

imperative that the U.S. continues to protect and conserve natural areas and public lands for biodiversity and community access.

Wildlands, public lands, and open space protection measures are valuable for environmental protection as well as the economy. In 2017 the outdoor recreation industry generated \$88.7 billion in consumer spending, \$65.3 billion in federal tax revenue, and \$56.2 billion in state and local tax revenue (Outdoor Industry Association, 2017). Hikers, skiers, bikers, and kayakers need businesses for restocking their food supplies, buying gasoline, sleeping, or renting equipment.

This mixed-

has neither designated recreation nor logging infrastructure (Department of Environmental

Figure 2. Map of the Palmertown Area and Current and Proposed Trails (Saratoga PLAN, 2018)

The overarching research questions guiding our effort included:

1. To what extent will the creation of a recreational trail benefit the local economy, public health, and conserve/protect natural resources?
2. Would the construction of a recreational Palmertown Trail promote enhanced opportunities for outdoor recreation in Saratoga County?
3. How can the Travel Cost Method and Contingent Value Method help us evaluate the value of a trail in Saratoga County?

Wilton, Corinth, Moreau, Greenfield, and Saratoga Springs. The Saratoga County community has been discussing the development of this proposed trail for years, but in 2018, formal trail planning began. In alignment with the published strategy, there are still challenges preventing the construction of the trail, such as communication amongst the diversity of public and private stakeholders, funding, land acquisition, and staffing and maintenance resources/logistics.

Connecting Saratoga Spa State Park to downtown Saratoga Springs is the existing 24-mile long Saratoga Greenbelt Trail (Alta Planning and Design, 2014). This multi-use trail allows for various year-round activities such as walking, biking, running, and dog walking. The trail incorporates several existing corridors. For example, a section of this trail called Railroad Run was constructed by 2013 on an old rail line in downtown Saratoga Springs. In a broader context, New York State has been investing in the creation of more multi-use trails. In 2016 Governor Cuomo announced a \$200 million budget to create the Empire State Trail, a 750-mile route stretching from New York City to Canada, and east to Buffalo. The Empire State Trail does not intersect with the Palmertown Range, but the social and economic objectives of the Empire State Trail are parallel with that of the Palmertown Trail. The Empire State Trail system also provides insight into the challenges and benefits of building physical connections through town and political boundaries. For example, New York State faced challenges in constructing connector pathways between existing trail systems. The state employed five different state organizations: NYS Canals Corporation, NYC Department of Transportation, The Metropolitan Transportation Authority, The Hudson River Valley Greenway, and NYS Parks to oversee over 60 construction projects and ensure that all existing gaps are safely closed. This trail network will link New York communities through scenic and cultural history, while promoting healthy lifestyles and safe engagement in outdoor recreational activities.

Using the Empire State Trail Design Guide, to better understand how the development of a trail from Moreau Lake State Park to the Saratoga Greenbelt Trail can provide a multiplicity of outcomes for visitors, residents, businesses, and the County. Through an online survey (Qualtrics), this research quantified the current use and demand for a trail along the proposed Palmertown Trail, and how much in U.S dollars the residents of Saratoga County value the current trail resources, and how much they would be willing to pay for the development of the proposed Palmertown Trail. In addition to studying how much the community would value a trail, this study also investigates if the community sees a difference in value for a multi-use paved or crushed stone trail and a single-track dirt trail. We took an economic approach to assessing the value of the trail by using Contingent Valuation Method (CVM) and Travel Cost Method (TCM) to gain a dollar value for how much the community would be willing to pay annually for the trail and how much they value similar existing trail systems. This study also employed semi-structured interviews to assess the value that the community and businesses see in developing a connective trail. A secondary purpose of this research was to inform local stakeholders on the

current barriers and demand for outdoor recreation in Saratoga County, to help them develop effective plans to make trails in Saratoga County more accessible for all residents.

