



Environment and Policy Research in Saelens Laboratory

NOPREN group presentation
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Guiding Question

- What are the best ways to increase physical activity and improve dietary quality?
 - Identify environmental factors related to these behaviors
 - Evaluate and improve current ‘change’ approaches
 - Multi-level
 - Policy level
 - Community/neighborhood environment
 - Family



Overview

- Observational Studies
 - Neighborhood Impact on Kids (NIK) and Adult-NIK
- “Change” Studies
 - Nutrition Labeling project
 - TRAC study
 - ARCH study



NIK Neighborhood Types

		Physical Activity Environment	
		High	Low
Nutrition environment	High	High PAE/High NE environment <ul style="list-style-type: none"> - high walkable - good park availability/quality - healthy food environment 	Low PAE/High NE environment <ul style="list-style-type: none"> - low walkable - poor park availability/quality - healthy food environment
	Low	High PAE/Low NE environment <ul style="list-style-type: none"> - high walkable - good park availability/quality - <u>un</u>healthy food environment 	Low PAE/Low NE environment <ul style="list-style-type: none"> - low walkable - poor park availability/quality - <u>un</u>healthy food environment

Neighborhood Impact on Kids (NIK) and Adult-NIK

- **How do neighborhoods affect a child's weight status and related behaviors**
 - Kids age 6-11 & one parent
 - Over 700 families from King County and San Diego
 - Nearly 600 at the follow-up
 - Assess body composition (height, weight, waist)
 - Child wears activity meter for 7 days
 - Complete survey about eating, home environment, activities, etc.
 - Complete 3 dietary recalls detailing the foods the parent and child eat
 - 2 year follow up
 - Measure change in the child's weight status and behaviors



NIK Environmental Data

- Macro-environmental data (streets, parks, food establishments, etc)
- Over 900 park audits
 - Facilities, amenities, quality of amenities
- Over 1800 food store and restaurant audits
 - Availability, quality, cost (NEMS-R & NEMS-S audits)
- Pedestrian route audits (reaching 1/4 mile from participants' residence)
 - E.g., sidewalks, incivilities, crossings
- Place-based logs for child locations

