Climate Smart Communities

Scenarios Project

Environmental Scorecard Workshop

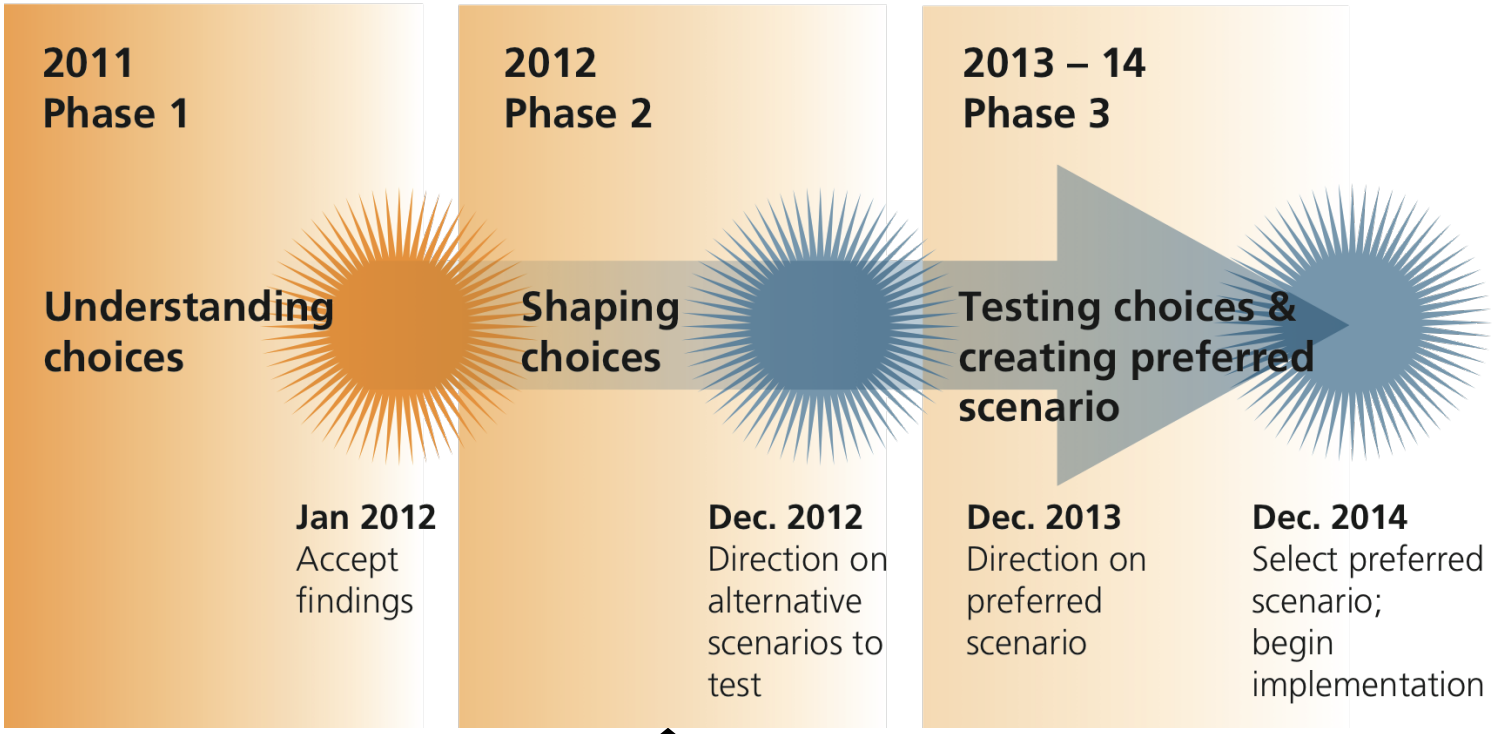
Kim Ellis, project manager

July 17, 2012

Metro | *Making a great place*

Climate Smart Communities

Timeline



We are here.

