Policy Advisory Committee

CTP 2040 Vision Statement and Policy Framework

August 22, 2013

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Alternatives Analysis and Discussion

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Alternatives Analysis and Discussion

Alternatives		Statewide Strategy Packages
Alternative 1 Basecase	=	From RTP/SCS, ITSP, Modal Plans , Fuel and Vehicle Technology from current ARB standards
Alternative 2 Moderate	=	MODERATE CTP Strategies, ARB Vision Tool with aggressive technology + Basecase
Alternative 3 Aggressive	=	AGGRESSIVE CTP Strategies, ARB Vision Tool with more aggressive technology + Basecase

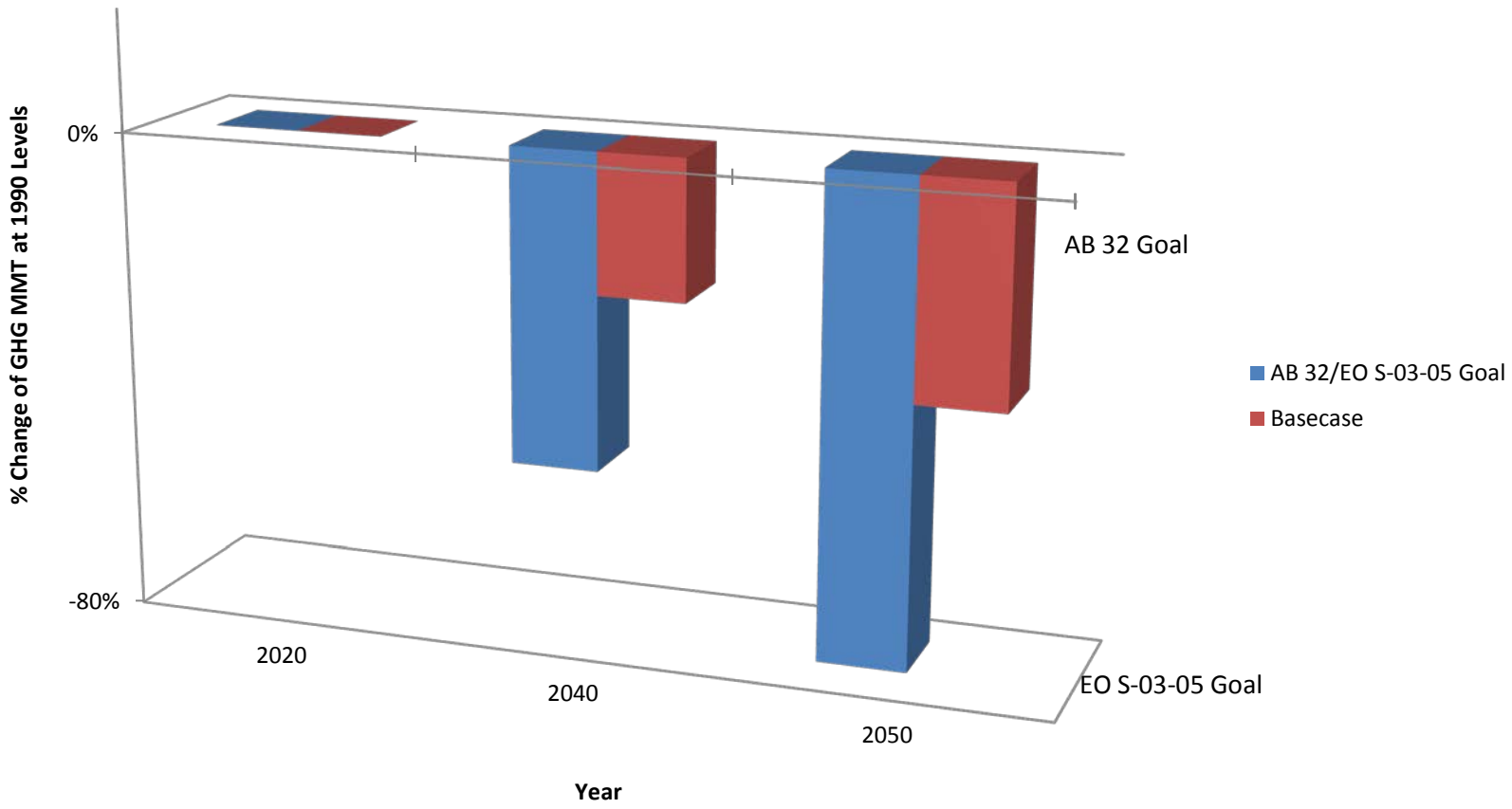
Results

Final Results for each Scenario

- *GHG Emissions
- *Mode Split (Auto, Air, Bike, Ped, Rail, Transit)
- *VMT
- *VHD
- *Trips (interregional)
