



**Methionine (SAM) Cycle--“SAM’s Corporation,”** As SAME has over 400 known methylation reactions, SAM’s Corporation is the chief work tag producer. It’s also where most of the action occurs since it contains the major thoroughfare to the liver (CBS & transsulfuration). While this often works to its’ advantage, it can also pose a safety risk since failure along this route may result in calamity (See Waste Facility). When properly functioning, this passageway detoxifies much of what accumulates from the population. Still, several back ups are in place so that some work tags are always available to process the most critical needs. Traditionally, the methylation pathway has been comprised of the Folate and Methionine Cycles, while the remaining three (Urea, Citric, & BH4) works closely with this pathway to form a methylation community. This community functions just as many successful corporations have, it works interdependently. *SAM’s Factory* directly communicates with other managers within the BH4 and Farming regions (MTHFR A1298C & C677T) as well as the Waste Facility (NOS). Aside from the CBS, there are three other exits within the community: BHMT, MTR/MTRR, and the SHMT. Each area provides an alternative when another is blocked or malfunctioning.

The closest path is the *shortcut* through the factory (BHMT), which creates alternate work tags. Though the chain gang is better served through the MTR/MTRR and on to the AHCY, this faster BHMT route allows for temporary work tags when these areas are blocked. However, the preferred method is through the joint passageway, the *Long Route or Long Way Home*. This path offers more direct access to the AHCY supervisor, which is where the chain gang is processed to go to work. Even while these two supervisors are hard at work, if the entrance to the liver isn’t working optimally (CBS) it acts as an open floodgate. The majority of prisoners and nutrients that escape along this channel often transforms into toxic ammonia and sulfur derivatives that have damaging effects. This can be likened to a toxic oil spill that poisons the community and causes collateral damage in both neighboring regions (nerves, cells, & blood vessels) and far-reaching territories. In doing so, it depletes vital supplies of glutathione, the chief guardian of the immune and detoxifying systems. It also squanders valuable work tags, thereby reducing prospects for repairing and rebuilding. While there are many issues that can lead to obstacles, the most common include:

1. CBS up-regulations drain many of the resources and nutrients from the cycles.
2. A partial block within the SUOX can cause more toxic sulfites.
3. Partial or full blocks within the AHCY prevent HCY/Chain gang activation.
4. Problems within the Waste Facility/NOS lead to significant back-ups while even minor surges within the CBS freeway add to the burden.
5. Testosterone or blood sugar fluctuation (diet & VDR Fok) may increase CBS function further.
6. Problems in the Short-cut/BHMT may cause more dumping through the CBS. When a CBS defect is also present, this acts like a double whammy.
7. Big Motherflipper defects lead to more trouble since less BH4 means more toxic waste back up within the Waste Facility & SAM’s. Little Motherflipper defects add HCY, which is highly inflammatory.

Since everything in this pathway is mutually dependent, there is greater potential for a domino effect as things take a wrong turn. Just as a small town relies on its’ biggest industry for progress and maintaining the economy, the methylation community depends on SAM’s Corp for most manufacturing and employment (methyl groups). In order to accomplish this, the major thoroughfares and chief junctions should run smoothly. Otherwise, it drains the community of valuable resources and leads to traffic jams and toxic waste spills.