

HealthScape

Active Living Research

Annual Conference

February 18, 2009

Karen Wolf, AICP

King County

Seattle, Washington



King County

HealthScape

Community design for health and the environment

Overview of Presentation

- Land use planning in King County
- Obesity Rates & Climate Change
- HealthScape Phases I & II
- Transportation Programming Tool
- White Center Community
- Impact Assessment Tool
- Continuing Work

King County: From the Mountains to the Sea



King County Government

King County's workforce numbers 13,000 with an annual budget that is nearly \$4 billion.



Planning in King County

- Growth management planning in King County predates the 1990 State Growth Management Act
- 1985 Comprehensive Plan established first urban growth boundary in the state
- Significant progress in preserving resource lands, including forests and farmlands
- Major advances in preserving critical areas from urban sprawl
- Working with regional framework to direct significant portion of new development in select, compact urban centers



Trends & Changes in Land Use in King County

2008 dramatically different picture from 1994

- Nearly 80% of residential growth now occurring inside cities (had been 50%)
- Rural development cut to just 4% of total growth in the County (had been 15%)

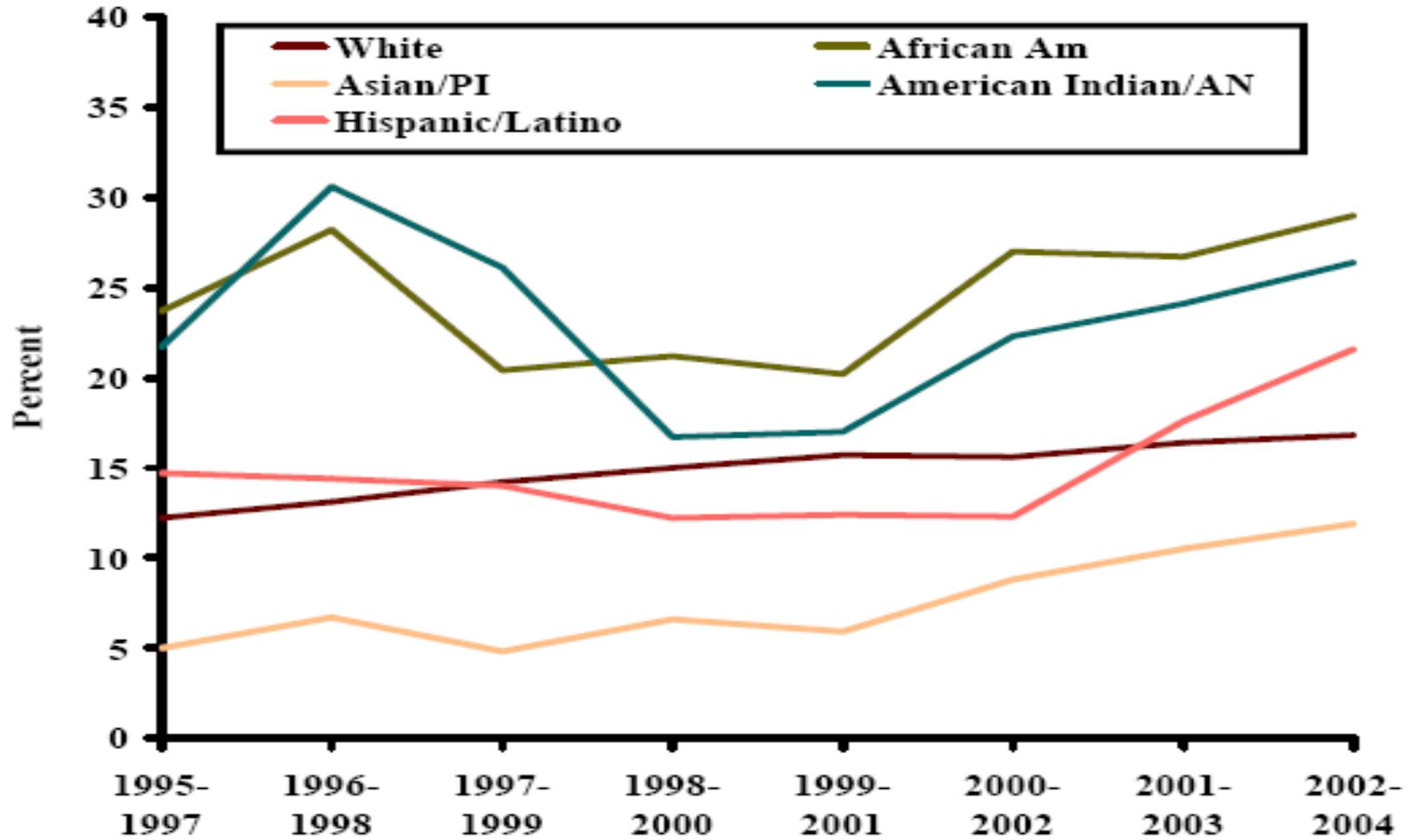


We've contained one type of sprawl, but are losing the battle with another

KING COUNTY'S *OTHER* SPRAWL PROBLEM...