Climate Smart Communities

Building toward six desired outcomes

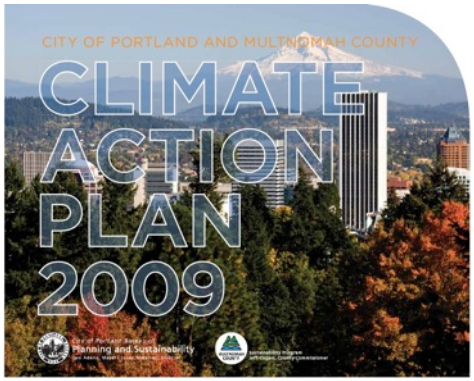
Vibrant communities

Equity

Economic prosperity

Transportation choices

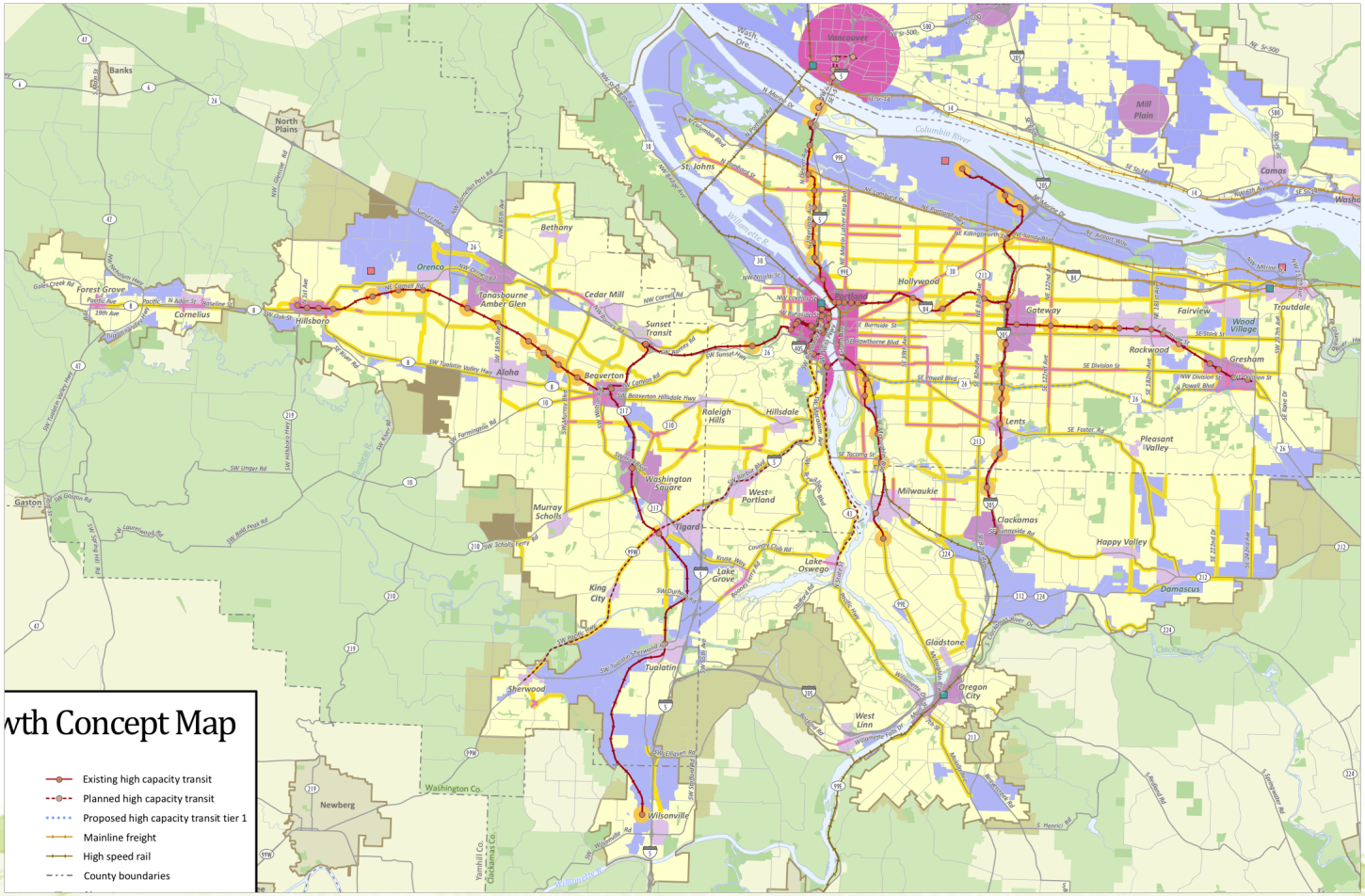
Clean air & water



Climate leadership

Climate Smart Communities

Unique local approaches to implement regional growth strategy



Climate Smart Communities

Building on community aspirations

Beaverton Civic Plan
growing together

THE PORTLAND PLAN

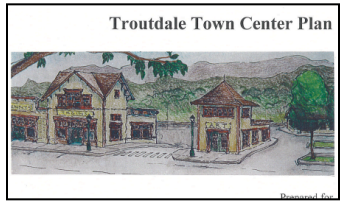
envision
Tualatin Tomorrow

DOWNTOWN TIGARD

SPRINGWATER COMMUNITY

IMAGINE WEST LINN

Hillsboro 2020



Complete Communities
FOR CLACKAMAS COUNTY

WE ♡ LO
Planning for People, Places and Prosperity

Climate Smart Communities

Phase 1 strategies tested

Vehicle and Fuel Technologies

- More fuel-efficient and lower emissions vehicles
- Cleaner fuels

Community Design and Roads

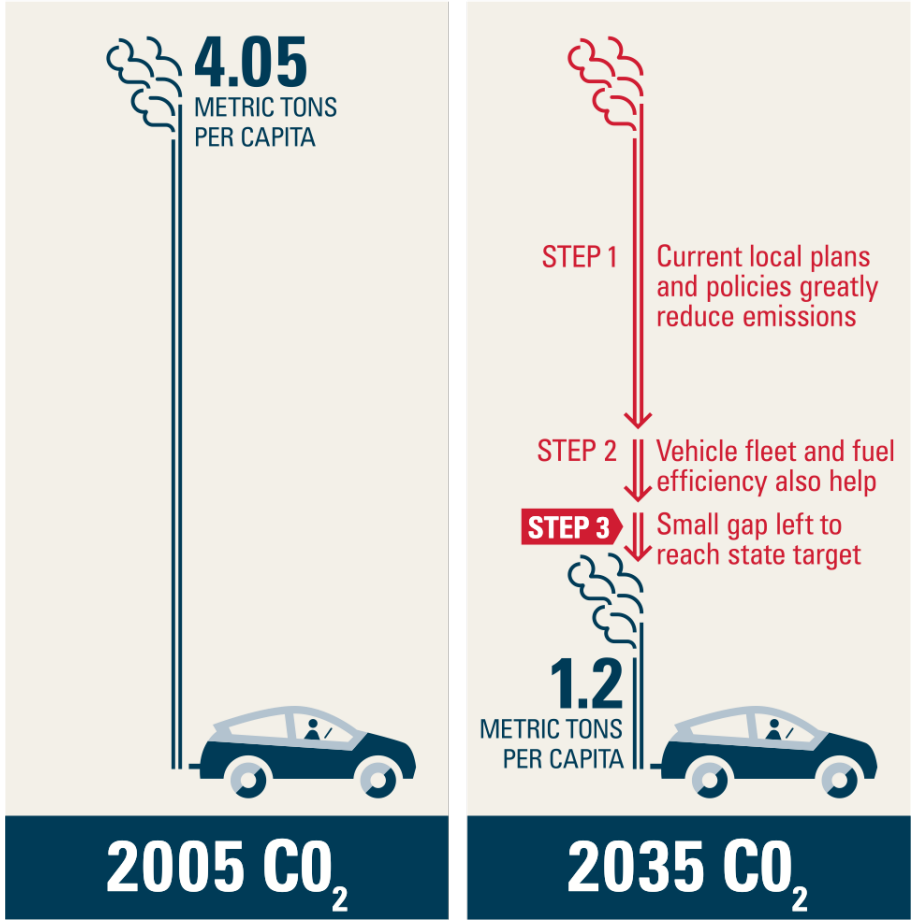
- Compact, mixed-use development
- Limited urban growth boundary expansion
- Transportation system operations optimization *(e.g., ITS, incident management, traffic signal timing)*
