

Green Lake Traffic

Daniel Lowd

April 6, 2005

While driving, one intersection that frequently annoys me is at the northeast corner of Green Lake Park, where Ravenna Blvd., Green Lake Way, Green Lake Drive, and NE 71st converge. Cars, cyclists, and pedestrians all seem to meander through in a semi-random fashion, leaving me perpetually confused about when I'm supposed to go and who I might run into. I set aside 15 minutes toward the end of rush hour (6:15pm to 6:30pm on a Wednesday) to look at what's really going on and why.

Figure 1 depicts the dangerous intersection. Cars come from four directions, each controlled by a stop sign. There are also cross-walks across each street. Due to the proximity of Green Lake and Starbucks, there are many pedestrians and cyclists.

Standard traffic regulations specify that alternate directions take turns. From the diagram, however, it's unclear which directions are truly paired together. Is Green Lake Drive paired with Ravenna Blvd. or with Green Lake Way? In order for the pairing to work, it must be paired with Ravenna Blvd.

From my observations, most drivers do not assume that pairing. Cars coming from Green Lake Way and continuing on to Green Lake Drive do not use a left turn signal, whereas they do use a right turn signal to turn onto NE 71st. This behavior seemed fairly consistent.

Therefore, this is not a standard four-way intersection at all, but is more like a five-way intersection in terms of driver behavior. At the very least, it's an odd geometry that leaves many drivers confused. Stop signs alone are not enough to direct something so odd.

Figure 2 illustrates one problem that happens with such a setup. I saw this happen only once while I watched, but it's a pattern I had seen before. A car at Ravenna (Car A) was waiting to travel to Green Lake Drive. Another car from Green Lake Way (Car B) was already travelling to NE 71st, blocking the path for Car A. Before the intersection was fully clear, a second car from Green Lake Way (Car C) started travelling towards 71st. Honking ensued.

Why would this happen? Because Ravenna is so wide, Car C perceived a large gap, an opening that no one was taking. Furthermore, the cars at Ravenna are set back and at an odd angle: Car A wasn't hard to see, but coming from Green Lake Way it was certainly easy to overlook. Finally, since NE 71st feels like a right turn, it ought to be safe as long as no one else is going towards NE 71st. Multiple clues indicated that it was safe to proceed, yet rushing ahead skipped Car A's turn.

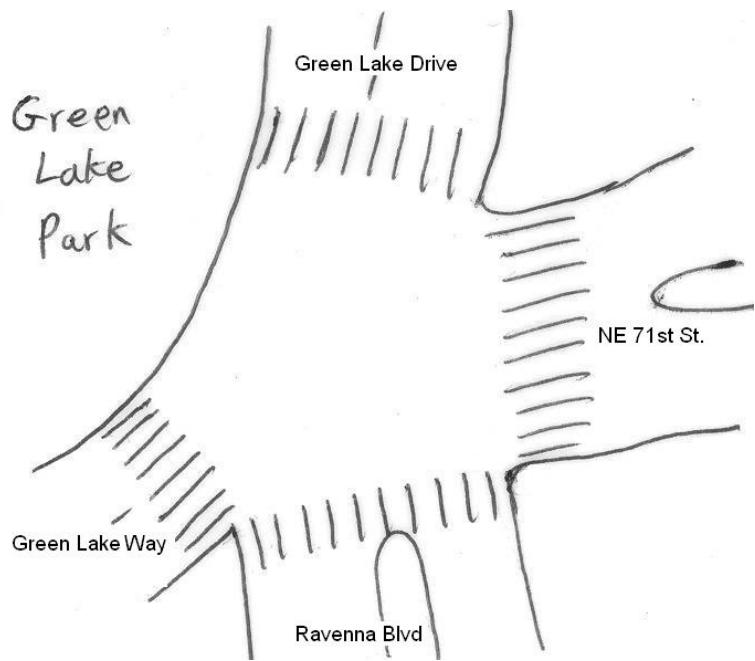


Figure 1: The intersection of E Green Lake Drive N, E Green Lake Way N, NE Ravenna Blvd., and NE 71st St.