Literature Review

This research acknowledges that PLAN and the OSI are working to develop a Palmertown trail that connects five villages in Saratoga County. Outdoor spaces incorporating multi-use trails (such as the proposed Palmertown Trail) have proven to have benefits in other communities in the categories of enhanced physical and mental health, community bonding, environmental awareness, and increased revenue. The unknowns are how these benefits will transfer to this case study in Saratoga County. Additionally, the proposed Palmertown trail has dggp"lp"vj g"df gxgnr o gpv'uci guö'hqt"qxgt"c"f gecf g"f wg"vq"vj g"vpy knpi pguu'qh'rcpf qy pgtu"vq" ugm'vj gk'r tqr gtv{*qt'r tqxkf g'r wdne"ceegu+hqt"vj g'tcku'f gxgnr o gpv'Vj ku'uwf {"cumu"} qy "c" recreational trail will benefit the Saratoga County economy, public health, and conserve/protect

growth. Boating/fishing ranked as the activity with the most participants, followed by RVing, motorcycling/ATVing, hunting/shooting/trapping, equestrian, and snow activities (Bureau of Economic Analysis, 2017).

Following the Outdoor Recreation Satellite Account of 2017, the *Outdoor Participation Report* was published by the Outdoor Industry Association. The Outdoor Industry Association focuses on who is using outdoor spaces and categorizes users based on age, gender, race, and

connection to a piece of land are more likely to argue for better environmental management practices. This connection can come from outdoor recreation and educational activities, for example (Eisenhauer, et al., 2000). Therefore, having access to green spaces and interacting with these spaces through education or physical activity can greatly benefit efforts to protect the environment.

Travel Cost Method

Travel Cost Method (TCM) and Contingent Valuation Method (CVM) are two economic strategies used to quantify the monetary value of natural and public resources. Travel Cost Method (TCM) is used to show how much an individual is willing to pay for an amenity or good through travel cost: how much someone spends to use this good and arrive at this good. TCM includes: who is interested, how far they travel, how much money they spend reaching the good, income, and, for example, time budget. The Portland Forest Park Conservancy used the TCM in a 2015 study evaluating the recreational value of the park (Bluffstone, 2015). As such, using TCM can help Saratoga County, Saratoga PL

CVM is not capable of capturing an economic value on public goods, it does, however, act as a strong monetary indication of stated interest in paying for and using the Palmertown Range.

Methods

Population and Setting

Saratoga County consists of 10 towns and has an estimated population of 230,163 with a median household income of \$77,548 (U.S Census Bureau, 2018). It is also one of the fastest-growing counties in the state. The Saratoga County racing track. The Saratoga County trail system is vast, containing over 1,000 miles of trails. These trails stretch through Moreau Lake State Park, Daniels Road Forest, the Saratoga Greenbelt Trail, and Lincoln Mountain State Forest. Popular trails include Railroad Run, Moreau Lake Overlook via Red Oak Ridge Trail, and Spring Run Trail (Saratoga, 2016). These trails are popular for residents and visitors year-

Springs (Table 1). These respondents provided insights and background on the general understanding of outdoor recreation in the area. We selected the businesses to conduct our semi-structured interviews based on the relevance of each business to the outdoor recreation industry and/or the significance of the business in the community. Some of the businesses were gear shops for outdoor recreation sports that happen in the Palmertown Range, but most of the businesses were restaurants and shops that were recommended by community members. Frequently, when we were conducting the interviews the business owners would recommend other businesses to visit, or people would approach us asking to be interviewed (Snowball sampling) (Creswell, 2013). The semi-structured interviews ranged between 5 to 25 minutes in length and the data was collected from November 2019 through April 2020, with a digital recording device that was later transcribed into a document. Interview questions are located in the Appendix.

Table 1: Locations and businesses interviewed

Corinth	Moreau	Wilton	Saratoga
Biscuits Bakery	Fountain Square Outfitters	Y kpurqy æ'T gucwcpv	Alpine Ski Shop
Mallery St. Marketplace	Rock Hill Bakehouse and Cafe	K { 'Dgnæ'Hqqf	Whole Harvest Company
Tqeeqæ'Rk gtlc			
Dqdæ'Dck'Uj qr			

new multi-

The opportunity cost of a visit was calculated by using hourly earnings to represent the

sites we conduct a t-test to assess if there is significant variation in the per visit and annual values
th

