



**Bay Area Air Quality Management District  
Mobile Source Committee**

January 26, 2017

**Projects with proposed awards over \$100,000**

**Damian Breen  
Deputy Air Pollution Control Officer**

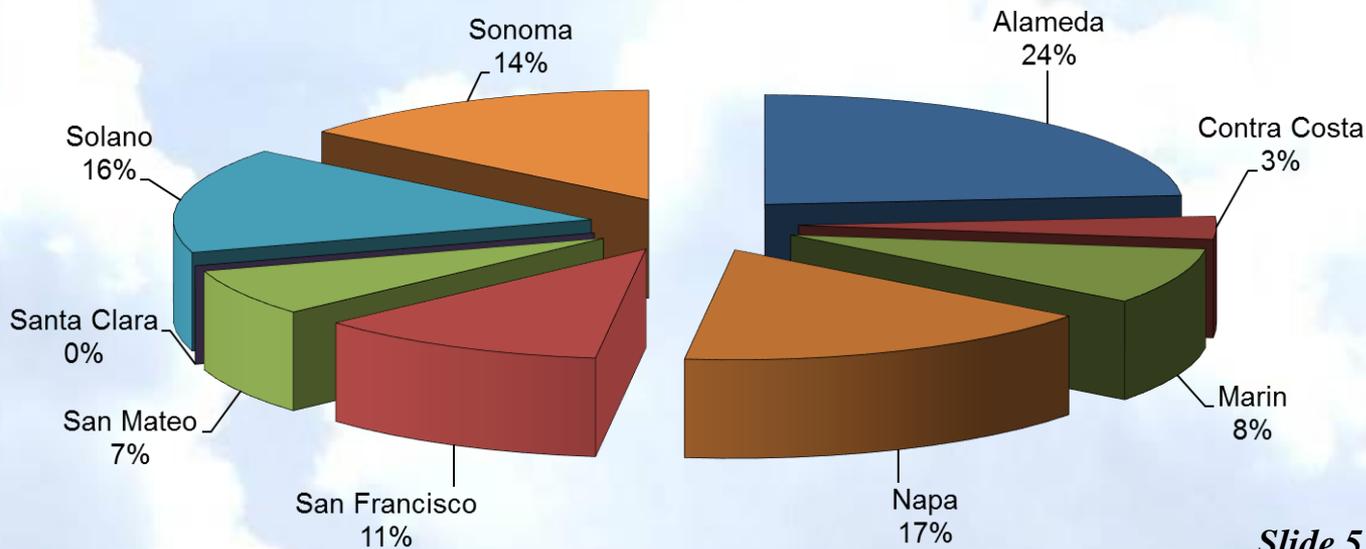
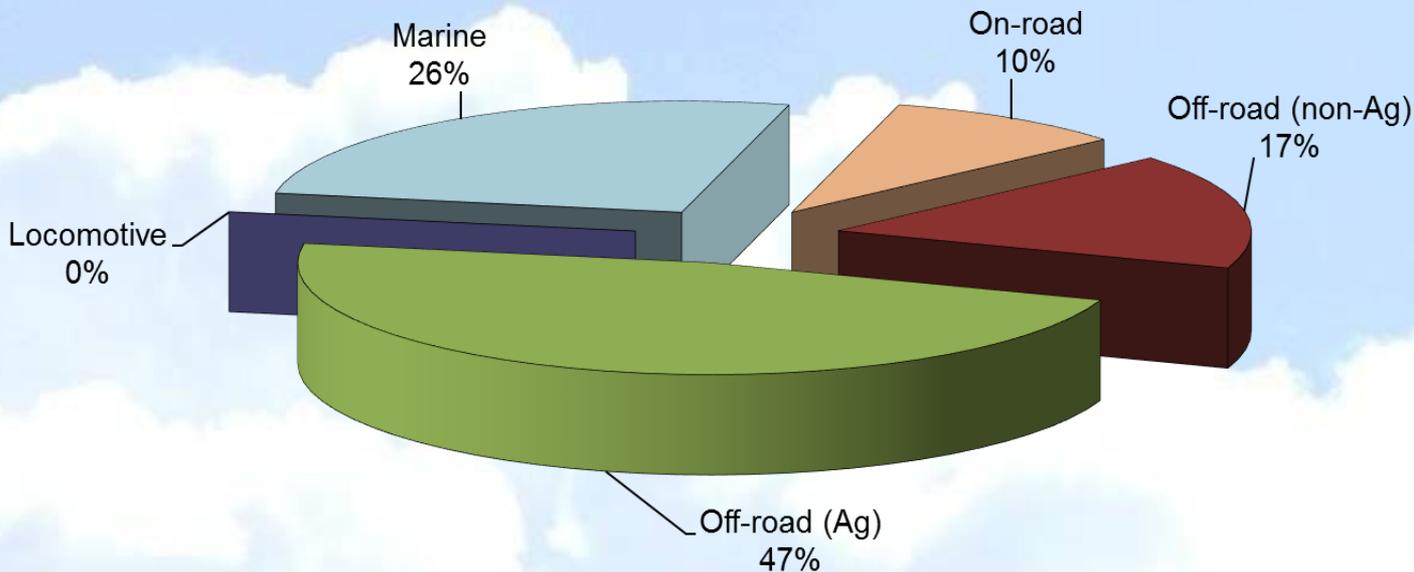
- Background
- Proposed projects with awards over \$100,000
- Recommendations

- **Carl Moyer Program (CMP)**
  - Created in 1998 to reduce emissions from heavy-duty engines
  - Voluntary program that funds surplus emission reductions
- **Mobile Source Incentive Fund (MSIF)**
  - AB 923 allowed for additional \$2 motor vehicle registration fee surcharge (12/04)
  - CMP and LESBP projects eligible for MSIF funding

