



**HUMBOLDT COUNTY ASSOCIATION OF GOVERNMENTS**  
**Regional Transportation Planning Agency**  
**Humboldt County Local Transportation Authority**  
**Service Authority for Freeway Emergencies**

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**AGENDA ITEM 5a**  
**SSTAC Meeting**  
**August 7, 2024**

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**DATE:** July 31, 2024  
**TO:** Social Services Transportation Advisory Council (SSTAC)  
**FROM:** Oona Smith, Senior Regional Planner  
**SUBJECT:** **Draft methodology for the Level of Traffic Stress (LTS) assessment for local streets and roads**

**STAFF REPORT**

**Contents:**

- Staff Summary
- “Proposed Methodology for Calculating & Mapping Bicycle and Pedestrian Levels of Traffic Stress (LTS) in the Greater Humboldt Bay Area” by Coalition for Responsible Transportation Priorities (CRTP) (enclosure)

1. Introduce the item as a discussion item.
2. Allow staff to present the item.
3. Receive public comment.
4. Discuss item.

**Staff Summary:**

HCAOG has kicked off the “Humboldt Multimodal and Vibrant Neighborhoods Project,” which is funded by a Caltrans Sustainable Transportation Planning Grant, as well as contributions from TAC member agencies and other partners, including the Coalition for Responsible Transportation Priorities (CRTP). HCAOG and CRTP are collaborating on the grant activity to assess Bicyclist LTS and Pedestrian LTS for the communities of the Greater Humboldt Bay/Wigi area. This assessment area includes Eureka (*Jaroujiji\**), Arcata (*Goudi 'ni\**), Bayside, McKinleyville (*Dalhagali\**), Fortuna (*Vutsuwitk Da'l\**), Manila, Samoa, Fairhaven, Cutten, King Salmon, and Loleta (*Guduwalha't\**) including the Wiyot Tribe Table Bluff Reservation (*Rraloughu'w\**). The LTS assessment is part of HCAOG implementing the Regional Transportation Plan (VROOM 2022-2042) and making progress on its Safe and Sustainable Transportation Targets.

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\*Place name in Wiyot language, Soulatluk.

LTS is a metric for assessing the user experience of bicyclists and/or pedestrians on various transportation facilities, such as intersections, sidewalks, and travel lanes. LTS categorizes travel facilities by the level of discomfort or stress different kinds of users will, or will not, tolerate. LTS methodologies today commonly use numerical scoring on a scale of 1 to 4, where LTS 1 “is meant to be a level that most children can tolerate,” LTS 2 can be “tolerated by the mainstream adult population,” and LTS 3 and 4 represent greater levels of stress.

Assessing LTS can be intensely labor intensive if a lot of new data must be collected. If collecting data is infeasible, the LTS methodology must use some assumptions as proxies.

CRTP has developed a draft methodology (enclosure) for the SSTAC to review and discuss. The draft methodology is based on respected criteria for both pedestrian LTS (Oregon DOT) and bicyclist LTS (by Mekuria, Furth and Nixon (2012)). All methodologies will have strengths, weaknesses, and uncertainties, which CRTP discusses in the draft. **HCAOG and CRTP invite SSTAC members to share suggestions on which assumptions are reasonable and where data collection efforts should be focused.**

As an introductory outline of the draft methodology, the list of tables outlines what would be evaluated and what we would need data for:

- Table 1: Bicycling in mixed traffic (i.e., no bike-only facility)
- Table 2: Bicycling in conventional bike lanes, advisory bike lanes, and shoulders not adjacent to a parking lane
- Table 3: Conventional bike lanes and advisory bike lanes alongside a parking lane
- Table 4: Bicycling at unsignalized crossings
- Table 5: Bicycling using a sidepath at a roundabout
- Table 6: Bicycling in mixed traffic in a roundabout
- Table 7: Bicycle LTS data needs, sources & assumptions
- Table 8: Pedestrian LTS based on sidewalk conditions
- Table 9: Pedestrian LTS based on general land use
- Table 10: Pedestrian LTS based on physical buffers and traffic speeds
- Table 11: Pedestrian LTS based on total buffering width and number of lanes
- Table 12: Pedestrian LTS at signalized intersections
- Table 13: Pedestrian LTS at roundabouts
- Table 14: Pedestrian LTS at local & collector unsignalized intersection crossings
- Table 15: Pedestrian LTS at arterial unsignalized intersection crossings without a median refuge
- Table 16: Pedestrian LTS at arterial unsignalized intersection crossings with a median refuge
- Table 17: Pedestrian LTS adjustments for arterial crosswalk enhancements
- Table 18: Pedestrian LTS data needs, sources & assumptions

Specifically, I call your attention to some points of the methodology that provide a way to work around significant data gaps:

- LTS for bicycling at unsignalized crossings:
  - Using the “unsignalized crossing LTS” of the segment being crossed to also assess “bicycle crossing LTS” of a segment *outside* of an intersection is (see Table 4).
  - Classifying any signalized intersection with a bicycle left-turn improvement (e.g., protected intersection, bike box, or bike priority signal) as LTS 1, while classifying signalized intersections lacking any such improvements as “high stress.”

- Pedestrian LTS:
  - To reduce data collection, we propose to assume that any sidewalk with an actual width of less than 6 feet is in “poor condition” in terms of low-stress access, while any sidewalk with an actual width of 6 feet or more is in good or fair condition for mobility access. The assumption would be modified if agencies can provide information that sidewalk in specific areas is in good condition and with minimal obstructions (e.g., new or recently repaired). (Table 8)
  - Any intersection without compliant curb ramps would be rated “high stress.” (Table 12)
  - The pedestrian LTS of crossing outside an intersection is identical to the pedestrian LTS for unsignalized intersection of the relevant segment without a median island (except in the case of an improved mid-block crossing). (Table 15)