

Ken Bird, M.D.

Active Transport and Health Status:
A Public Health Needs Assessment

Fresno Council of Governments

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Fresno Co. wants you to walk, cycle

'Active transportation' seeks to get you moving.

By George Hostetter

The Fresno Bee

Government and civic leaders on Thursday used a new phrase — "active transportation" — to spur an old way of getting around.

The aim is to get people throughout Fresno County to do more walking and bicycling.

More than 20 people met in downtown Fresno for the kick-off meeting of the Regional Active Transportation Plan.

"Active transportation" is bu-

reaucracy's way of describing the art of getting from Point A to Point B on your own power. That typically means hoofing it or hopping on a bicycle.

"We want to give everybody more transportation options," Fresno Council of Governments planner Lindsey Monge-Chargin said after the meeting. "You might decide to walk to a bus stop instead of taking your car to work. And there's the health aspect. If you're walking or bicycling, skateboarding or rollerblading, whatever it might be, you're definitely improving your health."

Everyone at the meeting had a handle on the basics.

The federal and state governments are keen on getting people into the exercise mode. "Active transportation" is their new favorite phrase.

The feds and state have a powerful carrot — planning money for agencies and groups located closer to the people. COG has set aside \$150,000 of its own money to fund the writing of a county-wide active transportation plan. The state is adding another \$150,000.

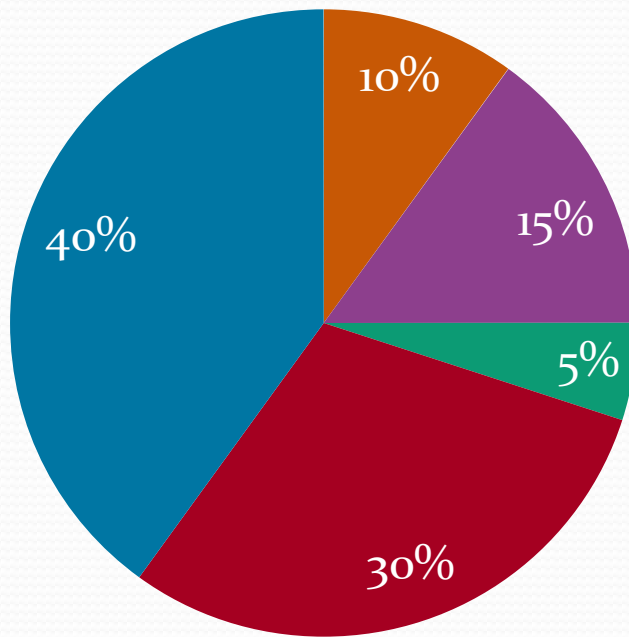
But it seemed everyone at the meeting also understood the challenge: A plan for who, what, when, where?

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Contributions to Premature Death



- Health Care
- Social Circumstances
- Environmental Exposure
- Genetic Predisposition
- Behavioral Patterns

Obesity, diabetes, heart disease, cancer and tobacco-related diseases account for more than **80% of all deaths in California.**

What do these have in common?

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County Health Rankings

Health Outcomes

Health Outcomes						46
Length of Life						38
<u>Premature death</u>	7,010		6,824-7,196	5,317	5,570	
Quality of Life						54
<u>Poor or fair health</u>	23%		21-26%	10%	18%	
<u>Poor physical health days</u>	4.2		3.7-4.6	2.5	3.7	
<u>Poor mental health days</u>	3.7		3.3-4.1	2.4	3.6	
<u>Low birthweight</u>	7.4%		7.3-7.6%	6.0%	6.8%	



Health Factors

Health Factors						54
Health Behaviors						46
Adult smoking	14%		12-16%	14%	13%	
Adult obesity	29%		27-32%	25%	23%	
Food environment index	6.5			8.7	7.6	
Physical inactivity	20%		18-22%	21%	18%	
Access to exercise opportunities	71%			85%	91%	
Excessive drinking	18%		15-21%	10%	17%	
Alcohol-impaired driving deaths	33%			14%	32%	
Sexually transmitted infections	632			123	443	
Teen births	55		54-56	20	36	
Clinical Care						42
Uninsured	22%		21-24%	11%	20%	
Primary care physicians	1,593:1			1,051:1	1,326:1	
Dentists	1,883:1			1,439:1	1,354:1	
Mental health providers	835:1			536:1	637:1	
Preventable hospital stays	56		54-58	46	50	
Diabetic screening	80%		78-82%	90%	81%	
Mammography screening	59%		57-61%	71%	59%	

