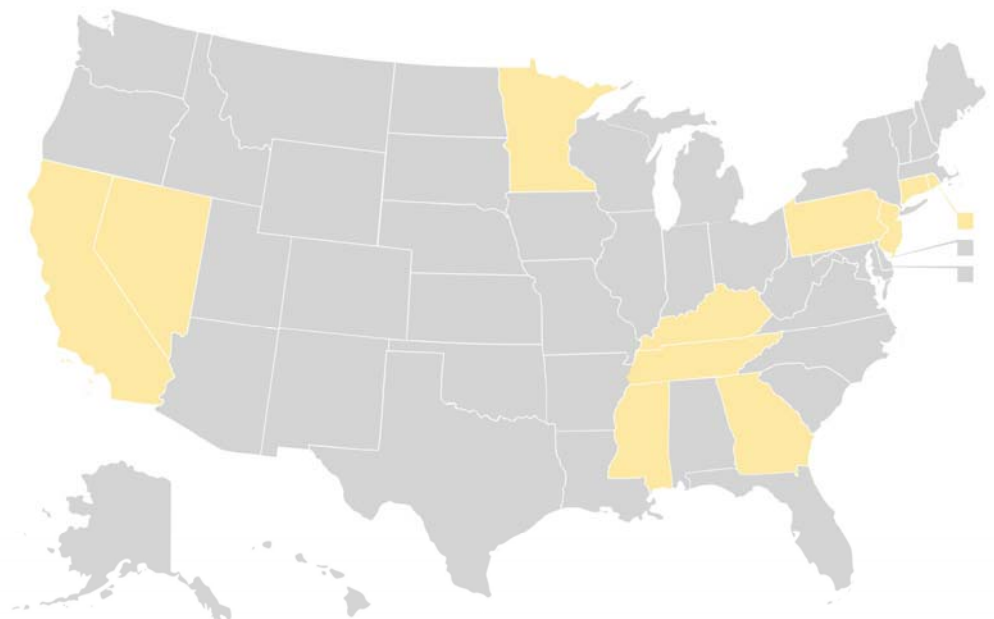# Research Protocol for King County, Washington Healthy Comprehensive Planning Policies for Active Transportation

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RESEARCH PROTOCOL
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Comprehensive Planning Policies for Active Transportation

I.   **Goal**: To compile and review local city planning policies, strategies, and procedures in King County, Washington, pertaining to active transportation (i.e., walking, biking, and public transit), pedestrian and bicyclist safety and experience, access to multimodal infrastructure, and equity.

II.   **Primary Data Collection**

a.   **Project dates**: Data were collected from January 7, 2015 – March 31, 2016.

b.   **Dates included in the dataset:** May 6, 2006 to March 31, 2016. Because the cross-sectional dataset intended to capture present day laws/policies/plans, some laws/policies/plans within the entries were enacted prior to May 6, 2006, but are all still effective.

c.   **For purposes of this dataset, all relevant laws, policies and plans were collected.** Collectively, these are referred to as the 'policy environment' for active transport in cities.

d.   **Data Collection Methods:** One master of public health student collected comprehensive plans and related functional plans that directly covered or included policies and plans related to bicycle and pedestrian uses from city websites or by contacting the planning departments directly. When needed, one Public Health— Seattle & King County (PHSKC) Environmental Health (EH) employee verified that the plan collected was the most recent plans.

e.   **Databases used:** Full text versions of city comprehensive plans and available functional pedestrian master plans, bicycle master plans, active/non-motorized transportation plans, transit master plans, transportation master plans, and parks/open space plans were downloaded from each respective King County city website or by contacting planning departments directly if not available via website.

f.   **Search Terms:** Health; active transportation; active travel; walkable; walkability; walkable zone; priority; prioritize; prioritization; right-of-way (ROW); easement; schools; mileage; maintenance; construction; high priority; sidewalk standard; design standard; non-motorized; encourage; alternate modes; connect; pedestrian; inventory; network; cul-de-sac; dead end; disabled; Americans with Disabilities Act (ADA); special needs; universal design; all ages and abilities; all ages; all abilities; pedestrian experience; pedestrian comfort; pedestrian friendly; pedestrian-oriented; street furniture; benches; awnings; canopies; landscaping; trees; planting buffers; traffic calming; wayfinding; pedestrian sign; fountain; sculptures; gathering; plaza;

courtyard; pocket parks; public art; graffiti; crime-reduction; eyes on the street; lighting; bicycle storage; bicycle rack; bicycle locker; curb ramp; crosswalk; on-street parking; pedestrian safety; safe; curb; crossing signal; mid-block; extension; bulb out; short block; refuge island; median; speed; enforce; vehicle lane; bicycle; cycling; bicycle access; bike access; bicycle experience; bicycle comfort; bicycle-friendly; convenient; healthy; bicycle safety; lane; cycle track; greenway; boulevard; multi-modal; multimodal; shared-use; grade; shared lane; sharrow; connectivity; multimodal; transit; transit; level-of-service (LOS); infrastructure; service; wait times; complete streets; construction; project: equity; equitable access

  i. Researchers supplemented key word searches by examining the table of contents of each relevant section of the cities' plans. Additional search terms were identified from these sections and included in subsequent searches.

g. **Inclusion Criteria:** The initial searches of 3 cities found that some, but not all, comprehensive plans included the desired level of detail within the built environment policies, procedures, and strategies set forth; some cities had additional plans outside the comprehensive plans that contained this detail. The research team decided to broaden its search to include other relevant city master plans (bicycle, pedestrian, transit, transportation, and parks/open spaces, where they existed) to ensure it analyzed all pertinent built environment policies.

