-Shiller Home Price Index: Appreciation since 1987**  
**United States vs. San Francisco Metro-Area High-Price-Tier Index**

Not seasonally adjusted



- The area has experienced very high growth in housing prices in the 1990s (dot-com boom), mid-2000s (financial bubble), and the current cycle (2012 – still ongoing).
- The area is now over 5 times higher than the national median price
- Sharper peaks and lower valleys in real estate prices – compared to the smoother US average – mirror regional economics

\*The C-S Index 5-county San Francisco Metro Statistical Area includes San Francisco, Marin, San Mateo, Alameda and Contra Costa counties. The Index is published 2 months after the month specified and reflects a 3-month rolling average. The high-price tier reflects the top third of home sales in the SF metro area, which applies to the city of San Francisco better than other tiers.





# Bay Area's Economy: How will the Past Guide our Future?

- Late 1990s - Early 2000s: collapse of the overheated dotcom industries
- Mid 2000s: Housing and Financial bubble
- Late 2000s: Again transformed into an idea center – new focus: social media, sharing economy, tech. services and apps
- Late 2010s: A moderation of the tech. “bubble”?
- No more “tech”: NASDAQ re-classified tech group (FAANG) into “consumer discretionary”(Amazon); communication (Facebook, Apple, etc.)
- **2020s: What is the next state in the area's transformation?**
  - Clean energy focused innovation?
  - A new role for the financial sector?
  - New manufacturing (5G, mass transit, new personal transportation vehicles (autonomous, other types)?)
  - A new role for Biotech?

# Assembly Bill 617 (AB 617) Implementation



BAY AREA AIR QUALITY  
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AGENDA: 11E

**Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

**Greg Nudd**

Deputy Air Pollution Control Officer



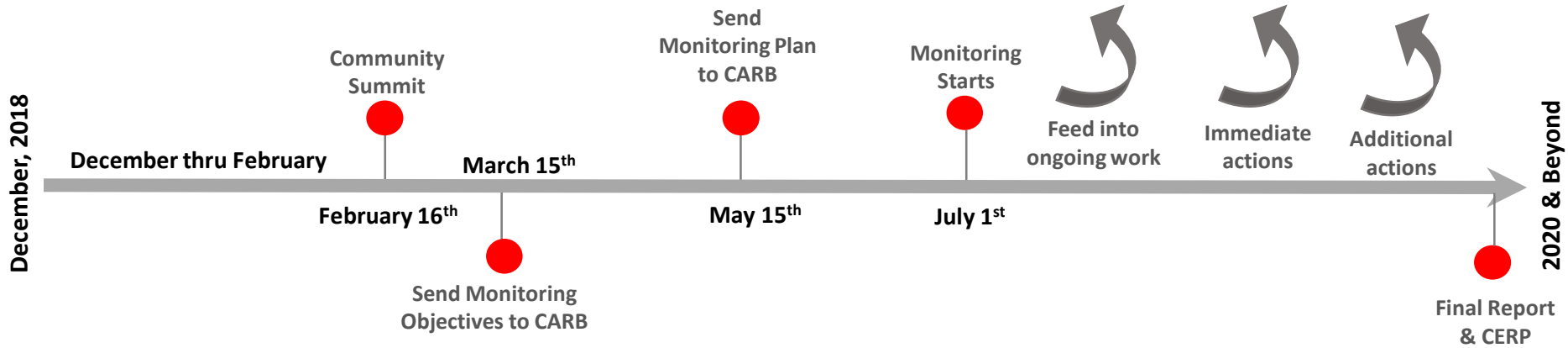


# AB 617 Implementation



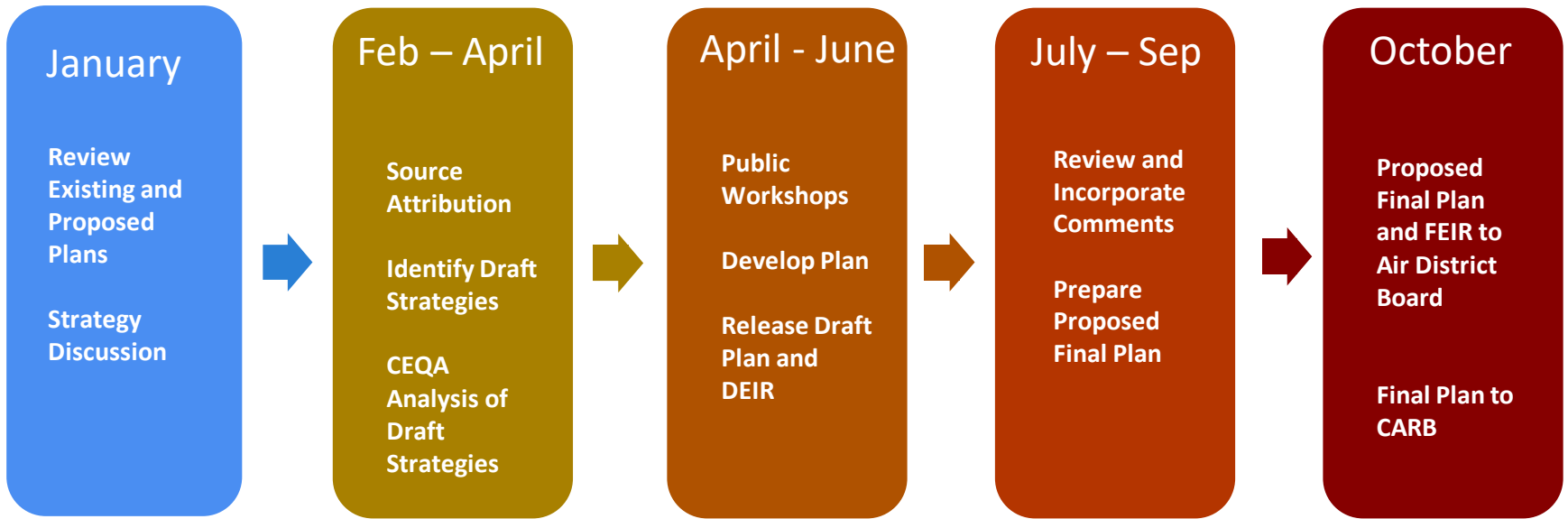


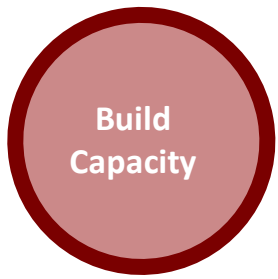
# Richmond Monitoring Plan





# 2019 Plan Milestones





Build Capacity

Ongoing

### Relationship Building

Community members and organizations

Local governments

Regional agencies

January – March 2019

### Needs Assessment

Knowledge of issues & efforts

Leadership

Community climate

Resources

April – December 2019 →

### Strategies

Training and technology transfer

Technical assistance

Community-based participatory research

Empowerment approaches

Authentic participation process

## 2018

### CARB Adopted New Reporting Rule

- Who is subject to rule
- Reporting requirements
- CARB and AD responsibilities
- **Unspecified reporting thresholds for later reporting years**

## 2019

- **Develop Reporting Thresholds for Later Years**
  - Significant work needed to develop “extended 15-day” regulatory text
- **Adapt District business practices to meet rule deadlines**
- **Work with ARB and other districts to develop statewide uniform reporting methods**

## 2019 Expedited BARCT Schedule

Organic Liquid Storage Tanks

Begin workshops late Summer

Petroleum Wastewater Treatment

Begin workshops mid Fall

Refinery Heavy Liquid Leaks

Begin workshops Spring

Refinery FCCUs and Boilers

Technical work and engagement

# Climate Protection Program



BAY AREA AIR QUALITY  
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AGENDA: 11F

**Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

**Greg Nudd**

Deputy Air Pollution Control Officer





# Climate Pollutant Rule-Making

Climate Pollutants & Organics Materials Handling	Q1	Q2	Q3	Q4
Regulation 13: Climate Pollutants	W			BH
Rule 13-1: Significant Methane Leaks	W			BH
Rule 13-2: Organic Material Handling	W			BH
Rule 13-3: Composting Operations	W			BH
Rule 13-4: Sewage Treatment & Anaerobic Digestion		W		
Rule 8-34: Solid Waste Disposal (Landfills)		W		
Rule 8-37: Natural Gas & Crude Oil Production Facilities		W		

W = Workshop  
 BH = Board Hearing



# Climate Protection Grant Program

\$4.5 million awarded in 17 grants to public agencies

Projects are underway with some exciting activities planned in 2019...