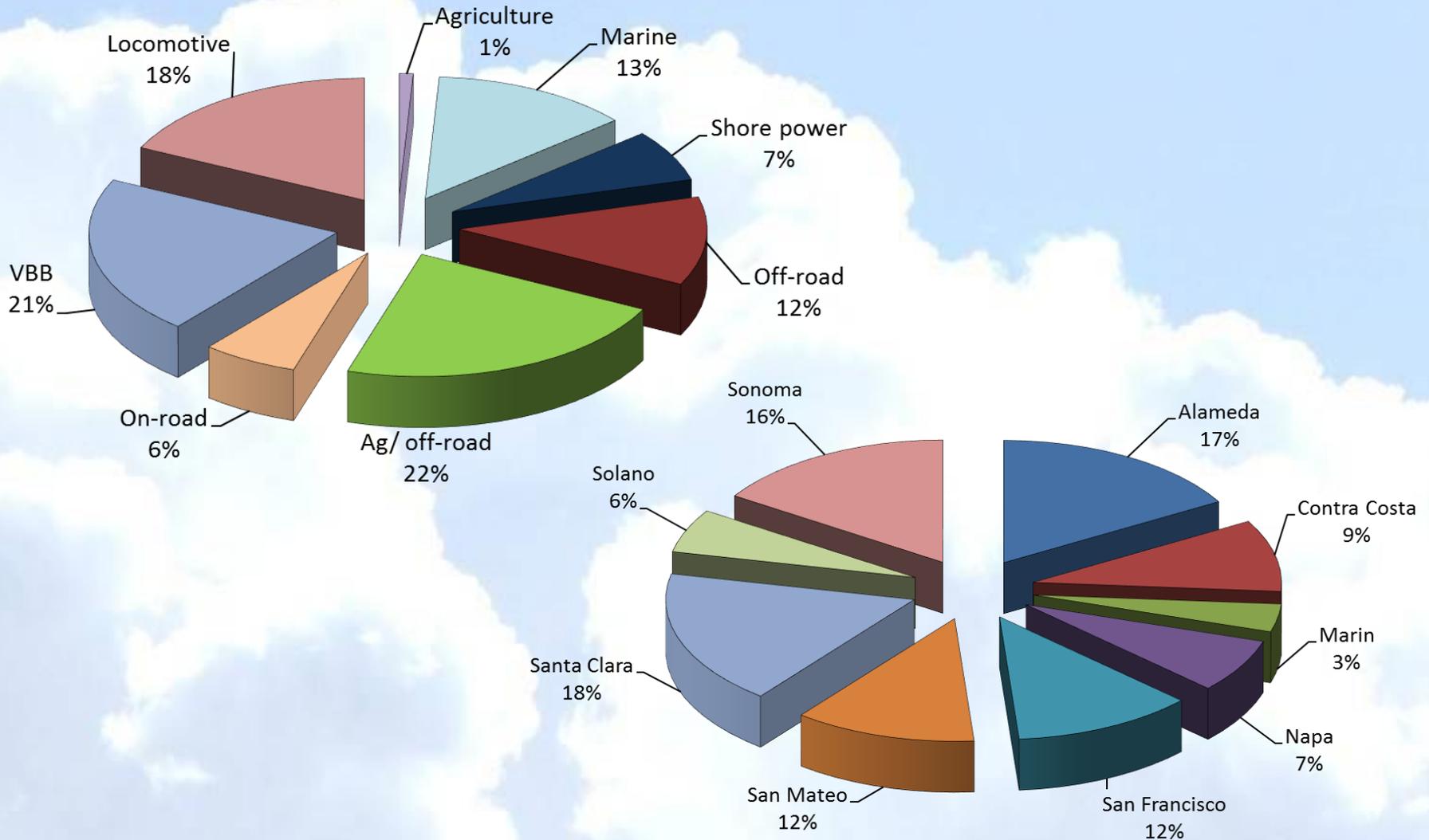
- **On 3/16/16 District Board of Directors:**
  - Approved participation in CMP Year 18
  - Authorized Executive Officer/APCO to execute contracts and amendments with grant awards up to \$100,000
- **CMP Project Recommendations over \$100k:**
  - 1 Project to reduce emissions from 2 marine engines
  - \$156,000 in total awards
  - Emission reductions: Over 0.45 TPY of criteria pollutants

# CMP and MSIF Funds

## Awarded as of 1/5/17



# CMP and MSIF Funds Awarded since 2009



# Recommendations

## *Recommend the Board of Directors:*

1. Approve Carl Moyer Program (CMP) projects with proposed grant awards over \$100,000 as shown in Attachment 1; and
2. Authorize the Executive Officer/APCO to enter into all necessary agreements with applicants for the recommended projects.



# **Bay Area Air Quality Management District Mobile Source Committee**

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## **Overview of Transit and Shuttle Trends in the Bay Area**

**Damian Breen  
Deputy Air Pollution Control Officer**

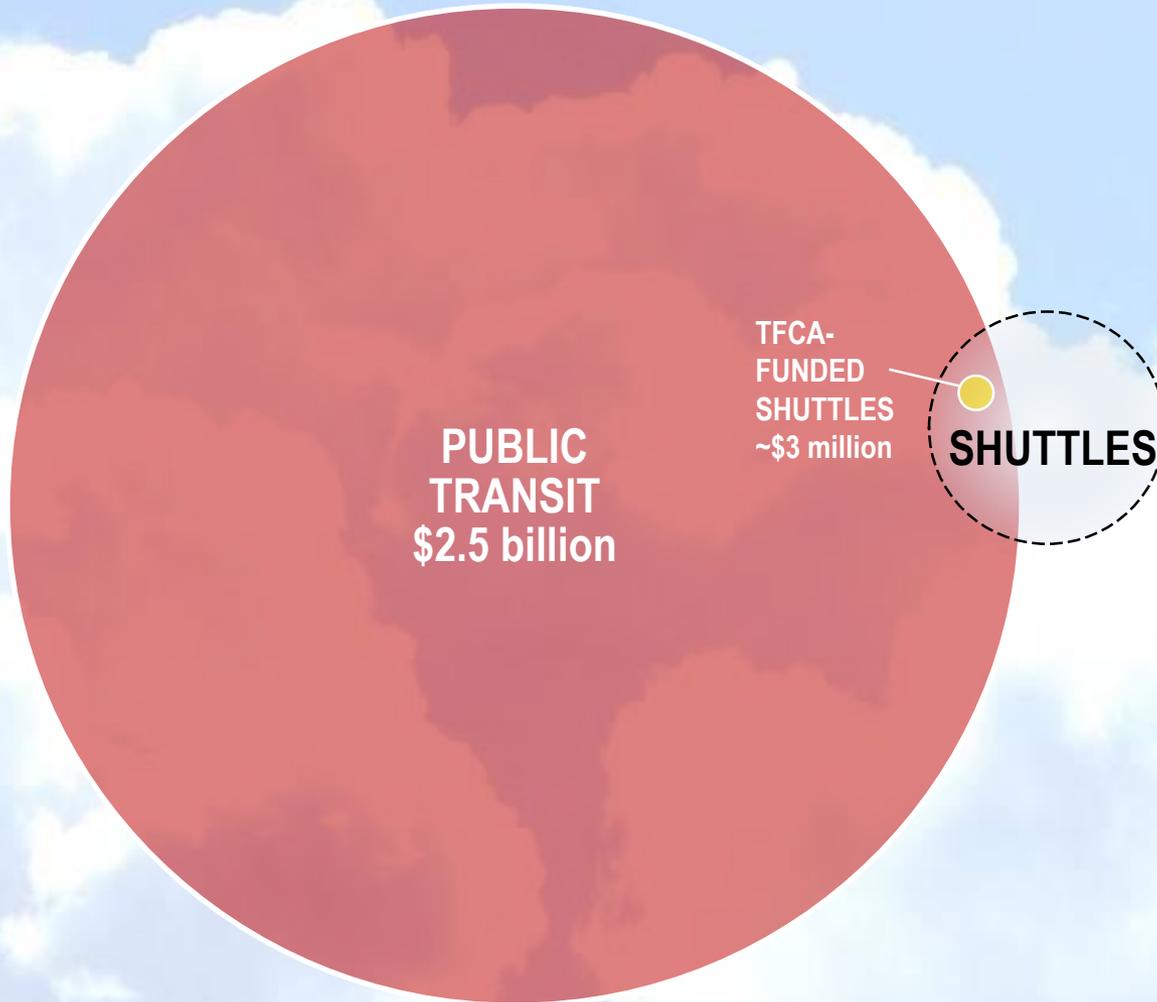
- Background
- Public Transit and Shuttle Trends
  - General Public Transit landscape in the Bay Area
  - Findings from the 2016 Bay Area Shuttle Census
  - Perspective from the Bay Area Council
- Questions