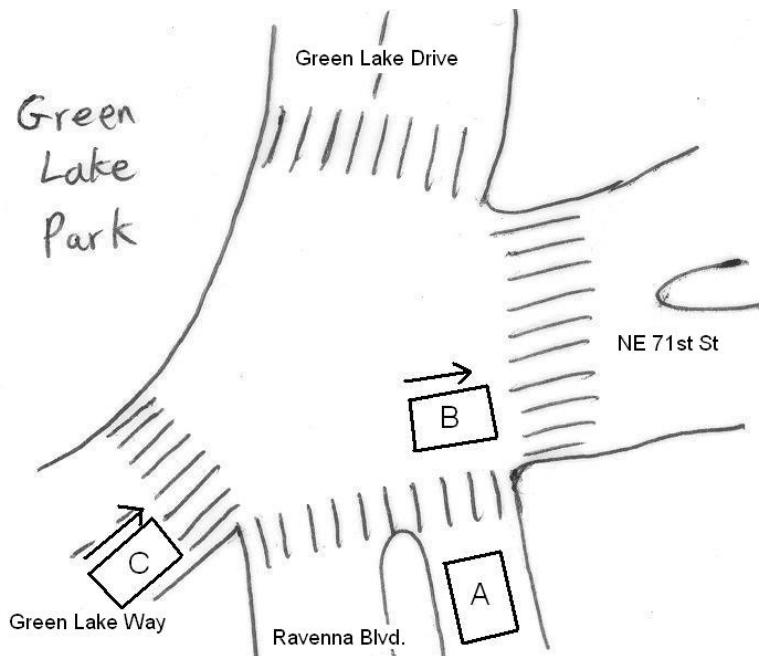


Figure 2: Car A misses a turn because Car C sees a wide open space.

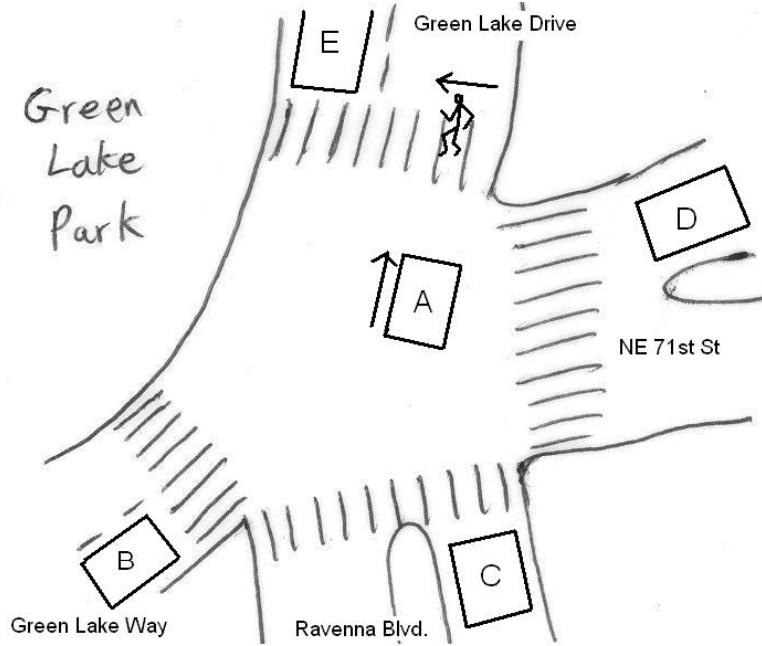


Figure 3: Pedestrian starts, Car A stops, and all lanes must wait for the pedestrian to get across.

I also watched a minivan tentatively wait at NE 71st and watch more than one turn pass before it mustered the courage to go through. Like Ravenna, cars coming from NE 71st are somewhat set back and at a disadvantage compared to cars travelling between Green Lake Way and Green Lake Drive.

Even drivers experienced with the intersection must still guess at the intentions of the other drivers, some of whom may rush through impatiently and some of whom may wait several turns in caution.

The fact that this intersection borders Green Lake Park makes it even worse: pedestrians use the clearly labelled crosswalks all the time. This can lead to situations such as Figure 3. Car A was already cautiously proceeding through the intersection when a pedestrian suddenly began to cross, leaving Car A in the middle of the intersection. This leaves every direction of traffic blocked, either by the pedestrian (Car A and E) or Car A (Cars B, C, and D). I saw this happen many times, and it has happened to me. Even if the pedestrians are already clearly in the crosswalk, it's easy for drivers to forget them while trying to figure out the intentions of all the other cars. When turn-taking is working, stopping for pedestrians usually ruins it.

The reason for this odd intersection is the curvature of Green Lake. Curved parks yield curved streets, which lead to odd-angled intersections. While stop signs work for many four-way intersections, standard turn-taking procedures do not work well here.

Another solution would be a roundabout. In a roundabout, the rules are very simple: always yield to cars in the roundabout and only make right turns. Traffic would still slow

while waiting for pedestrians, but the ordering would be less ambiguous. The main disadvantage would be that cars from one street could fill the roundabout, denying entry to all other cars. If equal traffic is going to and from each street, this won't happen, but rush hour traffic could yield unusual patterns.

I think the best solution might be a stop light. While this could be an inconvenience when traffic was light, it would remove the ambiguity, keep cars safe, and reduce annoyance.