- Investments to shift more local trips to low or zero-emission modes *(e.g., transit, bicycling, walking)*
- Road expansion
- Managing supply and cost of parking

Pricing and Marketing/Incentives

- Ecodriving, carsharing, household marketing and commuter programs
- Market signals to promote and support desired travel behavior (pricing, pay-as-you drive insurance)

Climate Smart Communities – Phase 1 Findings

Current plans plus cleaner fuels and vehicles get us close



2035 GHG target for region

per capita light vehicle roadway GHG emissions reduction below 2005 levels

Most effective GHG emissions reduction strategies

- Cleaner fuels and more efficient vehicles
- More fuel-efficient and zero emissions travel
- More transit with supportive land use and bike and pedestrian access
- Efficient pricing: use of market signals to promote and support desired travel behavior

Climate Smart Communities

Phase 2 Purpose

- Define 2-3 scenario options to evaluate in detail
- Create a scorecard to evaluate options

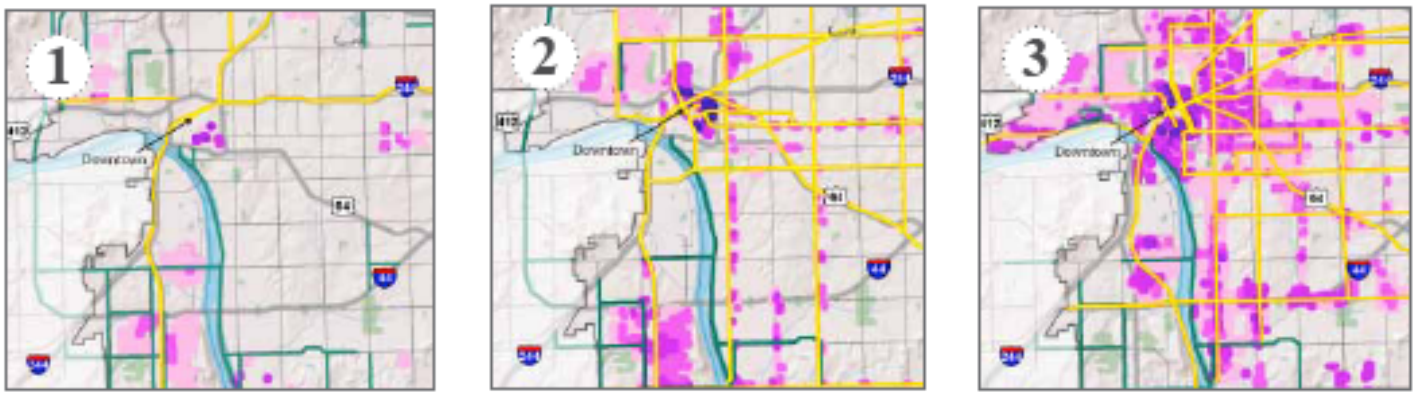
Policy areas tested in Phase 1

Shape local and regional choices, not choose a preferred alternative

Climate Smart Communities – Phase 2

What is a scenario?

