1. Mapping software and Global Positioning System (GPS) devices are used regularly by travelers and commuters. Since these devices and apps are updated in real time with user-supplied information, they have become associated with a number of problems. While commuters attempt to avoid traffic on highways, they often create traffic on smaller, local roads that are less able to handle this new burden. Users also lose a sense of their geographical surroundings as they rely more on mapping software or GPS devices for navigation.

Carefully read the following six sources, including the introductory information for each source. Write an essay that synthesizes material from at least three of the sources and develops your position on the value, if any, of mapping software and devices.

> Source A (Foderaro article)
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In your response you should do the following:

- Respond to the prompt with a thesis that presents a defensible position.
- Select and use evidence from at least three of the provided sources to support your line of reasoning. Indicate clearly the sources used through direct quotation, paraphrase, or summary. Sources may be cited as Source A, Source B, etc., or by using the description in parentheses.
- Explain how the evidence supports your line of reasoning.
- Use appropriate grammar and punctuation in communicating your argument.

Source A

Foderaro, Lisa W. "Navigation Apps Are Turning Quiet Neighborhoods Into Traffic Nightmares." *The New York Times*, 24 Dec. 2017, www.nytimes.com/2017/12/24/nyregion/traffic-apps-gps-neighborhoods.html.

The following is excerpted from an online article published in a national newspaper.

It is bumper to bumper as far as the eye can see, the kind of soul-sucking traffic jam that afflicts highways the way bad food afflicts rest stops.

Suddenly, a path to hope presents itself: An alternate route, your smartphone suggests, can save time. Next thing you know, you're headed down an exit ramp, blithely following directions into the residential streets of some unsuspecting town, along with a slew of other frustrated motorists.

Scenes like this are playing out across the country, not just in traffic-choked regions of the Northeast. But one town has had enough.

With services like Google Maps, Waze and Apple Maps suggesting shortcuts for commuters through the narrow, hilly streets of Leonia, N.J., the borough has decided to fight back against congestion that its leaders say has reached crisis proportions.

In mid-January, the borough's police force will close 60 streets to all drivers aside from residents and people employed in the borough during the morning and afternoon rush periods, effectively taking most of the town out of circulation for the popular traffic apps—and for everyone else, for that matter.

"Without question, the game changer has been the navigation apps," said Tom Rowe, Leonia's police chief. "In the morning, if I sign onto my Waze account, I find there are 250,000 'Wazers' in the area. When the primary roads become congested, it directs vehicles into Leonia and pushes them onto secondary and tertiary roads. We have had days when people can't get out of their driveways."...

Waze defends its practice of rerouting motorists from congested highways through residential streets in nearby communities. And the company says it shares free traffic data with municipal planners nationwide who might, for instance, want to monitor the effectiveness of a new time sequence for a traffic signal.

Terry Wei, a spokeswoman for Waze, said the app benefited from a community of local volunteer editors who ensure that the maps stay up-to-date and reflect the local law. "If a road is legally reclassified into a private road," she said, "our map editors will make that change. It is our goal to work holistically with our community of drivers, map editors and city contacts to improve the driving experience for all."

Source B

National Research Council. *Understanding the Changing Planet: Strategic Directions for the Geographical Sciences*, 2010, doi.org/10.17226/12860.

The following is excerpted from a book about geographical sciences.

The popularity of Web mapping sites such as Google Maps, Google Earth, and Microsoft Virtual Earth has exploded in recent years. Particularly in wealthier parts of the world, these sites have become a central part of daily life (the "next utility") as they are used to navigate to places of work, pleasure, and commerce, and to allow citizens to increase their knowledge of the world. Not only do people want to receive information from these sites; they increasingly want to share it as well. Sites, such as Wikimapia.org, OpenStreetMap.org, MapAction.org, and Flickr.com are empowering millions of citizens to create a global patchwork of geographical information. This information is already serving society in many ways—assisting in local tourism and community planning, disaster response (e.g., citizen maps of Southern California fires), humanitarian aid, habitat restoration, public health monitoring, and personal assessments of environmental impacts. This citizen mapping "workforce" is largely untrained, under no authority, and the mapping is often done for no obvious reward (Goodchild, 2007).