# Background

A **shuttle** is a regular scheduled service that provides a *direct connection* between a mass transit hub and a distinct commercial or employment center.

- **Air District Support for Shuttles**

- Transportation Fund for Clean Air
  - Awards ~\$3.5 million in 7-10 projects each year (includes rideshare)
  - Diminishing cost-effectiveness of projects
- Bay Area Commuter Benefits Program
  - Requires large employees to provide at least one type of commuter benefit



- William Bacon, MTC
  - General Public Transit landscape in the Bay Area
  - Findings from the 2016 Bay Area Shuttle Census
- Adrian Covert, Bay Area Council
  - Perspective from the Bay Area Council

# *Questions*



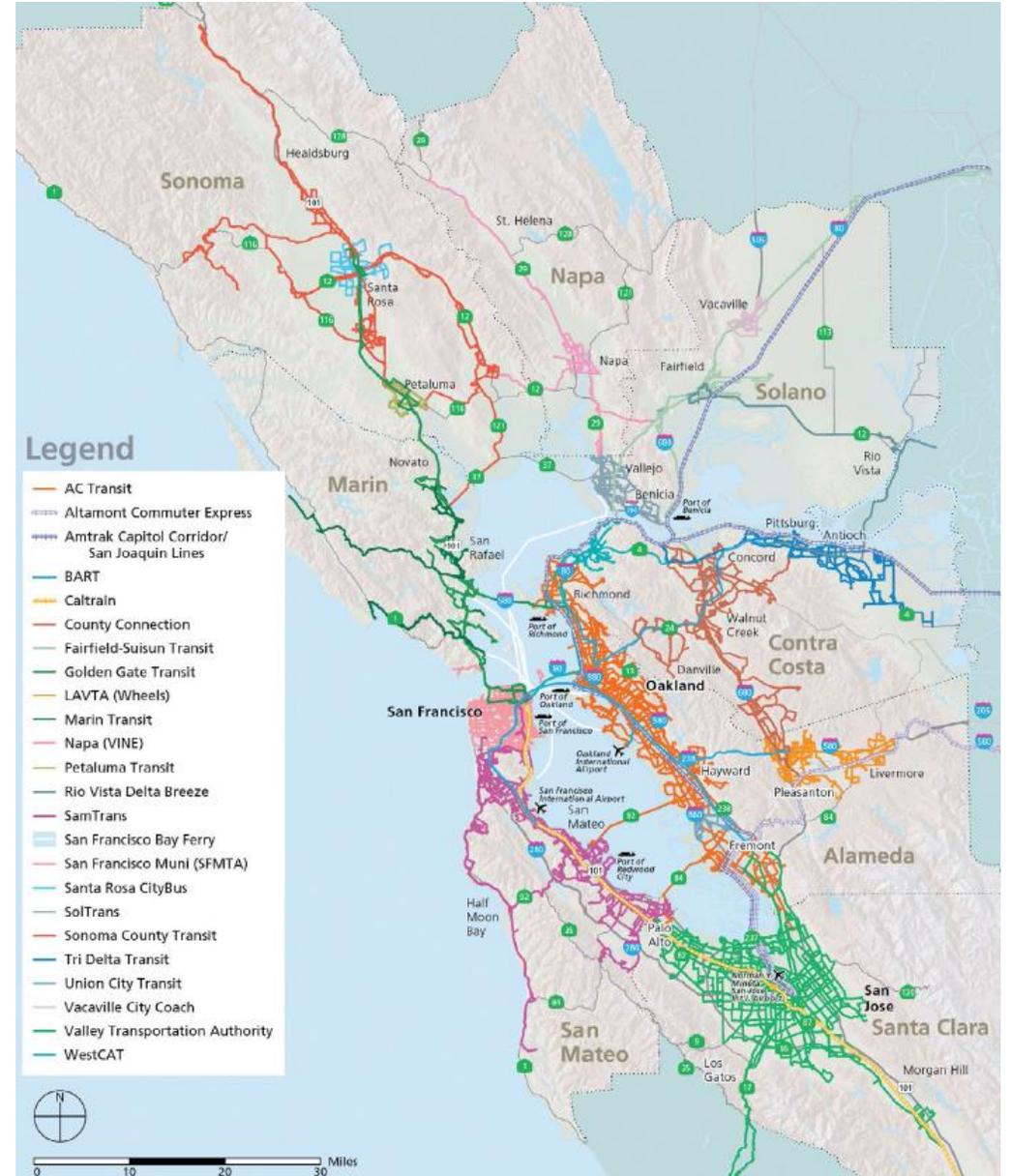
# Transit in the Bay Area

25 transit operators

1.7 million daily transit trips in 2015

80% of transit trips are on the three largest operators (SFMTA, BART, AC Transit)

Per capita transit ridership is down 12% over the last 25 years



# Shuttle use is widespread, but data is very limited

How many people ride  
shuttles?

Where do shuttles go?

How important are shuttles to mobility?

**How efficient is the  
shuttle fleet?**

What are the environmental  
impacts of shuttles?

Without data how do we develop policies?