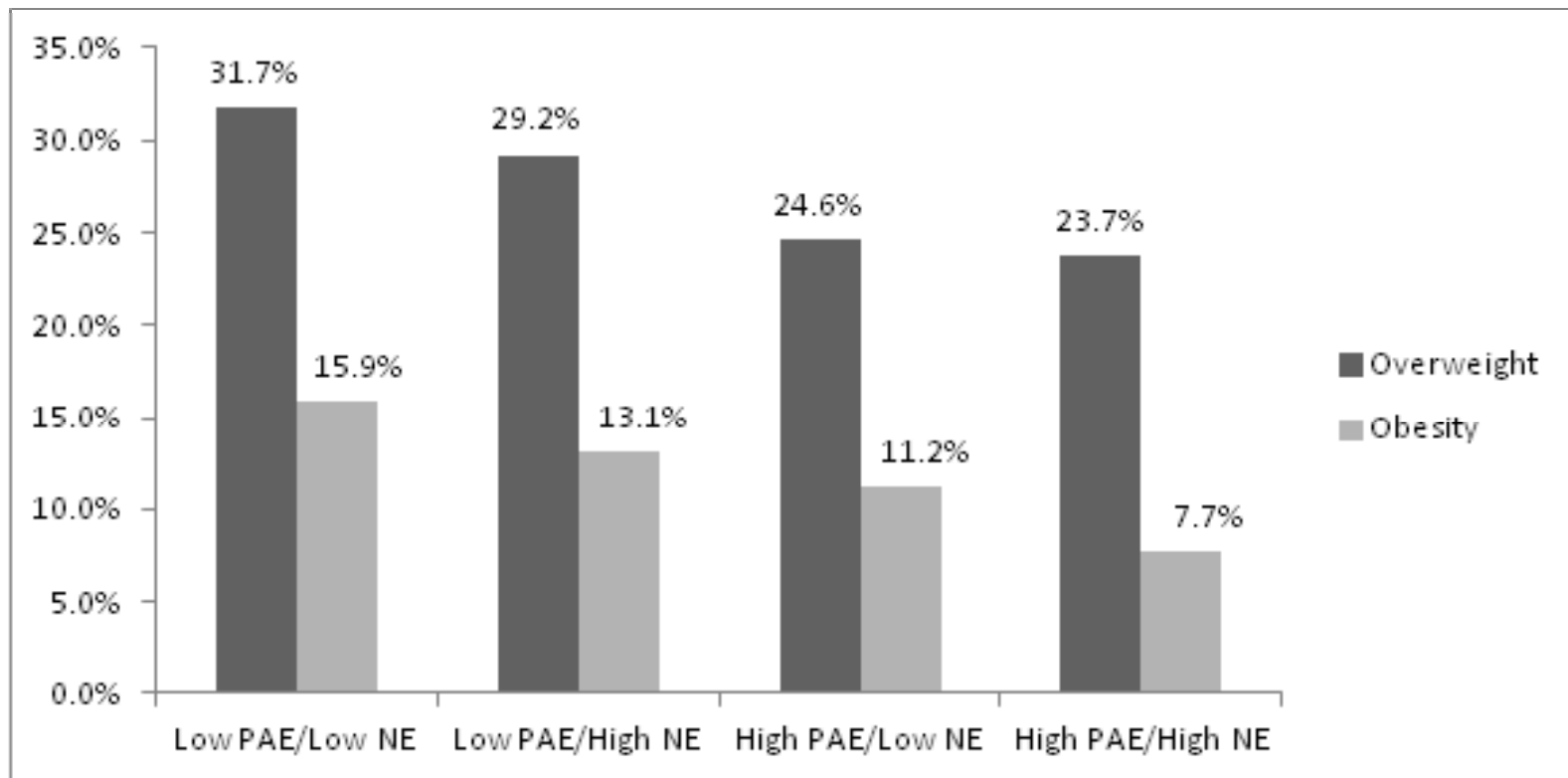


NIK Current Status

- Individual data collection complete (baseline and follow-up)
 - Anthropometrics, accelerometer, diet recalls, survey
- Environmental audits completed
 - Currently scoring and integrating into GIS
- Macro-environmental variables being created
- Manuscripts submitted and a lot of other analyses underway, but plenty of opportunity for additional ideas



NIK Project: Child Weight Status by Neighborhood Type



Nutrition Labeling Project: Restaurant Environment Component

- Briefly describe Nutrition Environment Measures Study – Restaurant (NEMS-R) tool
- Compare pre-regulation versus post-regulation restaurant environments
- Interest particularly in changes in:
 - Nutrition information labeling
 - Promotion/signage for healthful and unhealthful eating
 - Changes in menu offerings
 - Changes in kid's menus



**Nutrition Environment Measures Survey (NEMS)
RESTAURANT MEASURES--DATA COLLECTION**

Restaurant ID: - - -

Date: / /
Month / Day / Year

Rater ID:

