



CARB Senate Bill 375 Target Update: Draft Proposed Targets

San Francisco Workshop
June 28, 2017

California Environmental Protection Agency
 **Air Resources Board**

Regional GHG Reduction Targets

- ▶ **CARB sets GHG reduction targets for the MPOs**
 - ▶ Originally adopted in 2010 for years 2020 and 2035
 - ▶ CARB must update targets every 8 years

- ▶ Targets are set for each region at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels

Target Update Considerations & Process

- ▶ Changes and progress to date
- ▶ Stakeholder consultative process
 - ▶ Public comment and feedback
- ▶ Top-Down Analysis
 - ▶ Senate Bill 32
 - ▶ Scoping Plan Update and Executive Orders
 - ▶ Mobile Source Strategy / State Implementation Plan
- ▶ Bottom-Up Analysis
 - ▶ MPO technical analysis and recommendations

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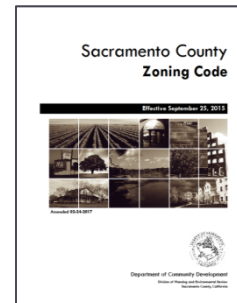
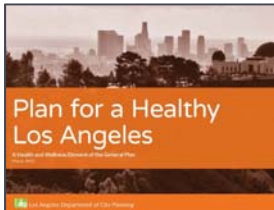
Changes Since Initial Target Setting

- ▶ New executive, statutory, and regulatory directives
- ▶ State air quality commitments
- ▶ Resources to implement sustainable projects
- ▶ Changes in cost of driving
- ▶ Technology advancements and mobility choices
- ▶ Demographics
- ▶ Modeling tools
- ▶ Local actions
- ▶ Promote co-benefits

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Progress to Date

- ▶ CARB has evaluated over 20 SCSs
- ▶ All MPOs have met or exceeded the current Senate Bill (SB) 375 targets



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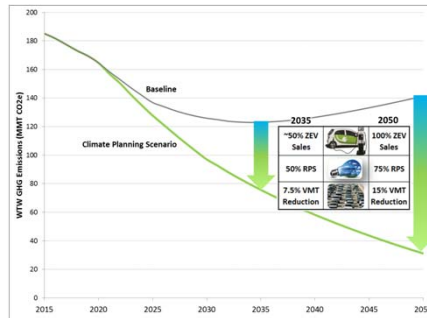
Stakeholder Engagement

- ▶ Public workshops in 2014 and 2017
- ▶ Informational Board Items in 2014 and 2017
- ▶ Individual and stakeholder group meetings
- ▶ Feedback received:
 - ▶ Increase transportation funding and align with land use goals
 - ▶ Performance monitoring to track implementation
 - ▶ Co-benefit analysis and inclusion
 - ▶ Balance State responsibilities and SB 375
 - ▶ Assign all State VMT reduction needs to SB 375
 - ▶ Request for a roundtable

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Top-Down: 2017 Scoping Plan Update

- ▶ Proposed Scoping Plan Update released in January 2017
- ▶ Further GHG reductions to 40% below 1990 levels by 2030
- ▶ Transportation sector reductions in three areas:
 - ▶ Fuels
 - ▶ Technology
 - ▶ Transportation Systems
 - ▶ Land use and transportation linked with GHG reductions in other sectors

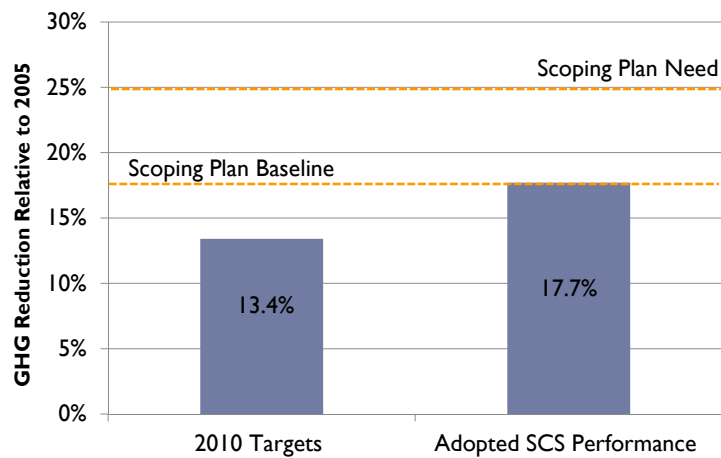


www.arb.ca.gov/cc/scopingplan/scopingplan.htm

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Scoping Plan Update & SB 375 Targets

- ▶ Scoping Plan Transportation System



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Bottom-Up: MPO Technical Analysis