(Mike Koozmin/S.F. Examiner)

# Not just “tech buses”



(Alameda Landing)



(Berkeley Lab)

# Shuttle Census

## Process

MTC-developed online platform



Bay Area Council managed outreach to shuttle operators



Anonymity for Shuttle Census participants

## Information Requested

ridership

vehicle capacity

**vehicle miles traveled**

shuttle fleet size

county of origin/destination



## SHUTTLE CENSUS SURVEY

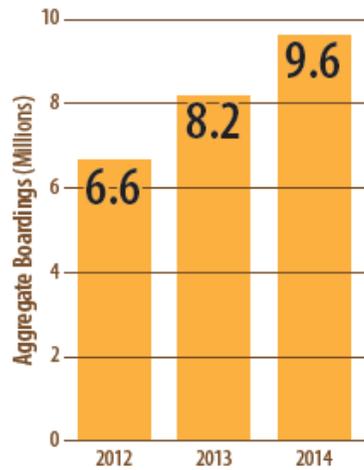


(Bishop Ranch)

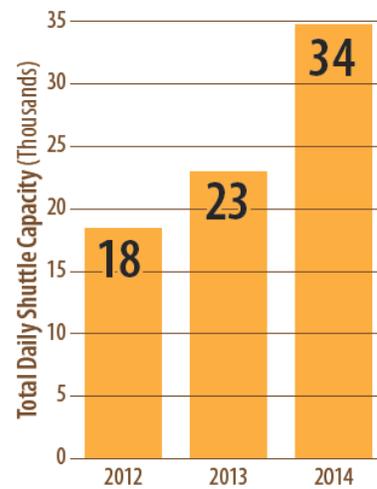
# Results

## 7<sup>th</sup> largest Bay Area transit service

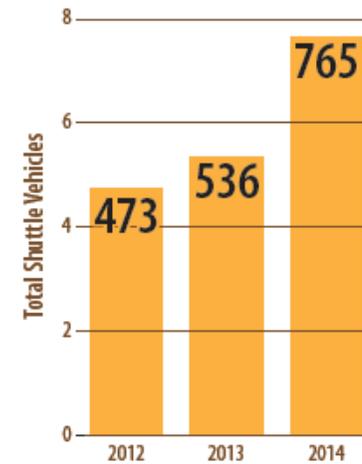
### Shuttle Ridership Growing Steadily



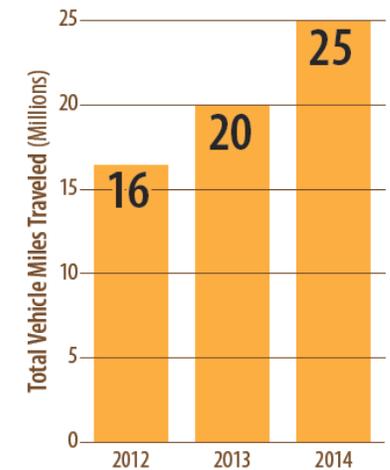
### Shuttle Capacity Keeps Pace with Growth



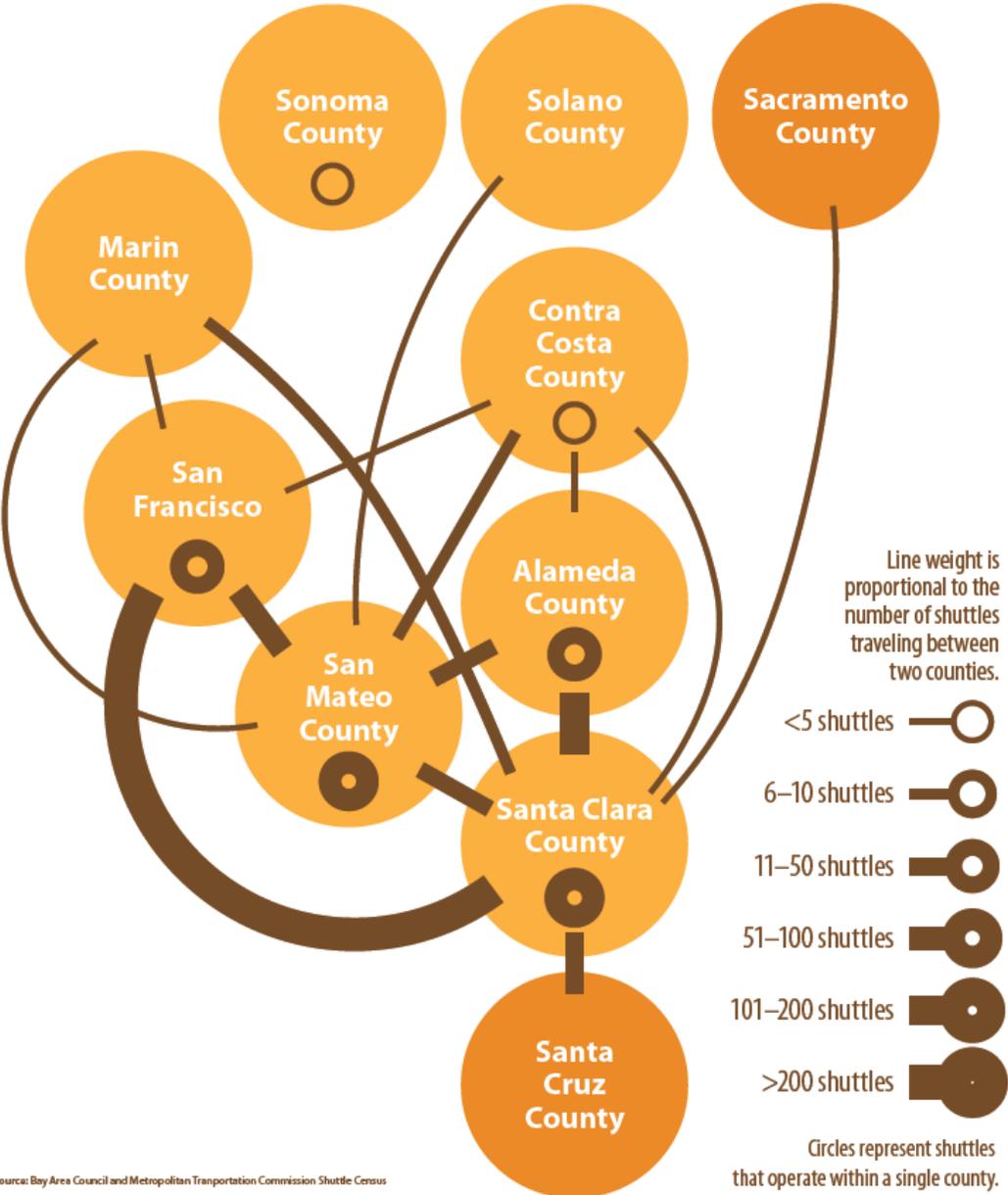
### Shuttle Fleet Expanding



### More Shuttles Covering More Miles



# Number of Shuttles Traveling Between Bay Area And Adjacent Counties per Day



Source: Bay Area Council and Metropolitan Transportation Commission Shuttle Census