Health Factors

Social & Economic Factors						55
High school graduation	80%				81%	
Some college	51%		49-52%	70%	61%	
Unemployment	15.2%			4.4%	10.5%	
Children in poverty	40%		37-43%	13%	24%	
Inadequate social support	28%		25-32%	14%	25%	
Children in single-parent households	38%		37-40%	20%	31%	
Violent crime	535			64	441	
Injury deaths	56		54-59	49	48	
Physical Environment						43
Air pollution - particulate matter	9.6			9.5	9.3	
Drinking water violations	4%			0%	2%	
Severe housing problems	28%		28-29%	9%	28%	
Driving alone to work	77%		76-77%	71%	73%	
Long commute - driving alone	22%		21-23%	15%	37%	

Fresno County Health Status Indicators

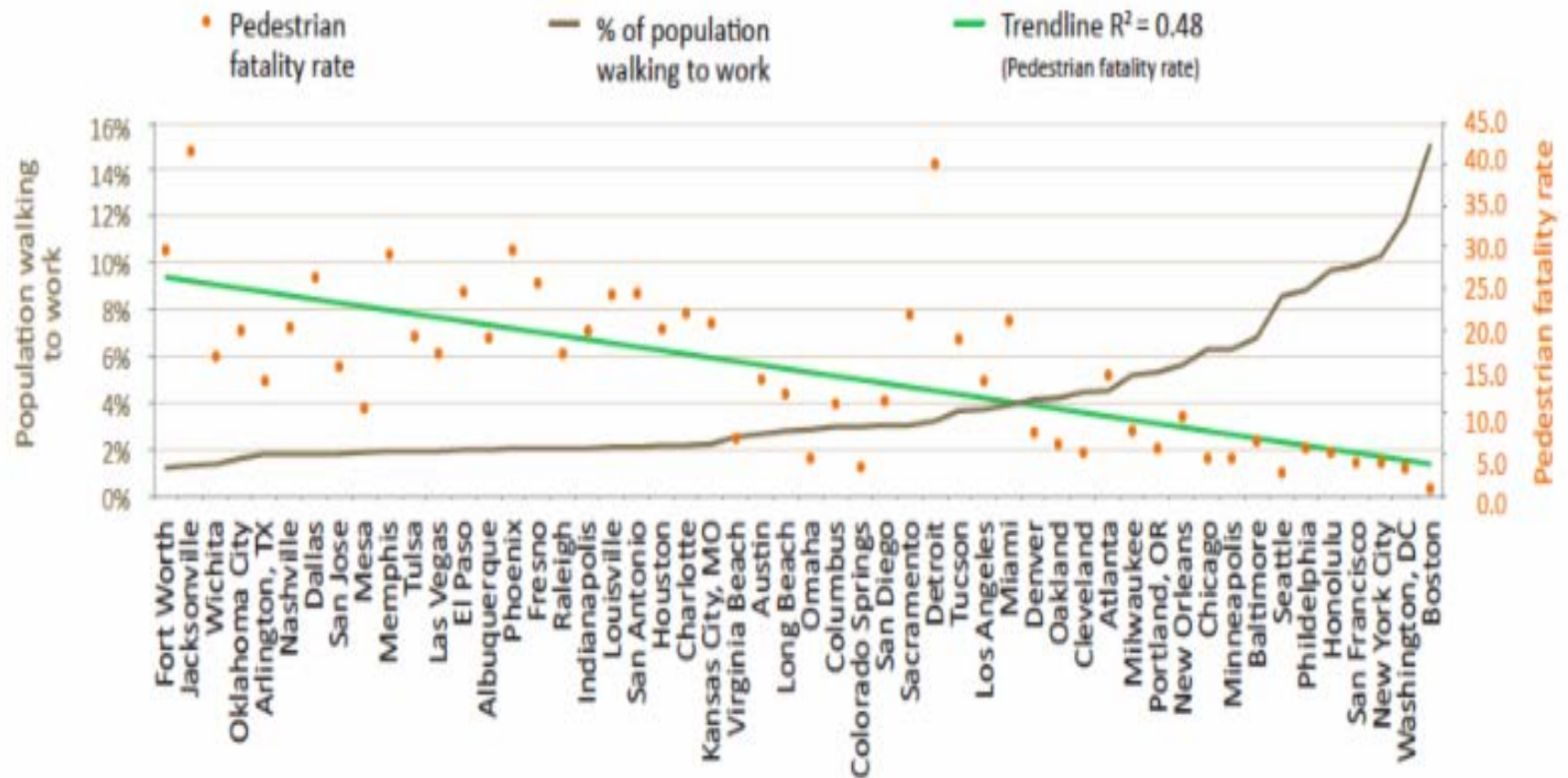
		2010-2012						AGE-ADJUSTED DEATH RATE		
RANK ORDER	HEALTH STATUS INDICATOR	DEATHS (AVERAGE)	CRUDE DEATH RATE	AGE-ADJUSTED DEATH RATE		95% CONFIDENCE LIMITS		NATIONAL OBJECTIVE	CALIFORNIA CURRENT	COUNTY PREVIOUS
						LOWER	UPPER			
37	ALL CAUSES	6,133.0	652.9	734.6		716.0	753.3	a	641.5	771.5
22	ALL CANCERS	1,227.3	130.7	149.6		141.1	158.1	160.6	153.3	160.3
29	COLORECTAL CANCER	111.0	11.8	13.5		10.9	16.0	14.5	14.2	13.8
27	LUNG CANCER	283.7	30.2	35.3		31.1	39.5	45.5	34.8	39.2
20	FEMALE BREAST CANCER	86.0	18.3	19.0		15.2	23.5	20.6	20.9	20.8
16	PROSTATE CANCER	59.3	12.6	18.2		13.8	23.4	21.2	20.5	21.2
55	DIABETES	235.3	25.1	28.8		25.1	32.5	b	20.4	29.2
42	ALZHEIMER'S DISEASE	281.0	29.9	33.9		29.9	37.9	a	30.5	29.6
44	CORONARY HEART DISEASE	949.3	101.1	114.8		107.5	122.2	100.8	106.2	131.7
44	CEREBROVASCULAR DISEASE (STROKE)	364.0	38.8	44.7		40.0	49.3	33.8	36.6	50.0
54	INFLUENZA/PNEUMONIA	180.0	19.2	21.5		18.4	24.7	a	16.1	23.9
