

# MARSH CREEK GREENWAY TIOGA COUNTY, PA

## IMPACT ANALYSIS OF A REGIONAL RECREATION HUB



Linda Stager

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## BACKGROUND

The Marsh Creek Greenway (MCG) project is an economic development initiative that will connect users of the Pine Creek Rail Trail (PCRT) to the shopping, dining and lodging establishments in the Borough of Wellsboro. This critical connection will enable uninterrupted foot and bicycle travel from Jersey Shore (Lycoming County) to Wellsboro (Tioga County). The journey is approximately 65 miles.

Other regional trail connections and bike routes include:

- Mid-State Trail (which runs the entire North-South length of Pennsylvania)
- Scenic West Rim Trail (provides views of the PA Grand Canyon)
- Bicycle Route G (running from Corning, New York to the north and Jersey Shore/Lock Haven to the south)
- Bicycle Route Y (running from Potter County to the west, and Mansfield to the east)

## PROJECT COMPONENTS

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The Marsh Green Greenway project includes the following components:

- Trailhead to include parking, kiosks and pavilions, along with a 5,000-square-foot building to offer public restrooms, conservation/outdoor shop, café, small museum, and retail space
- Construction of over 17,800 lineal feet of ADA accessible trail with amenities
- Railroad siding to accommodate an alternative passenger pick-up for Tioga Central Railroad to expand tourism
- Safety and railroad separation fencing
- Stormwater management/controls
- Bridge repair/replacements

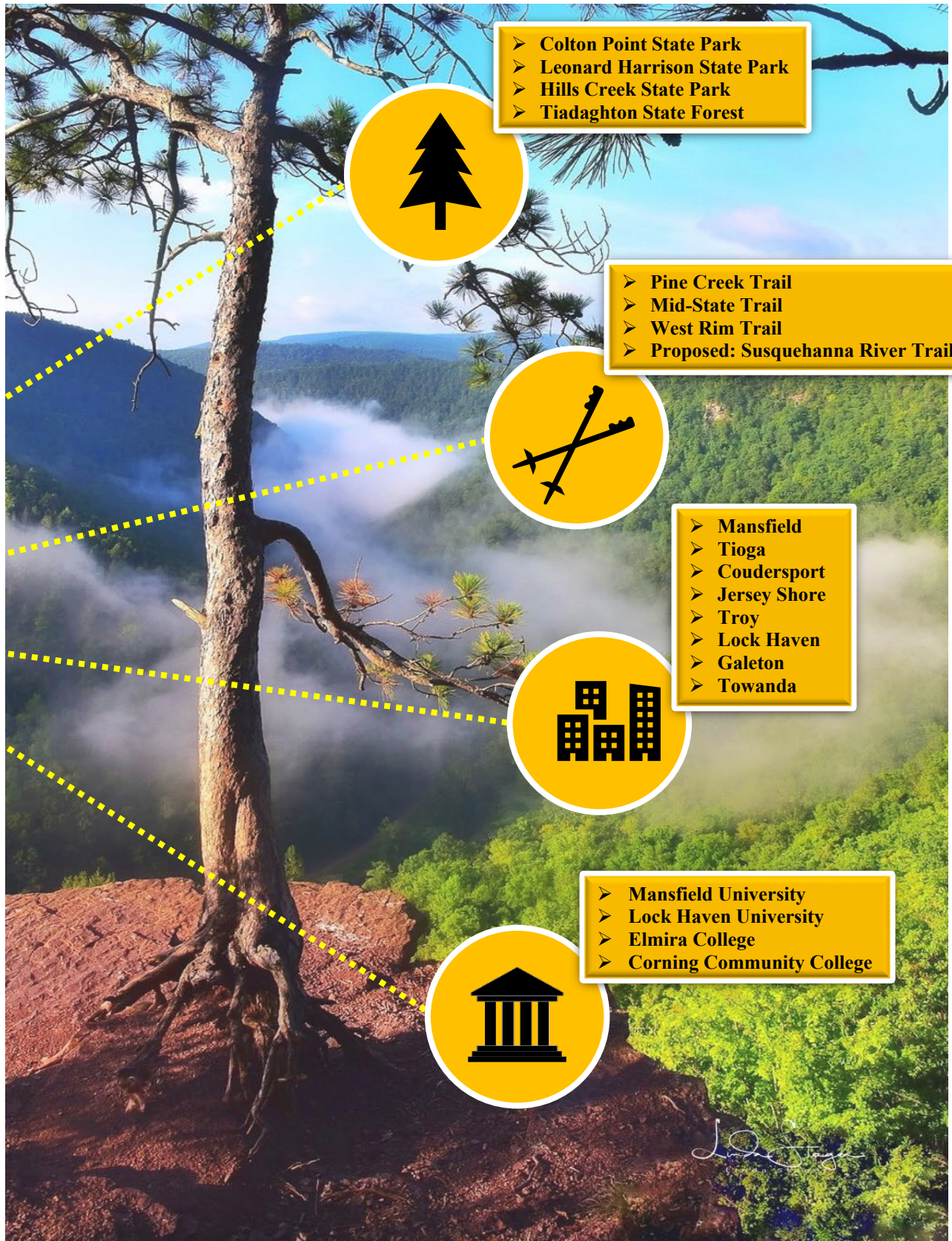
This study seeks to quantify these factors and understand the extent of their impact on the region. With the completion of the Marsh Creek Greenway trail, Tioga County is poised to be at the geographic hub of a multi-modal trail corridor extending through the Pine Creek Valley and PA Grand Canyon.