## Next Steps

# Leverage state reforms to collect data statewide

- CalSTA will assume regulatory responsibility for shuttles from CPUC, and could support good planning by collecting more data.
- In the meantime develop a 2017 Shuttle Census including:
  - Ridership
  - Vehicle capacity
  - Vehicle miles traveled
  - Shuttle use (e.g. commute, schools)
  - Route information



(Bauer's IT)

# COMMUTER SHUTTLES OVERVIEW



AGENDA: 5C



BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Mobile Source Committee  
January 26, 2017

# ABOUT THE BAY AREA COUNCIL



- Est. 1945
- 300 largest employers across sectors
- Regional outlook

# BAY AREA COUNCIL SHUTTLES COMMITTEE



**Genentech**

**Google**



**UCSF**



**YAHOO!**

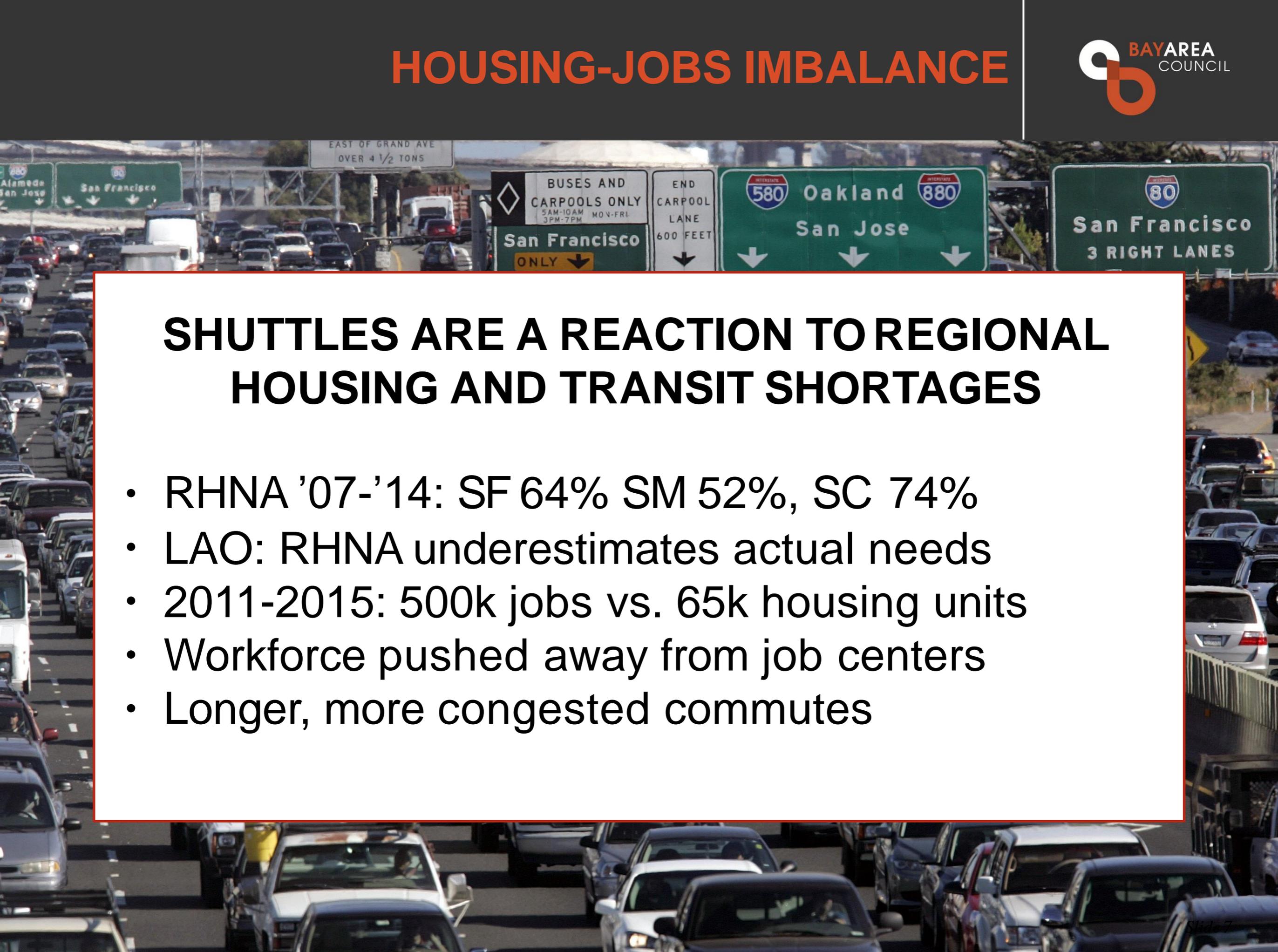
# SHUTTLE BACKGROUND 1

- Existed since at least mid-90s
- Companies, universities
- Some cities require/encourage employers to provide

- 2012 SFMTA mulls regulations
  - Bay Area Council (BAC) provides
  - single point-of-contact Aggregates
  - data for SFMTA pilot
  - 18-month pilot launched August 2014
- Nearing end of one-year program

# WHY SHUTTLES?

- 
1. Housing/jobs imbalance
  2. Flexibility
  3. Sustainability



## SHUTTLES ARE A REACTION TO REGIONAL HOUSING AND TRANSIT SHORTAGES

- RHNA '07-'14: SF 64% SM 52%, SC 74%
- LAO: RHNA underestimates actual needs
- 2011-2015: 500k jobs vs. 65k housing units
- Workforce pushed away from job centers
- Longer, more congested commutes