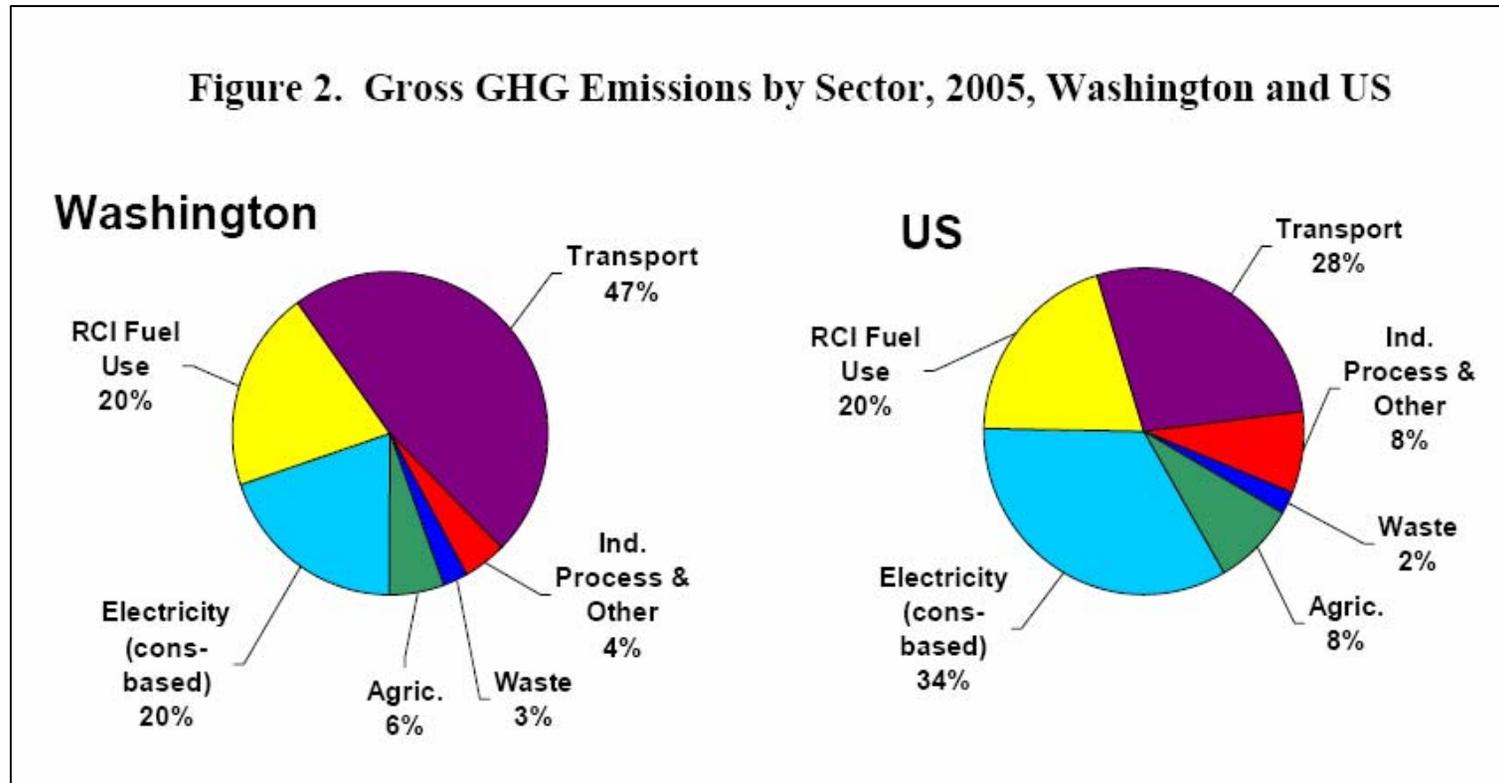
**Obesity Among King County Adults by Race/Ethnicity
Three-Year Rolling Averages, 1995-2004**



Data Source: Behavioral Risk Factor Survey
Produced by: Public Health - Seattle & King County, Epidemiology, Planning, and Evaluation, 3/05

Built Environment and Green House Gas Emissions

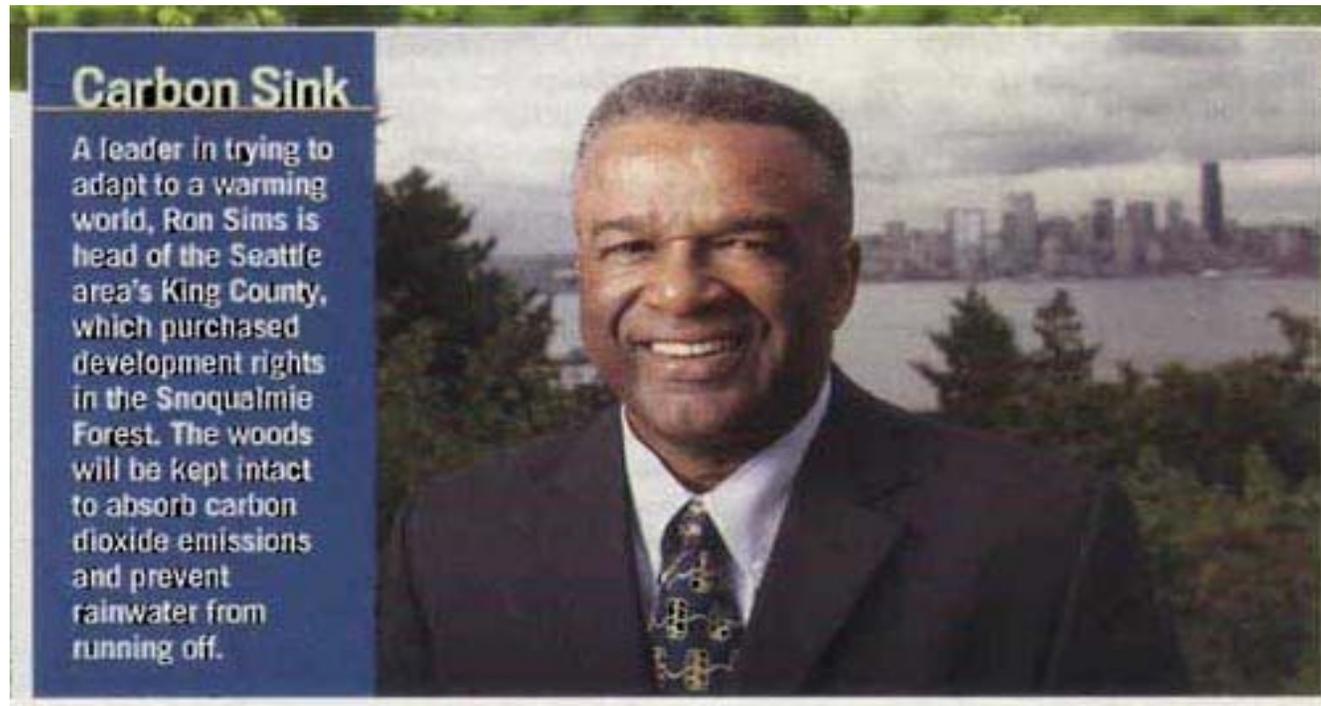
Figure 2. Gross GHG Emissions by Sector, 2005, Washington and US