Goodchild (2007) terms this recent phenomenon "volunteered geographic information" (VGI), wherein a private citizen participates in the creation, assembly, and dissemination of geographical information on the Web. The information is "volunteered" primarily by adding a geographical identifier (known also as a geotag) to a Wikipedia article, photograph, or video, or by adding one's own geographical data to an interactive, Web-based map, often by marking locations of certain features that are of importance, places where various events have occurred, or places where an individual has been or would like to go … For those with more advanced computing skills, Google Earth and other virtual globes are providing ways for citizen mappers (known also as neogeographers) to develop their own mapping applications, such as geoGreeting, which create greeting messages in Google Maps spelled out in satellite images of real buildings from all over the world that happen to be shaped as letters when viewed from above. VGI can be a boon, for example, to international development and humanitarian relief organizations, which can supply these organizations with the most up-to-date detailed data.…
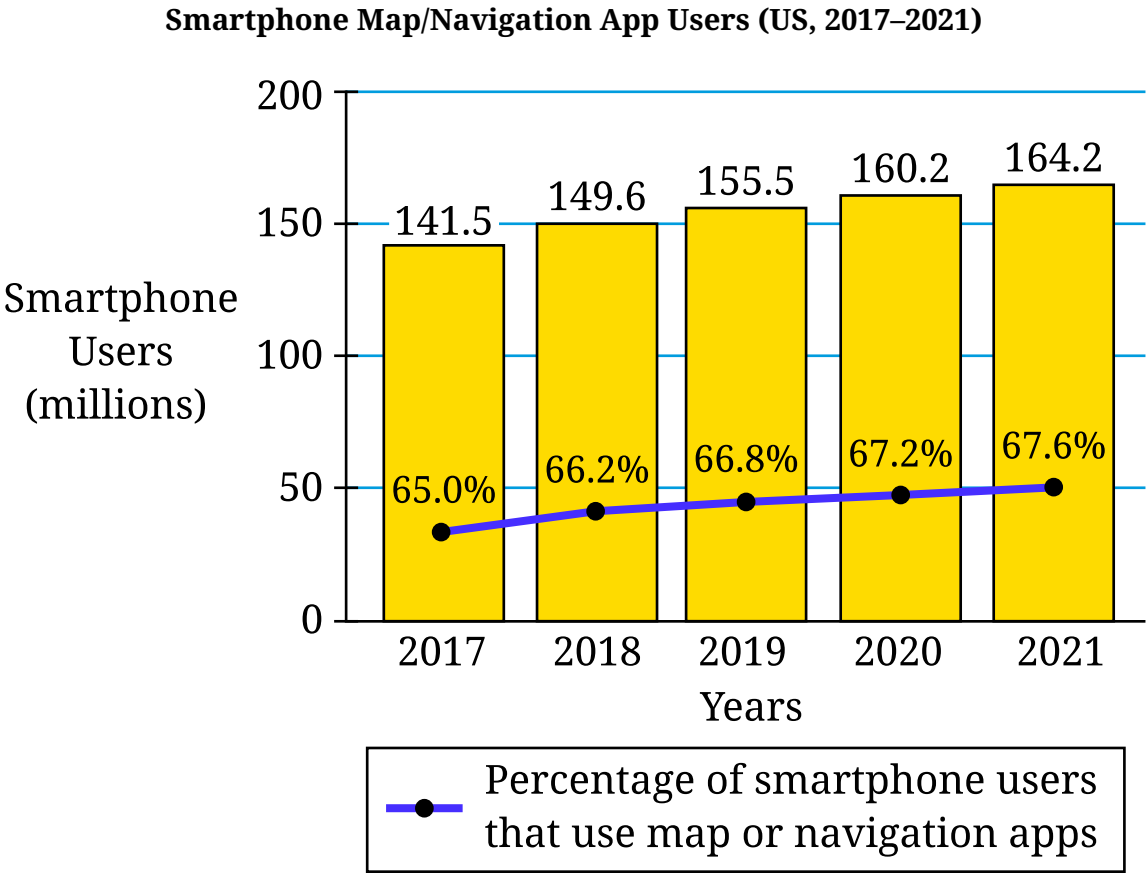
The power of such Web sites to increase the efficiency, pleasure, and safety of our lives is becoming increasingly apparent.

