

Urban Forestry Board recommendation to the Urban Trails Master Plan (UTMP):

Critical Management Zones (CMZ, sensitive areas) are defined as: steep slopes, thin soils, wetlands, undisturbed greenbelts and flood plains, forest elements, riparian areas, and river and stream banks.

1. **A thorough environmental assessment, including a cultural resources assessment, shall be performed by a qualified independent ecologist or wildlife habitat specialist and a qualified independent certified arborist prior to determination of trail routes,**
2. **Following the environmental and cultural assessments, trail routes, creek crossings, trail access points and trail heads shall be designed and built in accordance with criteria recommended by a qualified, independent ecologist or wildlife habitat specialist to establish and protect native riparian areas and wildlife corridors and habitat. Qualified city staff or independent consultant shall oversee installation of all trails and other corridors to assure that the above criteria are met.**
3. **Funds for the environmental and cultural assessments, criteria development, and subsequent supervision, including the contracting of qualified, independent ecologist or wildlife habitat specialist, shall be included in the budget of the trails project.**
4. **A qualified independent ecologist or wildlife habitat specialist shall determine which greenbelts shall be left for wildlife corridors, where only small primitive trails shall be allowed.**
5. **A no-build option shall exist when any of the following applies:**
 - a. Environmental constraints, including not being able to build concrete trail outside the 5 yr. floodplain in CMZ.
 - b. Existence of a better alternative route.
 - c. Lack of neighborhood support.
 - d. Neighborhood priority relative to other Public Works or Transportation Department projects.
 - e. Cost benefit analysis indicates that cost is excessively disproportionate to the need or probable use.
 - f. No need or low need (rural or low density area).
 - g. Private ownership of a portion of the proposed route that cannot be negotiated.
 - h. Unresolved public safety concerns.
 - i. Unresolved maintenance concerns.
6. **Prioritization criteria shall include equal weighting for each of the following items:**
 - a. Environmental impact
 - b. Neighborhood support/opposition
 - c. Cost
 - d. Ownership of property along proposed route
 - e. Connectivity
7. **Public input shall be included when deciding trail location. Neighborhood involvement shall include:**
 - a. Notification to all communities of interest and neighbors within 500 ft. of the trail corridor when the design process starts,
 - b. At least 2 open houses for the trail corridor,

- c. Additional public meetings with communities of interest and neighbors within 500 ft. of CMZ that are part of the proposed trail corridor.

8. Periodic notification of initiation of trail designs and review of trail site plans by the Urban Forestry Board and the Environmental Board.

9. Changes to the UTMP:

- a. Define "Critical Management Zones" (CMZ, sensitive areas) as steep slopes, thin soils, wetlands, undisturbed greenbelts and floodplains, riparian areas, and river and stream banks.
 - b. Change and add the following objectives to "Environmental Goals" in pg. 2.4:

Objective 6.2 –Whenever possible, locate trails outside CMZ and utilize existing paved routes. In CMZ, locate trails outside the Erosion Hazard Zones (except for low water crossings) and no closer to a creek than within WP ordinance outer buffer.

Objective 6.4 In CMZ, construct urban trails no wider than 12 feet.
 - c. Adherence to the Protected and Heritage Tree Ordinances, and the Environmental Criteria Manual (preservation criteria, tree and CRZ protection guidelines, etc).
 - d. In the CMZ Asphalt shall not be used for urban trails.
 - e. Distance from edge of urban trail to adjacent trees shall be at least 5 ft. and root barriers shall not be used.
 - f. Tree species selection shall consist of long lived native shade trees and native understories appropriate for the site, and shall not be based on minimizing vegetative litter on trail or root uplifting of pavement.
 - g. In CMZ, the urban trail width shall be 12 ft. maximum and the shoulder width shall be 2 ft. maximum.
 - h. Riparian setback in CMZ shall be 100-200 ft.
 - i. The number of low water crossings shall be minimized to avoid impacts to the creek and shall be designed to prevent people from leaving the trail and entering the creek.
 - j. In CMZ, if site conditions allow it, design trail access points not closer than 1 mile apart and trailheads not closer than 2 miles to access points. Use existing infrastructure if available and appropriate.
 - k. In CMZ, trailhead amenities shall be kept at a minimum.
 - l. Urban trails do not provide green infrastructure and shall not be used to enhance CMZ. Urban trails shall be used to restore waterways in CMZ only when areas are eroded and need restoration.
 - m. Artificial nighttime lighting shall be Dark Sky compliant.
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UFB Recommendations for UTMP Trail Criteria Guidelines and/or Urban Trails Technical Manual