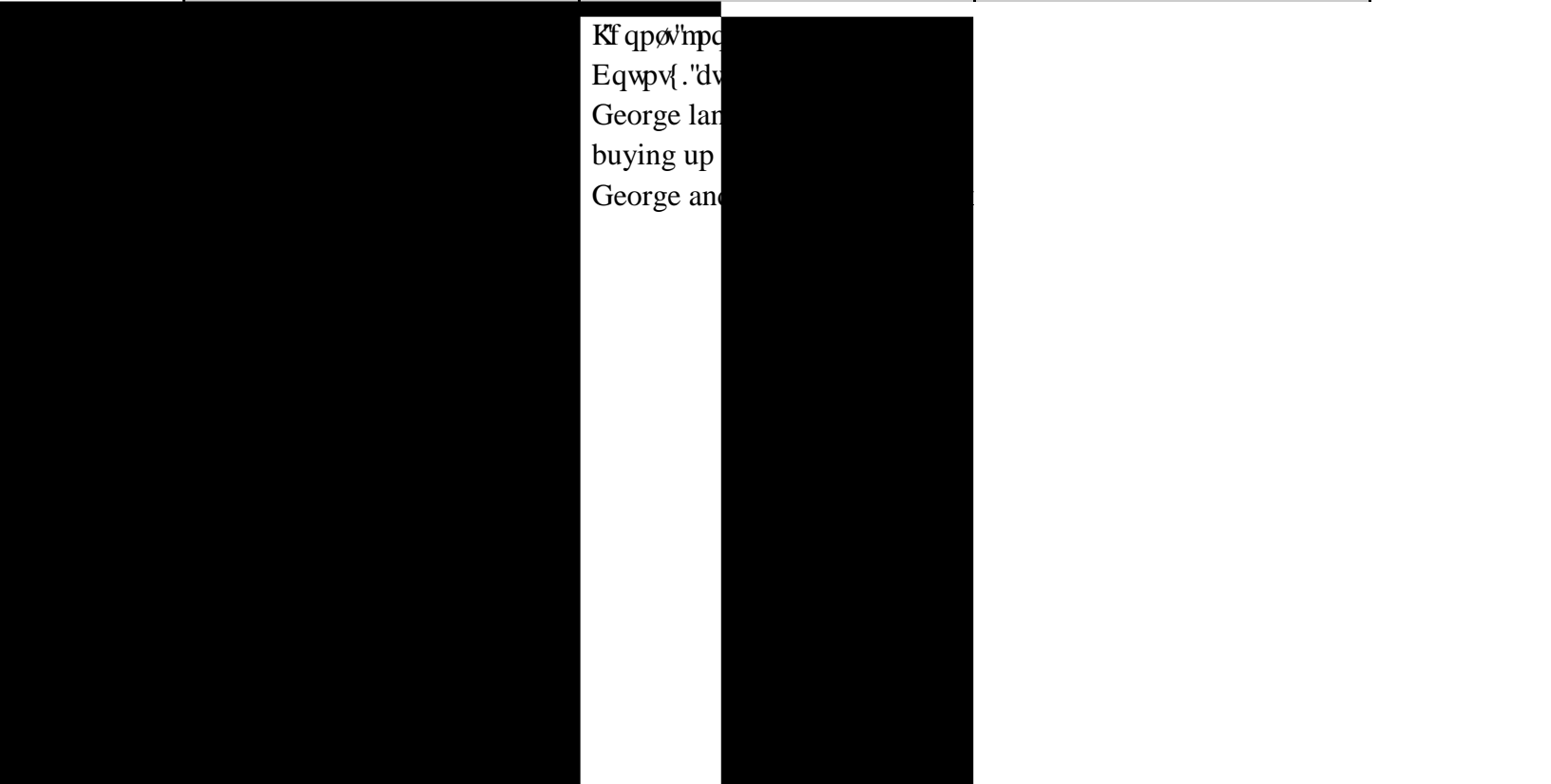
spoke highly of the current trails as transportation routes. Many younger respondents referred to the trails as safe and convenient methods of travel during their youth. Biking or walking these trails provides a safe connection from one location to another with no motorized vehicles necessary.

