15-Minute Neighborhoods: Improving Environmental Health by Increasing Walkability

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Background
- More people are living in cities than ever before
- Urban planning has focused on cars for the last century
- This leaves cities with high concentrations of air and noise pollution (Fig. 1)
- More time in cars leads to social, health, and environmental issues
- But 15-Minute Neighborhoods bring amenities to where people live

Research Question
How can we implement 15-Minute Neighborhoods to improve human and environmental health in cities?

Methods
- I researched what people need to walk to, how often, if amenity choice matters and how far they will walk
- Source material included academic literature reviews, transit studies, municipal plans and consumer patterns
- I analyzed 15-Minute Neighborhood plans to find commonalities between designs and approaches

Results
- The top amenities focused on in planning fulfill the most practical and frequent needs of pedestrians (Fig. 3)
- Mixed use development, bike lanes, pedestrian paths and greenery are important design elements (Fig. 4)

Social:
- More walkability increases equity, safety, community connections and human health
- Surveying Seattleites for perceived barriers and needs can inform future planning
- Walkability heat maps including livability and equity can highlight gaps in those areas

Environmental:
- Air and noise pollution decrease
- Less contribution of greenhouse gas emissions advancing climate change

Economic:
- Residents save money by not incurring automobile and transit costs.
- The local economy has vitality and support from an invested community

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Fig. 1: 66% of pollution is from transit
Fig. 2: Walking in my 15-Minute Neighborhood during the pandemic
Fig. 3: These amenities were listed in a sampling of 17 cities with specific 15-Minute Neighborhood (or similar) plans.
Fig. 4: These infrastructure needs were listed in a sampling of 17 cities with specific 15-Minute Neighborhood (or similar) plans.
Fig. 5: Pioneer Square street