

Healthy Aging in Oregon Counties

PHYSICAL ENVIRONMENT

Data by County

2009

About Street Connectivity

Street connectivity is defined as “a system of streets with multiple routes and connections serving the same origins and destinations. Connectivity not only relates to the number of intersections along a segment of street, but how an entire area is connected by the system. An area with high connectivity has multiple points of access around its perimeter as well as a dense system of parallel routes and cross-connections within the area. Typically, parallel routes are classified and sized appropriately for local traffic to discourage longer distance through traffic” (p. 3).

Traditional grid-patterned neighborhoods have higher street connectivity and are friendlier to pedestrians and bicyclists. The high connectivity of these neighborhoods facilitates alternative transportation and leads to higher levels of physical activity. However, typical suburban developments begin with cul-de-sacs and progress to major arterials, with low levels of connectivity. The cul-de-sac pattern of neighborhoods typically “results in large intersections at major junctions, greater congestion along major streets and an environment that discourages pedestrian and bicycle travel” (p. 3).

Connectivity is commonly measured by two terms: gamma and alpha. Gamma represents the ratio of actual number of street segments to maximum possible, with higher numbers representing areas with more gridded street patterns and lower numbers representing areas with more cul-de-sacs. Alpha represents the ratio of the actual number of complete loops to the maximum number of possible loops, with higher numbers representing a higher level of complexity and connectivity. This can be used to evaluate the number of alternative routes to travel from one location to another. More routes to get to from location to another means that it is easier to walk through a neighborhood and reach destinations of interest.

In general, areas with higher gamma and alpha ratios indicate areas with more street connectivity that tend to be friendlier for pedestrians and bicycles.

Reference

Metro (2004). *Street connectivity: An evaluation of case studies in the Portland region*. Retrieved December 9, 2008 from <http://www.oregonmetro.gov/files/planning/connectivityreport.pdf>.

Street Connectivity

Table 40: Number of Street Segments and Intersections, data from Rand Center for Population Health and Health Disparities,³ by County, Oregon, 2000

County	Number of Street Segments	Number of Intersections	Gamma ¹ (%)	Gamma Range	Alpha ² (%)	Alpha Range
Oregon	537,173	442,870	40	34-62	11	1-43
Baker	9,698	7,894	41	39-52	11	9-28
Benton	9,666	8,296	39	35-57	8	3-35
Clackamas	28,111	24,075	39	35-53	8	2-30
Clatsop	11,872	10,246	39	37-47	8	5-21
Columbia	7,273	6,282	39	36-44	8	4-16
Coos	17,122	15,251	37	35-50	6	2-25
Crook	9,349	7,741	40	39-43	10	8-14
Curry	8,731	7,719	38	37-41	7	5-11
Deschutes	25,669	19,801	43	39-49	15	8-24
Douglas	22,456	19,677	38	36-46	7	4-18
Gilliam	1,779	1,438	41	41	12	12
Grant	13,186	11,097	40	39-40	9	9-10
Harney	15,338	11,960	43	42-43	14	14-15
Hood River	3,815	3,286	39	37-48	8	5-22
Jackson	22,734	19,286	39	36-54	9	4-31
Jefferson	6,380	6,380	42	41-46	13	11-19
Josephine	18,497	17,448	35	34-48	3	1-22
Klamath	28,928	21,768	44	39-53	16	8-29
Lake	21,319	15,974	44	42-45	17	13-18
Lane	38,090	33,024	38	35-60	8	3-39
Lincoln	13,681	11,936	38	36-46	7	4-19
Linn	20,491	17,455	39	37-52	9	6-28
Malheur	13,660	10,716	43	39-49	14	7-24
Marion	20,936	17,275	40	36-56	11	4-33
Morrow	6,189	4,951	42	40-45	13	11-17
Multnomah	41,071	29,246	47	36-62	20	4-43
Polk	7,840	6,677	39	38-52	9	6-28
Sherman	1,131	891	42	42	14	14
Tillamook	12,191	10,510	39	37-45	8	5-17
Umatilla	19,111	15,556	41	38-47	11	7-21
Union	9,479	7,507	42	41-51	13	11-26
Wallowa	5,335	4,408	40	40-41	11	10-11
Wasco	6,956	5,595	41	39-49	12	8-23
Washington	24,934	20,987	40	36-48	9	3-22
Wheeler	3,714	3,112	40	40	10	10
Yamhill	10,441	8,731	40	37-52	10	6-27

¹ Gamma = ratio of actual number of street segments to maximum possible. Range 0-100; higher numbers represent areas with more gridded street patterns and lower numbers represent areas with more cul-de-sacs.