- A1. All healthy heritage and prominent trees shall be preserved.
- A2. A certified arborist shall be required for the approval of trail layout when trees are in the path or near the trail.
- A3. Trails shall be designed to avoid the full CRZ of trees (especially healthy heritage and prominent trees) whenever possible. Younger trees may tolerate impact to $\frac{1}{2}$ CRZ but heritage trees need $\frac{3}{4}$ (minimum) or the full CRZ (best).
- A4. Encroachment on more than one side of the CRZ of the tree shall be avoided. Previously impacted areas should be given priority for trail routing.
- A5. If it is not possible to design trails outside the tree's full CRZ, the concrete trail inside the CRZ shall be built above grade (no trenching, no root cutting, no soil compacting) utilizing the sand technique or other methods.
- A6. Distance from edge of urban trail to adjacent trees shall be at least 5 ft. and root barriers shall not be used.
- A7. Total impervious cover shall be less than 35% of the CRZ. If needed, impervious cover shall be removed elsewhere from the CRZ without damaging roots. Permeable trail surface materials shall be used when feasible.
- A8. Maintain natural drainage for trees.
- A9. All planting inside CRZ shall avoid damage to tree roots and shall utilize smallest container possible not to exceed 1 gallon.
- A10. Trail shoulders shall be 2 ft. wide.
- A11. Maintenance plans shall include watering existing heritage and prominent trees during periods of insufficient rainfall.
- A12. During construction and maintenance, appropriate measures shall be utilized to avoid soil compaction, such as a 4 inch layer of mulch topped with rubber matting.
- A13. Trail work areas shall be restored by planting site appropriate native planting.
- A14. Qualified city staff or independent consultant shall oversee installation of all trails and other corridors
- A15. Tree protection fences shall be installed according to the Environmental Criteria Manual, preferably at the edge of the full CRZ, or according to city standards if not feasible.
- A16. Fence and mark CRZ from motorized vehicle use.
- A17. Contractor shall not damage trees or cut roots larger than 2 inches without a certified arborist present.
- A18. Contractors shall follow all rules in City of Austin's Environmental Criteria Manual and other Tree Protection regulations, including the Oak Wilt Policy.

- A19. Contractor shall have designated areas to store chemicals that shall not be located within the CRZ of trees.
- A20. The project budget shall include compost, mulch and other after care for mature trees.
- A21. Critically impacted trees shall be watered deeply when starting and ending the job, and during periods of insufficient rainfall while the trail work is ongoing.
- A22. Artificial nighttime lighting shall be Dark Sky compliant.
- A23. In CMZ, trails shall not be built on steep slopes and wet or shallow soil to minimize soil erosion and disruption of vegetation.
- A24. Understories and low vegetation beyond the trail shoulder shall not be removed, including for safety reasons.
- A25. In CMZ, creek to trail buffer shall be at least 100 ft.
- A26. Habitat fragmentation along creeks and wildlife corridors shall be minimized. Trails shall not be built to run along the length of creeks, and a minimum amount of creek access points shall be created with spurs branching off from a main trail outside the corridor.
- A27. Creek crossings and access points shall be designed to prevent people from leaving the trail and entering the creek. Creek crossings shall be designed to be sustainable.
- A28. In CMZ, the maximum width of a concrete trail shall be 12 ft.
- A29. A trail's impervious cover shall require stormwater runoff controls (rain gardens, additional open green areas, etc.) and erosion control.
- A30. Dual tracks shall be prohibited in CMZ.
- A31. Asphalt shall not be allowed in the CMZ

Recommended Guidelines:

- “How Greenways Work, A Handbook On Ecology”, Chapter 5, Design Considerations and Design Guidelines, Jonathan M. Labaree, October 1997. Hosted by American Trails (<http://www.americantrails.org/resources/greenways/NPS5Grnwy.html>).

CHANGES TO UTMP, with page numbers:

- a. Define "Critical Management Zones" (CMZ, significant areas) as "steep slopes, thin soils, wetlands, undisturbed greenbelts and floodplains, riparian areas, and river and stream banks." pg. 1.5

- b. Change and add the following objectives to "Environmental Goals" in pg. 2.4:

Objective 6.2 – ~~"Avoid placement within~~ Whenever possible, locate trails outside CMZ and utilize existing paved routes. In CMZ, locate trails outside the Erosion Hazard Zones (except for low water crossings) and no closer to a creek than within the outer buffer."