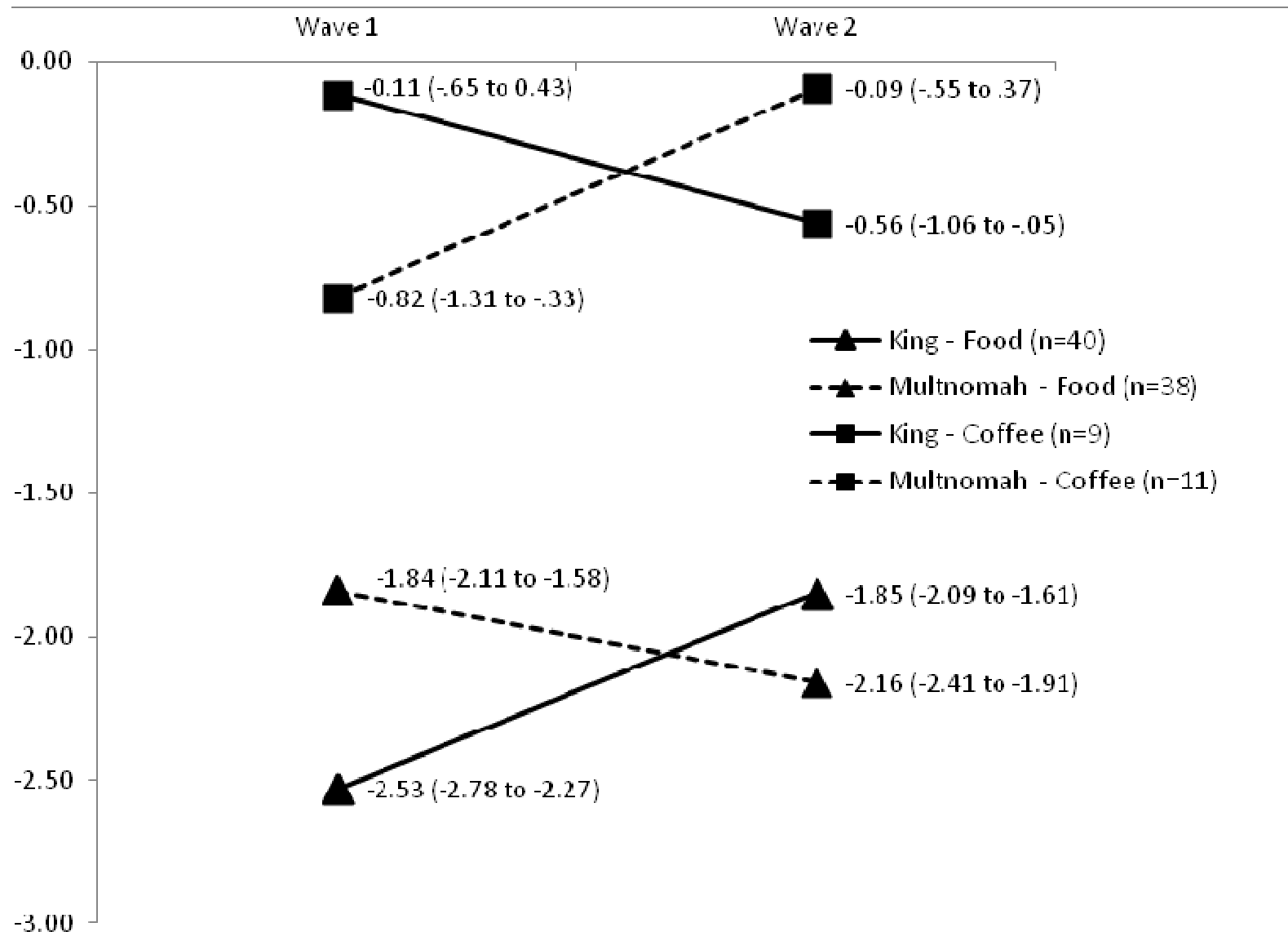
Menu Review	Select One	Comments
25) Kid's menu?	<input type="radio"/> yes <input type="radio"/> no	_____
a. Age limit	<input type="radio"/> 10 and Under <input type="radio"/> 12 and under <input type="radio"/> Other <input type="radio"/> NA	_____
b. Any healthy entrees?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
c. 100% fruit juice	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
d. 1% low-fat, skim or non-fat milk	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
e. Are there free refills on unhealthy drinks?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
f. Are there any healthy side items (either assigned or to choose)?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
g. Can you substitute a healthy side for an assigned unhealthy one?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
h. Do any entrees that have assigned sides include an assigned healthy side?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
i. Is an unhealthy dessert automatically included in a kid's meal?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
j. Are there any healthy desserts (either free or at additional cost)?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
k. Is nutrition information (e.g., calories or fat) provided on the kid's menu?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
l. Other unhealthful eating promotion?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____
m. Other healthful eating promotion?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> NA	_____

Methods

- NEMS-R evaluation in 49 (same) restaurants in both King and Multnomah Counties in Wave 1 (baseline) and Wave 2 (post-regulation for King County)
 - Representing 10 chains (sub/sandwich, coffee, burger, Tex/Mex)
- NEMS-R evaluation in 47 (same) restaurants in King County 1.5 years after regulation