Conservation was mentioned as an equal number as community, health, and commuting but rarely was it formally addressed. One respondent used the conservation efforts around Lake George as an example of what he would like to see from Saratoga County, citing the easy access of their public trail system and convenience of their informative website. Most referred to it as an added benefit to the trail but not a driving force.

History and education were touched upon in a similar way. Respondents explained that

<p>It would help business dgecwug'yj gtgøi'cpqyj gt'y c{ " to get here and puts people in the area to come out. -- Wilton Resident</p> <p>We sell cross country skis and snowshoes, so more people would be coming in and buying products. -- Saratoga Springs Resident</p>	<p>--Wilton Resident</p>	<p>and not off the roof .'uq'yj cvøi" the top one. -- Wilton Resident</p>
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Commuting	Conservation	History/Education
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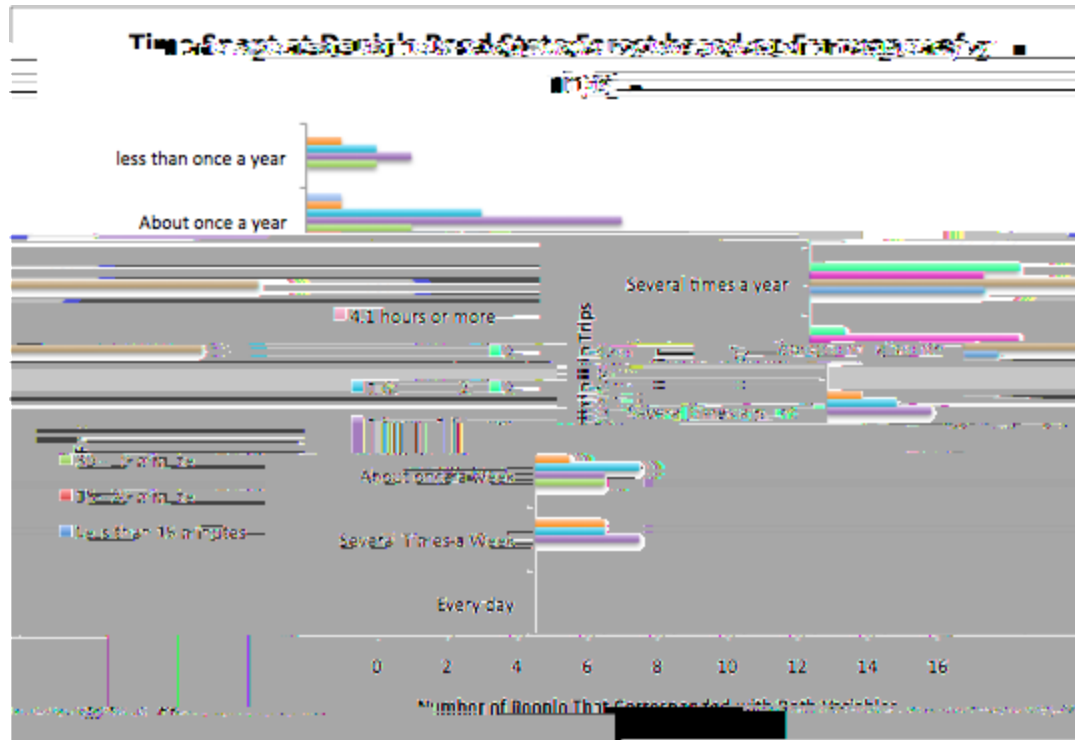
Kf qpø'hpc
Eqwpv{ .'dv
George lan
buying up
George and

<p>I think there are a lot of great trails to choose from IF you have a car. -- Saratoga Resident</p>		
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Online Survey

