

Chiang Mai Walkability Study - Spring 2010

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Previous research on walkability mentions three sustainability-related benefits of increased walking in a community: personal health, increased sense of community, and lower ecological footprint. Our study attempted to identify factors that increase walking, and therefore sustainability, of Chiang Mai.

We defined walkability as the extent to which a path encourages pedestrian culture through its navigability, safety, and aesthetics. To measure this, we walked main streets near Niemmenhaemin and in the old city to observe several factors: sidewalk structure and consistency, how many times sidewalk conditions forced us to walk on the streets, major obstacles on the sidewalks (motorcycles, signs, trees, construction materials, low-hanging power lines), number of pedestrians per street (with special attention paid to social interactions), crosswalk maintenance, sensory experiences (noise levels, smells, relative shade or exposure to the sun) that lead to an enjoyable walk.

In two days of walking between 1pm and 4pm, we walked the Superhighway from ISDSI to Nimmanhaemin and Huay Kaew, Nimmanhaemin to Suthep, Suthep to Boon Ruangrit, and approximately one square kilometer of the Old City.

On Nimmanhaemin, we found that sidewalks are continually present but loaded with obstacles, causing walkers to spend most of their energy navigating. In some places the sidewalk slopes into the street allowing it to double as a parking area and inevitably redirects foot traffic onto the busy streets. The rest of the streets from day one have wider sidewalks, which would seem to be extremely walkable, except that no one was walking on them. Suthep was an exception: pedestrian traffic was dense, shops were open and the sidewalk was shaded. In Old Town, sidewalks were primarily found on main roads, and appeared to be maintained by nearby stores or institutions. Sidewalks in front of nicer restaurants or *wats* were cleanest. We encountered no wheelchair accessible paths in the entirety of our study.

To analyze our data, we assigned a value between 1 and 5 to each road we covered, 5 being the most walkable. The final values were based on four factors: navigability, safety, aesthetics and presence of pedestrians. Navigability is measured as ability to walk in a straight line on a sidewalk. Safety is based on vehicle speed, protection from automobile traffic, and traffic management (i.e. crosswalks). Aesthetics is based on smells (i.e. exhaust or flowers), sights (i.e. construction sites, *wats* or open-air restaurants), sounds (i.e. engines or music), and sun exposure. After analysis, the Superhighway was given the lowest overall rating (1.5), while Suthep has the highest rating (4) on a scale from 1 to 5. Chiang Mai's average walkability rating of all streets surveyed was 3.15.

While expecting to focus primarily on sidewalk conditions, we found "walkability" to be more complex. In Chiang Mai, the simple presence of sidewalk does not necessarily result in a pedestrian culture and, conversely, the lack of a sidewalk does not imply a shortage of foot traffic. Our method was limited in scope by observation timing, the hot, early afternoon, but we expect that a broader study would support this conclusion. Pedestrian culture was more related to nearby attractions and vehicle speed than to sidewalk conditions. We also discussed the possibility that pedestrianism is more promoted in Western culture than in Thai culture, where it doesn't seem to fit in with the "sabai sabai" lifestyle. Perhaps future research could involve surveys or interviews to gather information on cultural attitudes that promote or discourage pedestrian culture.

Walkability Ratings by Street

Superhighway

| Category | Grade | Details |
|----------------|------------|--|
| Navigability | 3 | Single-file only, dirt path, walking on furthest left traffic lane |
| Safety | 1 | Trucks, busses, motorcycles, and cars moving at ~60-100km/hr with no barrier protecting pedestrians; 4 parallel parked cars forced us to walk on highway |
| Aesthetics | 1 | 100% sun exposure, 1 dead dog carcass, 2 food stands, mountain view, median with flowers, sewage creek |
| Pedestrians | 1 | 1 man walking his bike |
| Overall | 1.5 | |

Sirimankalajan

| Category | Grade | Details |
|----------------|----------|---|
| Navigability | 3 | Mostly single-file, narrow walkways, obstacles requires walking in street |
| Safety | 3 | Medium traffic @ ~40-60 km/h; Taylor nearly hit by vehicles twice |
| Aesthetics | 3 | 1 active construction site, ~6 food stands, sections with trees lining buildings, minimal trash, medium exhaust smell and occasional sewage |
| Pedestrians | 2 | 7 Thais; 1 farang |
| Overall | 3 | |