- ▶ Target analysis work received:
 - ▶ Big Four MPOs: May 2017
 - ▶ Eight San Joaquin Valley MPOs: December 2016
 - ▶ Six Remaining MPOs: Summer 2016

MPO Grouping		
Big Four	San Joaquin Valley	Six Remaining
Metropolitan Transportation Commission (MTC/ABAG)	Fresno COG	Monterey Bay (AMBAG)
Sacramento Area Council of Governments (SACOG)	Kern COG	Butte CAG
San Diego Association of Governments (SANDAG)	Kings CAG	San Luis Obispo COG
Southern California Association of Governments (SCAG)	Madera CTC	Santa Barbara CAG
	Merced CAG	Shasta RTA
	San Joaquin COG	Tahoe MPO
	Stanislaus COG	
	Tulare CAG	

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MPO Analysis: Big Four

Strategy Type	SACOG*	MTC*	SANDAG*	SCAG*
Land Use	-4%	Value Not Provided	-2%	-0.1%
Transit		Value Not Provided	-1%	
Active Transportation		Value Not Provided	Value Not Provided	-0.4%
TDM/TSM	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided
Regional/Local Pricing	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided
Vehicle Technology: ZEV	-1%	Value Not Provided	-20%	Value Not Provided
Enhanced Mobility: CAVs	Value Not Provided	Value Not Provided	Value Not Provided	-2%
Demographic Changes	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided

*MPO values are not fiscally constrained

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MPO Analysis: San Joaquin Valley MPOs

- ▶ **Modeling improvements to more accurately represent current SCS plan performance**
 - ▶ Most recent data including U.S. Census, American Community Survey, and California Household Travel Survey
 - ▶ Implements changes based on feedback received during the last SCS evaluation period
- ▶ **Most MPO recommendations commit to maintaining current SCS plan performance**

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MPO Analysis: Six Remaining MPOs

- ▶ **Represent less than 5 percent of the State's population and GHG emissions from light-duty vehicles**
- ▶ **Slower overall rate of growth**
- ▶ **Unique travel patterns (recreation and vacation destinations)**
- ▶ **Target recommendations and technical analysis exceed reduction levels established in 2010**
- ▶ **Most MPO recommendations will meet or exceed performance of their currently adopted SCSs**

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MPO	SCS Plan Performance		MPO Target Recommendation	
	2020	2035	2020	2035
MTC/ABAG	-10%	-16%	-	-18%
SACOG	-7%	-16%	-	
SANDAG	-15%	-18%	-	
SCAG	-8%	-18%	-	
Fresno COG	-6%	-10%	-6%	-13%
Kern COG	-9%	-13%	-9%	-13%
Kings CAG	-5%	-12%	-5%	-12%
Madera CTC	-10%	-15%	-10%	-15 to -20%
Merced CAG	-10.1%	-12.7%	-10.1%	-12.7%
San Joaquin COG	-12%	-14 %	-12 to -13%	-14 to -15%
Stanislaus COG	-12%	-14%	-12 to -13%	-14 to -15%
Tulare CAG	-13%	-15%	-13 to -14%	-15 to -16%
AMBAG	-3.5%	-6%	-3%	-6%
Butte CAG	-6%	-7%	-	-7%
San Luis Obispo COG	-9.4%	-10.9%	-8%	-8%
Santa Barbara CAG	-10%	-15%	-13%	-17%
Shasta RTA	-4.7%	-0.5%	-	-3.5%
Tahoe MPO	-8.8%	-5%	-8.8%	-5%

Draft Proposed Targets

2020 & 2035

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Overview: 2020 Draft Proposed Targets

- ▶ 2020 is the first SB 375 milestone year
- ▶ Important indicator to monitor success of SB 375 and SCSs going forward
- ▶ Many MPOs will adopt plans after 2020

Recommendation:

- ▶ Bring the 2020 targets in-line with the GHG emission reductions in the adopted SCSs or use the MPO target recommendation

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2020 Draft Proposed Targets

- ▶ Big Four MPOs

MPO	Currently Adopted Target	Current SCS Performance	MPO-Recommended Target	CARB Draft Proposed Target
MTC/ABAG	-7%	-10%	-	-10%
SACOG	-7%	-7.6%	-	-7%
SANDAG	-7%	-15%	-	-15%
SCAG	-8%	-8%	-	-8%