- RCI = Residential, Commercial, Industrial Fuel Use
- Electricity used in all activities (including buildings) is colored light blue

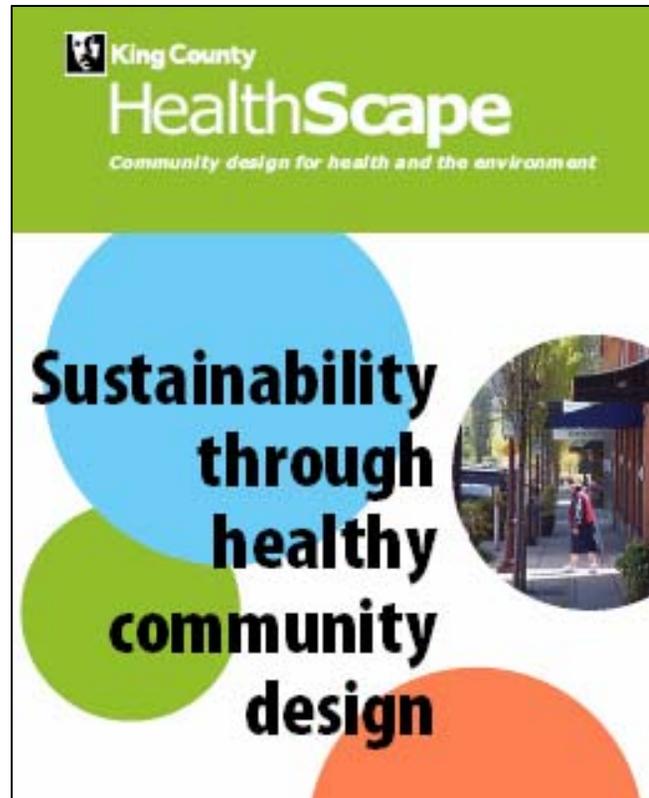
*“The key is to listen to
scientists, not politicians.”*

Ron Sims, US News and World Report June 5, 2006



HealthScape Program

King County Initiative integrating land use, transportation, health, and global warming