Source C

He, Amy. "People Continue to Rely on Maps and Navigational Apps." *Insider Intelligence*, 18 July 2019, www.emarketer.com/content/people-continue-to-rely-on-maps-and-navigational-apps-emarketer-forecasts-show.

The following is adapted from a graph published in an article forecasting market trends.

Smartphone Map/Navigation App Users (US, 2017–2021)

Smartphone Users (millions)

Year	Users (millions)	Percentage
2017	141.5	65.0%
2018	149.6	66.2%
2019	155.5	66.8%
2020	160.2	67.2%
2021	164.2	67.6%

Years

—●— Percentage of smartphone users that use map or navigation apps

Source D

Grabar, Henry. "Smartphones and the Uncertain Future of 'Spatial Thinking.'" *Bloomberg*, 9 Sept. 2014, www.bloomberg.com/news/articles/2014-09-09/smartphones-and-the-uncertain-future-of-spatial-thinking.

The following is excerpted from an online business magazine.

Wayfinding[1] is certainly easier than ever before. The advent of self-driving cars, projected to make up a sizable share of the American auto market by 2030, represents the culmination of the cartographer's ancient quest to eliminate human effort and error from navigation. Even the classic dashboard GPS, according to Nick Cohn, a traffic expert at TomTom, induces a state of rest. "The overall effect is that people are more calm when they're using navigation," he says. By extension, they drive safer.

Your brain is indeed relaxing. In a handful of studies conducted over the last decade in the United States, England, Germany and Japan, researchers have shown that GPS navigation has a generally pernicious[2] effect on the user's ability to remember an environment and reconstruct a route. Toru Ishikawa, a spatial geographer at the University of Tokyo, quantified the difference in a study published earlier this year. Asked to recall various aspects of their surroundings, participants using GPS navigation performed 20 percent worse than their paper-map peers.

As Ishikawa pointed out to me, these findings raise questions beyond urban anthropology. Spatial thinking helps us structure, integrate, and recall ideas. It's less an independent field of study than a foundational skill; a 2006 report from the National Research Council called spatial literacy the "missing link" in the K-12 curriculum at large.

Navigating is among the greatest incubators of that ability. A sophisticated internal map, as a famous study of London cab drivers showed, is tied to greater development in the hippocampus, the brain region responsible for spatial memory. In another study, participants with stronger hippocampus development tended to navigate with complex cognitive maps, while those with less developed spatial memory memorized turn-by-turn directions.