Brisbane **building ordinance** for energy auditing, benchmarking and retro-commissioning

**Regional incentive program** for heat pump water heaters in low-income multi-family homes

San Jose Zero Net Carbon **Mobile Demonstration Project**

Sonoma County **e-bike program launch**: events, incentives and demonstrations

Marin County building specifications, guidance and **model ordinance for low-carbon cement**

San Mateo County Housing Authority **design competition** for all-green accessory dwelling units

Marin County "**All-Electric Home Guide**" for homeowners, contractors and building inspectors





# Diesel-Free By '33

Program to serve 130+ local government and industry leaders:

- Policy Support

- Model policies and ordinances for local government adoption
- Best practices for fleet managers

- Technical Assistance

- Webinars connecting local governments with technology providers
- Assistance in developing inventories of diesel equipment and vehicles



# Diesel-Free By '33

- Funding and Financing
  - Low interest financing, loan guarantees through partnership with CA Infrastructure Bank
  - Funding through Air District grants and incentives
- Management of the Diesel-Free Network
  - Protocol for monitoring and reporting progress
  - Outreach and recruitment of new signatories
  - Convening of signatories



# Clean Air Plan Implementation Priorities for 2019

## Accelerate Change Through Local Action:

- Implement and replicate Climate Grants
- New policy effort to decarbonize existing buildings
- Push all-electric new construction
- New diesel-free model ordinance
- CEQA GHG thresholds and guidance

## Implement Methane Strategy

- Adopt methane rules
- Reduce upstream organic waste
  - Replicate best practices in organics recovery
  - Launch sustainable food initiative

## Impact Major Sectors

- Energy: support community energy programs
- Transportation: EV funding, active transportation and trip reduction
- Super-GHGs: refrigerant program for small businesses

## Strategic Approach:

- Analyze emissions inventory
- Prioritize high-impact efforts
- Focus where Air District adds value

# Stationary Sources Update



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

AGENDA: 11G

**Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

**Damian Breen**

Deputy Air Pollution Control Officer





# UPDATE ON STATIONARY SOURCE EFFORTS - REGULATION 11-18

## **Facility Air Toxic's Risk Reduction Program – 2019:**

- **Prioritizing 43 Phase I Facilities**
  - Updating and Verifying Emissions and Point Source Information
  - Conducting Health Risk Screens
  - Requiring Risk Reduction Plans
  - Currently on Schedule



# UPDATE ON STATIONARY SOURCE EFFORTS - REGULATION 12-15

## **Refinery Emissions Tracking - 2019:**

- Emissions Inventories due each June 30:
  - Staff expecting to release 2 years of data later in 2019
- Continue to monitor Crude Slate Reports
- Complete Heavy Liquid Fugitives Study:
  - Emission Factor Development
  - Publish Results
- Fence line Monitoring:
  - Air Monitoring Plans approved
  - Needs to be in operation by June 2019



# UPDATE ON STATIONARY SOURCE EFFORTS REFINERY PROJECTS

- **Chevron Modernization Project**
  - Start-up of New Hydrogen Plant
  - Fluid Catalytic Cracking Unit (FCCU) and Sulphur Recovery Unit modifications
- **Marathon (Tesoro)**
  - New Nitrogen Oxide Controls at the FCCU
  - Low Carbon Intensity Project – bio-oil feed to the FCCU
- **Phillips 66**
  - Marine Terminal – Request to increase crude and gas oil brought via ship
  - Propane Recovery Project – Recover propane from the refinery fuel gas



# UPDATE ON STATIONARY SOURCE EFFORTS MAJOR FOCUS AREAS

- **Organic Waste Diversion**
  - Wastewater
  - Composting
  - Material Recovery Facilities
  