- Shows a possible future
- Combines a variety of strategies and actions
- Compares choices and consequences
- Informs strategies to optimize outcomes
- Allows you to discover new strategies



from www.PlaniTulsa.org

NEW GROWTH

Low Density | Medium Density | High Density

TRANSPORTATION INVESTMENTS

Mass Transit | Road

Climate Smart Communities – Phase 2

Framing the scenarios

the ingredients

- Adopted community plans and visions serve as the foundation
- Statewide Transportation Strategy complements adopted plans
- Other strategies tested in Phase 1

Climate Smart Communities – Phase 2

Creating a scorecard

Community and business leaders provide input on what outcomes are most important to evaluate and compare scenarios

Outcomes-based Evaluation Framework

Building toward six desired outcomes

Vibrant communities

Equity

Economic prosperity

Transportation choices

Clean air & water

Climate leadership

Evaluation framework

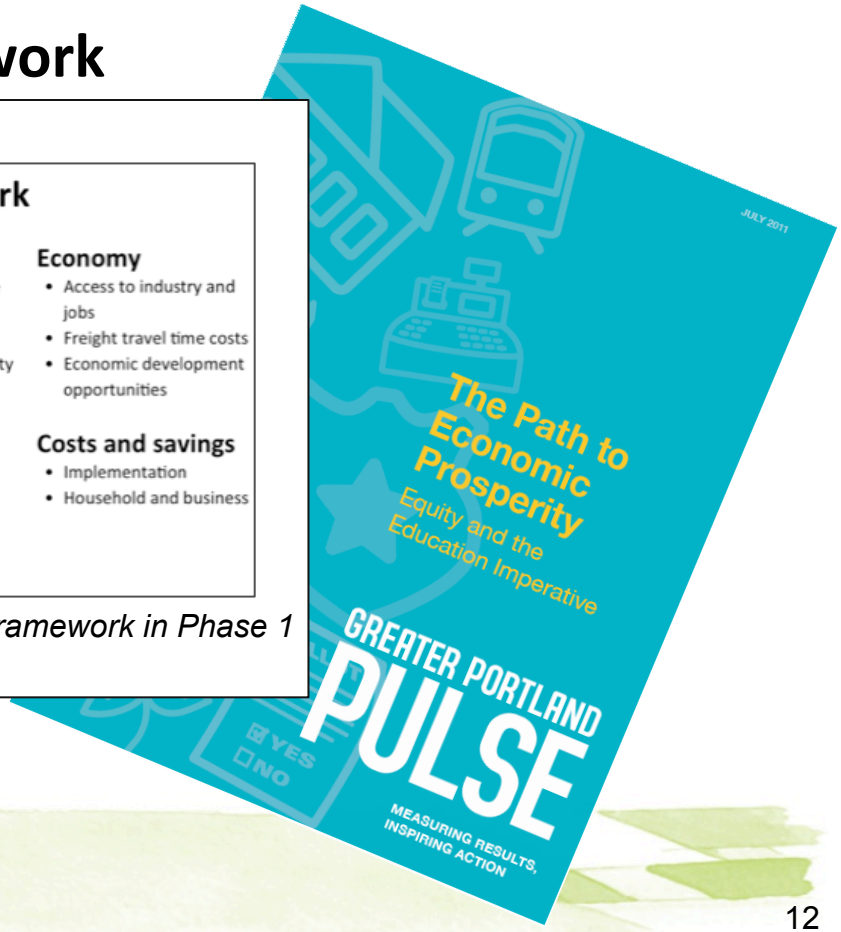
Equity
- Access to affordable housing and travel options
- Access to opportunity
- Public health

Economy
- Access to industry and jobs
- Freight travel time costs
- Economic development opportunities

Environment
- Greenhouse gas
- Air quality
- Access to parks and natural areas

Costs and savings
- Implementation
- Household and business

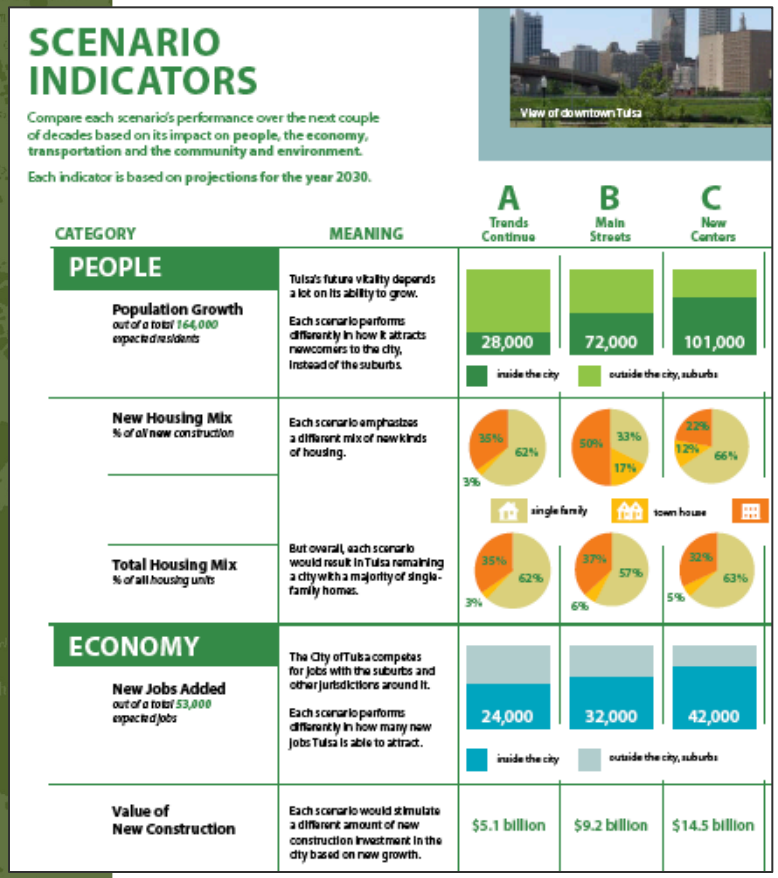
MPAC, JPACT and the Metro Council endorsed the evaluation framework in Phase 1 (June 2011)