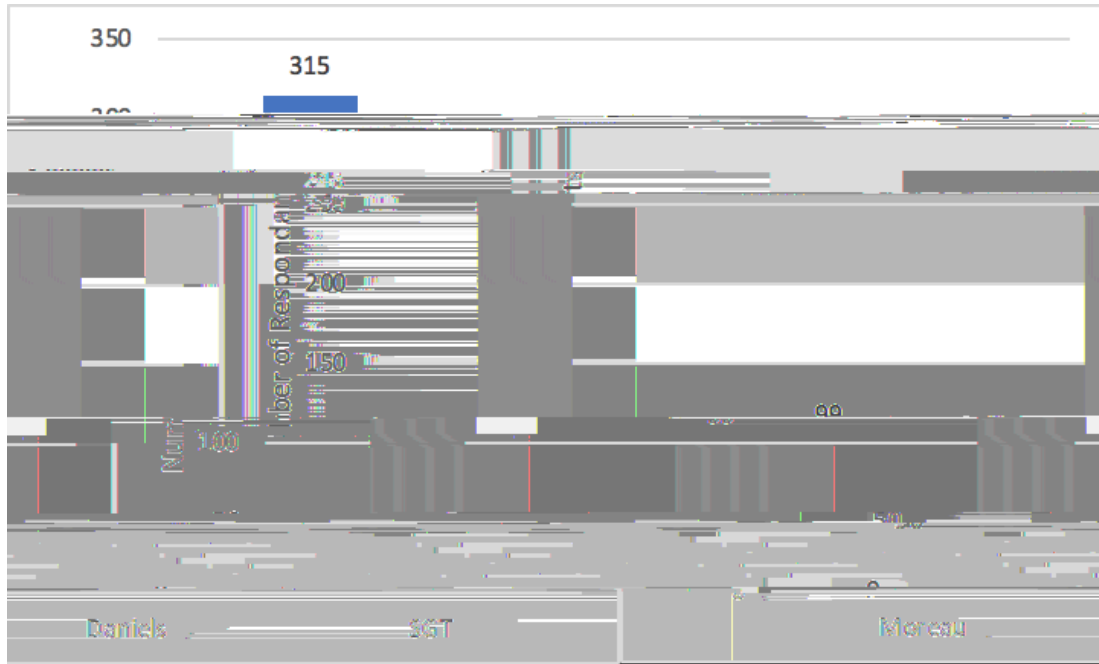
Thirty-five percent of respondents earn an annual household income of more than \$100,000, as shown in Figure 6. From that percentage, 53.6% completed a graduate or professional program. Meanwhile, only 35% of respondents reported an annual income of less than \$75,000 and 13% preferred not to disclose this information. The median income of the survey respondents is \$75,000, which is slightly lower than \$77,548, the reported median income for Saratoga County in 2017 (Data USA, 2017).

Figure 7 below shows that most visitors of Moreau Lake State Park reported approximately three visits per year and 46.15% of them reported spending 2.1 to 4 hours at the pBo5DtpBo411.19 Tm0 g0 G[(r1 to8 hours 5(ds1(g))-19(y)20(e. L9(eq0s00000912 0 612 792 reW*ñBT/F1 12 T



238 respondents reported visiting the network of trails within the Saratoga Greenbelt Trail. Again, most visitors (32.39%) use the trails approximately three times per year and of those visitors 43.04% spend 1 to 1.5 hours on the trails. Regardless of how frequent their visits are, 33.47% of visitors spend 1 to 1.5 hours using the Saratoga Greenbelt Trail. Figure 9 shows how frequently respondents visit the trails and how much time they typically spend at the trails.

Figure 9. Time Spent Each Trip at the Saratoga Greenbelt Trail and Frequency (n=238)



Based on the responses from the survey Moreau Lake State Park is the most used by local residents. After Moreau Lake State Park is the Saratoga Greenbelt Trail with only 21% fewer residents using the area (Figure 10). Only 99 out of the 402 respondents reported using Daniels Road State Park, which has substantially fewer users than Moreau Lake State Park and the Saratoga Greenbelt Trail (Figure 10).

Figure 11. The mean per trip cost for each of the recreational parks, calculated using equation (1).

When breaking down the average amount of money a visitor spends at each one of the parks per year, which is calculated by multiplying

Trail receives more frequent use by its users because the per cost visit is less expensive and the trail system is used for commuting.