- **Asphalt and Concrete**
  - SB 1, Beall: Road Repair Accountability Act



# Technology Information Office



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

AGENDA: 11H

**Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

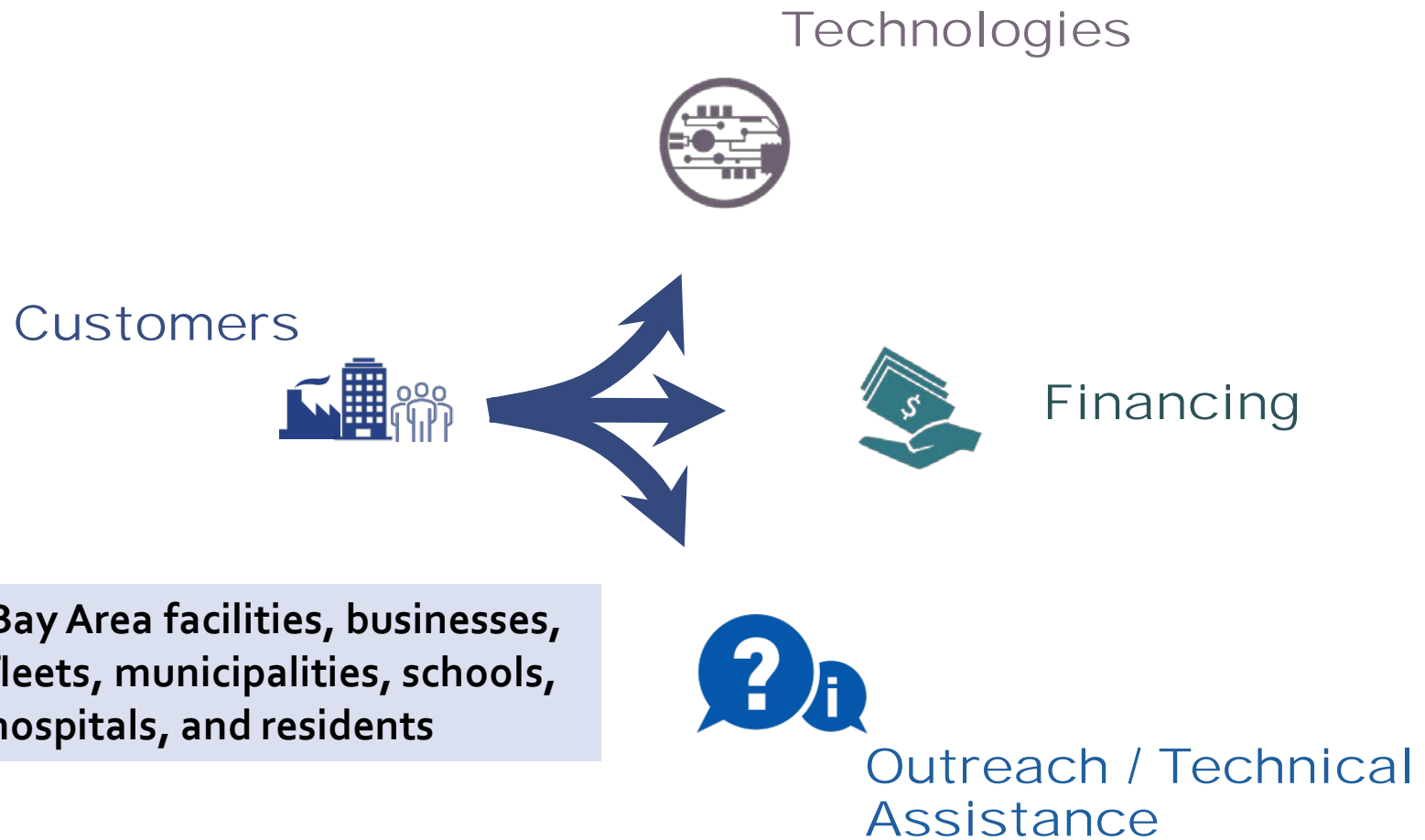
**Ranyee Chiang**

Technology Officer



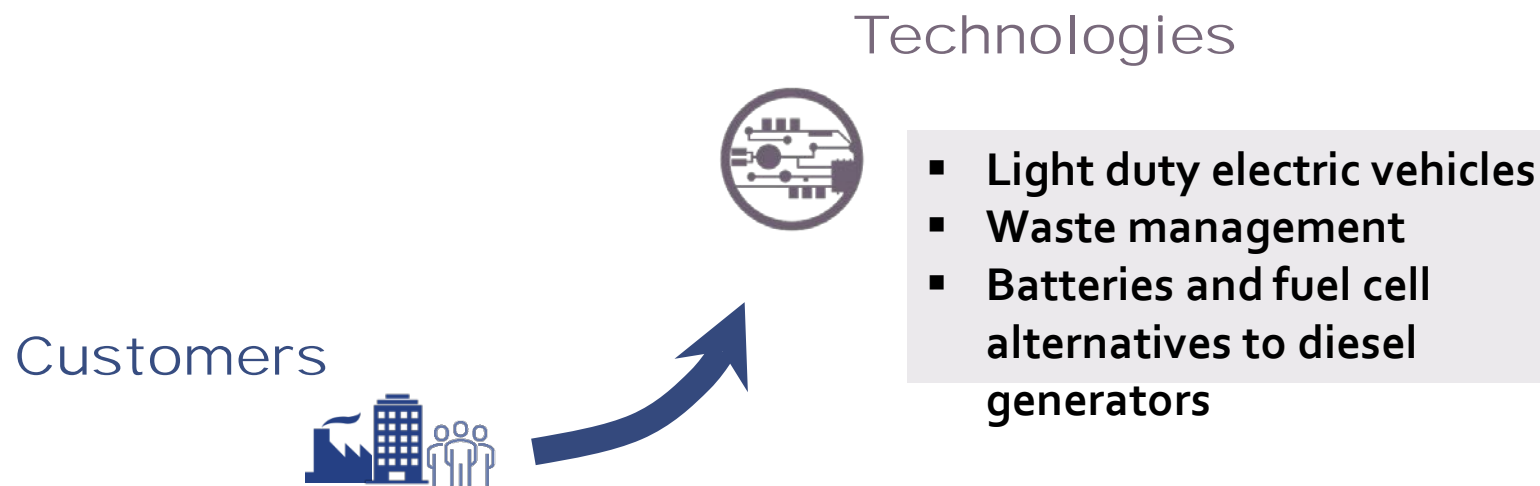


# Mission: Accelerate Adoption of Climate Technologies to Reduce Demand for Fossil Fuels





# 2018: Climate Technology Review to Prioritize Focus Areas



In-depth technology review completed to prioritize demonstrated or early commercial technologies with potential to scale:

- Climate Technology Review: <http://www.baaqmd.gov/ctf>
- Diesel Free by '33 Technology Review: <http://dieselfree33.baaqmd.gov/tech-assessment>



# 2018: Established and Updated Financing Mechanisms to Support Technology Projects

Customers



Financing



- Grants
- Low interest loans
- Loan guarantees

- Building on Air District grant mechanisms and processes
- Finalized partnership with California Infrastructure and Economic Development Bank (IBank) for loans and loan guarantees
- Air District provides matchmaking with Bay Area Facilities, emerging technology evaluations, and financing resources



# 2018: Key Programs

## Climate Tech Finance

- Loan guarantees for small businesses/industrial facilities
- Loans for public industrial facilities

## Charge!

- Grants for publicly accessible electric vehicle infrastructure