² Alpha = ratio of the actual number of complete loops to the maximum number of possible loops. Range 0-100; higher numbers represent a higher level of complexity and connectivity.

³ This research used data from the RAND Center for Population Health and Health Disparities, which is funded by grant 1-P50-ES012383 from the National Institute of Environmental Health Sciences. For further information on the CPHHD, go to <http://www.rand.org/health/centers/pophealth/index.html>.

Fast Food Availability

Table 41: Number of Fast Food Restaurants, data from InfoUSA, by County, Oregon

County	Number of Fast Food Restaurants	Density (Number per 100,000 population)
Oregon	1280	35
Baker	4	24
Benton	33	40
Clackamas	126	35
Clatsop	13	35
Columbia	12	26
Coos	19	30
Crook	6	29
Curry	7	33
Deschutes	51	36
Douglas	44	43
Gilliam	0	0
Grant	2	26
Harney	3	42
Hood River	7	34
Jackson	67	35
Jefferson	6	29
Josephine	24	30
Klamath	20	31
Lake	1	13
Lane	125	37
Lincoln	15	33
Linn	40	38
Malheur	16	49
Marion	119	39
Morrow	0	0
Multnomah	243	35
Polk	20	31
Sherman	1	53
Tillamook	1	4
Umatilla	24	34
Union	9	36
Wallowa	1	14
Wasco	11	47
Washington	179	37
Wheeler	0	0
Yamhill	31	34

Fast food restaurants were those that fit the following characteristics: multi-state and national chains; expedited food service; takeout options; limited or no wait staff; facilities on site to consume food; full meal options offered on the menu; and payment tendered prior to receiving food.

The following restaurants were included: A&W, Arby's, Arctic Circle, Baja Fresh, Big Town Hero, Blimpies, Burger King, Burgerville, Carl's Jr., Chipotle, Dairy Queen, Del Taco, El Pollo Loco, Jack in the Box, KFC, McDonald's, Muchas Gracias, Panda Express, Pita Pit, Popeye's, Qdoba, Quiznos, Sbarro, Schlotzsky's, Sonic, Subway, Taco Bell, Taco Del Mar, Taco Time, Togo's, and Wendy's.

Grocery Store Availability

Table 42: Number of Grocery Stores¹, data from InfoUSA, by County, Oregon

County	Number or Grocery Stores	Density (Number per 100,000 population)
Oregon	1096	30
Baker	6	36
Benton	22	27
Clackamas	86	24
Clatsop	19	52
Columbia	17	37
Coos	33	52
Crook	9	43
Curry	9	43
Deschutes	25	18
Douglas	45	44
Gilliam	3	156
Grant	2	26
Harney	2	28
Hood River	10	48
Jackson	51	26
Jefferson	7	34
Josephine	33	41
Klamath	27	41
Lake	8	108
Lane	110	33
Lincoln	26	57
Linn	31	29
Malheur	10	31
Marion	74	24
Morrow	4	33
Multnomah	229	33
Polk	13	20
Sherman	5	26
Tillamook	10	39
Umatilla	19	27
Union	12	48
Wallowa	6	84
Wasco	9	38
Washington	96	20
Wheeler	3	193
Yamhill	25	28

¹ Grocery stores were those establishments that had a primary Standard Industrial Classification code for a Retail Grocer (5411). Retail grocers include supermarkets, food stores, and grocery stores, primarily engaged in the retail sale of all sorts of canned goods and dry goods, fresh fruits and vegetables, and fresh and prepared meats, fish, and poultry (does not include convenience stores).

Farmers' Market and Farm Stand Availability

Table 43: Number of Farmers' Markets and Roadside/Farm Stands participating in the 2008 Oregon Farm Direct Nutrition Program, data from Oregon Department of Agriculture, by County, Oregon

County	Number of Farmers' Markets and Farm Stands
Oregon	291
Baker	4
Benton	11
Clackamas	23
Clatsop	2
Columbia	2
Coos	7
Crook	2
Curry	2
Deschutes	5
Douglas	12
Gilliam	0
Grant	1
Harney	0
Hood River	9
Jackson	9
Jefferson	1
Josephine	7
Klamath	4
Lake	0
Lane	24
Lincoln	8
Linn	19
Malheur	2
Marion	26
Morrow	0
Multnomah	32
Polk	13
Sherman	0
Tillamook	5
Umatilla	13
Union	8
Wallowa	2
Wasco	1
Washington	27
Wheeler	0
Yamhill	10