- *Jobs
- *GSP
- *Income

Alternative 1: Basecase

(Hypothetical)



Alternative 1:Basecase

- **RTP Project List (Constrained)**
  - Includes projects that are funded by existing local, state and federal sources along with funding sources that are reasonably available over the horizon and as identified in the RTP

- **Caltrans' Statewide Modal Plans Project List**[1]
  - Aviation[2] – California Aviation System Plan (Oct 2011)
  - Freight – California Freight Mobility Plan (Dec 2014)
  - Transit[3] – California Statewide Transit Strategic Plan (June 2012)
  - Highway – Interregional Transportation Strategic Plan (June 2015)
  - Rail – California State Rail Plan (July 2013)

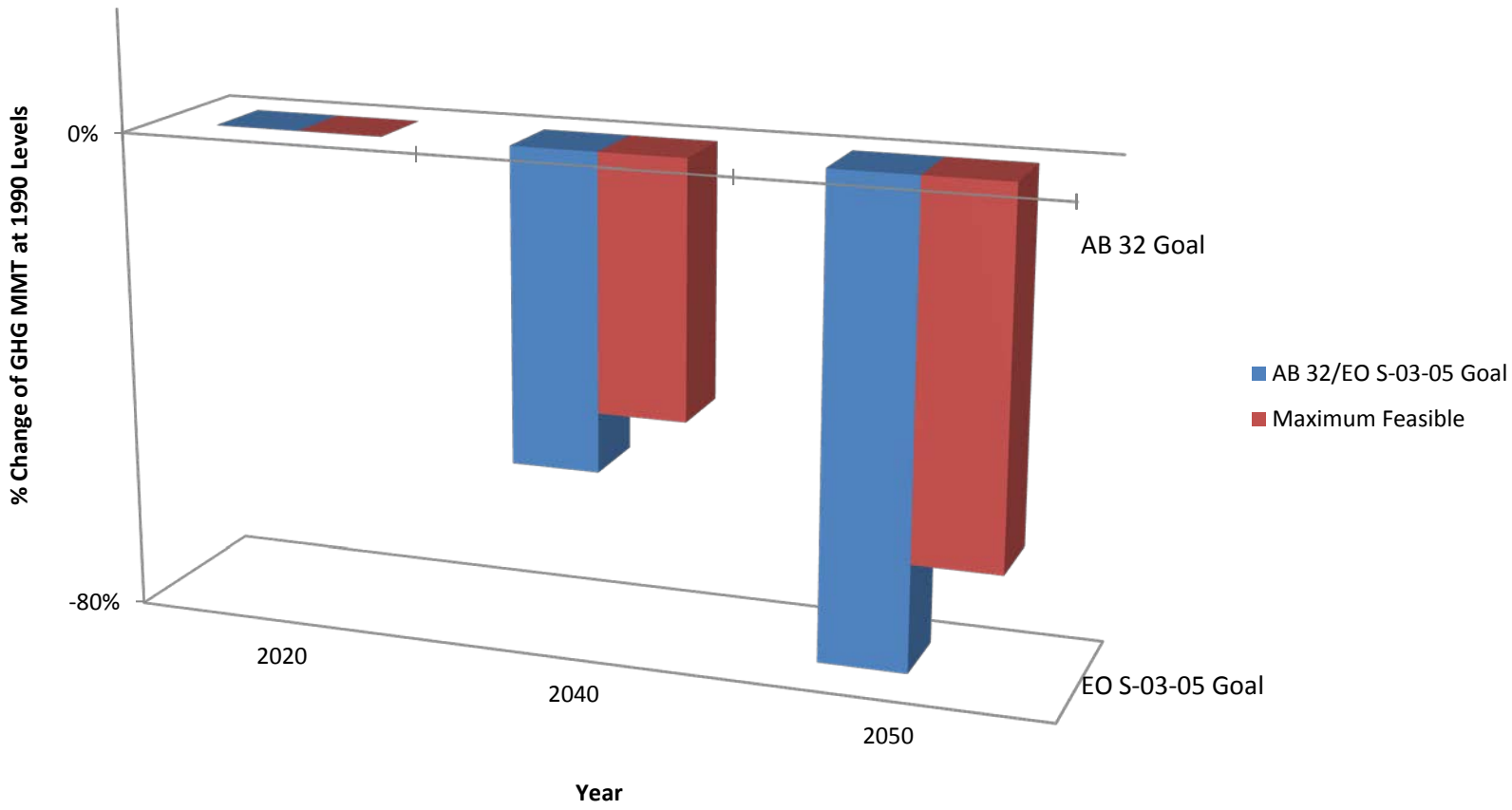
- **Includes vehicle and fuel technologies assumed from Advanced Clean Car and In-Use Standards (ARB Standards)**