Project Managers

- Karen Wolf, KC Executive's Office
- Christina O'Claire, KC DOT

Prime Consultant

- Dr. Larry Frank, Professor, UBC

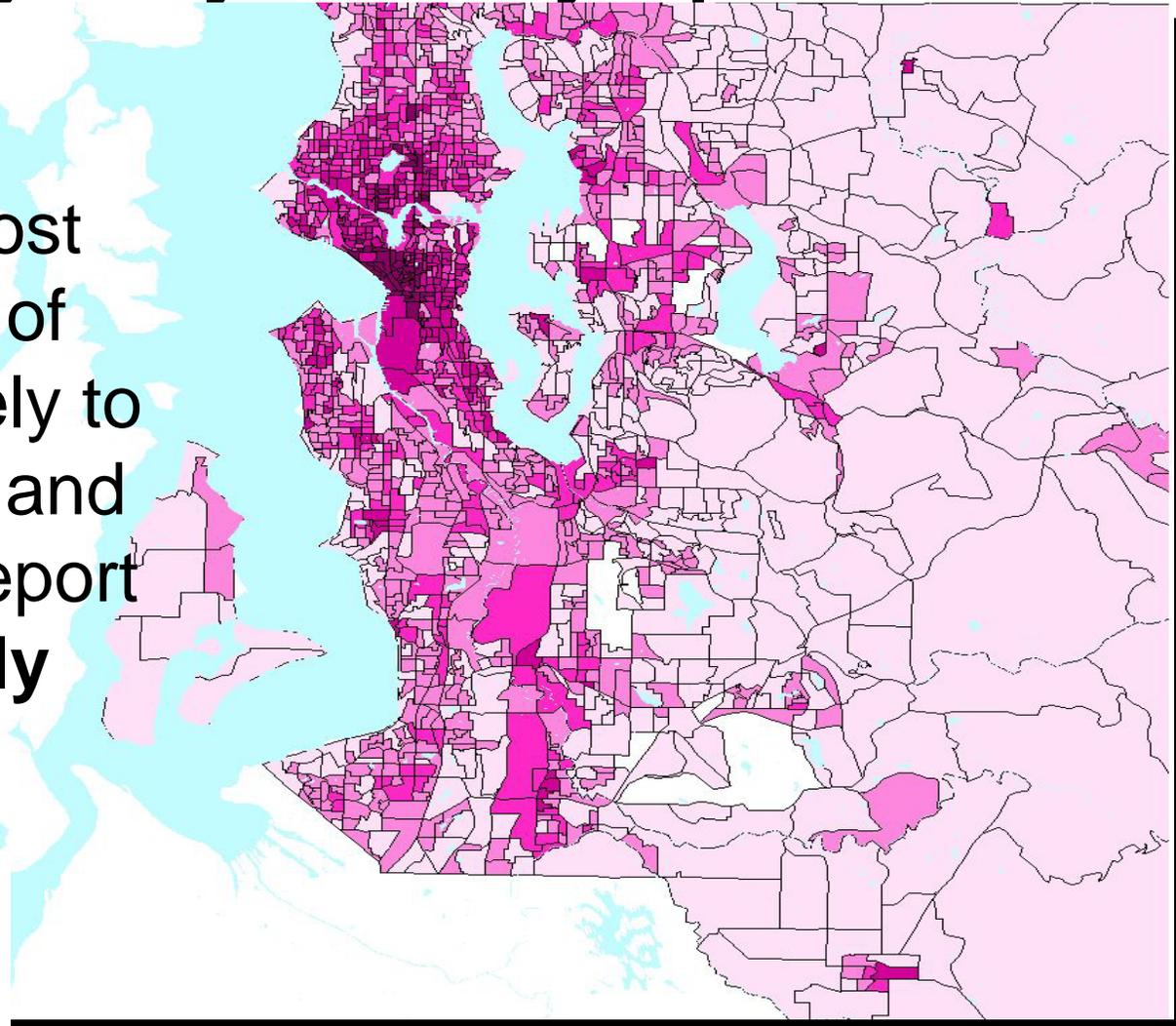
Advisory Committee

- Transportation Planners
- Architects
- Bankers
- Air quality experts
- Public Health Officials
- Staff from municipalities

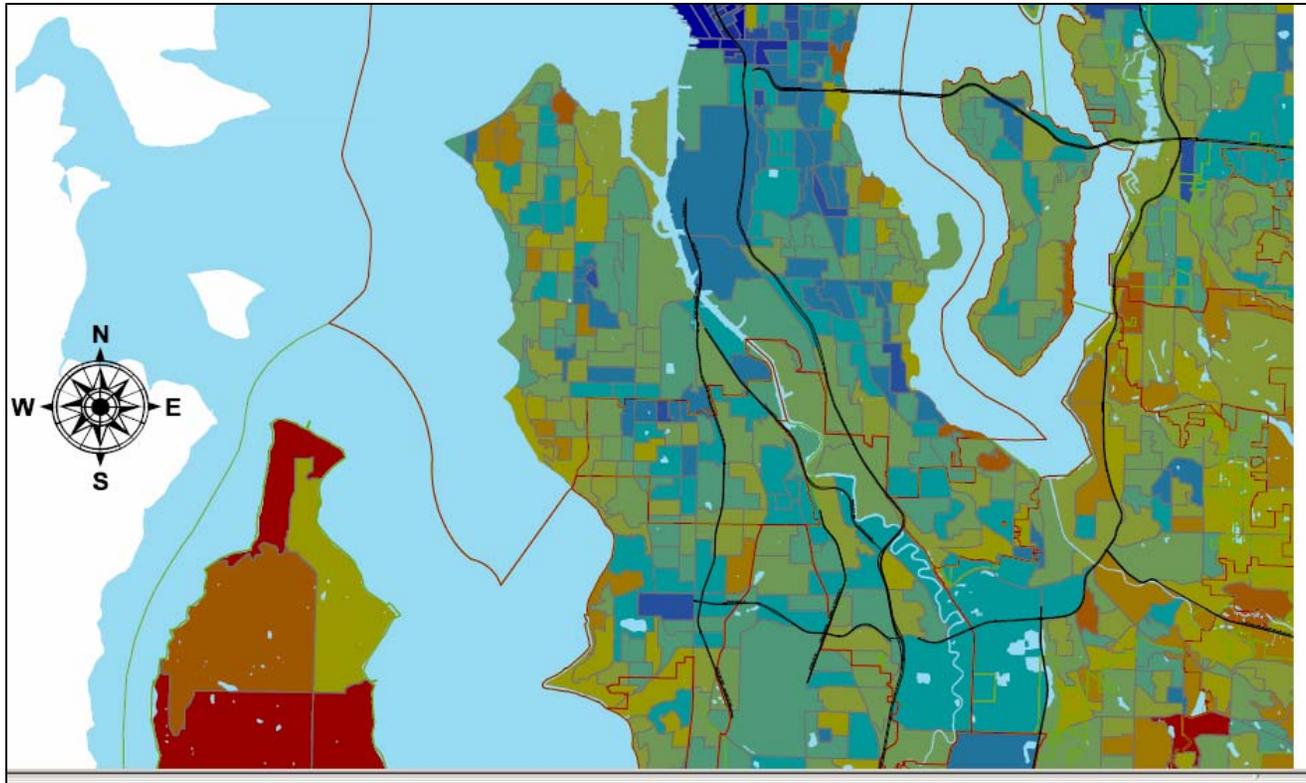
Key Findings

King County Walkability Map

Residents of most walkable areas of County less likely to be **overweight** and more likely to report being **physically active**