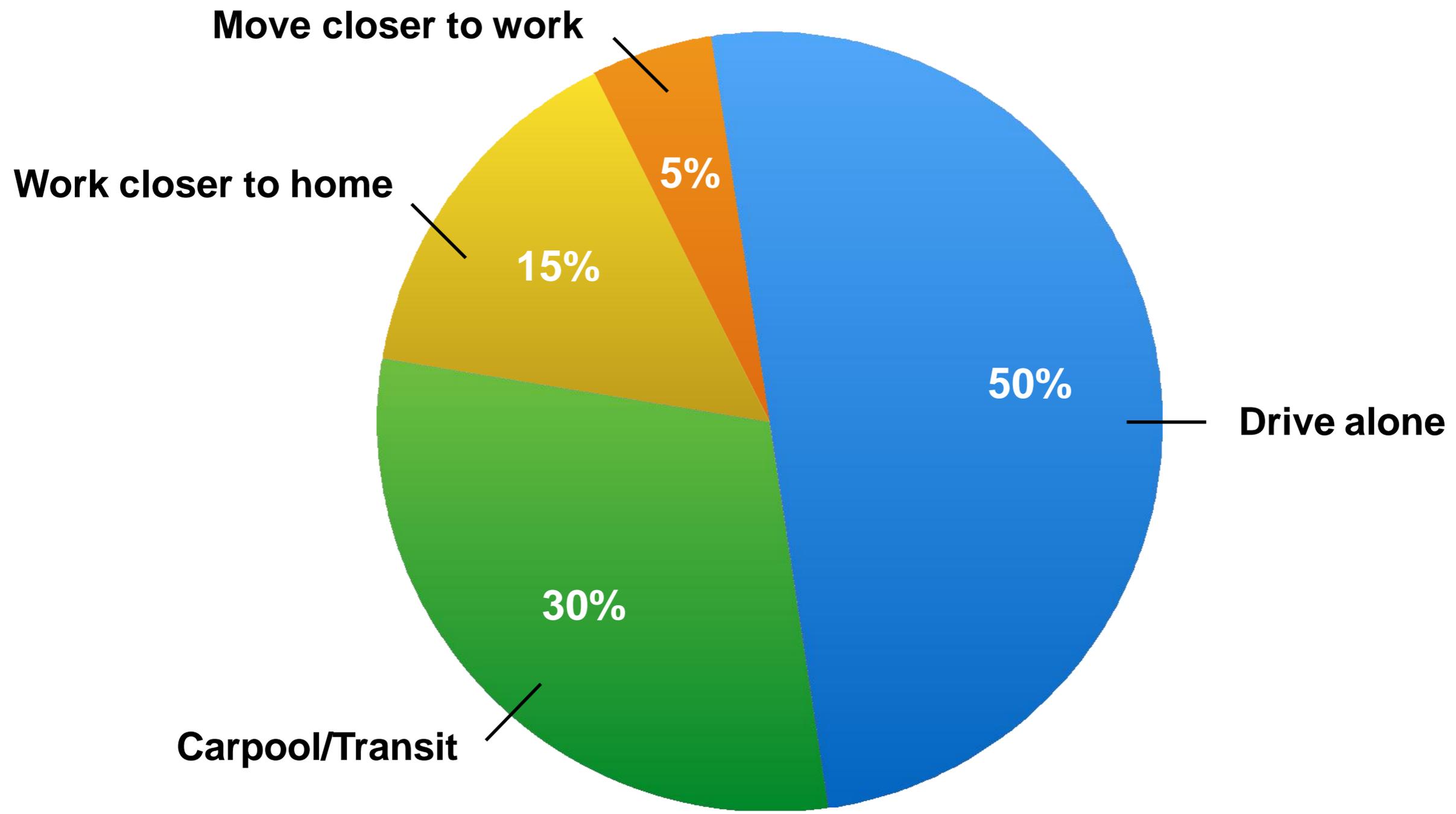


- Can traverse across jurisdictions
- Respond to trends in workforce housing

## SFMTA COMMUTER SHUTTLES PROGRAM

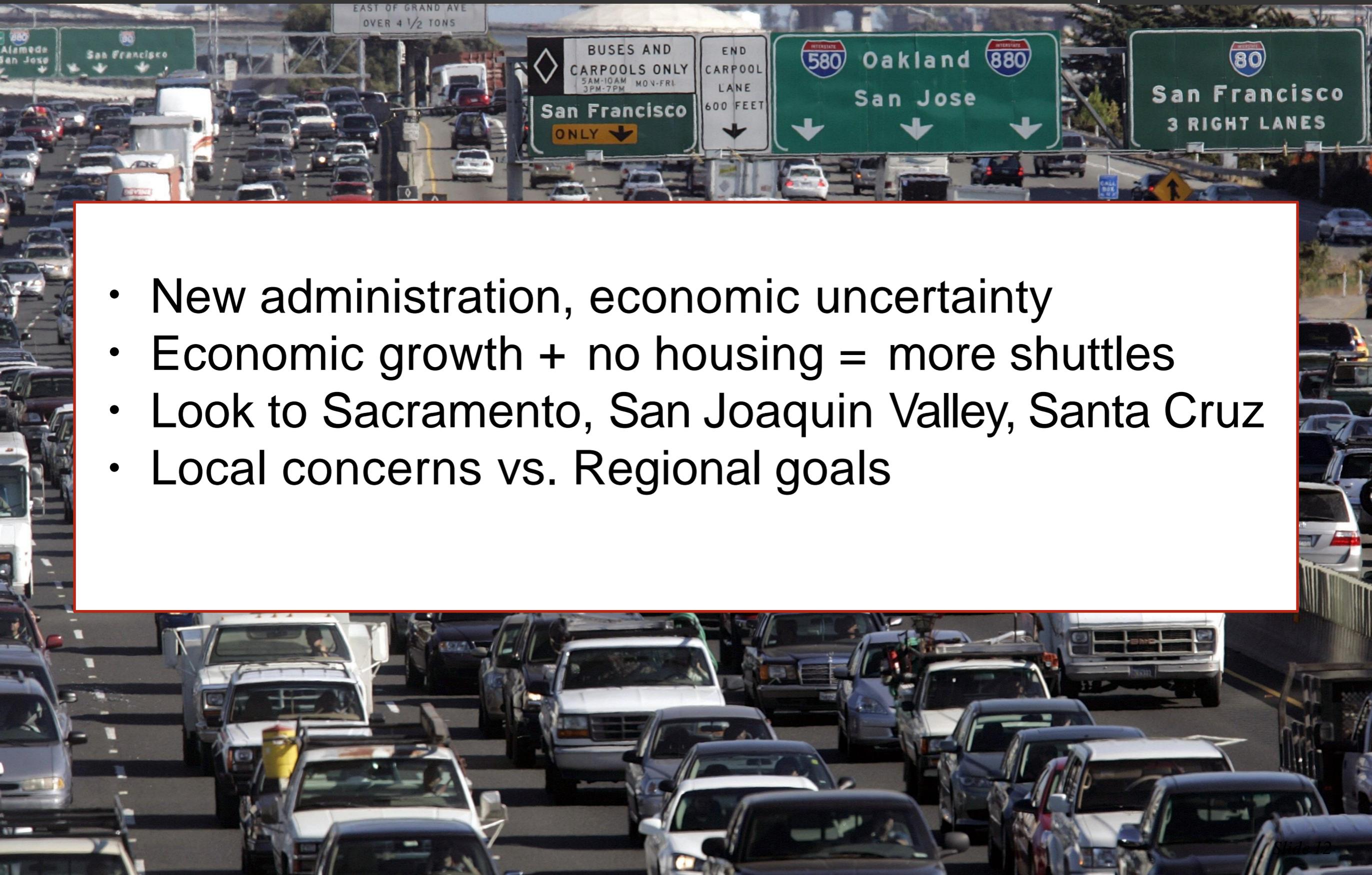
- 2m single passenger car trips eliminated annually
- 52m VMTs eliminated
- 2,000 metric tons carbon reduced
- 2012 MTC “Excellence in Motion” Award to Google, Genentech, Oracle shuttle programs.

