REDMOND, OREGON

Redmond is a city in Deschutes County, Oregon, United States. Not to be confused with another city of the exact same name in the state of Washington, Redmond is located on the eastern lee of the Cascades, in the High Desert in central Oregon. Redmond is known for its recreation scenes, including fishing, hiking, camping, rock climbing and white-water rafting. Situated at an elevation of 3,077 feet.

Redmond is one of the fastest-growing industrial and residential communities in Oregon. Redmond had a population of 26,215 in 2010, and the population continues to grow at a rate of about 8 percent each year.

Redmond is 15 miles north of Bend, 144 miles from Portland, and 129 miles from Salem and 126 miles from Eugene.

WHAT IS WALKABILITY?

Walkability is a quantitative and qualitative measurement of how attractive or unappealing an area is to pedestrians. Walking matters more and more to towns and cities as the connection between walking and socially vibrant neighborhoods is becoming clearer. Built environments that promote and facilitate walking - to stores, work, school and amenities – are better places to live, have higher real estate values, promote healthier lifestyles and have higher levels of social cohesion.

WHAT AFFECTS WALKABILITY?

Getting people walking and biking – practicing active forms of transportation – is essential to finding solutions for some of the biggest challenges of our time. But while recognizing the importance of walking and biking is one matter, actually getting more people to walk and bike is another.

One critical first step in promoting walking and biking is to identify the factors that influence people’s decisions to bike, walk, take transit, and/or drive.

WHAT ARE THOSE FACTORS?

This project focuses on eight out of the numerous factors that affect degree of walkability.

FACTOR #1: DWELLING DENSITY

People prefer to walk instead of driving if they live in a dense residential area where travel by automobile is often delayed by traffic congestion and lack of parking space. High residential density also is the conventional theory that supports the decrease of trip distance, increase in walking activities and decline in overall automobile use.

FACTOR #2: SIDEWALK DENSITY

Given the importance of sidewalks for promoting walking as a safe and viable mode of commuting, sidewalk density is definitely a key factor. In neighborhoods with streets that have heavy traffic and high speed limits, walking may be rather dangerous and challenging for most pedestrians if sidewalks are absent. Therefore extending sidewalk coverage should be regarded as a high priority in these neighborhoods, prompting the planners to prioritize investments in neighborhoods where sidewalks are essential. More importantly is that sidewalks are an essential facility for people with disabilities and less abled people who would find walking in the street an impractical option.

FACTOR #3: SERVICE PROXIMITY

Walkability is often measured by how many services and shops pedestrians can access from where they live. Places with concentrated commercial uses creates areas where residents can participate in economic activities by walking. If all services in a particular area are scattered far apart, it makes it impractical for pedestrians to walk from one to another and it is likely the area would be less walkable. In this analysis, the term “service” includes schools, stores, parks and facilities like hospital.

FACTOR #4: TERRAIN CONVENIENCE

Typically the difference between going uphill and downhill is not noticeable when walking on a street with a slope of 2% or less. Nevertheless, since the threshold of steepness of a terrain is a rather subjective dimension, the general rule lingers: the flatter the walk can be, the more activity you can expect to see along it. In many cities, businesses and commercial services tend to focus on relatively flat areas.

FACTOR #5: LAND USE MIX

More land use mix means more diverse and fascinating built environment, forming neighborhoods conducive to walking. Pedestrians prefer to walk when they are attracted to mixed used urban districts where there is variety of activities going on. For instance, variation of retail services may encourage more specialized, frequent, and shorter shopping trips by foot. Mixed land use also could mean the mixture between service and residential areas in a particular parcel of land, which suggests that more people would be willing to walk to their workplace instead of driving. On the other hand, people would be less willing to walk in places like industrial areas, where everything is far apart and the view is dull and monotonous.

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FACTOR #6: PERCEIVED SAFETY

Perceived safety is one of the more multidimensional factors in determining walkability. The term safety itself has several facets to it. Sense of lack of pedestrian safety encourages more protected automobile use and alternate transportation method. In walkability studies, perceived safety typically relates to the danger that may affect pedestrians such as heavy traffic, speed limit, crime density and well-lit streets coverage. For this map, we only address one component of perceived safety which is the speed limit of the streets.

FACTOR #7: STREET CONNECTIVITY

The degree to which urban streets connect with each other plays an important role in determining a region’s walkability. Street networks with denser intersections and more linear alignments of road segments support greater walking distance threshold. More frequent intersections and smaller block sizes contribute in making walking routes more efficient. Other than shortening driving distances, great street connectivity would allow for the substitution of walking or bicycling for some trips that in a disconnected neighborhood that would have been made by car.

FACTOR #8: CUL-DE-SAC DENSITY

Cul-de-sac density can be considered as a subfactor to street connectivity. Urban grid is said to be better for pedestrians than cul-de-sacs as it extends street connections. A walkability study finds out that people who live in neighborhoods with linear street alignments drove 26% fewer miles than those in cul-de-sac-based neighborhoods. This explains why walkability tends to be highest in city areas where the streets form a uniform grid pattern, and cul-de-sacs and dead ends are less likely to come about.

SUMMING UP

For this map, the score for each of the walkability factor are added up together to form a composite total walkability score. Hexagons with total walkability scores of 6-10 can be considered as walkable, and those with scores 0-5 are relatively less walkable.

FUTURE DIRECTIONS

* Add more factors
* Weighting these factors based on significance
* Use different city