NEMS-R scale	County	Wave 1		Wave 2		Time by County interaction p value
		Mean	95% CI	Mean	95% CI	
Availability of Healthful Options	King	5.82	4.73 - 6.90	6.16	5.08 - 7.25	NS
	Multnomah	5.69	4.61 - 6.78	5.8	4.71 - 6.88	
Facilitators of Healthy Eating	King	2.55	2.14 - 2.96	3.76	3.42 - 4.09	<.001
	Multnomah	1.86	1.45 - 2.27	2.27	1.93 - 2.60	
Facilitators of Healthy Eating (modified*)	King	1.47	1.11 - 1.83	1.49	1.15 - 1.83	NS
	Multnomah	0.76	0.40 - 1.11	1.08	0.74 - 1.42	
Barriers to Healthful Eating	King	-2.08	-2.39 to -1.77	-1.61	-1.91 to -1.32	0.016
	Multnomah	-1.61	-1.92 to -1.30	-1.69	-2.00 to -1.40	
Kid's Menu	King	0.90	0.33 - 1.46	2.00	1.39 - 2.61	0.001
	Multnomah	1.25	0.70 - 1.80	1.53	0.93 - 2.14	
Kid's Menu (modified*)	King	0.90	0.34 - 1.45	1.35	0.78 - 1.93	NS
	Multnomah	1.20	0.66 - 1.75	1.53	0.97 - 2.10	



NEMS-R Items	County	Wave 1	Wave 2	Wave 3
Nutrition labeling available on internet	King	91.5% / 93.3% ^a	100%*	100%*
	Multnomah	100.0%	100.0%	
Nutrition labeling on the menu	King	6.1% / 6.4%	98%*	100%*
	Multnomah	0.0%	0.0%	
Nutrition labeling posted near point-of-purchase	King	18.4% / 19.1%	71.4%*	83%*
	Multnomah	10.2%	18.4%	
Healthy entrées identified on menu	King	49.0% / 51.1%	44.9%	42.6%
	Multnomah	8.2%	36.7%*	
Reduced portions available	King	32.7% / 31.9%	32.7%	19.1%*
	Multnomah	4.1%	4.1%	
Signage highlight healthy options	King	8.2% / 8.5%	6.1%	21.3%*
	Multnomah	20.4%	4.1%*	
Signage encourage healthy eating	King	0% / 0%	4.1%*	8.5%*
	Multnomah	20.4%	2.0%*	
Large portion sizes encouraged	King	61.2% / 61.7%	32.7%*	19.1%*
	Multnomah	30.6%	28.6%	
Signage encourages unhealthy eating	King	30.6% / 31.9%	16.3%*	23.9%
	Multnomah	26.5%	42.9%*	
Signage encourages overeating	King	53.1% / 53.2%	34.7%*	17.0%*
	Multnomah	20.4%	20.4%	

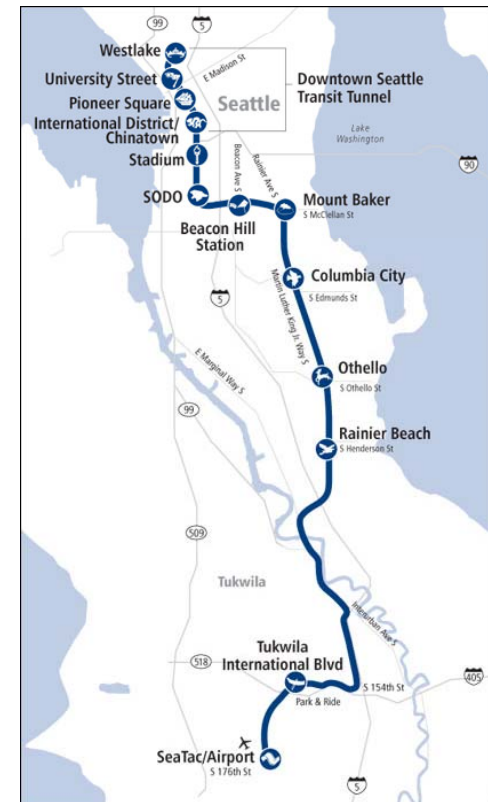
TRAC (Travel Assessment and Community) Project

Purpose: *A natural experiment examining the effect of Light Rail Transit (LRT) on physical activity*