Climate Smart Communities – Creating the scorecard

What is a scorecard?

priority outcomes/results to communicate tradeoffs



SCENARIO INDICATORS

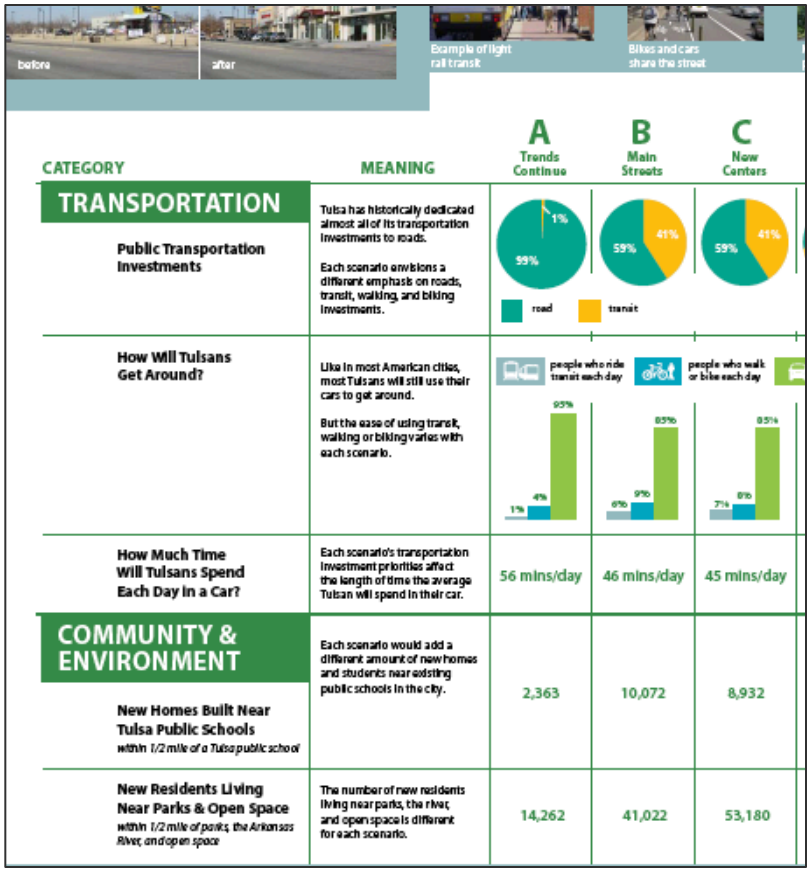
Compare each scenario's performance over the next couple of decades based on its impact on people, the economy, transportation and the community and environment.

Each indicator is based on projections for the year 2030.

View of downtown Tulsa

CATEGORY	MEANING	A Trends Continue	B Main Streets	C New Centers
PEOPLE				
Population Growth (out of a total 164,000 expected residents)	Tulsa's future vitality depends a lot on its ability to grow. Each scenario performs differently in how it attracts newcomers to the city, instead of the suburbs.	28,000	72,000	101,000
New Housing Mix (% of all new construction)	Each scenario emphasizes a different mix of new kinds of housing.	35% 62% 3%	50% 33% 17%	22% 12% 66%
Total Housing Mix (% of all housing units)	But overall, each scenario would result in Tulsa remaining a city with a majority of single-family homes.	35% 62% 3%	37% 57% 6%	32% 63% 5%
ECONOMY				
New Jobs Added (out of a total 53,000 expected jobs)	The City of Tulsa competes for jobs with the suburbs and other jurisdictions around it. Each scenario performs differently in how many new jobs Tulsa is able to attract.	24,000	32,000	42,000
Value of New Construction	Each scenario would stimulate a different amount of new construction investment in the city based on new growth.	$5.1 billion	$9.2 billion	$14.5 billion