Residential Transportation Emissions Modeling

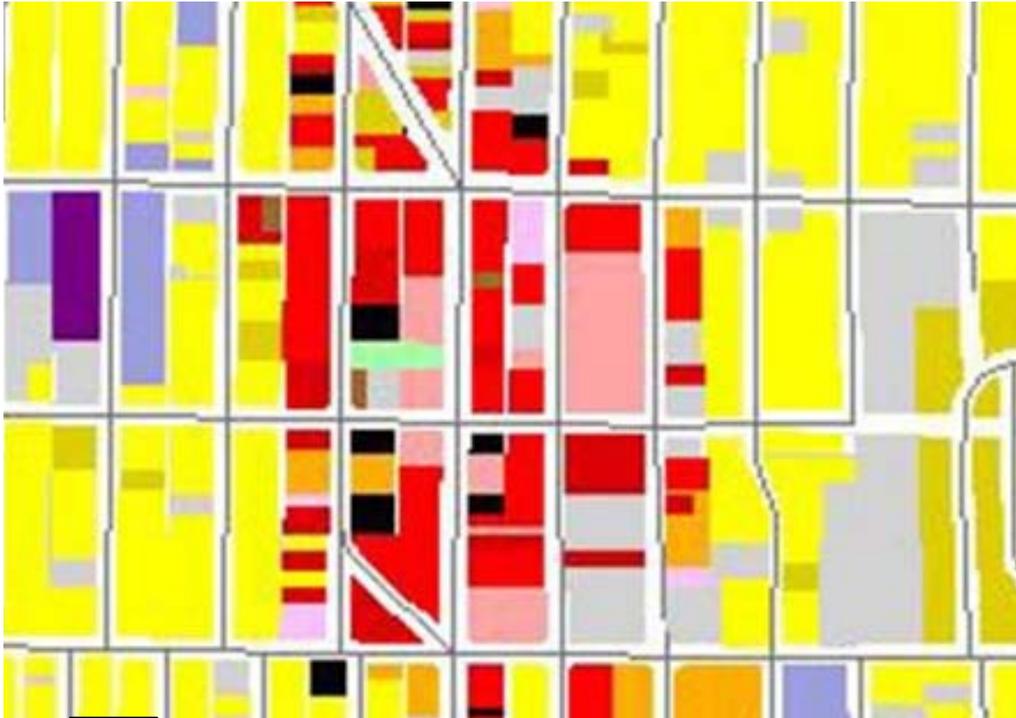


- **Red** = Higher Residential Transportation Emissions
- **Blue** = Lower Residential Transportation Emissions

Transportation Programming Tool

Priorities / Specs

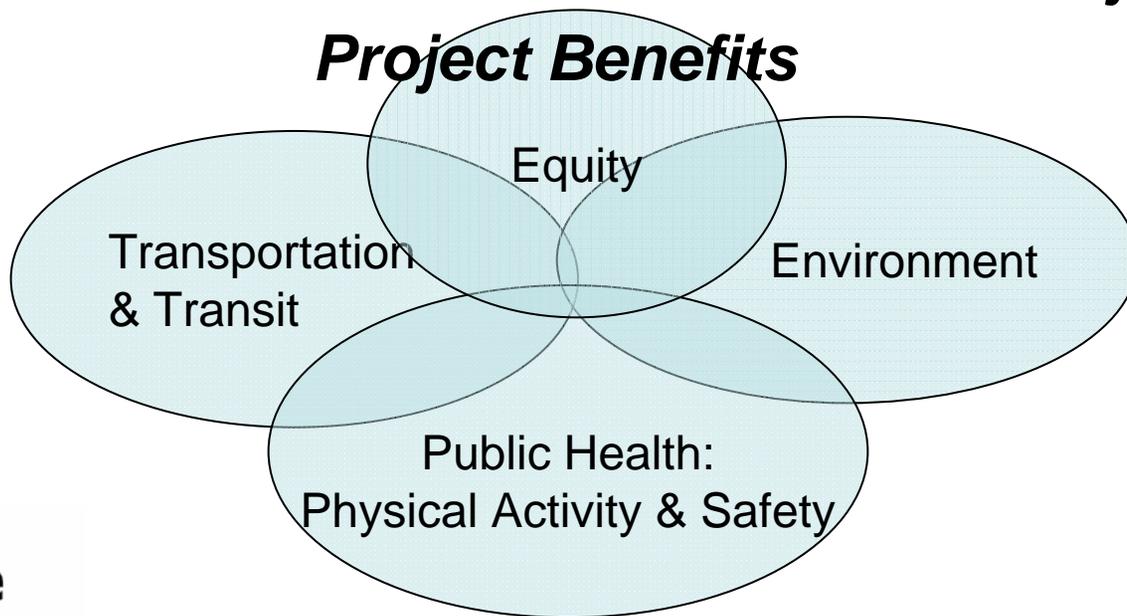
- Use to evaluate non-motorized projects
- Based on evidence from research
- Adaptable to different funding, policy and geographic contexts
- Flexible for users – can use digital (GIS) or analog (maps, field visits) to evaluate projects