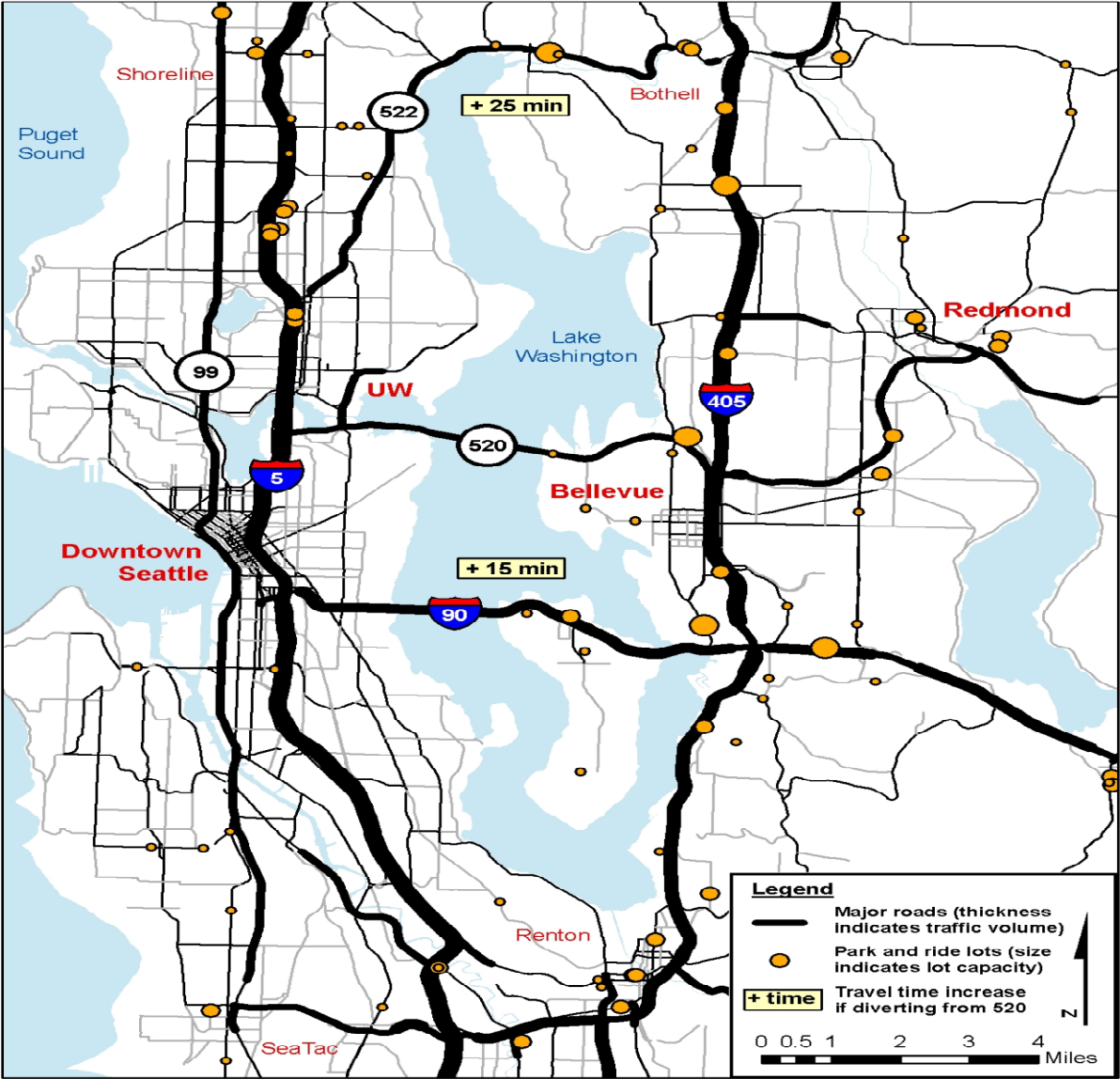
Assessing physical and travel activity

- Prior to, shortly after, and 3-4 years after the introduction of LRT to Seattle/King County

Central Question: *Does proximity to LRT lines increase overall physical activity and specifically transit-related walking?*



Source: <http://www.soundtransit.org>



ARCH (Assessment of Regional Commuting and Health) Project

- **Aims**

- To examine changes in physical activity (as a result of possible shift from driving to public transportation) from before to soon after 520 bridge tolling begins
- To identify the demographic, built environment (home and work, where applicable), policy, cost, and attitudinal factors related to change or lack thereof in travel mode and physical activity



Collaborators

- Investigators and staff within Seattle Children's Research Institute (CCHBD)
- University of Washington
- Public Health – Seattle and King County
- Neighborhood House
- San Diego State University
- University of Pennsylvania
- Washington University in St. Louis
- Cincinnati Children's Hospital