22	CHRONIC LOWER RESPIRATORY DISEASE	284.0	30.2	35.7		31.5	39.9	a	36.2	40.4
44	CHRONIC LIVER DISEASE AND CIRRHOSIS	131.0	13.9	15.1		12.5	17.7	8.2	11.5	13.1
28	ACCIDENTS (UNINTENTIONAL INJURIES)	317.7	33.8	36.0		31.9	40.0	36.0	27.3	41.5
33	MOTOR VEHICLE TRAFFIC CRASHES	112.7	12.0	12.2		9.9	14.5	12.4	7.3	16.1
7	SUICIDE	76.0	8.1	8.4		6.6	10.5	10.2	10.1	8.8
50	HOMICIDE	74.7	7.9	7.9		6.2	9.9	5.5	5.2	7.7
27	FIREARM-RELATED DEATHS	87.7	9.3	9.3		7.4	11.4	9.2	7.7	9.6
16	DRUG-INDUCED DEATHS	92.0	9.8	10.4		8.4	12.8	11.3	10.8	12.6
MORBIDITY										
		2010-2012							CRUDE CASE RATE	
RANK ORDER	HEALTH STATUS INDICATOR	CASES (AVERAGE)	CRUDE CASE RATE			95% CONFIDENCE LIMITS		NATIONAL OBJECTIVE	CALIFORNIA CURRENT	COUNTY PREVIOUS
						LOWER	UPPER			
54	AIDS INCIDENCE (AGE 13 AND OVER)	63.0	8.5			6.5	10.9	12.4	8.6	11.9
57	CHLAMYDIA INCIDENCE	6,081.0	647.4			631.1	663.7	c	434.5	597.9
57	GONORRHEA INCIDENCE FEMALE AGE 15-44	634.3	319.4			294.6	344.3	251.9	139.6	224.0
53	GONORRHEA INCIDENCE MALE AGE 15-44	460.0	221.5			201.3	241.8	194.8	186.6	168.2
42	TUBERCULOSIS INCIDENCE	45.0	4.8			3.5	6.4	1.0	6.1	6.6
INFANT MORTALITY										
		2009-2011	BIRTH COHORT	(BC)					BC INFANT DEATH RATE	
RANK ORDER	HEALTH STATUS INDICATOR	DEATHS (AVERAGE)	INFANT DEATH RATE			95% CONFIDENCE LIMITS		NATIONAL OBJECTIVE	CALIFORNIA CURRENT	COUNTY PREVIOUS
						LOWER	UPPER			
52	INFANT MORTALITY: ALL RACES	113.0	7.0			5.7	8.2	6.0	4.9	6.3
48	INFANT MORTALITY: ASIAN/PI	9.3	5.4 *			2.5	10.2	6.0	3.9	6.6 *
53	INFANT MORTALITY: BLACK	15.7	18.5 *			10.5	30.3	6.0	10.1	15.3 *
50	INFANT MORTALITY: HISPANIC	61.0	6.3			4.8	8.1	6.0	4.7	6.1
44	INFANT MORTALITY: WHITE	21.0	6.2			3.9	9.5	6.0	4.1	4.6 *