# IF SF SHUTTLES DIDN'T EXIST



## SFMTA COMMUTER SHUTTLES PROGRAM

- Allows shuttle access to limited # of MUNI stops
- GPS tracking
- Vehicle placards
- Non-arterial restrictions
- Air quality standards
- Cost-recovery program, per Prop 218



- New administration, economic uncertainty
- Economic growth + no housing = more shuttles
- Look to Sacramento, San Joaquin Valley, Santa Cruz
- Local concerns vs. Regional goals



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**Update on Efforts to Further Reduce Emissions  
at the Port of Oakland**

**Damian Breen  
Deputy Air Pollution Control Officer**

- Goods Movement and West Oakland Community
- Health risk in West Oakland, efforts to reduce emissions, and early results
- Current challenges
- Next Steps



# West Oakland Community

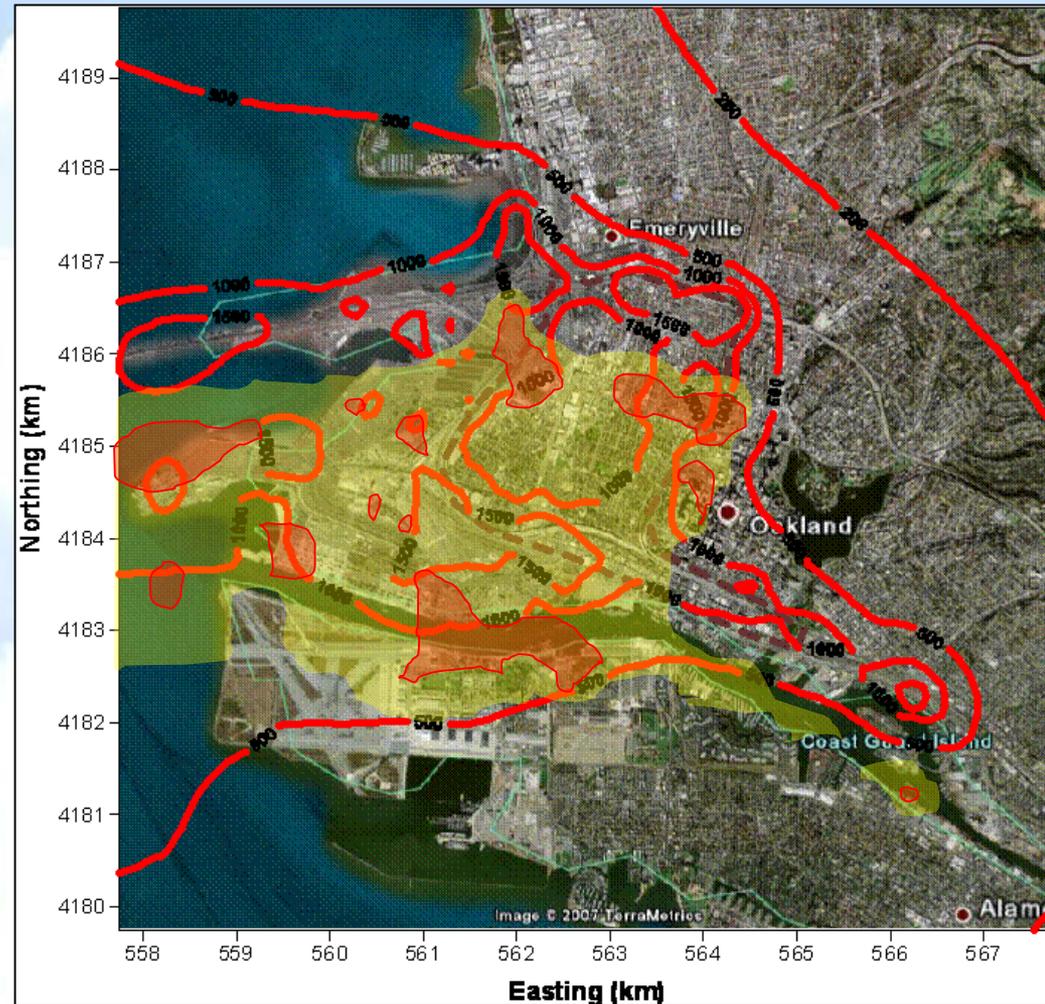
- Bounded by former Oakland Army Base (OAB) and Port of Oakland
- I-580, I-980, I-880
- Approximately 22,000 residents
- Residents/Air District concerned about Health



# 2008 Health Risk Assessment

## *Modeled Potential Cancer Risk*

- Dec. 2008 - Health Risk Assessment (California Air Resources Board/BAAQMD)
- Risk ~3 times higher than Bay Area average
- On-road heavy-duty trucks largest contribution followed by ships, harbor craft, locomotives, and cargo handling equipment



# Early Actions to Reduce DPM

- Air District - Clean Communities Initiative:
  - Monitoring
  - CARE Program
  - Planning
  - Enforcement
  - Incentives ~\$65 million (Trucks, Shorepower, Harbor Craft)
  
- Port of Oakland:
  - MAQIP
  - Truck Ban
  - Incentives ~ \$5.2 million (Trucks)
  
- ARB
  - Regulations (Trucks, Shorepower, Harbor Craft, Cargo handling equipment, Refers)
  - Sustainable Freight Plan
  - I-Bond & Cap and Trade Incentives
  - Enforcement
  
- Other Partners:
  - West Oakland Community – MAQIP, Outreach & Truck survey
  - USEPA – Outreach & Incentives (\$4 million)
  - ACTC – County-wide goods movement plan
  - MTC – Region-wide goods Movement Plan & Incentives (~\$2 million)



# Ongoing Actions to Reduce DPM

- **Regulations:**

- Vessels at berth: 20% further reduction by 2017
- Drayage & On-road Truck: compliance dates through 2023
- Cargo Handling Rule: compliance dates through 2017
- Commercial Harbor Craft: compliance dates through 2022