Project Location

Project Type

Project Benefits

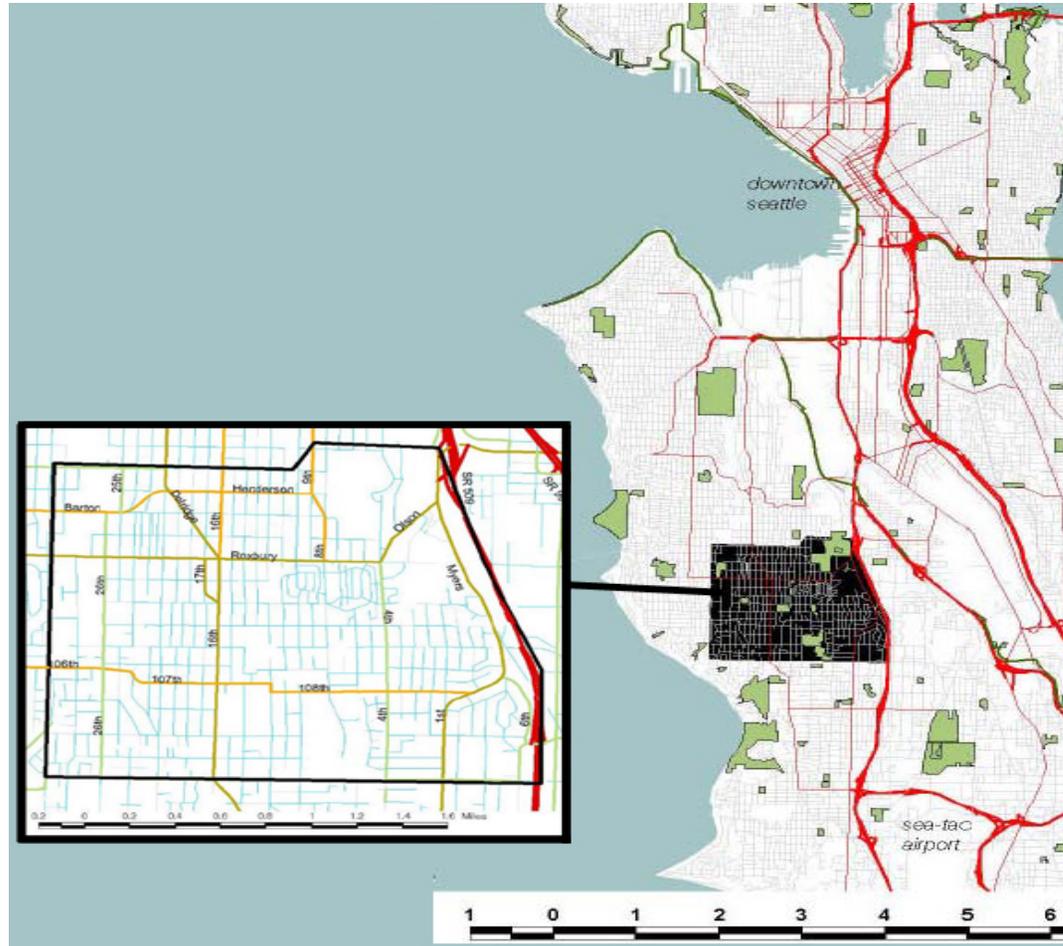


Putting it All Together..