- **Bottoms-up Approach**
  - This approach aggregates the effects of the Basecase elements (RTP Project List (Constrained) and Caltrans' Statewide Model Plans Project List) towards the AB 32 and Executive Order S-03-05 Climate Change Goals.

[1]Elements of Modal Plans are unconstrained
[2]Project does not affect passenger travel.
[3]Does not identify projects.

Alternative 2:Maximum Feasible

(Hypothetical)



Alternative 2:Maximum Feasible

- **RTP Project List (Constrained)**
- **Caltrans' Statewide Modal Plans Project List**
- **CTP Strategies**
  - VMT Moderation/Reductions per Capita
  - Vehicle/System Operations
  - Fuel and Vehicle Technology Infrastructure???
- **ARB's Vision Tool with Aggressive Fuel and Vehicle Technology Mix**
  - Tool to analyze varying vehicle technologies and alternative fuels
- **Bottoms-up Approach**
  - This approach aggregates the effects of the Maximum Feasible elements (RTP Project List (Constrained), Caltrans' Statewide Model Plans Project List, CTP Strategies, and ARB's Vision Tool) towards the AB 32 and Executive Order S-03-05 Climate Change Goals.

Alternatives Analysis and Discussion

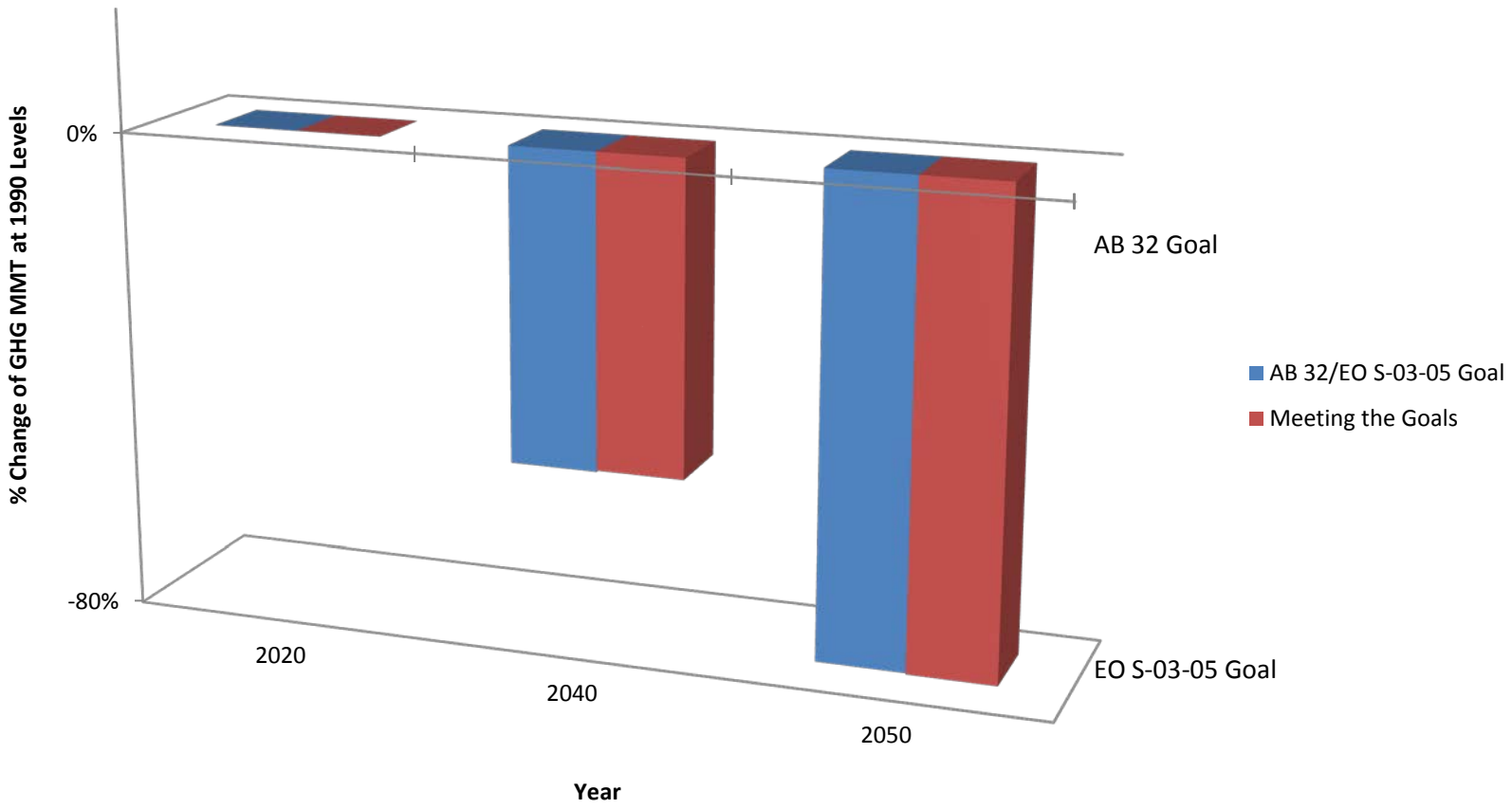
Maximum Feasible

- SB 391: "…the department shall address how the state will achieve *maximum feasible* emissions reductions in order to attain a statewide reduction of GHG…"

- SB 375 defines *feasible* as: "…capable of being accomplished in a successful manner within a reasonable period of time…"

Alternative 3: Meeting the Goals

(Hypothetical)



Alternative 3: Meeting the Goals

- **RTP Project List (Constrained)**
- **Caltrans' Statewide Modal Plans Project List**
- **CTP Strategies**
- **ARB's Vision Tool with More Aggressive Fuel and Vehicle Technology Mix**
  - Tool to analyze varying vehicle technologies and alternative fuels
- **Tops-down Approach**
  - This approach starts with AB 32 and Executive Order S-03-05 Climate Change Goals in the future 2020 and 2050, respectively, and works backward to base year 2010 to fill in the gaps that exist in Alternatives 1 and 2 with more aggressive vehicle and fuel technology usage.

Discussion and Questions

- Agreement on CTP Alternatives Framework
- Discussion
- Questions???