Isn't it ironic: the easier it is for me to get where I'm going, the less I remember how I got there. As a conscious consumer of geographic information, should I be rationing my access to navigation tools—the mental equivalent of taking the stairs instead of taking the elevator?
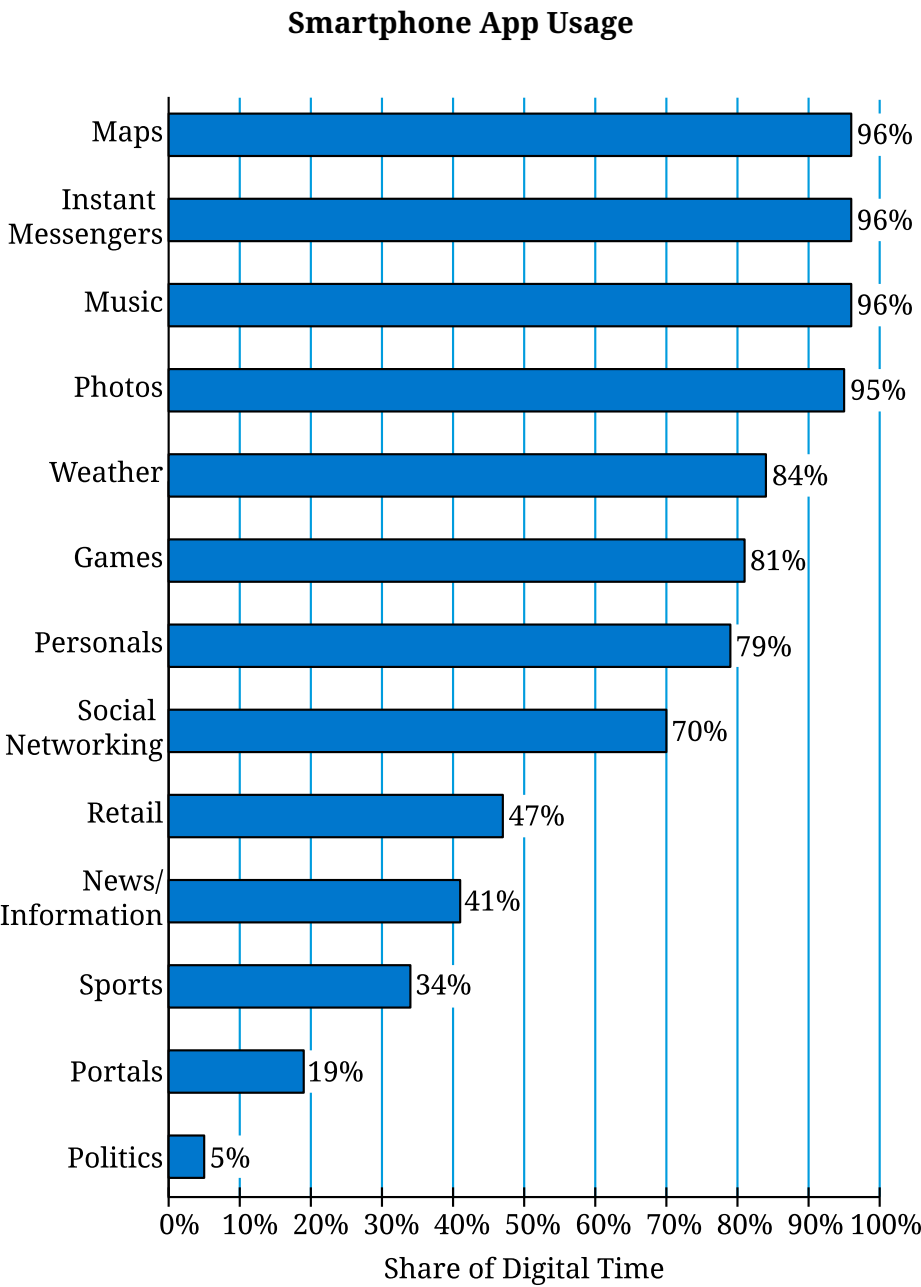
1: the process of navigating to a destination
2: harmful

Source E

"Mobile App Download and Usage Statistics (2024)." *BuildFire*, n.d., buildfire.com/app-statistics/.

The following is adapted from a chart of digital application usage published on an app developer website.

Digital content can be consumed from so many devices.

People have smartphones, tablets, desktop computers, and laptops. You can even access content and apps from smart TVs, watches, smart home devices, and smart vehicles.

But there are certain categories that are dominated with smartphone app usage. These are the top categories that people turn to their smartphones for.