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2020 Draft Proposed Targets

► San Joaquin Valley MPOs

MPO	Currently Adopted Target	Current SCS Performance*	MPO-Recommended Target	CARB Draft Proposed Target
Fresno COG	-5%	-6%	-6%	-6%
Kern COG		-9%	-9%	-9%
Kings CAG		-5%	-5%	-5%
Madera CTC		-10%	-10%	-10%
Merced CAG		-10.1%	-10.1%	-10%
San Joaquin COG		-12%	-12 to -13%	-12%
Stanislaus COG		-12%	-12 to -13%	-12%
Tulare CAG		-13%	-13 to -14%	-13%
*Current SCS Performance as reflected with updated modeling results				

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2020 Draft Proposed Targets

► Six Remaining MPOs

MPO	Currently Adopted Target	Current SCS Performance	MPO-Recommended Target	CARB Draft Proposed Target
AMBAG	0%	-3.5%	-3%	-3%
Butte CAG	1%	-6%	-	-6%
San Luis Obispo COG	-8%	-9.4%	-8%	-8%
Santa Barbara CAG	0%	-10%	-13%	-13%
Shasta RTA	0%	-4.7%	-	-4%
Tahoe MPO	-7%	-8.8%	-8.8%	-8%

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Overview: 2035 Draft Proposed Targets

- ▶ Weight of evidence suggests higher targets than those established in 2010 are achievable, based on:
 - ▶ Best available information from the MPO's recent analysis results
 - ▶ Current research on potential new strategy areas
 - ▶ New revenue sources and action commitments by the State to support further local action
 - ▶ Modeling factors and considerations

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Additional & Enhanced Strategies

- ▶ Potential for additional GHG reductions from SCS strategy areas not all analyzed as part of MPO recommendations.

Strategy Type	Examples
Land Use	Infill development, increased multi-family and/or small lot development, increased densities for residential and commercial development, transit-oriented development, etc.
Transportation	Increased transit operations and efficiency, bike and pedestrian infrastructure, bikeshare systems, complete streets policies, etc.
Transportation Demand Management (TDM)	Carpool/vanpooling, rideshare and ridematching programs, carshare, high-occupancy vehicle (HOV) lanes, parking supply management, transportation incentive programs, etc.
Transportation Systems Management (TSM)	Traffic signal optimization, transit signal priority, ramp metering, incident management, intelligent transportation systems, integrated corridor management, etc.
Pricing Strategies	HOV toll lanes, congestion pricing, variable parking pricing, etc.
Vehicle Technology/Enhanced Mobility	ZEV/PHEV charging infrastructure, vehicle-to-vehicle technology, vehicle-to-infrastructure technology, neighborhood electric vehicles, autonomous vehicles, etc.

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Additional Funding & Resources

- ▶ **Over \$53 billion in new funding over the next 10 years**
 - ▶ Senate Bill 1
 - ▶ Greenhouse Gas Reduction Fund Transformative Climate Communities Program
 - ▶ Volkswagen Settlement Investments
- ▶ **New VMT reduction commitments in proposed Scoping Plan Update**
 - ▶ Develop/expand new funding and financing mechanisms
 - ▶ Align performance measures with project selection
 - ▶ Develop pricing policies
- ▶ **VMT Reduction “Roundtable”**

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Rebound Effect and Modeling Factors

- ▶ **MPOs are concerned about a “rebound effect” making it difficult to maintain SCS plan performance**
 - ▶ Rebound refers to the effects on the change of travel that comes from changes in the cost of driving
- ▶ **CARB’s independent analysis found the impact of increased fuel efficiency to be minimal – approximately 1 percent increase by 2035**
- ▶ **Standardizing modeling assumptions and methods to better account for emissions reductions**

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GHG Analysis by Area

Strategy Type	SACOG*	MTC*	SANDAG*	SCAG*	CARB
Land Use	-4%	Value Not Provided	-2%	-0.1%	0 to -4%
Transit		Value Not Provided	-1%		
Active Transportation		Value Not Provided	Value Not Provided	-0.4%	
TDM/TSM	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided	-0.5%
Regional/Local Pricing	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided	-0.5%
Vehicle Technology: ZEV	-1%	Value Not Provided	-20%	Value Not Provided	-1%
Enhanced Mobility: CAVs	Value Not Provided	Value Not Provided	Value Not Provided	-2%	+/-
Demographic Changes	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided	+/-
Rebound Effect	+2 to +3%	+1%	+1%	+4 to +5%	+1%
					-1 to -5%

*MPO values are not fiscally constrained

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2035 Draft Proposed Targets

- ▶ CARB staff expects most MPOs to be able to achieve additional reductions on the order of 1 to 5 percent compared to currently adopted SCSs

Recommendation:

- ▶ Four large MPOs: Additional 3 percent reduction beyond adopted SCSs
- ▶ San Joaquin Valley MPOs: Additional 1 to 2 percent reduction beyond adopted SCSs
- ▶ Smaller MPOs: MPO target recommendation or SCS achievement, whichever is higher