For More Information…

Check out the CTP Website at:
http://www.californiatransportationplan2040.org

For Questions, Contact:
austin.hicks@dot.ca.gov

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CTP GHG Reduction Strategies and MPO/RTPA Strategies Deployment Survey

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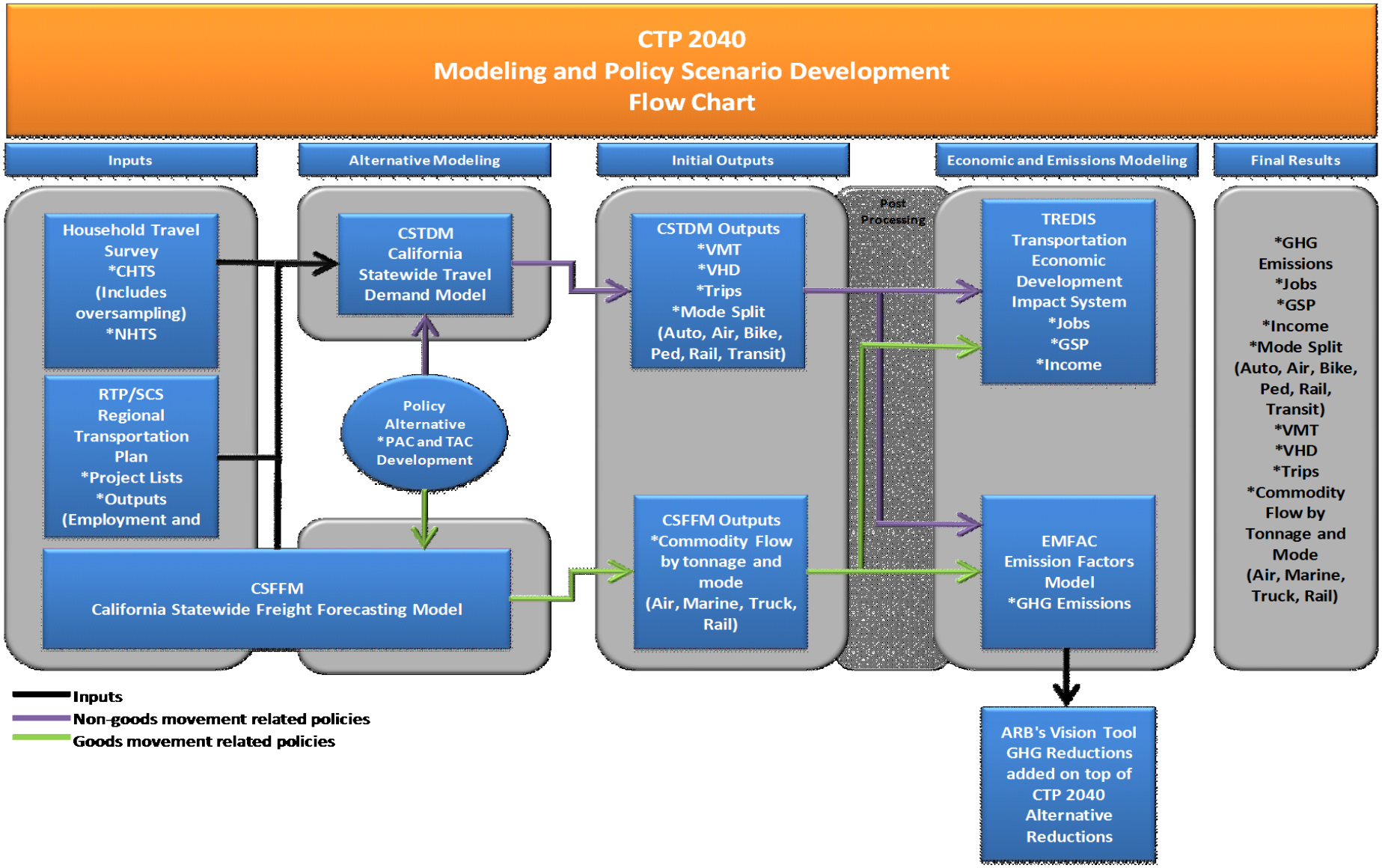
Discussion Items

- Identified and defined surface transportation GHG reduction strategies
- TAC recommend gathering more information and getting PAC direction
- Surveyed MPO and RTPA deployment of transportation investment strategies
- Identified trends to assist in advising which strategies are appropriate on a statewide basis