Legend: inside the city; outside the city, suburbs; single family; town house



before / after

Example of light rail transit

Bikes and cars share the street

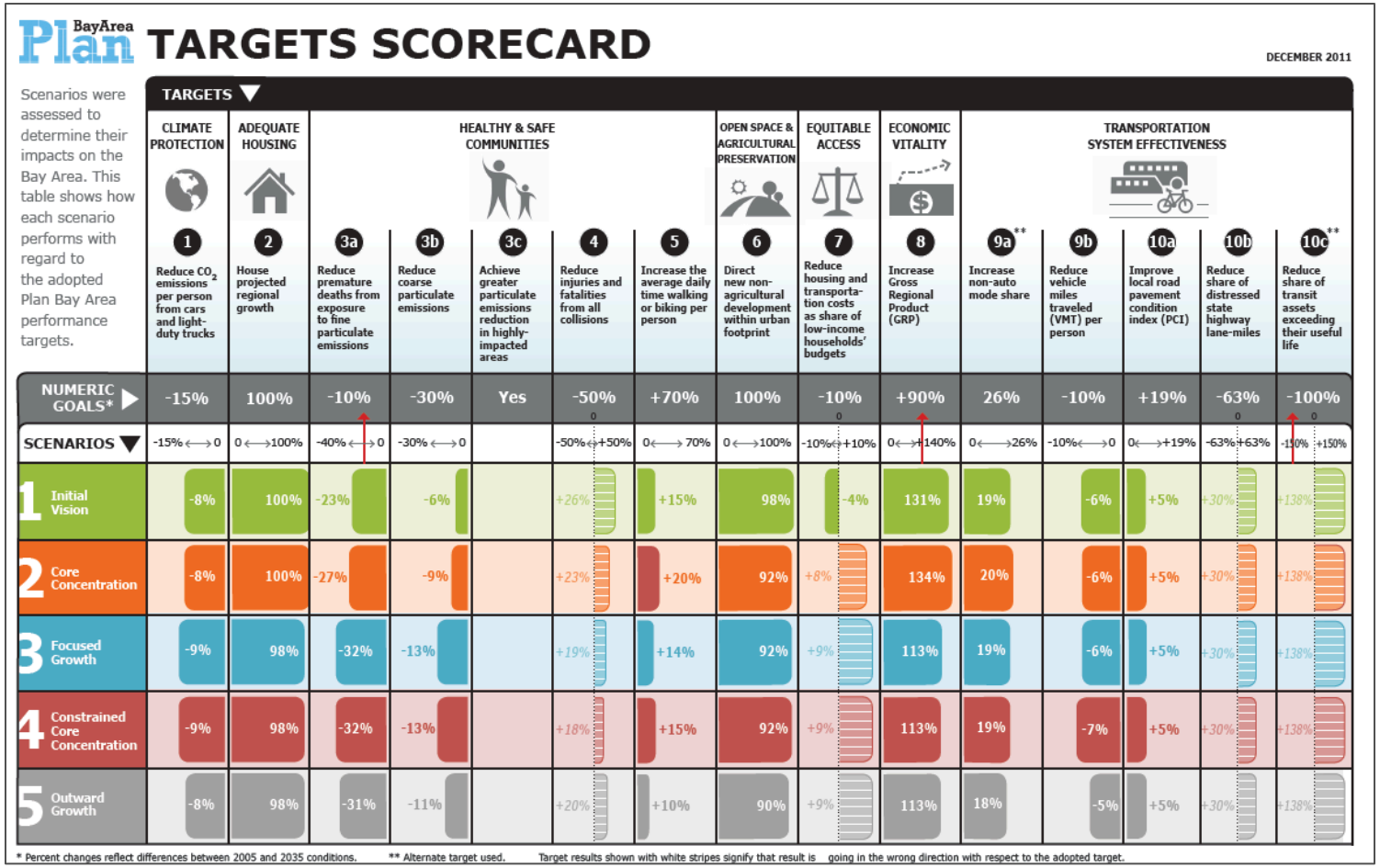
CATEGORY	MEANING	A Trends Continue	B Main Streets	C New Centers
TRANSPORTATION				
Public Transportation Investments	Tulsa has historically dedicated almost all of its transportation investments to roads. Each scenario envisions a different emphasis on roads, transit, walking, and biking investments.	99% 1%	59% 41%	59% 41%
How Will Tulsans Get Around?	Like in most American cities, most Tulsans will still use their cars to get around. But the ease of using transit, walking or biking varies with each scenario.	1% 4% 95%	6% 9% 85%	7% 8% 85%
How Much Time Will Tulsans Spend Each Day in a Car?	Each scenario's transportation investment priorities affect the length of time the average Tulsan will spend in their car.	56 mins/day	46 mins/day	45 mins/day
COMMUNITY & ENVIRONMENT				
New Homes Built Near Tulsa Public Schools (within 1/2 mile of a Tulsa public school)	Each scenario would add a different amount of new homes and students near existing public schools in the city.	2,363	10,072	8,932
New Residents Living Near Parks & Open Space (within 1/2 mile of parks, the Arkansas River, and open space)	The number of new residents living near parks, the river, and open spaces is different for each scenario.	14,262	41,022	53,180

Legend: people who ride transit each day; people who walk or bike each day; road; transit

from www.PlaniTulsa.org

Climate Smart Communities – Creating the scorecard

Bay Area example



Plan BayArea TARGETS SCORECARD — DECEMBER 2011

Scenarios were assessed to determine their impacts on the Bay Area. This table shows how each scenario performs with regard to the adopted Plan Bay Area performance targets.