Using reported visitation rates and the TCM results, we found that the total annual value of Moreau Lake State Park is \$53.6 million and the total annual value of the Saratoga Greenbelt Trail is \$6.86 million. Based on these results, we expect that the creation of a trail that connects Moreau Lake State Park to the Saratoga Greenbelt Trail will have a value within that range. It is likely that Moreau Lake State Park is valued higher because it has more miles of trail making it more worthwhile to travel for. If this is true, then the creation of the Palmertown Trail will bring more value to the existing trail network.

Even though Moreau Lake State Parkó

inflated. Often in

pilot studies. *Journal of Adolescence*, 49, 1056114. Doi: 10.1016/j.adolescence.2016.03.009

NBC News: Health News. (2018, December 12). A Dose of nature: Doctors prescribe a day in the park for anxiety. Retrieved October 28, 2019, from <https://www.nbcnews.com/health/health-news/dose-nature-doctors-prescribe-day-park-anxiety-n823421>.

Nelsen, C. E. (2012). *Collecting and Using Economic Information to Guide the Management of Coastal Recreational Resources in California* (dissertation).

Outdoor Industry Association, 2017. <http://outdoorindustry.org/advocacy/>.

County and what is most important for you when choosing a trail?

The study is being conducted by three Skidmore College Environmental Studies and Science majors in cooperation with Saratoga PLAN and the Open Space Institute for a Senior Capstone Project. We thank you for your participation!

At the end of the survey you will have the opportunity to enter a raffle to win a \$10 Apple gift card!

Use in County How often do you use trails or recreational pathways in Saratoga County?

- Every day (1)
- Several times a week (2)
- About once a week (3)
- Several times a month (4)
- About once a month (5)
- Several times a year (6)
- About once a year (7)
- Less than once a year (8)
- Never (9)
- Prefer not to say (0)

Skip To: Prevention If How often do you use trails or recreational pathways in Saratoga County? = Never

How do you use the trails and pathways in Saratoga County? (Select all that apply)

- Plant or wildlife viewing (1)
- Cycling (2)
- Hiking/Walking (3)
- Walking the dog (4)
- Jogging/Running (5)
- Scientific research (6)
- Education (7)
- Hunting (8)
- Commuting (9)

- Yes (1)
- No (2)
- I don't know (0)
- Prefer not to say (0)



Approximately, how long does it take you to travel (round-trip) to get to Moreau Lake State Park?

- Less than 5 minutes (5)
- 5 - 10 minutes (7.5)
- 11 - 20 minutes (15.5)
- 21 - 40 minutes (30.5)
- 41 - 59 minutes (50)
- 1 - 2 hours (90)
- More than 2 hours (120)
- I don't know (0)

Approximately, how far do you travel (round-trip) to get to Moreau Lake State Park?

- Less than a mile (1)
- 1 - 10 miles (5.5)
- 11 - 20 miles (15.5)
- 21 - 40 miles (30.5)
- 41 - 60 miles (50.5)
- 61 - 80 miles (70.5)
- 81 - 100 miles (90.5)
- More than 100 miles (100.5)
- I don't know (0)

How long is your typical visit at Moreau Lake State Park?

- Less than 15 minutes (15)
- 15 - 29 minutes (22)
- 30 - 59 minutes (44.5)
- 1 hour - 1.5 hours (75)
- 1.6 hours - 2 hours (108)
- 2.1 hours - 4 hours (183)
- 4.1 hours or more (246)
- I don't know (0)

On average, how much money do you spend when visiting Moreau Lake State Park (parking, food, activities, etc.)?

- Less than \$5 (5)
- \$5 - \$10 (7.5)
- \$11 - \$20 (15.5)
- \$21 - \$30 (25.5)
- \$31 - \$50 (40.5)
- More than \$50 (50)
- I don't know (0)

End of Block: Moreau Lake State Park

Start of Block: Daniels State Forest

Do you visit Daniels Road State Forest? (See map below)

- Yes (1)
- No (2)
- I don't know (0)
- Prefer not to say (0)

Skip To: End of Block If Do you visit Daniels Road State Forest? (See map below) = No
Skip To: End of Block If Do you visit Daniels Road State Forest? (See map below) = I don't know

How often do you visit Daniels Road State Forest?

