*YCM = t.*tan *.b/(b+a+t)*

t

*YSA = t.*tan **

b

a

$$M\_{xG}=m.g.t.\tan(δ).b/(b+a+t)$$

Centripetal acceleration case:

Radius of circle, R = *(a+b) /* tan **

Centripetal acceleration = *V2.*tan * / (a+b)*

Centrifugal roll moment *MxC* = *m.h.V2.*tan * / (a+b)*

(h=CG height)

At a certain speed, *MxG* and *MxC* are equal and opposite:

$$m.g.t.\tan(δ).\frac{b}{\left(a+b+t\right)}=\frac{m.h.V^{2}.\tan(δ)}{\left(a+b\right)}$$

Noting that *a + b + t ≈ a + b*, simplifying and rearranging, gives

$$V=\sqrt{\frac{g.t.b}{h}}$$

For typical values of *t* (0.15m), *b* (0.8m) and *h* (0.7m), V=3mph

More nose-heavy bikes with longer trail will have a higher speed at which this occurs. Taller bikes go the other way.

Q: Where are Vision and Cross-Country on this metric?