Nimmanhaemin

| Category | Grade | Details |
|----------------|-------------|--|
| Navigability | 2 | Motorbikes, signs, store stands occupying sidewalks, many steps up or around small obstacles |
| Safety | 3 | Some parked cars protect pedestrians from traffic, walking on street necessary 7 times |
| Aesthetics | 4 | 2 construction sites, exhaust smell, occasional pastry and flower smells!, 25% shaded, interesting shops and restaurants |
| Pedestrians | 2 | 14 Thai; 2 farang |
| Overall | 2.75 | |

Suthep

| Category | Grade | Details |
|----------------|----------|--|
| Navigability | 3 | Food stalls occupying sidewalks |
| Safety | 4 | Sidewalks on both sides, not all cars recognized crosswalks, parallel parked cars on street provide barrier from traffic |
| Aesthetics | 4 | Good food smells, many vendors selling to pedestrians |
| Pedestrians | 5 | 55 people |
| Overall | 4 | |

Boon Ruangrit

| Category | Grade | Details |
|----------------|-------------|--|
| Navigability | 5 | Few if any obstacles |
| Safety | 5 | Busy traffic but very wide sidewalk, crossings are more risky than walking on sidewalk |
| Aesthetics | 4 | Shaded, loud, no smells, BB-gun-carrying fishermen provide entertainment |
| Pedestrians | 1 | 0 pedestrians |
| Overall | 3.75 | |

Huay Kaew

| Category | Grade | Details |
|----------------|-------------|--|
| Navigability | 5 | Some narrow areas |
| Safety | 3 | Medium traffic @ ~40-60 km/h, 20m section of guardrail |
| Aesthetics | 3 | 1 bad smell |
| Pedestrians | 2 | 11 people |
| Overall | 3.25 | |

Ratchadanmoen

| Category | Grade | Details |
|----------------|-------------|--|
| Navigability | 3 | Food stalls, tuk tuks, and motorbikes occupying sidewalk, 50% of pedestrians walking on street |
| Safety | 4 | Half intersections had stoplights but none with crosswalks, medium traffic @ ~30-50km/h |
| Aesthetics | 5 | Small shops, people, signs, and wats to observe; food smells waft from open-air restaurants |
| Pedestrians | 5 | 26 Thais, 56 farang |
| Overall | 3.75 | |

Singhart

| Category | Grade | Details |
|----------------|-------------|--|
| Navigability | 2 | Sidewalks only on one side at a time, pedestrians forced to cross when sidewalk disappears, narrow sidewalks, overhead obstacles |
| Safety | 4 | Minimal traffic @ 30-50 km/h |
| Aesthetics | 3 | Walkers go through several restaurants or shops, residences had plants outside |
| Pedestrians | 4 | 13 Thais; 14 farang; two tourists and one Thai man initiated conversations with members of our group |
| Overall | 3.25 | |

Wiang Kaew and Phra Pokklao Soi 13

| Category | Grade | Details |
|----------------|-------------|---|
| Navigability | 2 | No sidewalk, Parallel parked cars and motorbikes occupying edges of street |
| Safety | 5 | Very minimal, slow traffic, 1/6 intersections with stoplights, 50/50 walking on sidewalk vs. street |
| Aesthetics | 3 | Calm, quiet, full sun exposure for half, shaded by trees for second half |
| Pedestrians | 2 | 1 Thai; 12 farang |
| Overall | 3.25 | |

Ratchaphakinai

| Category | Grade | Details |
|----------------|----------|--|
| Navigability | 3 | 2 Street crossings needed to stay on sidewalks because it's only on one side |
| Safety | 3 | Minimal traffic @ 30-50km/h |
| Aesthetics | 4 | First half shaded by big trees, then full exposure |
| Pedestrians | 2 | 7 Thai; 4 farang |
| Overall | 3 | |

Navigability – ability to walk in a relatively straight line over flat, smooth ground.

Safety – perceived safety based on speed of traffic and barriers between pedestrian and car traffic

Aesthetics – subjective level of enjoyment experienced by researchers based on sights, smells, and social interactions