## Clean Fleets

- Grants for public and private zero emission light duty vehicle

## Clean Cars for All

- Voucher for clean vehicle or transportation card for low income consumers who turn in older vehicle



# 2019: Partnerships with Customers and Projects

Customers



- Outreach to regulated facilities for Climate Tech Finance
- Climate Tech Network events to connect technology developers, customers, and local governments
- Increase utilization of light duty EV grant funding
- Bay Area EV Acceleration Plan (update to 2018 Readiness Plan)



Outreach / Technical Assistance

# Wildfire Air Quality Response



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

AGENDA: 111

## **Jack P. Broadbent**

Executive Officer/Air Pollution Control  
Officer

## **Wayne Kino**

Deputy Air Pollution Control Officer

## **Alan Abbs**

Legislative Officer





# Wildfire History

- The October 2017 wildfires in Sonoma and Napa counties, the November 2018 Camp Fire in Butte County and fires outside the state have had major air quality impacts in the Bay Area.
- The smoke impact in the Bay Area reached unprecedented unhealthy levels and the Bay Area Air Quality Management (Air District), provided support via air quality and smoke information, monitoring and N95 masks.
- Recurring and unprecedented wildfires throughout California has prompted a discussion on the Air District's role in wildfires.
- Staff has been developing an Air District program for wildfire preparation, prevention, and response.