Add description of trail to creek centerline buffers required by the Watershed Protection Ordinance and the requirement to locate trails in the outer part of the buffer whenever possible, pg. 4.4.

Add "Objective 6.4 In CMZ, construct urban trails no wider than 12 feet."

Add "Critical Environmental Features and endangered species" to list of environmental constraints in "Constructing Future Urban Trails," pg. ix, 3rd paragraph.

Add "Environmental protection" to list of overarching design principles, pg. A-4.

Add "Environmental advocacy groups" and "Policy Guidance for environmental protection, education" under "Partnership Opportunities," pg. 4.9.

- c. Add "Protected Tree Ordinance" and "AUFP" to "Policy Considerations," pg vii and "Relevant Policies," pg. 4.5, including a description of the Protected Tree Ordinance in pg. 4.5. The UTMP only includes the Heritage Tree Ordinance.

Add "Protected and Heritage Tree Ordinance, Environmental Criteria Manual" to list of resources for Trail Criteria Guidelines, pg. A-3.

Add "Protected Tree Ordinance and Environmental Criteria Manual" to list of regulations that the UTMP will comply with, pg. A-7.

- d. Add "The preferred surface material for an Urban Trail is asphalt. However, asphalt shall not be used for urban trails in CMZ" in pg. A-4 and table A.1, pg. A-6.
- e. Change "distance from edge of urban trail to adjacent trees to be at least ~~2 ft.~~ 5 ft." pg. A-6. Delete "root barriers", pg. A-6.
- f. Delete "Tree species selection and placement should minimize vegetative litter on trail and root uplifting of pavement" pg. A-20. Replace with "Tree species selection shall consist of long lived native shade trees and native understories appropriate for the site."
- g. Add "Urban Trails in CMZ shall have a maximum 12 ft. width" to "Watershed Protection Ordinance section," pg. 4.4.

Add "In CMZ, the overall corridor width shall be 16 ft. or less, and the shoulder shall be 2 ft. or less" pg. A-6.
- h. Add "Recommended riparian setback in CMZ shall be 100-200 ft." pg. A-8.

- i. Add “The number of low water crossings shall be minimized and crossings shall be designed to prevent people from leaving the trail and entering the creek” pg. A-8.
- j. Add “In CMZ, if site conditions allow it, trail access points shall not be closer than 1 mile apart and spacing between trail access points to trailheads shall not be closer than 2 miles. Use existing infrastructure if available and appropriate.” pg. A-12.
- k. Add “In CMZ, trailhead amenities should be minimum” pg. A-13 and A-18.
- l. Add “Urban trails do not provide green infrastructure and shall not be used to enhance CMZ. Urban trails shall be used to restore waterways in CMZ only when areas are eroded and need restoration.” to opportunities offered by trail to restore and enhance the waterway or environmentally CMZ, pg. A-8.
- m. Artificial nighttime lighting shall be Dark Sky compliant, pgs. A 10-11.
- n. Change public process in pg. ix from “a public open house” to “notification to all communities of interest and neighbors within 500 ft. of the trail corridor when the design process starts, at least 2 open houses for the trail corridor, and additional public meetings with communities of interest and neighbors within 500 ft. of CMZ that are part of the trail corridor.”
- o. Add “Forestry” to list of reviewers in pg ix.
- p. Remove “Where possible” in pg 2.2: Urban Trail corridors and alignments should be designed to enhance linkages between parks, neighborhoods, schools, civic facilities and community destinations as well as complement the on-street bicycle and sidewalk network.”
- q. Correct Dr. Kevin Anderson’s profession in page 2.3 from “wildlife biologist” to “degrees in Geography and Philosophy” or “Coordinator of the Hornsby Bend Environmental Center.” Kevin is not a wildlife biologist.
- r. Add “trees and vegetation” to “PARD Partnership Opportunities,” pg. 4.8.
- s. Add “following Environmental Criteria Manual regulations (Oak Wilt City Policy)” to “certified arborist pruning branches that overhang over the trail” pg. A-20.
- t. Add “In CMZ, mowing shall be limited to no more often that twice per year and only on a 2 ft. shoulder” pg. A-20.
- u. Add “Watering critically impacted trees during periods of insufficient rainfall” to list of trail maintenance, pg. A-22.
- v. Add “Mulching trees” to list of trail maintenance, pg. A-22.