Statewide Travel Demand and Freight Models



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Surface Transportation
GHG Reduction Strategies Framework

GHG Reduction Groups	Vehicle Efficiency	Low-Carbon Fuels	VMT Moderation or Reduction			Vehicle/System Operations	Construction, Maintenace, Operation, and Adminstration of Transportation System
Key Strategy Clusters	Vehicle Technology	Fuel Technology	Pricing	Transportation Alternatives	Mode Shift	Operational Efficiency	Caltrans' Business Activities (Construction, Facilities, Fleet, etc.)
Strategies	California Air Resources Board Vision for Clean Air Model The department shall address how the state will achieve maximum feasible emissions....as required by AB 32 and 80 percent below 1990 level by 2050, taking into consideration **the use of new vehicle technology**. (SB 391)	California Air Resources Board Vision for Clean Air Model "The department shall address how the state will achieve maximum feasible emissions....as required by AB 32 and 80 percent below 1990 level by 2050, taking into consideration **the use of alternative fuels. (SB 391)**	VMT fee, Congestion/Cordon pricing, Tolling, Carbon taxes, Pay-as-you-drive insurance, Park fees, Reduce parking capacity	Telecommuting, Alternative Work Schedules, Carpool/vanpool programs for both work and non-work trips, Car sharing programs	Mode shift Incentives by greater investments *Passenger: Transit, Bike, Ped, HSR expansion *Freight: Rail, Air, Marine cargo expansion	Ramp metering, HOV and HOT Lanes, Lowered speed limits, Speed enforcement, Design of highways to reduce high speeds and low speeds, Roundabouts, ITS, Eliminate bottlenecks, Truck only lanes	ORIP's Climate Change Branch accounting for this.

8/20/2013

CTP 2040 Surface Transportation GHG Reduction Strategies

VMT Reduction (per capita) -Pricing

Strategy	Definition
Pricing	
Mileage-based highway user fee (VMT Fee)	Charging road users a fee based on the number of vehicle miles of travel. NCHRP[1]
Congestion Pricing	Congestion pricing involves charging drivers a fee in congested areas and/or weekday peak periods.
Cordon Pricing	A type of congestion pricing in which this scheme requires all vehicles to pay a fee to enter a cordoned area during the morning and evening commute period.
Tolling	Using an electronic toll collection system to charge drivers a toll in order to use a road. NCHRP
Carbon taxes or cap-and-trade programs that raise fuel prices	Increasing the cost of fossil-based fuel, a carbon price would affect the quantity of vehicle travel
Pay at the pump or Pay-as-you-drive insurance	Drivers pay a vehicle's insurance premiums based on how much a vehicle is driven. NCHRP
Parking fees	Either charging for parking or increasing an existing fee for parking, to discourage SOV travel. NCHRP
Reduce parking capacity	Limit the amount of parking spaces originally available.
System access pricing	Pricing to get onto highway system
Emission based registration fee	Vehicle registration based upon the emissions the vehicle emits.
Tire tax	Fee imposed when purchasing a tire
Others **Fuel Surcharges or Taxes or fuel based fee**	Increase the price of fuel through surcharges or an increase in fuel taxes. One possible policy option is to set a price floor for transportation fuels so prices will remain high even if market prices fall. NCHRP

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VMT Reduction (per capita)-Transportation Alternatives

Transportation Alternatives	
Telecommute programs	Employees are allowed to work from home two-days per week. NCHRP
Alternative Work Schedules	Full time employees are provided the opportunity to work four-day/forty hours, or nine-day/eighty hours schedule. NCHRP
Carpool/vanpool programs for both work and non-work trips	Carpool/vanpool incentive program to promote the use of fewer vehicles to transport the same number of people to and from work only.
Car sharing programs	Car sharing allows people to rent cars by the hour, for as short a time as 30 minutes up to a full weekend.
Eco driving: Ex. Real-time MPG readouts on dashboards	Change existing driving style.
Increased trip chaining	Efficiently planning trips