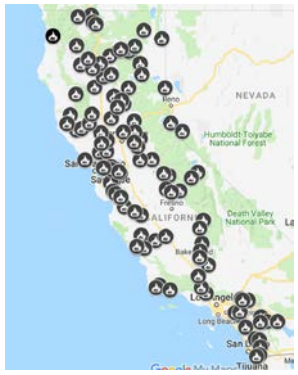




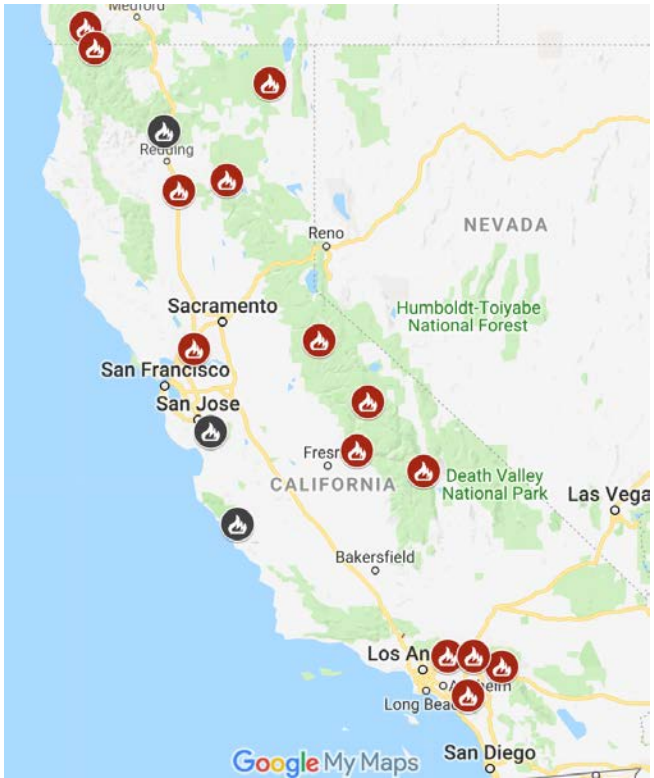
# Summer 2018 California Fires



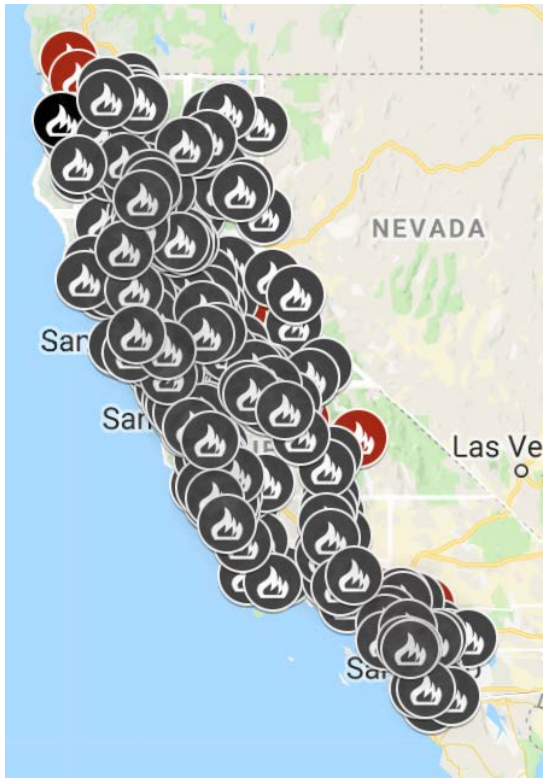
August 2018



September 2018



Active CalFire Incidents 2018

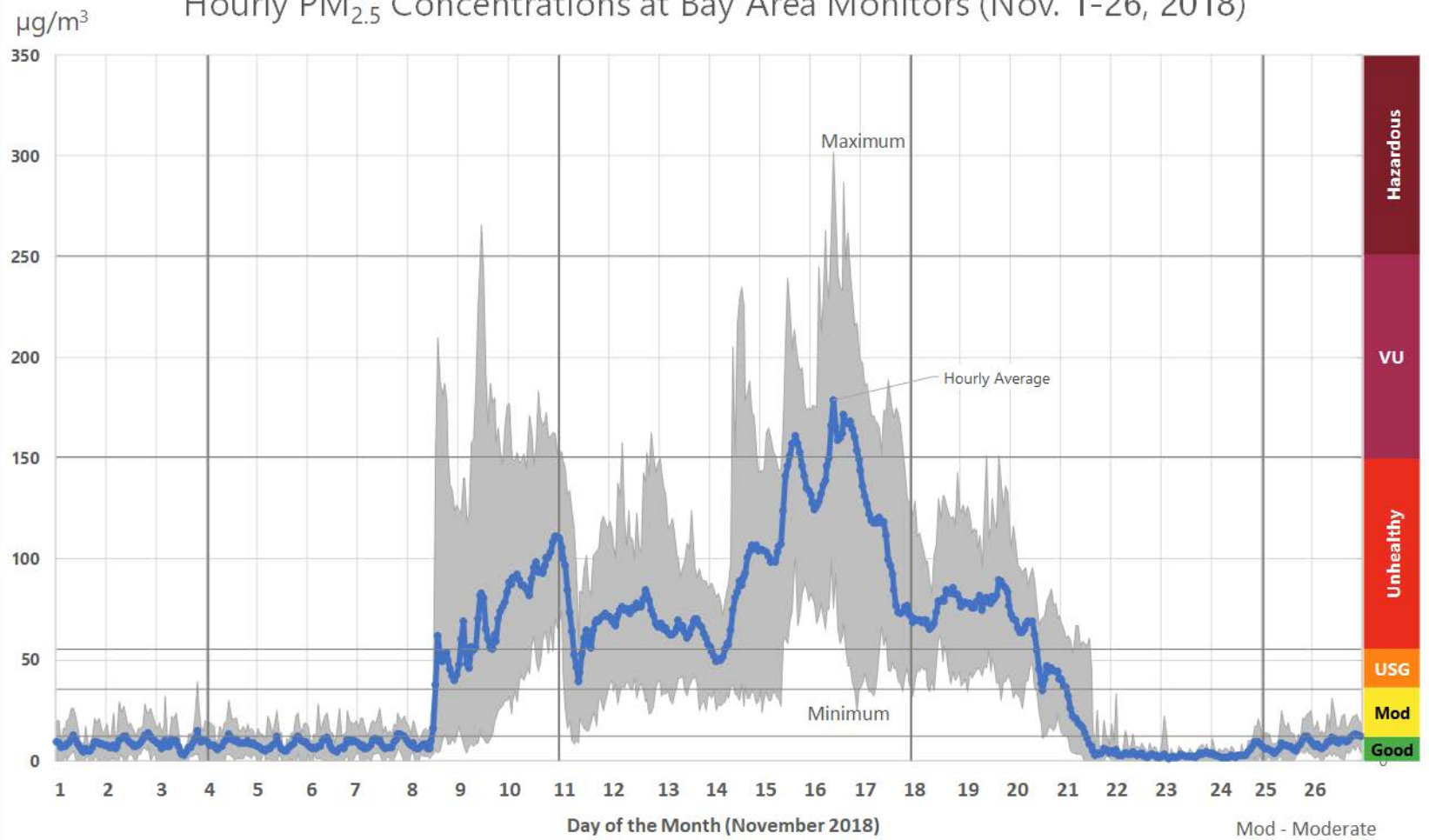


Statewide Incidents Summer 2018



# PM<sub>2.5</sub> Concentrations

### Hourly PM<sub>2.5</sub> Concentrations at Bay Area Monitors (Nov. 1-26, 2018)



Dark vertical lines are Sundays.



# Wildfire Air Quality Response Program

## **Purpose:**

Develop a comprehensive, multi-faceted Wildfire Air Quality Response Program intended to prepare, prevent and respond to future wildfires, and to ensure health-protective measures and strategies are in place during air pollution emergencies.



# Program Strategy

- Amend Regulation 5: Open Burning to:
  - Encourage burning for wildfire prevention and control while balancing air quality needs.
- Create a new Wildfire Episode Response Regulation to:
  - Establish control and advisory procedures when specific levels of PM have been reached.
  - Provide a reference repository for wildfire smoke monitoring, health effects guidance, action documents, and an associated communications plan.
- Form partnerships with fire, public health officials, cities and counties to develop and implement response plans including the private sector.
  - Example: Embassy Suites, San Rafael
- Establish clean air shelters throughout our nine-county jurisdiction.