- Every day (1)
- Several times a week (2)
- About once a week (3)
- Several times a month (4)
- About once a month (5)
- Several times a year (6)

- About once a year (7)
- Less than once a year (8)
- Never (9)
- I don't know (0)

Skip To: End of Block If How often do you visit Daniels Road State Forest? = Never

How do you get to Daniels Road State Forest? (Select all that apply)

- Car (1)
- Public Transportation (2)
- Walking (3)
- Biking (4)
- Other (5)
- Prefer not to say (0)

Approximately, how long does it take you to travel (round-trip) to get to Daniels Road State Forest?

- Less than 5 minutes (5)
- 5 - 10 minutes (7.5)
- 11 - 20 minutes (15.5)
- 21 - 40 minutes (30.5)
- 41 - 59 minutes (50)
- 1 - 2 hours (90)
- More than 2 hours (120)
- I don't know (0)

Approximately, how far do you travel (round-trip) to get to Daniels Road State Forest?

- Less than a mile (1)
- 1 - 10 miles (5.5)
- 11 - 20 miles (15.5)
- 21 - 40 miles (30.5)

- o 41 - 60 miles (50.5)
- o 61 - 80 miles (70.5)
- o 81 - 100 miles (90.5)
- o More than 100 miles (100)
- o I don't know (0)

How long is your typical visit at Daniels Road State Forest?

- o Less than 15 minutes (15)
- o 15 - 29 minutes (22)
- o 30 - 59 minutes (44.5)
- o 1 hour - 1.5 hours (75)
- o 1.6 hours - 2 hours (108)
- o 2.1 hours - 4 hours (183)
- o 4.1 hours or more (246)
- o I don't know (0)

On average, how much money do you spend when visiting Daniels Road State Forest (parking, food, activities, etc.)?

- o Less than \$5 (5)
- o \$5 - \$10 (7.5)
- o \$11 - \$20 (15.5)
- o \$21 - \$30 (25.5)
- o \$31 - \$50 (40.5)
- o More than \$50 (50)
- o I don't know (0)

End of Block: Daniels State Forest

Start of Block: Saratoga Greenbelt Trail

Do you use the Saratoga Greenbelt Trail? This trail includes Railroad Run, Spring Run, and Bog Meadow Trail. (See map below)

- Yes (1)
- No (2)
- I don't know (0)
- Prefer not to say (0)

Skip To: End of Block If Do you use the Saratoga Greenbelt Trail? This trail includes Railroad Run, Spring Run, and Bog Me... = No

Skip To: End of Block If Do you use the Saratoga Greenbelt Trail? This trail includes Railroad Run, Spring Run, and Bog Me... = I don't know

How often do you visit the Saratoga Greenbelt Trail?

- Every day (1)
- Several times a week (2)
- About once a week (3)
- Several times a month (4)
- About once a month (5)
- Several times a year (6)
- About once a year (7)
- Less than once a year (8)
- Never (9)
- I don't know (0)

Skip To: End of Block If How often do you visit the Saratoga Greenbelt Trail? = Never

SGT Transportation How do you get to the Saratoga Greenbelt Trail?

- Car (1)
- Public Transportation (2)
- Walking (3)
- Biking (4)
- Other (5)
- Prefer not to say (0)

Approximately, how long does it take you to travel (round-trip) to get to the Saratoga Greenbelt Trail?

- Less than 5 minutes (5)
- 5 - 10 minutes (7.5)
- 11 - 20 minutes (15.5)
- 21 - 40 minutes (30.5)
- 41 - 59 minutes (50)
- 1 - 2 hours (90)
- More than 2 hours (120)
- I don't know (0)

Approximately, how far do you travel (round-trip) to get to the Saratoga Greenbelt Trail?

- Less than a mile (1)
- 1 - 10 miles (5.5)
- 11 - 20 miles (15.5)
- 21 - 40 miles (30.5)
- 41 - 60 miles (50.5)
- 61 - 80 miles (70.5)
- 81 - 100 miles (90.5)
- More than 100 miles (100)
- I don't know (0)

How long is your typical visit at the Saratoga Greenbelt Trail?