CTP 2040 Surface Transportation GHG Reduction Strategies

VMT Reduction (per capita)- Mode Shift

Mode Shift	
Expand Transit	Provide additional infrastructure and/or service above and beyond the RTP's project list.
Expand Bike	Provide additional infrastructure and/or service above and beyond the RTP's project list.
Expand Pedestrian	Provide additional infrastructure and/or service above and beyond the RTP's project list.
Expand HSR services	Provide additional infrastructure and/or service above and beyond the RTP's project list.
Expand Passenger and Freight Rail	Provide additional infrastructure and/or service above and beyond the RTP's project list.
Expand Passenger and Freight Air	Provide additional infrastructure and/or service above and beyond the RTP's project list.
Expand Passenger and Freight Marine	Provide additional infrastructure and/or service above and beyond the RTP's project list.

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CTP 2040 Surface Transportation GHG Reduction Strategies

Vehicle/System Operations- Operational Efficiency

Strategy	Definition
Operational Efficiency	
Ramp metering	Expand ramp metering beyond future project lists
HOV and HOT lanes	Expand HOV and HOT lane beyond planned future project lists
Lowered speed limits	Reduce State Highway Speed limits
Speed enforcement	Increase speed enforcement to maintain speed limit on State Highway System
Design of highways to reduce high speeds and low speeds	Design the highway system for emissions optimization through speeds
Roundabouts	Increase use of roundabouts where appropriate
Incident and emergency management	Enhance incident management to increase traffic flow, reduce congestion and suppress shock waves after traffic interruptions.
Alternative Fuel Infrastructure: Ex. Electric plug-ins for truck auxiliary equipment at rest stops	Build and support alternative fuel infrastructure
Intelligent Transportation Systems (ITS)	Install and maintain traffic cameras, changeable message signs, speed sensors and other related infrastructure to improve travel-time reliability beyond future project lists.
Traveler information systems	Real-time traffic conditions, alternative routing, and transportation choices to the public
Traffic timing synchronization	Minimize wait times at traffic signals
Elimination of highway bottlenecks	Reduce delay by eliminating State Highway System bottlenecks
Truck only lanes	Only trucks allowed in lane

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MPO/RTPA Strategies Deployment Survey

Key Strategy Cluster	Transportation Investment Strategies	MPO	Non-MPO
Pricing	Mileage-based highway user fee (VMT fee)	2	
	Congestion Pricing	2	
	Cordon Pricing	1	
	Operating costs	4	1
	Regional gas tax/national gas tax assumption	5	
	Tolling	3	1
	Fuel costs	3	1
	Transit Fares	6	3
	Pay-at-the-pump auto insurance		
	Park pricing	3	
	Regional Development Impact Fee	1	
	Freight fee/National freight program	2	
Transportation Alternatives	Telecommute	7	3
	Car sharing	4	1
	Vanpool/Agriculture vanpools	9	4
	Carpool	9	4
	Buspool	2	2
	Smart driving strategy (eco-driving)	3	
	Park and Ride Lots (transit, carpools)		1
	Safe Routes to School	10	3
Mode Shift	Expand transit	10	5
	Expand bike	11	5
	Expand pedestrian	11	5
	Expand HSR services	3	
	Expand Passenger and Freight Rail	9	1
	Expand Passenger and Freight Marine	1	
	Expand Passenger and Freight Air	1	1
Operational Efficiency	Ramp metering	9	1
	Aux Lanes	1	
	HOV/HOT lanes	6	2
	Incident and emergency management	7	2
	Travel information	9	3
	Intellgent Transportation Systems (ITS)	9	4
	Arterial management	6	1
	Traffic timing synchronization	7	2
	Bottleneck relief	6	1
	Advanced vehicle and roadside communication	3	
Other	Increased transit performance	5	1
	Clean vehicle feebate program	2	
	Commuter benefit ordinance	2	
	Vehicle buy-back and plug-in or electric vehicle purchase incentive	2	
	Regional electric vehicle charger network	5	2
	Other incentive Programs ISR, e-Trips, etc.	1	
	Cash incentives for biking or walking		1
	Regional Spare the Air; SECTA Program Phase 2		1
	Cash incentives for biking or walking		1
	New bus with increased no. of passenger seats		1
	New admin buidling with efficient HVAC		1
	New snow blower and snow plow vehicles		1
	Land Use (Smart Growth Incentive Program)	1	