Smartphone App Usage

Category	Share of Digital Time
Maps	96%
Instant Messengers	96%
Music	96%
Photos	95%
Weather	84%
Games	81%
Personals	79%
Social Networking	70%
Retail	47%
News/Information	41%
Sports	34%
Portals	19%
Politics	5%

Share of Digital Time

Source F

Paulas, Rick. "For the Good of Society—and Traffic!—Delete Your Map App." *Intelligencer,* Vox Media, 11 Dec. 2017, nymag.com/intelligencer/2017/12/waze-and-google-maps-create-traffic-in-cities.html.

The following is excerpted from an article published in an online magazine.

Pull up a simple Google search for "neighborhood" and "Waze," and you're bombarded with local news stories about similar once-calm side streets now the host of rush-hour jams and late-night speed demons. It's not only annoying...it's a scenario ripe for accidents; among the top causes of accidents are driver distraction (say, by looking at an app), unfamiliarity with the street (say, because an app took you down a new side street), and an increase in overall traffic.

"The root cause is the use of routing apps," says Bayen, "but over the last two to three years, there's the second layer of ride-share apps."

It's worth breaking down the layers. The first is the large number of drivers that utilize the apps, a percentage that grows by the day. In 2011, Waze had 7 million downloads; that number climbed to 50 million by 2013, and 65 million in 185 countries by 2016. Meanwhile, Google Maps has well over 1 billion monthly users.

The second, newer layer is the fleet of ride-share vehicles. There are an estimated 45,000 Uber and Lyft drivers in San Francisco, compared to 1,500 cab drivers. The two ride-sharing titans have each designed their own mapping apps—Lyft Navigation and Uber Driver—but Navigation was built using Google Maps, and Uber's app has yet to be fully rolled out...Whatever the device, it's one dictated on concrete route efficiency, as opposed to the whims of cab drivers, who use thoroughfares or "their own" shortcuts.

All that extra traffic down previously empty streets has created an odd situation in which cities are constantly playing defense against the algorithms.

"Typically, the city or county, depending on their laws, doesn't have a way to fight this," says Bayen, "other than by doing infrastructure upgrades."

Fremont, California, has lobbed some of the harshest resistance, instituting rush-hour restrictions, and adding stop signs and traffic lights at points of heavy congestion. San Francisco is considering marking designated areas where people can be picked up or dropped off by ride-shares....Los Angeles has tinkered with speed bumps and changing two-way streets into one-ways....

My favorite coalition of grumps have been the residents of Takoma Park, Maryland, who actually spent time falsifying accident reports to Waze in order to prompt the algorithm to shift the route elsewhere. But all of the actions, either infrastructure changes performed by the city or hacks by community groups, have the same intended purpose: "I will make driving through our neighborhoods more difficult, so you will not use the street," says Jeff Ban, a professor of civil and environmental engineering at the University of Wisconsin.

Perhaps you see the problem. If cities thwart map apps and ride-share services through infrastructure changes with the intent to *slow traffc down,* it has the effect of *slowing down traffc.* So, the algorithm may tell drivers to go down another side street, and the residents who've been griping to the mayor may be pleased, but traffic, on the city whole, has been negatively affected, making *everyone's* travel longer than before.

2. Raquel Vasquez Gilliland is a Mexican American poet, novelist, and painter whose works focus on myths, folklore, motherhood, and plants. In 2023 she published an opinion article in *The New York Times* titled "Go Outside, Sink Your Feet Into the Dirt and Engage With the World." The following is an excerpt from that opinion article. Read the passage carefully. Write an essay that analyzes the rhetorical choices Vasquez Gilliland makes to develop her argument about the value of engaging with nature.

In your response you should do the following:

- Respond to the prompt with a thesis that analyzes the writer's rhetorical choices.
- Select and use evidence to support your line of reasoning.
- Explain how the evidence supports your line of reasoning.
- Demonstrate an understanding of the rhetorical situation.
- Use appropriate grammar and punctuation in communicating your argument.

