

Introduction

The navigation and routing revolution is creating a vast, largely unnoticed shift how our streets are used. While in the past people relied on printed maps or asking someone for directions, today, many travelers simply consult apps on smartphones or in-dashboard navigation systems – even for routine journeys – seeking to avoid unexpected traffic and select the best (i.e. quickest) route. As a result, communities are seeing increased vehicle traffic in precisely the spots that planners have deliberately sited away from major roads and vehicular danger zones. With little attention or regulation, this shift in our traffic patterns and behaviors has potentially devastating consequences for our goal of creating a culture of health, threatening active transportation progress and the vitality of streets surrounding our parks, schools, senior centers, and other community hubs. This factsheet provides community members with an overview of navigation systems, the challenges that stem from them, and strategies for addressing the challenges in their own cities and towns.

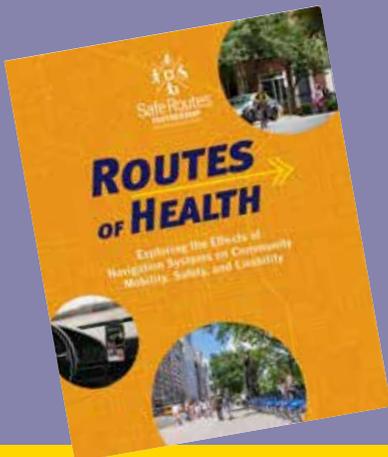
A Brief Overview of Navigation Systems

Safe Routes Partnership worked on a project with five communities across the United States to better understand the effects that navigation systems are having on local level mobility, accessibility, and livability, and to identify promising strategies to address any negative effects. Five communities were chosen as case studies and partners in this work: Atlanta, Georgia; Bellevue, Washington; Charlotte, North Carolina; Montgomery County, Maryland; and Orlando, Florida. To read additional background information and about the work in these specific communities, visit our [webpage](#).



Navigation systems and apps are a relatively new phenomenon. There are a number of options for finding your way around town with the press of a phone screen. Apple Maps, Google Maps, and Waze are some of the most popular navigation apps used today. Drivers are still the primary audience but pedestrians, cyclists, and transit riders use them as well. Navigation apps and systems are also used by ride-hailing services like Uber and Lyft and commercial delivery services like UPS, Amazon, and Fedex.

Navigation apps are owned and operated by private companies - Google Maps and Waze are owned by Google and Apple Maps is owned by Apple. These companies can gather real-time information about what is happening on the street including things like traffic congestion, crashes, tolls, and even speed cameras. When you put a destination into the app, it uses this information to determine the best route for you to take. Usually there are a few routes to choose from (fastest route, simplest route, avoid tolls, avoid the highway). Then you can choose the route you want and the app will guide you to your destination.



How Navigation Apps Affect Local Communities

In some ways, navigation apps have made it easier to get from point A to point B. Drivers can know which routes to take to avoid traffic, thus reducing travel time. Drivers can also listen to directions instead of trying to look at a large printed map on the dashboard. Pedestrians and cyclists can plan walking and riding routes. Transit riders can access up to date bus and train schedules on apps that integrate transit data. All of this information allows users to make travel plans right from their smartphone and with fairly accurate data to inform their decisions.

However, navigation apps can also bring harmful effects that can impact community walkability, bikeability, and livability. These effects can include an increase in the number of cars and traffic congestion in residential areas, distracted driving, increased car emissions, and less comfort for people walking, biking, rolling, and taking transit. The harmful effects of navigation apps are not shared equally. Communities of color and low-income communities are more likely to experience the negative consequences of our transportation system including navigation app technology. Low-income communities are already more likely to have poorer pedestrian and bicycle

infrastructure and more high-speed, high-traffic roads. With a baseline of less supportive infrastructure for walking and bicycling, increased traffic or rerouting of cars onto streets not designed to accommodate them makes it more uninviting and dangerous for people walking, bicycling, and taking transit.



Addressing Navigation App Challenges in Your Community

Solving the larger issues around navigation apps will take substantial changes to how we operate our transportation and technology systems. But there are still things you can do to make meaningful change in your community. Here are a few ideas to get started:

- **Share your concerns with local government staff.** People in your local transportation and planning departments might have the ability to pilot safety interventions that limit the impacts of navigation apps. These interventions can include things like turn restrictions on residential streets to keep drivers out of neighborhoods during certain times of day. Reach out to your local government staff to see if safety interventions can be put in place in areas of concern. Ask what role community members can play in the planning and implementation.
- **Advocate for including navigation apps in driver's education curriculum.** Driver's education courses might be operated through a school, community organization, or independent company. Find out who runs driver's education in your community and ask if they can include driving with navigation apps in their course. If you are teaching a new driver, try modeling how to safely use a navigation app while driving. Note: Only do this if you feel comfortable using the app yourself.

- **Participate in distracted driving and public awareness campaigns.** Navigation app challenges are systemic, but individual actions can still make a big difference. If you are using a navigation app while driving, make sure you are practicing safe behaviors. Be aware of people walking and rolling around you. Try to use audio directions or place your phone in a spot where you can easily keep your eyes on the road (i.e. closer to the dashboard and not on your lap). Encourage others around you to practice similar behaviors and learn more about safely driving with navigation apps.



- **Support safe walking, biking, and transit initiatives.** When streets are designed to prioritize people walking, biking, rolling, and using transit, it lessens the need for cars on the road. Less cars on the road would limit some of the harmful impacts of navigation apps like traffic on residential streets and distracted driving. See if your community has walking and biking groups that you can join. Advocate for more walking and biking infrastructure like sidewalks, crosswalks, protected bike lanes, and safe routes to transit stops. Your local planners and engineers might offer opportunities for public comments on upcoming projects, so make your priorities known.



Conclusion

Navigation apps are now a part of our transportation system and will continue to be in the foreseeable future. As transportation evolves, we must be aware of how our communities are impacted and what role we can play in keeping each other safe. While the ultimate responsibility does not rest solely on individuals, our own actions can make a difference. Figure out how you would like to be involved, whether it be joining a local transportation safety committee or practicing safe driving behaviors when you're behind the wheel. Change is possible and it can start right in your own community.

Footnotes

- Black, Jennifer L., and Macinko, James. Neighborhoods and Obesity. *Nutrition, Reviews*. 66.1 (2008): 2–20; Safe Kids Worldwide, "Latest Trends in Child Pedestrian Safety: A Five-Year Review," October 2007, <http://www.safekids.org/assets/docs/ourwork/research/pedestrian-safety-research.pdf>; Active Living By Design, "Low Income Populations and Physical Activity," http://www.bms.com/documents/together_on_diabetes/2012-Summit-Atlanta/Physical-Activity-for-Low-Income-Populations-The-Health-Trust.pdf.