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TRENDS

- Highest Ranking Strategies
  - MPO
    - Expand Transit
    - Expand Bike
    - Expand Pedestrian
    - Safe Routes to School
  - Non-MPO
    - Expand Transit
    - Expand Bike
    - Expand Pedestrian
    - Vanpool/Buspool

Future Strategies from CIB Interim Report

Testing statewide strategies, such as:

- System management strategies – e.g., statewide pricing
- System operations efficiency – e.g., ramp metering
- Bottleneck relief at key interregional gateways – e.g., truck climbing lanes
- Blended High-Speed Rail
- Fuel and Vehicle Technology Infrastructure/Programs

Statewide Appropriate Strategies

Criteria

- Do we need more of high ranking strategies?
- Or low ranking?
- Or ones not identified?

HOMEWORK

- Identify which strategies should be included in the CTP Alternatives
  - -Which are the most appropriate for statewide implementation?

- Make selection via survey to be distributed by September 3

For More Information…

Check out the CTP Website at:
http://www.californiatransportationplan2040.org

For Questions, Contact:
austin.hicks@dot.ca.gov

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California TRANSPORTATION PLAN 2040

Integrating California's Transportation Future

CTP 2040 Outline

August 22, 2013

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CTP2040 CALIFORNIA TRANSPORTATION PLAN

CTP 2040 OUTLINE

Table of Contents

- Executive Summary
- Introduction
- Chapter 1 The Plan
- Chapter 2 Trends and Challenges
- Chapter 3 Revenues and Expenditures
- Chapter 4 Goals to Move Forward
- Chapter 5 Performance Measures and Modeling
- Chapter 6 Findings and Recommendations

CTP 2040 OUTLINE

Executive Summary

- 2 pages
- Plan Overview
- Highlights conclusions and next steps

CTP 2040 OUTLINE

Introduction

- 2 pages
- Introduces the 3 e's
- Introduces the Goals
- Sets stage for GHG analysis

CTP 2040 OUTLINE

Chapter 1: The Plan

- 5 pages
- Defines the purpose of the Plan
- Defines the statewide system
- Roles and Responsibilities

CTP 2040 OUTLINE

Chapter 2: Trends and Challenges

- 10 pages

- Aging and diverse population
- Climate Change and GHG policies
- Complete streets
- Economy
- Freight mobility
- Fuel and energy
- Housing and land use
- Measuring performance of our plans
- Social Equity
- Transportation funding

CTP 2040 OUTLINE

Chapter 3: Revenues and Expenditures

- 5 pages
- Funding Challenges
- Funding Trends
- Funding Strategies

CTP 2040 OUTLINE

Chapter 4: Goals to Move Forward

- 13 pages
- Discuss the 6 goals
  - Policies
    - Strategies
      - performance measures

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Chapter 5: Alternative Analysis and PM's

- 10 pages
- Introduce the CSTDM
- Model framework
- 3 alternatives
- Performance measures

CTP 2040 OUTLINE

Chapter 6: Findings and Recommendations

- 6 pages
- Findings
- Recommendations
- Next Steps

CTP 2040 OUTLINE

WOOHOO! A SURVEY!

- GATHER PAC INPUT FOR THE CTP 2040 OUTLINE
- SEND OUT IN 3 WEEKS
- ONE WEEK TO SUBMIT

For More Information…

Check out the CTP Website at:
http://www.californiatransportationplan2040.org

For Questions, Contact:
gabriel.corley@dot.ca.gov

PAC Homework

Two Surveys are better than one!

- CTP Strategies Survey – September 3
  - Complete by September 10
- Outline Survey – September 12
  - Complete by September 19

CTP 2040 PAC Future Meeting Dates

October 15, 2013
January 14, 2014
March 18, 2014
June 17, 2014
August 19, 2014
October 14, 2014