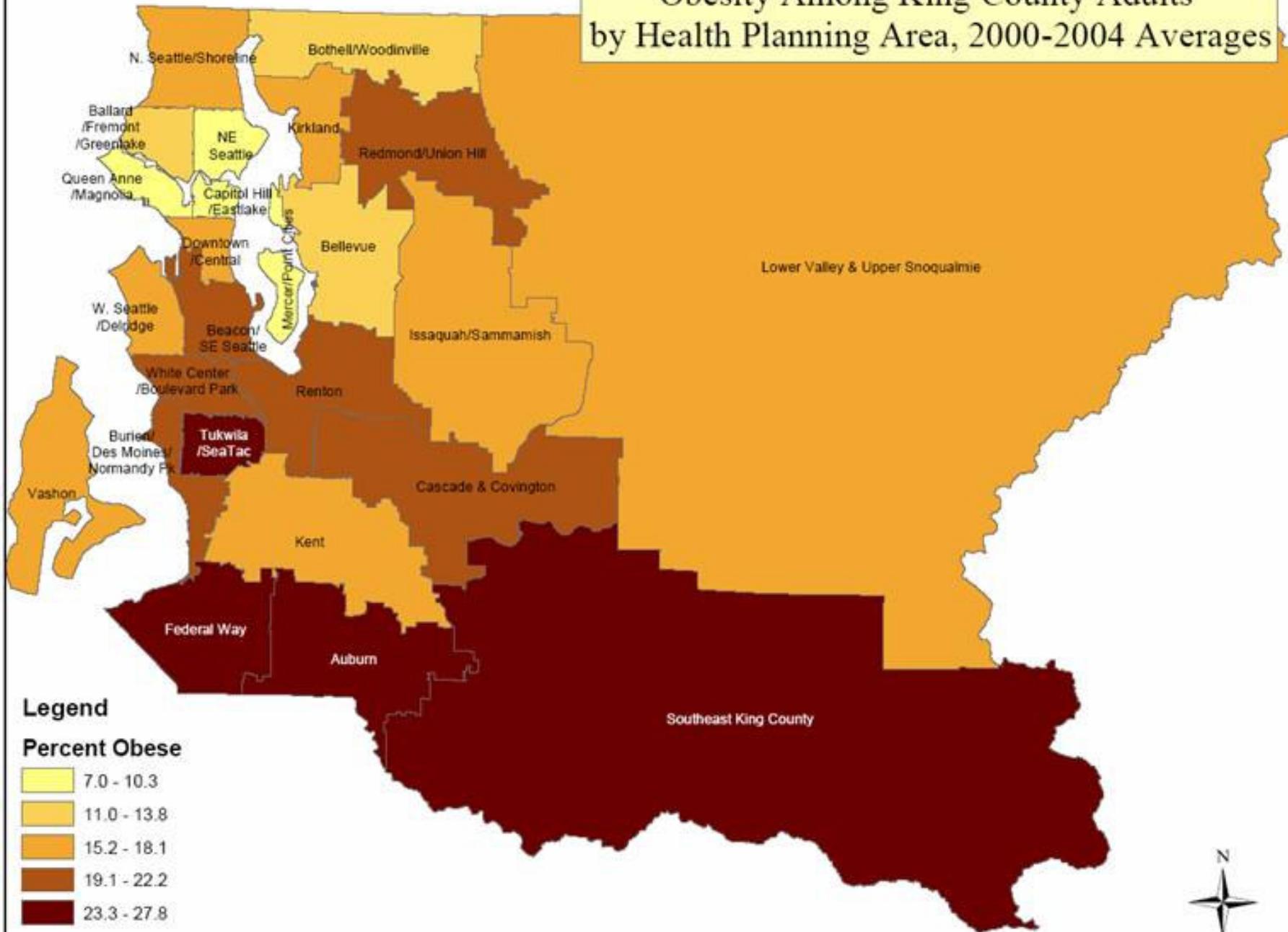
	Transportation	Environment	Health	Safety	Transit	Equity
	MAXIMUM SCORE					
1. Section A: Project Type	10	8	8	10	8	6
2. Section B: Safety				15		
3. Section C: Proximity to Transit	10	10	10		10	
4. Section D: New Connections	5	5	5		5	
5. Section E: Equity						15
TOTAL	25	23	23	25	23	21

The total base score for each category is multiplied by section F, which assesses urban form & population around the project

White Center Community



Obesity Among King County Adults by Health Planning Area, 2000-2004 Averages



Legend

Percent Obese

- 7.0 - 10.3
- 11.0 - 13.8
- 15.2 - 18.1
- 19.1 - 22.2
- 23.3 - 27.8



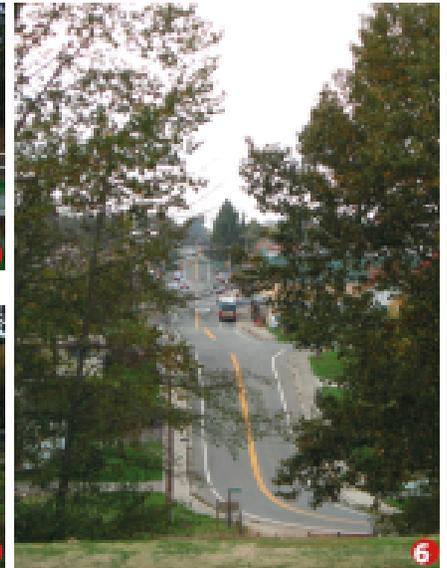
SW 98th St. Corridor Enhancement: Scoping the Grounds



Stakeholder Process

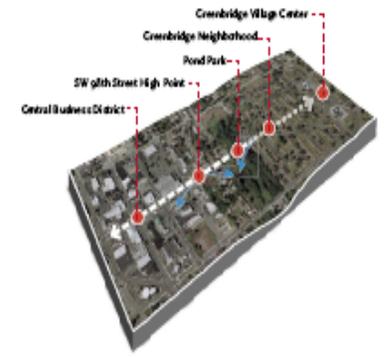
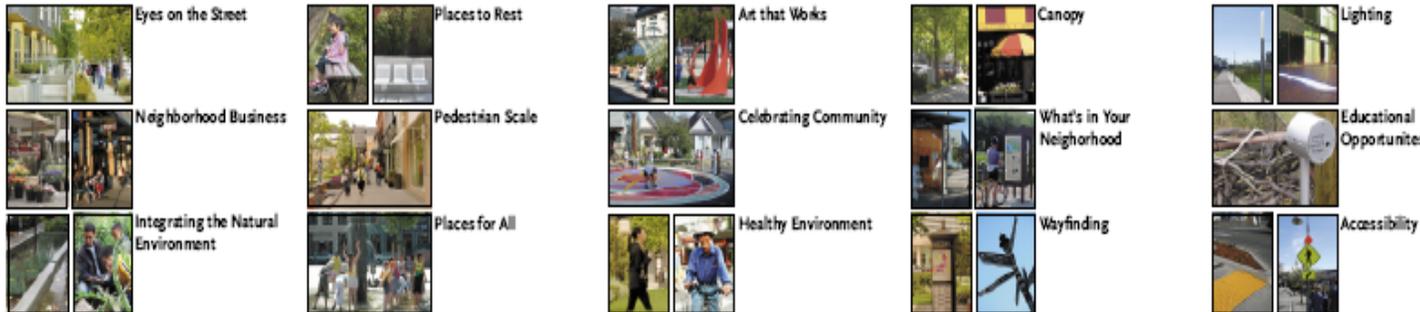
SW 98th St. Corridor Enhancement:
Existing Conditions