- Less than 15 minutes (15)
- 16 - 29 minutes (22)
- 30 - 59 minutes (44.5)
- 1 hour - 1.5 hours (75)
- 1.6 hours - 2 hours (108)
- 2.1 hours - 4 hours (183)
- 4.1 hours or more (246)
- I don't know (0)

On average, how much money do you spend when visiting the Saratoga Greenbelt Trail (parking, food, activities, etc.)?

- Less than \$5 (5)
- \$5 - \$10 (7.5)
- \$11 - \$20 (15.5)
- \$21 - \$30 (25.5)
- \$31 - \$50 (40.5)

Skip To: MU WTP If Would you be willing to pay \$75 annually for multi-use paved/crushed

- o Prefer not to say (0)

Skip To: T \$75 If Would you be willing to pay \$50 annually to have a hiking trail connecting the Saratoga Greenbelt... = Yes

Skip To: H WTP If Would you be willing to pay \$50 annually to have a hiking trail connecting the Saratoga Greenbelt... = No

Skip To: H WTP If Would you be willing to pay \$50 annually to have a hiking trail connecting the Saratoga Greenbelt... = Prefer not to say

Would you be willing to pay \$15 annually to have a hiking trail connecting the Saratoga Greenbelt Trail to Moreau Lake State Park?

- o Yes (15)
- o No (0)
- o Prefer not to say (0)

Skip To: End of Block If Would you be willing to pay \$15 annually to have a hiking trail connecting the Saratoga Greenbelt... = Yes

Skip To: H WTP If Would you be willing to pay \$15 annually to have a hiking trail connecting the Saratoga Greenbelt... = No

Skip To: H WTP If Would you be willing to pay \$15 annually to have a hiking trail connecting the Saratoga Greenbelt... = Prefer not to say

Would you be willing to pay \$75 annually for a hiking trail connecting the Saratoga Greenbelt Trail to Moreau Lake State Park?

- o Yes (75)
- o No (0)
- o Prefer not to say (0)

Skip To: H WTP If Would you be willing to pay \$75 annually for a hiking trail connecting the Saratoga Greenbelt Tra... = Yes

Skip To: H WTP If Would you be willing to pay \$75 annually for a hiking trail connecting the Saratoga Greenbelt Tra... = No

Skip To: H WTP If Would you be willing to pay \$75 annually for a hiking trail connecting the Saratoga Greenbelt Tra... = Prefer not to say

Please state how much would you be willing to pay annually (in USD) for a hiking trail connecting Saratoga Greenbelt Trail to Moreau Lake State Park.

End of Block: Willingness to Pay for a Hiking Trail

Start of Block: What age group are you in

What age group are you in?

- Under 18 (1)
- 18 - 24 (2)
- 25 - 34 (3)
- 35 - 44 (4)
- 45 - 54 (5)
- 55 - 64 (6)
- 65 - 74 (7)
- 75 - 84 (8)
- 85 + (9)
- Prefer not to say (0)

What is your highest level of education?

- Some High School (1)
- High School Graduate/GED (2)
- Associates or Some College (3)
- Bachelors (4)
- Some Graduate (5)
- Graduate/Professional (6)
- Prefer not to say (0)

Which option best describes your family's annual income?

- Less than \$10,000 (10000)
- \$10,000 - \$14,999 (12499.5)

- \$15,000 - \$24,999 (19999.5)
- \$25,000 - \$34,999 (29999.5)
- \$35,000 - \$49,999 (42499.5)
- \$50,000 - \$74,999 (62499.5)
- \$75,000 - \$99,999 (87499.5)
-
- Prefer not to say (0)

What is your gender identity?

- Male (1)
- Female (2)
- Other (3)
- Prefer not to say (0)

Do you live in the Capital Region?

- Yes (1)
- No (2)
- I don't know (0)
- Prefer not to say (0)

What is your zip code?

End of Block: What age group are you in?

Start of Block: Raffle

Thank you for completing this survey! If you would like to be entered into a drawing to win one of three \$10 Apple Store gift cards, please enter your email address below. You do not need to enter your email if you do not wish to be entered into the drawing.

End of Block: Raffle