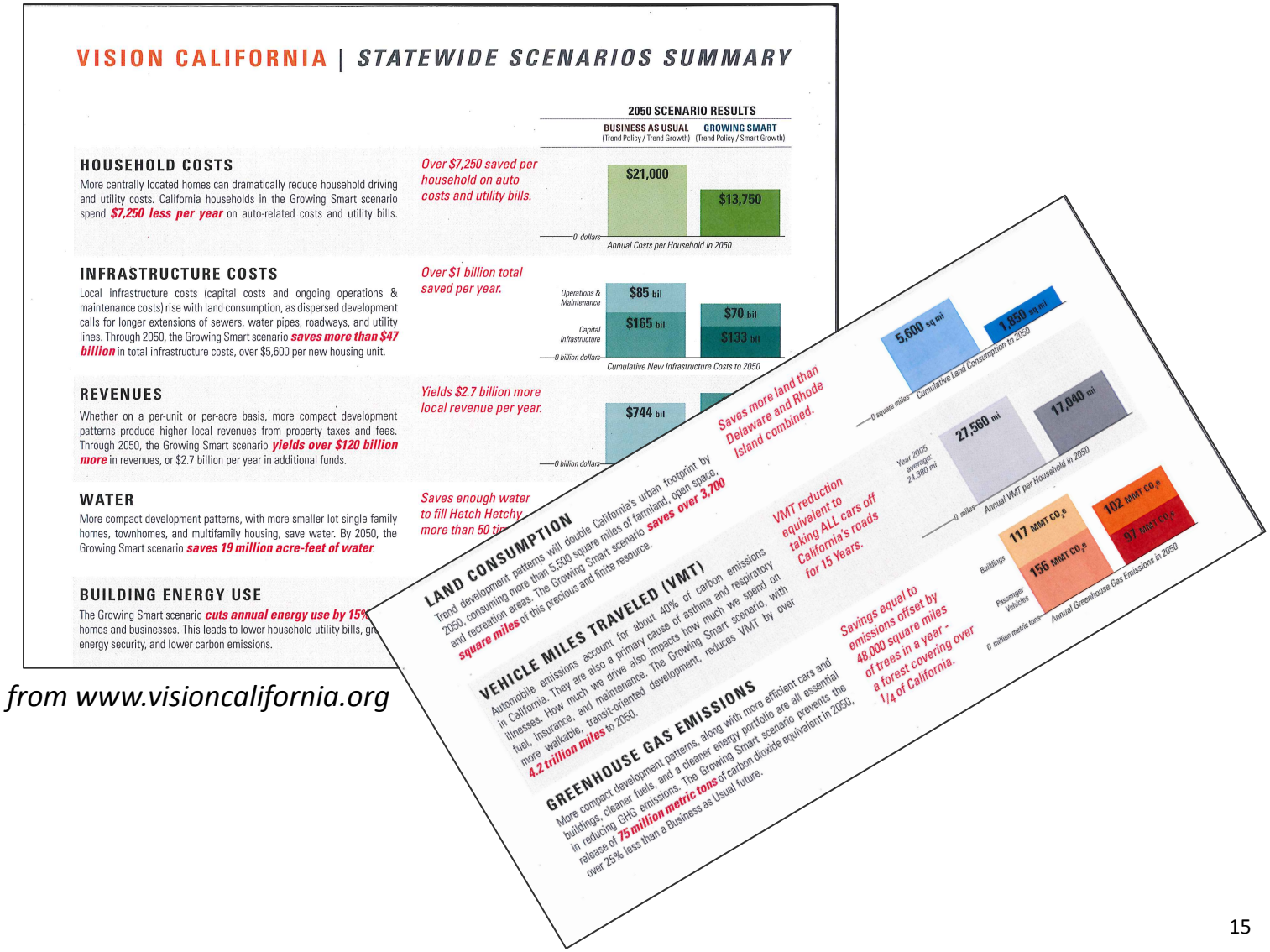
TARGETS	CLIMATE PROTECTION	ADEQUATE HOUSING	HEALTHY & SAFE COMMUNITIES					OPEN SPACE & AGRICULTURAL PRESERVATION	EQUITABLE ACCESS	ECONOMIC VITALITY	TRANSPORTATION SYSTEM EFFECTIVENESS				
	1 Reduce CO_2 emissions per person from cars and light-duty trucks	2 House projected regional growth	3a Reduce premature deaths from exposure to fine particulate emissions	3b Reduce coarse particulate emissions	3c Achieve greater particulate emissions reduction in highly-impacted areas	4 Reduce injuries and fatalities from all collisions	5 Increase the average daily time walking or biking per person	6 Direct new non-agricultural development within urban footprint	7 Reduce housing and transportation costs as share of low-income households' budgets	8 Increase Gross Regional Product (GRP)	9a** Increase non-auto mode share	9b Reduce vehicle miles traveled (VMT) per person	10a Improve local road pavement condition index (PCI)	10b Reduce share of distressed state highway lane-miles	10c** Reduce share of transit assets exceeding their useful life
NUMERIC GOALS*	-15%	100%	-10%	-30%	Yes	-50%	+70%	100%	-10%	+90%	26%	-10%	+19%	-63%	-100%
SCENARIOS	-15% ⟷ 0	0 ⟷ 100%	-40% ⟷ 0	-30% ⟷ 0		-50% ⟷ +50%	0 ⟷ 70%	0 ⟷ 100%	-10% ⟷ +10%	0 ⟷ +140%	0 ⟷ 26%	-10% ⟷ 0	0 ⟷ +19%	-63% ⟷ +63%	-150% ⟷ +150%
1 Initial Vision	-8%	100%	-23%	-6%		+26%	+15%	98%	-4%	131%	19%	-6%	+5%	+30%	+138%
2 Core Concentration	-8%	100%	-27%	-9%		+23%	+20%	92%	+8%	134%	20%	-6%	+5%	+30%	+138%
3 Focused Growth	-9%	98%	-32%	-13%		+19%	+14%	92%	+9%	113%	19%	-6%	+5%	+30%	+138%
4 Constrained Core Concentration	-9%	98%	-32%	-13%		+18%	+15%	92%	+9%	113%	19%	-7%	+5%	+30%	+138%
5 Outward Growth	-8%	98%	-31%	-11%		+20%	+10%	90%	+9%	113%	18%	-5%	+5%	+30%	+138%

