



Sidewalk Distress Manual

Summer 2014

Below are the attributes that seem to be a logical list of what should be collected. There is a list of distress attributes and other general attributes. Certain attributes of sidewalk condition are also design standards. As much as I want to stay away from turning this inventory into an ADA compliance inventory, I feel it would be valuable to use these standards as thresholds for our distress level, so as to be able to investigate this data in a different light, down the road. A good example of this would be the Horizontal displacement (ledging) design standard of 2.5". To remove as much subjectivity in the data collection process, I have tried to apply literal numerical figures to what is representative of a "low", "medium", or "high", or "None/Yes/Critical" in as many attributes as possible.

Sidewalk ID

*Each sidewalk segment will have a unique ID so we can then summarize deficient slabs based on sidewalk sections. (e.g. **BLAK01**)*

Contiguous Deficient Slabs

NO – *The two slabs on either side of the current slab have no distresses or deficiencies.*

YES (One Side) – *A slab on only one side of the current slab also contains a distress.*

YES (Two Sides) – *The slabs on both sides of the current slab also contain distresses.*

Obstruction

*"Clear Widths may be reduced to as little as 0.9 m (3 ft) at point locations for the shortest practical distances to bypass an obstruction."**

NO – *There are no obstructions in the slab.*

YES – *An obstruction is present in the slab.*

**Taken from the 'Vermont Pedestrian and Bicycle Facility Planning and Design Manual'*

Vertical Displacement (Ledging)

YES – Vertical displacement of $\frac{1}{4}$ - $\frac{3}{4}$ “.



CRITICAL – Vertical displacement greater than $\frac{3}{4}$ “.



6 mm (0.25 in.) maximum vertical change in level; 13 mm (0.5 in.) if beveled*

*Taken from the 'Vermont Pedestrian and Bicycle Facility Planning and Design Manual'

Horizontal Displacement (Gaps Between Slabs)

YES – Gap between slabs is greater than 1" but no greater than 2".



CRITICAL – Gap between slabs exceeds 2".

Vertical Slope

YES - The vertical slope of the slab is greater than 10%.

Horizontal Slope (pitch)

YES – The horizontal slope of the slab is approximately 4%.



CRITICAL – The horizontal slope of the slab is greater than 5%.



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Spalling (Weathering)

MEDIUM – Any of the following (1) Coarse aggregate is clearly exposed but is not coming loose. (2) General spalling on over 25% of slab at any level.



HIGH – Any of the following (1) Severe deterioration of sidewalk material Coarse aggregate is starting to come loose in areas. (2) General spalling on over 50% of slab at any level (3) Evident tripping hazard due to this distress.



Slab Cracking

LOW – Minor cracking less than $\frac{1}{4}$ “.



MEDIUM – Any of the following (1) Cracking between $\frac{1}{4}$ ”- $\frac{1}{2}$ ” on average (2) General cracking of any level over 25% of entire slab.



HIGH – Any of the following (1) Major Crack(s) between $\frac{1}{2}$ ”- $1\frac{1}{2}$ ” on average (2) Evident Grass growing in large cracks (3) General cracking of any level over 50% of entire slab (4) Evident tripping hazard due to this distress (5) Loss of material resulting in tripping hazard (6) Slight vertical cracking resulting in vertical displacement between $\frac{1}{4}$ ”- $\frac{3}{4}$ ”.



SEVERE – Any of the following (1) Cracking major enough that isolated chunks of sidewalk are forming that are greater than 1 square inch. (2) Loose aggregate is present (3) Cracks are greater than $1\frac{1}{2}$ ” in width. (4) Cracking has resulted in parts of the slab being at notably different pitches. (5) Cracking causing vertical displacement $> \frac{3}{4}$ ”.



Edge Deterioration

LOW – Minor cracking with no breakup. Cracks extend no greater than 1" into slab.



MEDIUM – Cracking or loss of material no greater than 2" into slab.



HIGH – Any of the following (1) Considerable breakup of slab due to edge cracking (2) Cracking extending into main part of slab (>2").

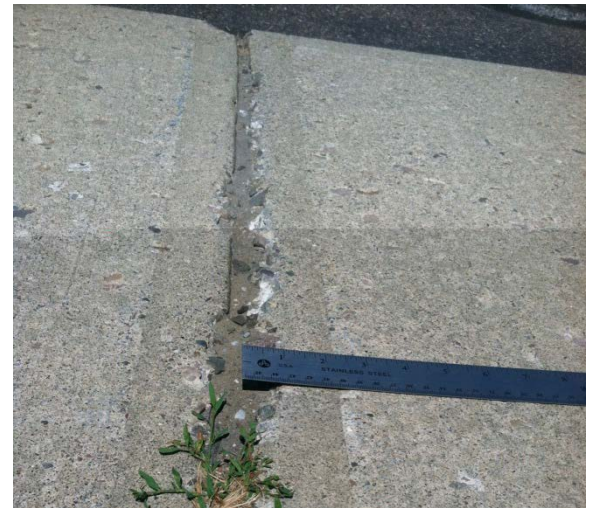


Joint Deterioration

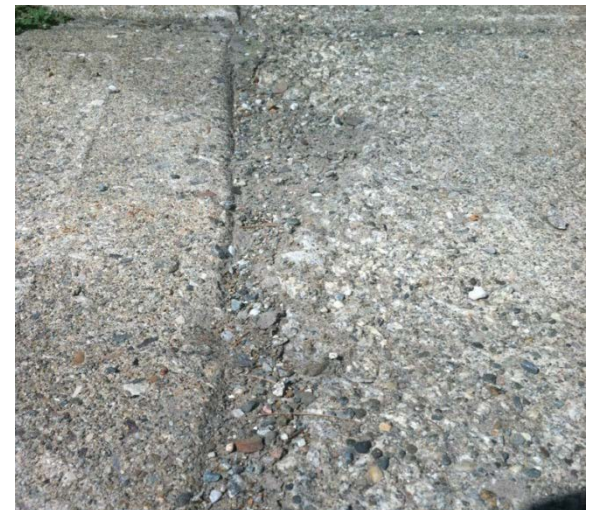
LOW – Minor cracking or slight breakup/loss of material. Cracks extend, on average, no greater than 1" into slab, measured from the center of the gap.



MEDIUM – Loss of material no greater than 2" into sidewalk slab, measured from the center of the gap.



HIGH – Any of the following (1) Considerable breakup of slab (2) Missing or loose aggregate (3) Loss of material greater than 2" into sidewalk slab, measured from the center of the gap.



Drainage (Pooling or Evidence)

YES – Pooling of water or evidence of poor drainage. A clear sign for this would be sediment buildup.



Beveling

YES – It is clear that the slab has been purposely beveled in a previous effort to repair ledging



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