Fresno County Health Status Indicators

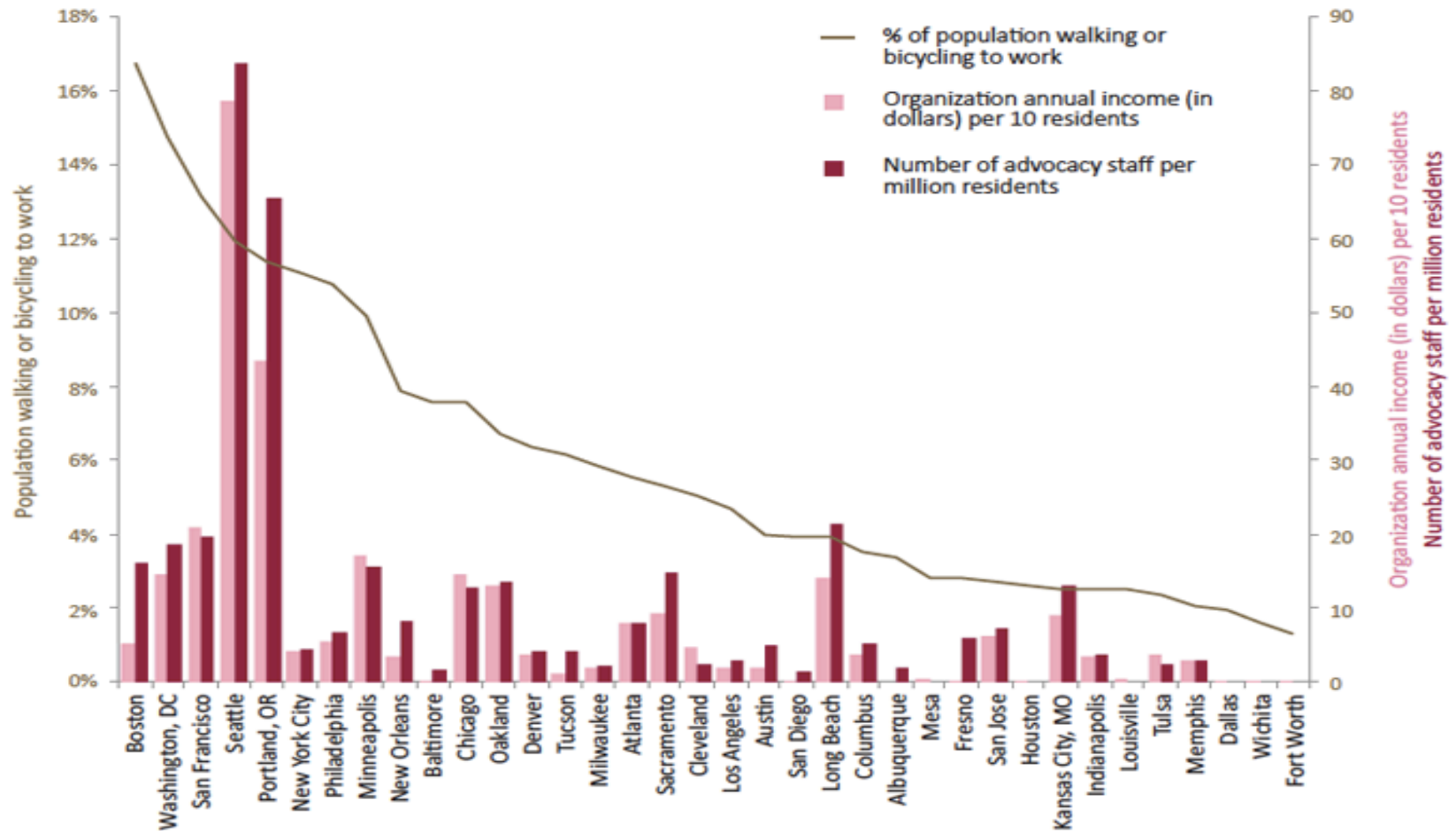
RANK ORDER	HEALTH STATUS INDICATOR	BIRTHS (AVERAGE)	PERCENT	95% CONFIDENCE LIMITS LOWER	95% CONFIDENCE LIMITS UPPER	NATIONAL OBJECTIVE	CALIFORNIA CURRENT	COUNTY PREVIOUS
56	LOW BIRTHWEIGHT INFANTS	1,242.0	7.7	7.3	8.1	7.8	6.8	7.5
6	FIRST TRIMESTER PRENATAL CARE	13,438.0	88.3	86.8	89.8	77.9	83.6	87.8
1	ADEQUATE/ADEQUATE PLUS PRENATAL CARE	13,139.3	89.6	88.1	91.1	77.6	79.5	84.9
RANK ORDER	HEALTH STATUS INDICATOR	2010-2012 BIRTHS (AVERAGE)	AGE-SPECIFIC BIRTH RATE	95% CONFIDENCE LIMITS LOWER	95% CONFIDENCE LIMITS UPPER	NATIONAL OBJECTIVE	CALIFORNIA CURRENT	COUNTY PREVIOUS
52	BIRTHS TO MOTHERS AGED 15-19	1,834.7	46.4	44.3	48.6	a	28.3	56.7
BREASTFEEDING								
RANK ORDER	HEALTH STATUS INDICATOR	2010-2012 BIRTHS (AVERAGE)	PERCENT	95% CONFIDENCE LIMITS LOWER	95% CONFIDENCE LIMITS UPPER	NATIONAL OBJECTIVE	CALIFORNIA CURRENT	COUNTY PREVIOUS
56	BREASTFEEDING INITIATION	11,940	83.2	81.7	84.7	81.9	91.6	d
CENSUS								
RANK ORDER	HEALTH STATUS INDICATOR	2011 NUMBER	PERCENT	95% CONFIDENCE LIMITS LOWER	95% CONFIDENCE LIMITS UPPER	NATIONAL OBJECTIVE	PERCENTAGE CALIFORNIA CURRENT	PERCENTAGE COUNTY PREVIOUS