at White Center Ponds Park



Tool Kit

A Toolkit of Ideas for Safe, Walkable Communities



- 1 **Central Business District:** enhance wayfinding; support neighborhood retail; build design oriented face street; strengthen pedestrian mobility and character; gateway landmark
- 2 **Neighborhood Market:** encourage "boutique" business; maintain open space for market; boutique
- 3 **Sidewalk Enhancement:** widened pedestrian zone; street tree and lower vegetation planting; seating to provide "places to be"; enhanced safety and mobility
- 4 **Artist Live/Work Lofts:** increased density for more "eyes" on the street; transition between commercial to residential; supporting local artist and business
- 5 **Community Plaza:** celebrate the 98th Street high point; platform for community concert and event; weather protection
- 6 **Pedestrian Street:** park like seating zone; celebrating movement of water; specialty paving, art, seating; design reflective of the natural environment
- 7 **Residential Townhomes:** increased density for more "eyes" on the street; enhancing pedestrian scale
- 8 **Pond Overlook & Bridge Connector:** neighborhood meeting space; covered boardwalk overlooking pond; educational opportunities
- 9 **Corridor Waypoint:** place a pace at overlook with art, vertical landmark and artwork; landscaping; integrated art power led at overlook pond



SW 98th St Corridor Enhancement

Plan demonstrates conceptual ideas only and does not represent a final or constructible design. Community input, technical analysis, detailing and engineering of these concepts will need to be completed during the design process.



HealthScape Impact Assessment Model

Purpose:

Create a tool that can evaluate potential health and climate change impacts of land development actions

- Comprehensive plans
- Changes in development regulations
- Changes in neighborhood plans
- Transit-Oriented Development

HealthScape Impact Assessment Model

Use results from HealthScape research on the relationships between

Urban Form Patterns

- Residential Density
- Land Use Mix
- Street Network Connectivity
- Retail Floor Area Ratio

and

Outcomes

- Physical activity
- Obesity / Body Mass Index
- Carbon Dioxide emissions from transport

Integrate these findings into an existing model structure

Place3S Modeling

MAIN MENU | CHANGE PASSWORD

http://www.places.energy.ca.gov - PLA...

PLACE³S

ZOOMIN 2X ZOOMOUT 2X PAN IDENTIFY Parcel

% COV 100% REDEV MODE MARK % DENS 100% % ACRE 100% PLACE TYPE: 01 - (O). Townhouse (Owner)

CLICK ON THE MAP TO PERFORM THE SELECTED ACTION

Layers

- Roads
- Parcel Lines

Map Size: 2X

Redraw

PLACE TYPE NAME	MAX STORIES	DU / ACRE	EMP / ACRE	FAR
01 - (O). TOWNHOUSE (OWNER)	3	15.00	0.00	0.48
02 - (R). TOWNHOUSE (RENTAL)	3	15.00	0.00	0.41
03 - (O). LOW-RISE CONDOS (OWNER)	2	23.60	0.00	0.65
04 - (O). MID-RISE CONDOS (OWNER)	3	35.42	0.00	0.89
05 - (R). MID-RISE APARTMENTS (RENTALS)	3	35.28	0.00	0.77
06 - (O). HIGH-RISE CONDOS (OWNER)	6	69.02	0.00	1.58
07 - **MID-RISE HOUSING (OWN & RENT, R-24)	3	41.82	0.00	0.67
08 - **MID-RISE MIXED USE (CBSO)	3	34.16	64.06	1.10
09 - **MID-RISE MIXED USE PED CORRIDOR (CBSO)	4.5	81.68	65.63	1.88
10 - *BANK (CBSO)	2	0.00	41.88	0.38
11 - *CONV STORE W/GAS (CBSO)	1	0.00	31.21	0.50
12 - *DUPLEX (R-18, R-24)	2	13.61	0.00	0.38
13 - *INDOOR ACTIVITY CENTER	1	0.00	10.89	0.25
14 - *LOW-RISE APARTMENTS (RENT, LIVE/WORK, R-18)	1	21.51	21.07	0.56
15 - *LOW-RISE APARTMENTS (RENT, SMALLLOT, R-18)	2	33.22	0.00	0.76
16 - *LOW-RISE APARTMENTS (RENT, LARGELOT, R-18)	2	33.22	0.00	0.76
17 - *OFFICE BLDG (CBSO, LARGELOT)	1	0.00	44.55	0.41
18 - *OFFICE BLDG (CBSO, SMALLLOT)	1	0.00	44.55	0.41
19 - *PARK/OPEN SPACE (R-6, R-18)	0	0.00	0.00	0.00
20 - *PARKING LOT (CBSO)	0	0.00	0.00	1.00
21 - *RESTAURANT	1	0.00	35.00	0.56
22 - *RETAIL STORE (CBSO)	2	5.75	52.63	0.53

Done

New Modules Developed Through This Study

- Public health (outcomes: physical activity, BMI, walk and bike trips)
- Climate change and air quality (outcomes: CO₂, NOX, HC, and CO; vehicle trips and VMT)

Scenario Testing

- Existing conditions
- TOD only
- Interim buildout
- Full buildout

How will these changes impact physical activity and obesity? Per capita CO2 and air pollution?

Next Steps & Lessons Learned

- Secure funding for the 98th Street Connector
- Expand study area for Places3 Model
- Identify scenarios with reassessment potential



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