Par.
1 My grandmother and mother also taught me that the natural world around us has stories to tell if you listen closely. After all, language is not unique to humans. One of my earliest memories is sitting on my grandmother's cracked concrete porch, watching one of the many doves she had nursed back to health land in her raised hand after she called out to it. When dark storm clouds gathered over the half-finished roof, my mother would take a steak knife from the kitchen to the sky to cut the rain away. My friends thought it was magical how nature seemed to bend to their will.

2 It makes sense, then, that I became an author, that my life is built around stories—that the idea of my first novel came tumbling to me when I was out on a walk, as if a piece of the sky had been cut over me. And whenever I am overwhelmed or anxious or stuck in my work, my mother's advice to me is always the same: Go outside. Be in nature.

3 Our busy schedules can make it hard to find time to spend in nature, and it may seem especially hard in urban areas. But at a time when so many Americans are struggling with loneliness and isolation, spending a few moments outdoors can help us feel more connected.

4 Fortunately, there are several easy things you can do to get out in nature, no matter where you live. You can start by sinking your bare feet in a patch of dirt and consider the ways by which the soil nourishes the plants and animals that in turn nourish us. Maybe you can find a tree to befriend, be it a pine, mango or tulip tree. Use all your senses to engage with it—observe its leaves, feel the smooth wrinkles of its bark.

5 When I lived in New York and Los Angeles, I'd have to hike very far to find a piece of nature to be in—the rare tree in downtown Los Angeles, the canopy of ginkgoes near Inwood Hill Park in New York City. Now, in East Tennessee, I walk a few steps past my porch, into my garden— two small strips of land that flank my two-story white and turquoise farmhouse.

Synthesis Essay — 6 points

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- Explain how the evidence supports your line of reasoning.

- Use appropriate grammar and punctuation in communicating your argument.

Reporting Category	Scoring Criteria				
Row B **Evidence** **AND** **Commentary** **(0–4 points)**	**0 points** Simply restates thesis (if present), repeats provided information, or references fewer than two of the provided sources.	**1 point** EVIDENCE: Provides evidence from or references at least two of the provided sources. AND COMMENTARY: Summarizes the evidence but does not explain how the evidence supports the student's argument.	**2 points** EVIDENCE: Provides evidence from or references at least three of the provided sources. AND COMMENTARY: Explains how some of the evidence relates to the student's argument, but no line of reasoning is established, or the line of reasoning is faulty.	**3 points** EVIDENCE: Provides specific evidence from at least three of the provided sources to support all claims in a line of reasoning. AND COMMENTARY: Explains how some of the evidence supports a line of reasoning.	**4 points** EVIDENCE: Provides specific evidence from at least three of the provided sources to support all claims in a line of reasoning. AND COMMENTARY: Consistently explains how the evidence supports a line of reasoning.
	Decision Rules and Scoring Notes				
	Typical responses that earn 0 points: • Are incoherent or do not address the prompt. • May be just opinion with no textual references or references that are irrelevant.	**Typical responses that earn 1 point:** • Tend to focus on summary or description of sources rather than specific details.	**Typical responses that earn 2 points:** • Consist of a mix of specific evidence and broad generalities. • May contain some simplistic, inaccurate, or repetitive explanations that don't strengthen the argument. • May make one point well but either do not make multiple supporting claims or do not adequately support more than one claim. • Do not explain the connections or progression between the student's claims, so a line of reasoning is not clearly established.	**Typical responses that earn 3 points:** • Uniformly offer evidence to support claims. • Focus on the importance of specific words and details from the sources to build an argument. • Organize an argument as a line of reasoning composed of multiple supporting claims. • Commentary may fail to integrate some evidence or fail to support a key claim.	**Typical responses that earn 4 points:** • Uniformly offer evidence to support claims. • Focus on the importance of specific words and details from the sources to build an argument. • Organize and support an argument as a line of reasoning composed of multiple supporting claims, each with adequate evidence that is clearly explained.
	Additional Note: • Writing that suffers from grammatical and/or mechanical errors that interfere with communication cannot earn the fourth point in this row.				