57	PERSONS UNDER 18 IN POVERTY	97,470	35.3	35.0	35.5	a	22.6	37.9



Comparing Walking to Work and Pedestrian Fatality Rates in Large Cities



Comparing Advocacy Capacity with Levels of Bicycling and Walking to Work



Sources: ACS 2009–2011, Alliance Member Organization Survey 2013. Notes: $r = 0.51$ (organization annual income per 10 residents / % population walking or bicycling to work), $r = 0.49$ (organization staffing per million residents / % population walking or bicycling to work)

Health Co-Benefits Research

- 2009 London Study: estimated the health impacts of alternative strategies for reducing carbon dioxide emissions from transport.
 - Lower carbon driving: Lower carbon emission motor vehicles/fuels
 - Increased active travel: Replacing urban car and motorcycle trips with walking or bicycling
- Shift from 10 to 30 minutes/day of walking and bicycling:
 - ↓ 19% Cardiovascular Disease
 - ↓ 15% Diabetes
 - ↓ 13% Breast Cancer
 - ↓ 8% Dementia
 - ↓ 38% CO₂ Emissions



Dr. James Woodcock

Source: Woodcock J, Edwards P, Tonne C, Armstrong BG, Ashiru O, Banister D, et al. Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport. The Lancet 2009;374:1930-1943.

