MOVING CALIFORNIA FORWARD

CHRIS BUSCH AND ERIKA LEW SPUR PRESENTATION 18 FEBRUARY 2016





ABOUT ENERGY INNOVATION





SIX SMART GUIDELINES

CDBC'S GREEN AND SMART URBAN DEVELOPMENT GUIDELINES

OCTOBER 2015 DRAFT FOR COMMENT







ABOUT CALTHORPE ANALYTICS NEXT GENERATION SCENARIO MODELS

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ABOUT CALTHORPE ANALYTICS VISION CALIFORNIA



OUTLINE

- 1. Overview of study and findings
- 2. Policy motivation
- 3. Methodology
- 4. Results. Why is it important for California?
- 5. Policy revisited: recommendations

OVERVIEW: OUR RECENT STUDY



MOVING CALIFORNIA FORWARD

HOW SMART GROWTH CAN HELP CALIFORNIA REACH ITS 2030 CLIMATE TARGET WHILE CREATING ECONOMIC AND ENVIRONMENTAL CO-BENEFITS

NOVEMBER 2015

ENERGY INNOVAT

By Chris Busch, Erika Lew, and Joe DiStefano



OVERVIEW: DEFINING SMART GROWTH



Smart growth

OVERVIEW OVERLAP WITH SPUR'S AGENDA FOR CHANGE

SPUR'S AGENDA FOR CHANGE 1. Concentrate growth inside existing cities. 2. Build great neighborhoods. 3. Make it affordable to live here. 4. Give people better ways to get where they need to go. 5. Lay the foundations of economic prosperity - for everyone. 6. Reduce our ecological footprint and prepare for climate change. 7. Support local government.

IN THE SAN FRANCISCO BAY AREA

OVERVIEW: HOW



Location **inefficiency** Forces people to drive almost everywhere Location **efficiency** Compact and mixed-use development means more walkable and bike accessible

OVERVIEW: HOW



everywhere

POLICY MOTIVATION

AB 32 signing in 2006

SB 375 signing in 2008



Global Warming Solutions Act

Sustainable Communities Act

POLICY MOTIVATION AB 32 AND 2030 EXECUTIVE ORDER

1. AB 32

Reduce statewide emissions to 1990 levels by 2020

2. Executive Order B-30-15

Reduce emissions 40 Percent Below 1990 Levels by 2030

POLICY MOTIVATION 2030 SCOPING PLAN UNDER DEVELOPMENT



POLICY MOTIVATION: OPPORTUNITY IN INVESTMENT OF CARBON REVENUE

- Largest share (35%) for transportation and sustainable communities
- \$1.24 billion invested so far \rightarrow
- \$2.8 billion appropriated, \$800 million for disadvantaged communities under SB 535



POLICY MOTIVATION SB 375 SUSTAINABLE COMMUNITIES ACT

Metropolitan Planning Organizations submit Sustainable Community Plans

Targets	VMT per capita	% Below 2005					
2020	7,630 miles	7%					
2035	7,130 miles	13%					
Historical data							
2005	8,200 miles	Not applicable					
2014	7,200 miles	12%					

Air Resources Board considering revision of targets this year.

POLICY MOTIVATION PASSENGER VEHICLES LARGEST SOURCE OF EMISSIONS IN 2013



California Air Resources Board

POLICY MOTIVATION CALIFORNIA GROWTH TO 2030 AN OPPORTUNITY FOR URBAN REDESIGN

+5.7 million people

+1.6 million households

+3.8 million jobs

POLICY MOTIVATION MEETING CHANGING HOUSING DEMAND

Household demographics



POLICY MOTIVATION MEETING CHANGING HOUSING DEMAND

Market preferences



Arthur Nelson. 2011. The New California Dream. Urban Land Institute.

METHODOLOGY

THE RAPIDFIRE MODEL

RapidFire

- Spreadsheet-based model developed to quickly evaluate alternatives across a range of metrics
- Scenarios defined by allocation of new population, jobs, and housing types to broad development patterns
- Applies energy technology assumptions from recent E3 study (California PATHWAYS)

RAPIDFIRE MODEL FLOW

BASE + GROWTH PROJECTIONS	LAND US	POLICY & PERFORMANCE ASSUMPTIONS → OUTPUT METRICS					
	Land		Per-capita by	Land consumption			
Population	Development Categories	Housing unit	LDC	Transportation			
	(LDCs):	mix	Per-unit by	Health impacts			
Uauaahalda	Urban Compact		housing type	Building energy use			
nousenoius	Standard		Per-square foot	Water use			
	Development	Commercial	by building type	Local fiscal impacts			
Jobs	condition: Greenfield	allocation	Energy and	Household costs			
	Infill/Redev		assumptions	GHG emissions			

RAPIDFIRE LAND DEVELOPMENT CATEGORIES (LDCs)



Urban Moderate- to high-intensity urban centers



Compact Walkable and transit-accessible, with mixed uses and moderate densities



Standard Auto-oriented suburban development

URBAN LDC



COMPACT LDC



STANDARD LDC



STANDARD LDC





FOUR STATEWIDE SCENARIOS

Past Trends A continuation of the expansive development patterns of decades past

Current Plans

A possible trajectory given current planning and policy in line with SB 375

More Compact

A future with stronger smart growth policy that prioritizes focused development in coordination with transit investments, and meets demand for housing in walkable, accessible communities

Infill Focus

A smart growth future with a greater focus on infill within existing urban boundaries

LAND USE MIX – NEW GROWTH



DEVELOPMENT LOCATION – NEW GROWTH



STANDARD



Public investment catalyzes development...



COMPACT



STANDARD



COMPACT



Current boundary



2030 stylized result illustrated under Infill Focus scenario



2030 stylized result illustrated under Past Trends scenario



Difference in 2030 between Infill Focus and Past Trends scenarios



Visual example #2: Past Trends



Visual example #2: Current Plans



Visual example #2: More Compact



Visual example #2: Infill Focus



SCENARIO RESULTS!

(Selected results presented here; see report for full results.)

LAND CONSUMPTION

New (greenfield) land consumed to accommodate growth to 2030



Compared to Past Trends:

Land saved in Infill Focus is equivalent to 14 times that of San Francisco

HOUSEHOLD DRIVING

Annual Passenger Vehicle Miles Traveled (VMT), 2030



Compared to Past Trends:

VMT reduction in Infill Focus is like taking **4.6 million cars** off California roads.

WATER USE

Residential water use for new homes in 2030



Compared to Past Trends:

Infill Focus saves enough water to supply 470,000 homes in 2030.

HOUSEHOLD AUTO & UTILITY COSTS

Household costs for auto fuel, ownership, and maintenance + energy and water use in 2030



Compared to Past Trends:

Infill Focus saves California households a cumulative total of **\$250 billion** to 2030.

COST SAVINGS: CUMULATIVE TO 2030



POLICY REVISITED

Top three targets for statewide policy

- 1. SB 375 target re-evaluation
- 2. 2030 Scoping Plan
- 3. GHG Reduction Fund spending

THANK YOU



C A L T H O R P E A N A L Y T I C S