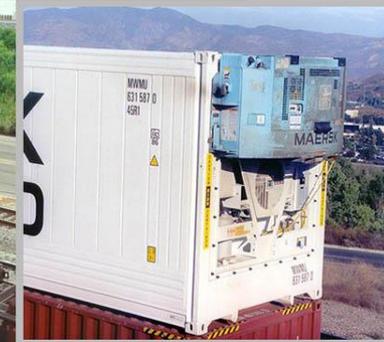
- **Incentives:**

- Goods Movement Bond

- 4 Locomotives - \$8.5 million
    - 319 On-road Trucks - \$25 million
    - Vessel Bonnet - \$2 million

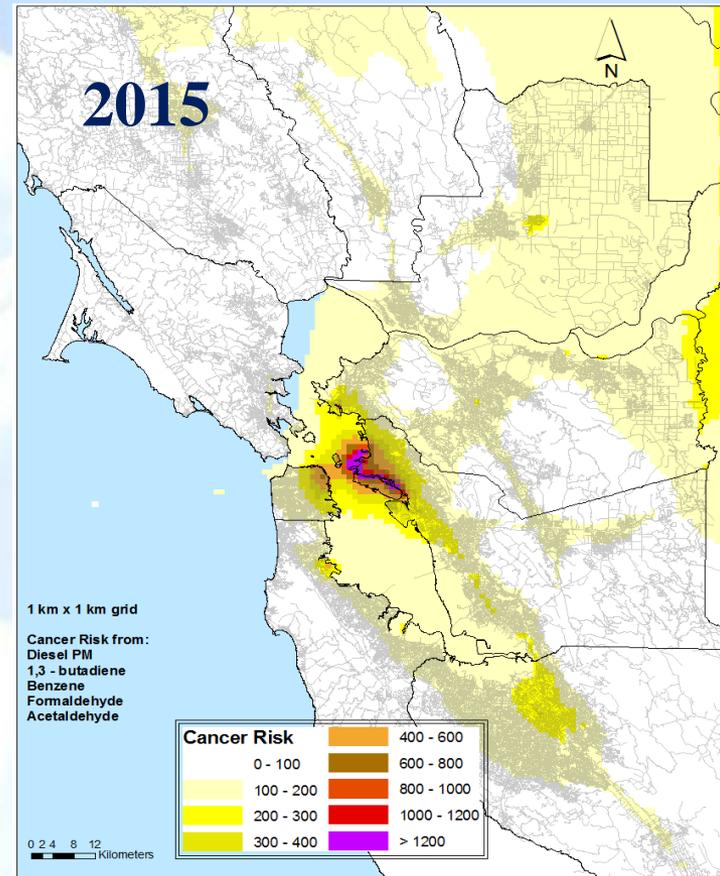
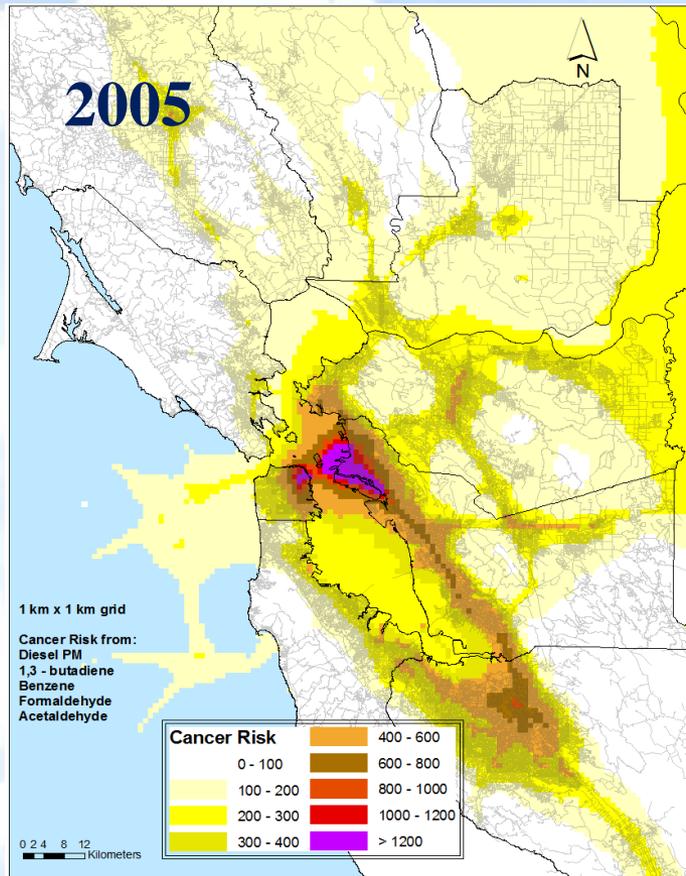
- Greenhouse Gas Reduction Fund

- 17 Demo Trucks - \$11 million



- PM concentrations estimated from 2009/10 measurements were less than half of the HRA modeled 2005 concentrations
- 85% reduction in Port Truck PM Emissions
  - Confirmed by UC Berkeley: Estimated reductions in truck emissions that occurred between 2005 and 2010 (more than 50%)
- Emissions reduced for 50% for vessels at berth
- Significant emissions reductions in DPM and SO<sub>2</sub> from TRU, Commercial Harbor Craft, On-dock Equipment

# Progress in Reducing Cancer Risk from Air Pollution



*Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward (2004 - 2013), April 2014, BAAQMD, [www.baaqmd.gov/CARE](http://www.baaqmd.gov/CARE)*

# Challenges to Further Reduce Health Risk in West Oakland

- Recent changes to California Office of Environmental Health Hazard Assessment (OEHHA) Health Risk Guidelines have increased the health risk from DPM by a factor of ~3 to 4 times of those originally used in the 2008 HRA
- New emissions sources at Oakland Army Base
- The numbers of equipment at the Port and OAB are projected to increase in line with cargo volume increases
- West Oakland remains the most highly impacted community in the Bay Area relative to exposure to toxic air contaminants

# Next Steps: Efforts to Further Reduce Emissions in West Oakland

- Reviewing updated Port equipment inventories
- Understanding what may be developed at OAB
- Reviewing planning frameworks at local, state & federal levels to determine how to integrate equipment replacement projects
- Examining how the authorities of the various regulatory agencies might be used to reduce emissions
- Looking at initiatives at other California ports and evaluating feasible technologies to get further emissions reductions
- Updating projections for health risk in the region
- Meeting with stakeholders for their input

# *Questions*