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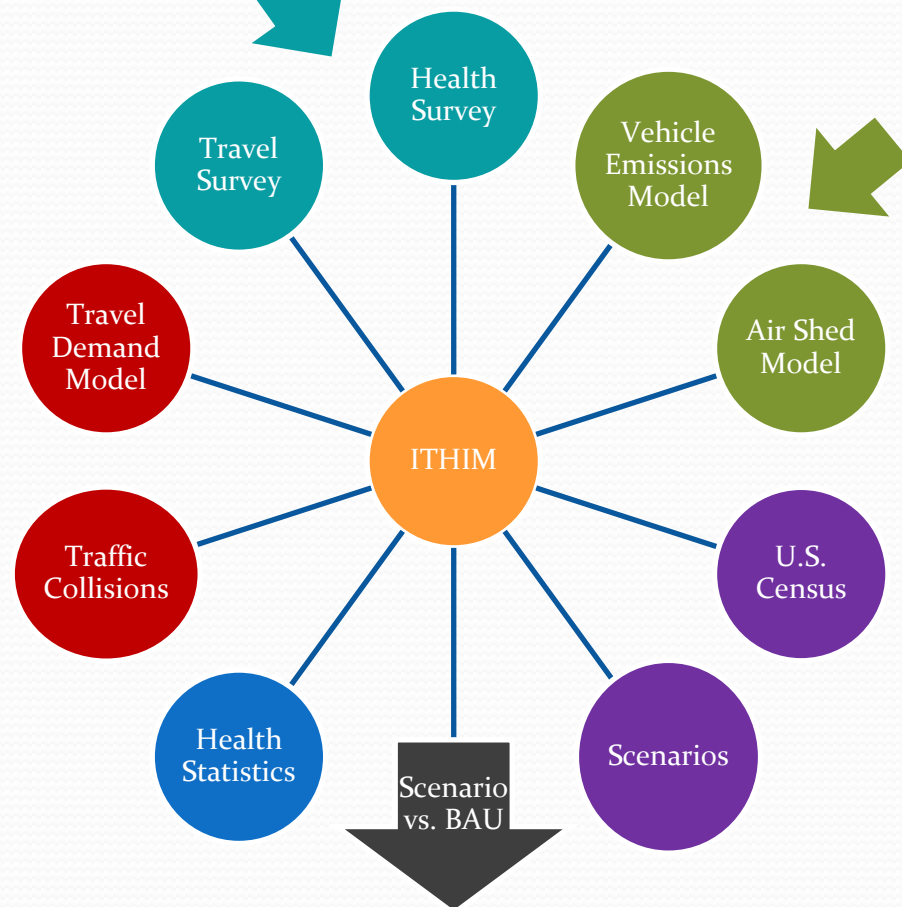


The Model Integrates Bay Area Data on Health and Travel

Physical Activity

Air Pollution

Traffic Injuries



- Premature Deaths
- Years of Life Lost
- Years Living with Disability



Summary of Bay Area Findings

A shift in active transport from a median of 4.4 to 22 minutes/day (2% to 15% mode share):

- Disease reductions
 - ↓ 14% of heart disease, stroke, and diabetes
 - ↓ 6-7% of dementia and depression
 - ↓ 5% of breast and colon cancer
- Major public health impact
 - Adds about 9.5 months of life expectancy
 - \$1.4 to \$22 billion annual Bay Area health cost savings



Summary of Bay Area Findings

- Injuries
 - ↑ 19% of injuries to pedestrian and bicyclists
- Physical activity accounts for almost all the health benefits; air pollution < 1%
- ~15% reductions in CO₂ emissions
- Low carbon driving is not as important as physical activity for generating health co-benefits
- ★ Together, low carbon driving and active transport can achieve California's carbon reduction goals and optimize the health of the population



Ken Bird, M.D.
Interim Health Officer
Fresno County Department of Public Health
bird@co.fresno.ca.us
559-600-3200



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