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2035 Draft Proposed Targets

► Big Four MPOs

MPO	Currently Adopted Target	Current SCS Performance	MPO-Recommended Target	CARB Draft Proposed Target
MTC/ABAG	-15%	-16%	-18%	-19%
SACOG	-16%	-16%	-18%	-19%
SANDAG	-13%	-18%*	-18%	-21%
SCAG	-13%	-18%	-18%	-21%

*Current SCS Performance as reflected with updated modeling results

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2035 Draft Proposed Targets

► San Joaquin Valley MPOs

MPO	Currently Adopted Target	Current SCS Performance*	MPO-Recommended Target	CARB Draft Proposed Target
Fresno COG	-10%	-10.5%	-13%	-13%
Kern COG		-13%	-13%	-15%
Kings CAG		-12%	-12%	-13%
Madera CTC		-15%	-15 to -20%	-16%
Merced CAG		-12.7%	-12.7%	-14%
San Joaquin COG		-14%	-14 to -15%	-16%
Stanislaus COG		-14%	-14 to -15%	-16%
Tulare CAG		-15%	-15 to -16%	-16%

*Current SCS Performance as reflected with updated modeling results

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2035 Draft Proposed Targets

► Six Remaining MPOs

MPO	Currently Adopted Target	Current SCS Performance	MPO-Recommended Target	CARB Draft Proposed Target
AMBAG	-5%	-6%	-6%	-6%
Butte CAG	1%	-7%	-7%	-7%
San Luis Obispo COG	-8%	-10.9%	-8%	-11%
Santa Barbara CAG	0%	-15%	-17%	-17%
Shasta RTA	0%	-0.5%	-3.5%	-4%
Tahoe MPO	-5%	-5%	-5%	-5%

**Italics indicates an SCS that is adopted but not yet evaluated by CARB*

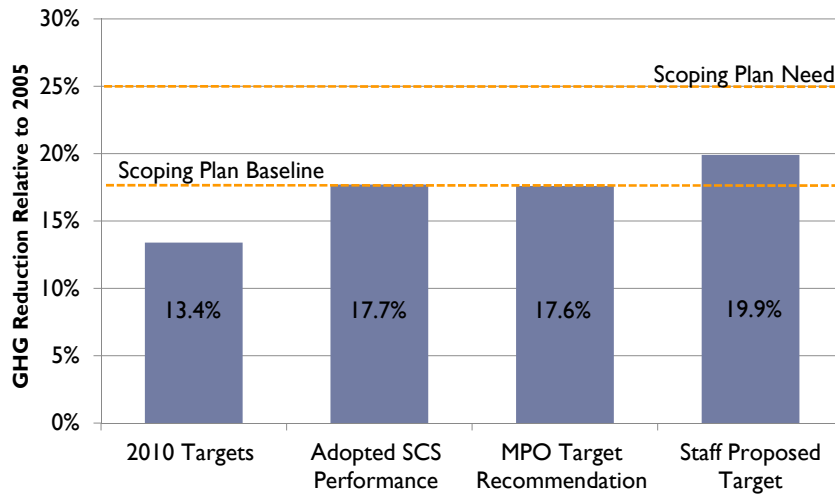
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Alternatives to Draft Proposed Targets

- Alternatives considered and rejected by CARB staff for not performing as well as proposed targets or not meeting target update objectives:
 - Alternative 1: Retain Current SB 375 Targets
 - Alternative 2: Substantially More Stringent Targets
 - Alternative 3: Less Stringent Targets

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Scoping Plan Needs & SB 375 Targets



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Draft Environmental Analysis

- ▶ Environmental Analysis (EA) analyzes potentially significant adverse impacts caused by reasonably foreseeable actions
 - ▶ Meets requirements of ARB's certified program under the California Environmental Quality Act (CEQA)
- ▶ The CEQA Environmental Checklist (CEQA Guidelines Appendix G) used to identify and evaluate potential indirect impacts
- ▶ Public comment period ends July 28

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Schedule

Date	Task
June	- Public Comment Period Began June 13 - Public Workshops (3 total)
July	- 45-Day Public Comment Period Closes July 28
August	- Response to Comments for Environmental Assessment
September	- Convene Roundtable - Finalize Staff Report and Target Recommendations - Finalize Environmental Assessment
October	- Release Final Staff Report & Environmental Assessment - CARB Board Meeting
December/January	- Update CARB Technical Methodology - Finalize Performance Indicators Research

To submit comments online after the workshop please visit:
<https://www.arb.ca.gov/cc/sb375/sb375.htm>