III. **Coding**

a. **Codebook Development**: To develop coding questions Researcher #1, Cait Lang, reviewed questions previously drafted by Public Health Seattle & King County (PHSKC) interns, Carly Miller and Hee Yon Sohng, who compiled a variety of comprehensive plan questions. The research team narrowed the codebook focus to active transportation. Researcher #1 then conducted a literature review exploring best practices related to built environment policy language and design strategies to create pedestrian-oriented, bicycle-friendly, multimodal communities. Based on the review, Researcher #1 updated questions and answer choices. Researcher #1 consulted with one subject matter expert (SME), Nicholas Matz, Senior Planner at City of Bellevue. Researcher #1 used the SME's feedback to rewrite coding questions and circulated them for review among team members until all parties felt they had been sufficiently refined. Once the coding questions were finalized, they were entered into an Excel spreadsheet.

b. **Inter-rater Reliability Coding I Methods**: Researcher #1 and Researcher #2, Amy Shumann (initially a naive coder), conducted an inter-rater reliability test, coding 3 pilot cities' comprehensive plan and relevant master plans (10% of the sample) and compared results. Researcher #2 consulted with one SME, Kimberly Scrivner, Senior Planner at the Puget Sound Regional Council (PSRC).

  i. Researchers identified several issues in the coding where vague language led to different interpretations of comprehensive plan language. The Supervisor and the Researchers discussed issues, and we reworded

questions and coded accordingly to eliminate subjectivity in coding. Coder instructions were also drafted to eliminate subjectivity in coding.

   ii.   In regard to the question, "If [pedestrian access] improvements for those with special needs are addressed, does the policy language specifically mention universal design?" we identified the need to include a separate question regarding universal design for bicycle access improvements.

  iii.   In regard to the question, "If the plan addresses multimodal transportation, are there goals for multimodal level-of-service?" we answered in the affirmative for jurisdictions whether they state level-of-service as a policy or depict it as a map.

  iv.   In regard to the question, "If the plan addresses multimodal transportation, are there goals for multimodal level-of-service?" we answered in the affirmative for jurisdictions whether they state level-of-service as a policy or depict it as a map.

   v.   In regard to the question, "If equitable bicycle access is addressed, how is it addressed?" we answered "other" if the city used analysis or equity mapping to address access.

  vi.   **Quality Control:** Researcher #1 and Researcher #2 redundantly coded 10 percent of plans. Researcher #1 and Researcher #2 reviewed the redundant coding by comparing the Excel records, variable by variable, looking for divergences. When a divergence was identified, researchers discuss it, identified the reason for divergence, and resolved it. When appropriate, questions were modified for clarity.

c.   **Inter-rater Reliability Coding II Methods:** After modification of the questions, Researcher #1 and Researcher #3, Julie West (naive coder), conducted an inter-rater reliability test in which both were responsible for coding 3 different cities' comprehensive plan and relevant master plans. The researchers independently coded the three cities' plans and compared results.

   i.   Researchers identified several issues in the coding. The Supervisor and the Researchers discussed issues, and we reworded questions and coded accordingly.

   ii.   In regard to the question, "If the plan addresses improving walkability/pedestrian access, does the policy language contain a specific set of prioritized strategies?" we identified the need to remove the word 'prioritized' from the question. We updated the possible answer choices to indicate prioritization. The new question reads, "If the plan addresses improving walkability/pedestrian access, does the policy language contain a specific set of strategies?" with possible answers: 1) Yes, 2) Listed and prioritized, and 3) No. We made this change to all questions with this question and answer structure.

  iii.   **Quality Control:** Researcher #1 and Researcher #3 redundantly coded 10 percent of plans. Researcher #1 and Researcher #3 reviewed the redundant coding by comparing the Excel records, variable by variable, looking for divergences. When a divergence was identified, researchers discuss it, identified the reason for divergence, and resolved it.

d.   **Coding Methods:** Researcher #1 and Researcher #2 were responsible for coding the dataset in Excel. Researcher #2 coded 3 cities independently, while Researcher

#1 coded the remaining cities' plans. Using the Excel spreadsheet, Researcher #1 created one record for each King County city (n=39) in the LawAtlas^{SM} Workbench for eventual display in King County's PolicyTracker LawAtlas, the on-line visualization system.

e. **Quality Control:** Researcher #1 reviewed Researcher #2's coding, divergences were resolved, and the redundant record was deleted.

IV. **Limitations**

a. Time frame: Researchers pulled all existing planning documents on January 31, 2016, recognizing that multiple city comprehensive plan updates were still under revision and could not be included in the coding. Future coding efforts should include policies from these updated plans.
b. For policy coding, oftentimes words like "should" or "must" have a particular legal construct when used in ordinances or statutes and can be used as a measure. Unlike other legally binding texts, comprehensive plans and functional plans use more flexible policy language to allow planning departments to adapt to real conditions over time. A standard metric or policy language continuum would be useful in determining policy strength of city comprehensive plans and functional or related plans related to active transport.
c. While the codebook focuses on active transportation infrastructure, the built environment affects health in many ways (e.g., access to healthy, affordable food and housing, transportation-oriented development).