# Legislative Strategy

## Goal:

Create legislation that would direct the Air District, working with cities and counties, to create clean air shelters throughout our nine-county jurisdiction.

- Work with cities, counties, and public health agencies to identify publicly accessible locations and build/retrofit costs, if necessary. Examples include schools, hospitals community and senior centers, and libraries.
- Develop short and long term plans to efficiently create clean air shelters while balancing need and equity issues.
- Develop a process to distribute funding and provide guidance to build/retrofit clean air shelters with high efficiency filtration and air quality monitoring.



## Legislative Strategy Cont.

This Bill would direct the Bay Area Air Quality Management District, working with cities and counties, to create Clean Air Shelters throughout its nine county jurisdiction.

- This proposed legislation would fill a gap in the current wildfire smoke response efforts in affected communities by providing public spaces during emergency smoke events that the public can use.
- This effort would promote better coordination in health messaging in local communities as well as a funding source to upgrade local facilities to be more protective of public health.
- The associated incentive program has the additional benefit of providing a healthier indoor environment outside of wildfire smoke events as well.



## Costs

Costs per location will vary based on the size of the existing central air system and its existing level of filtration. In general, the smaller the pores in the filters, the greater the costs of a retrofit.

- Experience in the South Coast AQMD with school retrofits (high volume capacity) averaged about \$150,000 per site.
- In 2010, an Air District funded pilot project (\$300,000) installed improved central filtration and classroom wall units in 5 Bayview Hunters Point Schools.
- Using South Coast experience and the total number of Bay Area high schools as a proxy for the serviced population, the funding need would be over \$40 million for full implementation.

# Board Development and Committee Assignments for 2019



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

AGENDA: 11J

**Chairperson Katie Rice**  
Board of Directors







# BAY AREA AIR QUALITY MANAGEMENT DISTRICT BOARD OF DIRECTORS

## 2019 STANDING COMMITTEE ASSIGNMENTS EFFECTIVE: FEBRUARY 1, 2019

<b><u>Budget and Finance</u></b>	<b><u>Executive</u></b>	<b><u>Mobile Source</u></b>
<i>4<sup>th</sup> Wednesday of each month at 9:30 a.m.</i>	<i>3<sup>rd</sup> Wednesday of each month at 9:30 a.m.</i>	<i>4<sup>th</sup> Thursday of each month at 9:30 a.m.</i>
Carole Groom (C)	Katie Rice (C)	Dave Canepa (C)
John Bauters (VC)	Rod Sinks (VC)	Pauline Russo-Cutter (VC)
Margaret Abe-Koga	Teresa Barrett	Margaret Abe-Koga
Dave Canepa	Cindy Chavez	Scott Haggerty
Cindy Chavez	John Gioia	Dave Hudson
Dave Hudson	Carole Groom	Tyrone Jue
Rafael Mandelman	Scott Haggerty	Doug Kim
Karen Mitchoff	Dave Hudson	Liz Kniss
Mark Ross	Tyrone Jue	Rafael Mandelman
Rod Sinks	Jim Spering	Karen Mitchoff
Brad Wagenknecht	Brad Wagenknecht	Katie Rice
<b><u>Stationary Source</u></b>	<b><u>Climate Protection</u></b>	<b><u>Legislative</u></b>
<i>3<sup>rd</sup> Monday of every other month at 9:30 a.m.</i>	<i>3<sup>rd</sup> Thursday of every other month at 9:30 a.m.</i>	<i>At the call of the Chair</i>
Rod Sinks (C)	Teresa Barrett (C)	Doug Kim (C)
Karen Mitchoff (VC)	John Gioia (VC)	Margaret Abe-Koga (VC)
John Bauters	Pauline Russo-Cutter	John Bauters
David Canepa	Scott Haggerty	Dave Canepa
John Gioia	Doug Kim	Pauline Russo-Cutter
Carole Groom	Liz Kniss	John Gioia
Nate Miley	Hillary Ronen	Scott Haggerty
Mark Ross	Mark Ross	Tyrone Jue
Jim Spering	Brad Wagenknecht	Karen Mitchoff
Brad Wagenknecht	Lori Wilson	Jim Spering
Shirlee Zane	Shirlee Zane	Brad Wagenknecht