* Percent changes reflect differences between 2005 and 2035 conditions. ** Alternate target used. Target results shown with white stripes signify that result is going in the wrong direction with respect to the adopted target.

from www.onebayarea.org

Climate Smart Communities – Creating the scorecard

California example



VISION CALIFORNIA | STATEWIDE SCENARIOS SUMMARY

2050 SCENARIO RESULTS

BUSINESS AS USUAL (Trend Policy / Trend Growth) | GROWING SMART (Trend Policy / Smart Growth)

HOUSEHOLD COSTS

More centrally located homes can dramatically reduce household driving and utility costs. California households in the Growing Smart scenario spend ***$7,250 less per year*** on auto-related costs and utility bills.

Over $7,250 saved per household on auto costs and utility bills.

$21,000 | $13,750

0 dollars — Annual Costs per Household in 2050

INFRASTRUCTURE COSTS

Local infrastructure costs (capital costs and ongoing operations & maintenance costs) rise with land consumption, as dispersed development calls for longer extensions of sewers, water pipes, roadways, and utility lines. Through 2050, the Growing Smart scenario ***saves more than $47 billion*** in total infrastructure costs, over $5,600 per new housing unit.

Over $1 billion total saved per year.

Operations & Maintenance: $85 bil | $70 bil

Capital Infrastructure: $165 bil | $133 bil

0 billion dollars — Cumulative New Infrastructure Costs to 2050

REVENUES

Whether on a per-unit or per-acre basis, more compact development patterns produce higher local revenues from property taxes and fees. Through 2050, the Growing Smart scenario ***yields over $120 billion more*** in revenues, or $2.7 billion per year in additional funds.

Yields $2.7 billion more local revenue per year.

$744 bil

0 billion dollars

WATER

More compact development patterns, with more smaller lot single family homes, townhomes, and multifamily housing, save water. By 2050, the Growing Smart scenario ***saves 19 million acre-feet of water***.

Saves enough water to fill Hetch Hetchy more than 50 ti

BUILDING ENERGY USE

The Growing Smart scenario ***cuts annual energy use by 15%*** homes and businesses. This leads to lower household utility bills, gr energy security, and lower carbon emissions.

LAND CONSUMPTION

Trend development patterns will double California's urban footprint by 2050, consuming more than 5,500 square miles of farmland, open space, and recreation areas. The Growing Smart scenario ***saves over 3,700 square miles*** of this precious and finite resource.

Saves more land than Delaware and Rhode Island combined.

5,600 sq mi | 1,850 sq mi

0 square miles — Cumulative Land Consumption to 2050

VEHICLE MILES TRAVELED (VMT)

Automobile emissions account for about 40% of carbon emissions in California. They are also a primary cause of asthma and respiratory illnesses. How much we drive also impacts how much we spend on fuel, insurance, and maintenance. The Growing Smart scenario, with more walkable, transit-oriented development, reduces VMT by over ***4.2 trillion miles*** to 2050.

VMT reduction equivalent to taking ALL cars off California's roads for 15 Years.

Year 2005 average: 24,360 mi

27,560 mi | 17,040 mi

0 miles — Annual VMT per Household in 2050

GREENHOUSE GAS EMISSIONS

More compact development patterns, along with more efficient cars and buildings, cleaner fuels, and a cleaner energy portfolio are all essential in reducing GHG emissions. The Growing Smart scenario prevents the release of ***75 million metric tons*** of carbon dioxide equivalent in 2050, over 25% less than a Business as Usual future.

Savings equal to emissions offset by 48,000 square miles of trees in a year - a forest covering over 1/4 of California.

Buildings: 117 MMT CO_2e | 102 MMT CO_2e

Passenger Vehicles: 156 MMT CO_2e | 97 MMT CO_2e

0 million metric tons — Annual Greenhouse Gas Emissions in 2050

from www.visioncalifornia.org

Climate Smart Communities – Creating the scorecard

Measuring what matters

Outcomes

What are the most important results or outcomes to measure for the region?

Strategy Pathways

How do different strategies affect the achievement of those outcomes, positively or negatively?

Indicators

What is the best way to measure progress toward the outcomes when comparing the scenarios?

Focus of today's workshop

Scorecard next steps

Conduct equity/environmental justice workshop	July 31
Conduct business focus groups	August
Report results of workshops and focus groups	September
Gather input with Opt In survey on scorecard and scenarios	Mid-fall
Convene summit	Late-fall

Learn more about Climate Smart Communities Scenarios

Visit www.oregonmetro.gov/climatescenarios

Sign-up for updates at climatescenarios@oregonmetro.gov