A HUB OF REGIONAL CONNECTIVITY

FIGURE 1

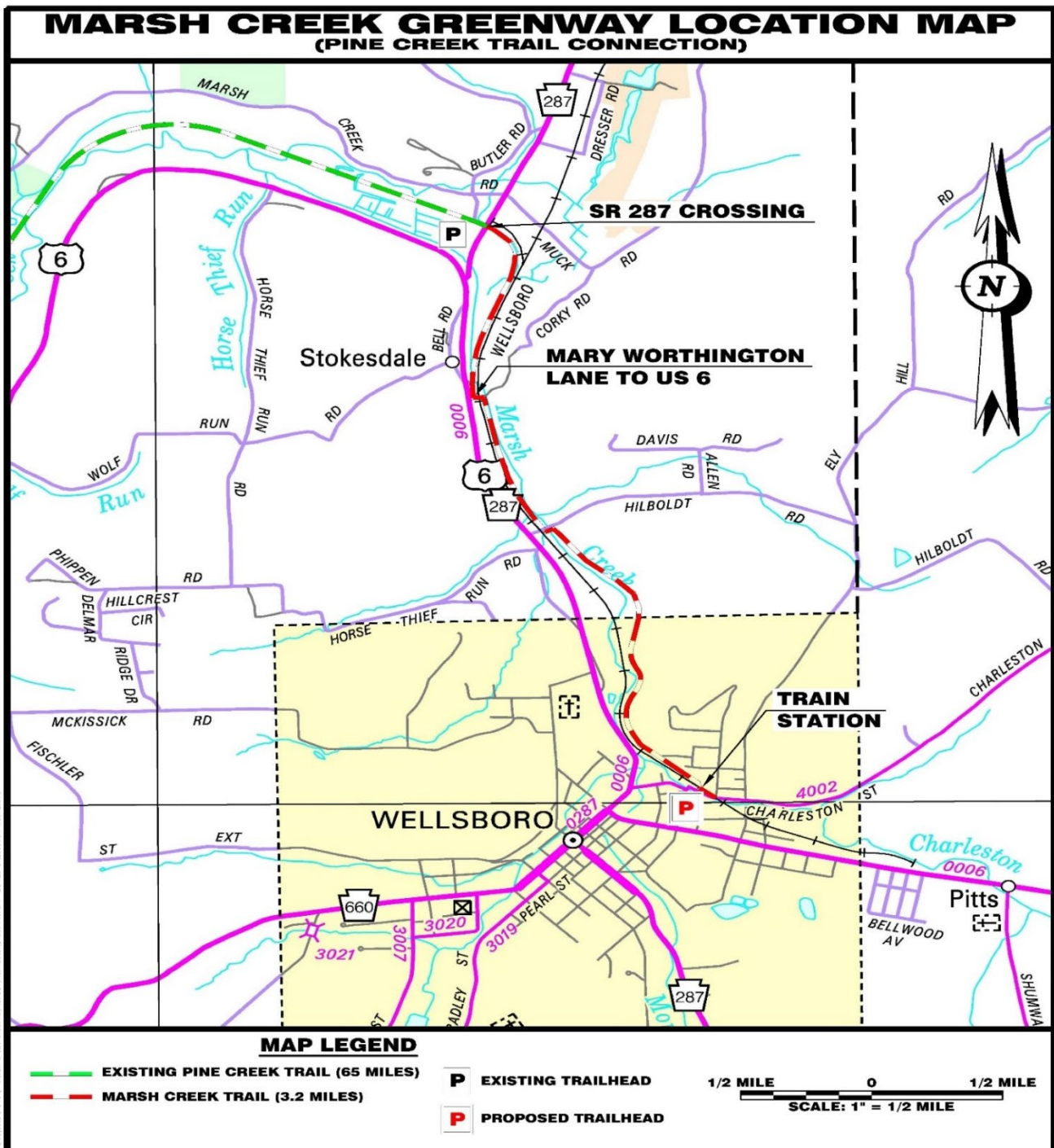


FIGURE 2



MARSH CREEK GREENWAY MAP

FIGURE 3



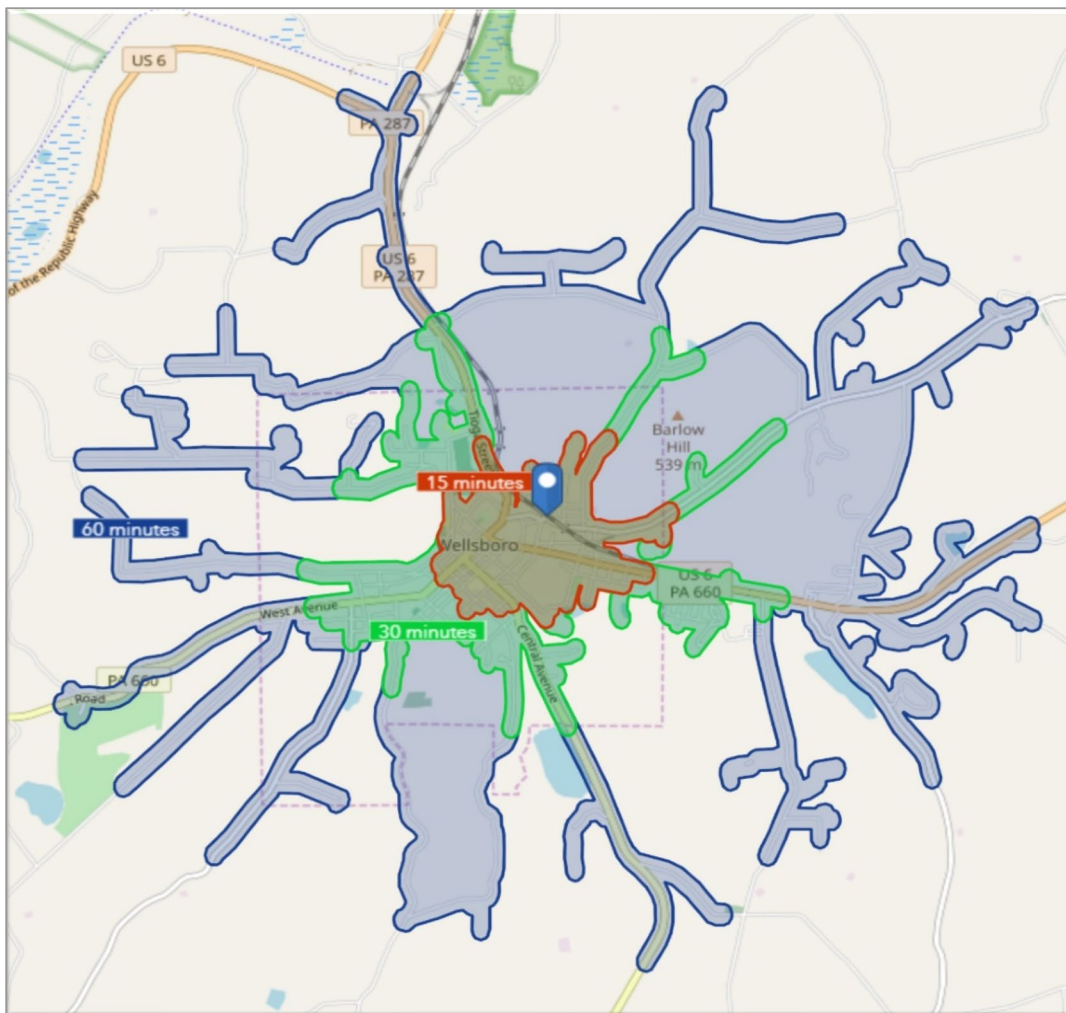
## LOCAL BENEFIT

### WHO LIVES AROUND THE TRAIL?

For the purposes of this analysis, a walk-time map was generated using ESRI Business Analyst to study the demographic makeup of those living within a specified walk-time (15, 30, and 60 minutes) of the proposed trailhead.

This analysis gives insight into the residents that will become regular trail users. In addition to easy access to recreational opportunities, nearby residents and business owners near the Marsh Creek Greenway stand to benefit economically. For reference, a 2008 study<sup>[6]</sup> by the University of Cincinnati School of Planning found that residential properties near Ohio's Little Miami Trail sold for an additional \$7.05 per square foot every foot closer to the trail. So, a 2,640 square-foot home located adjacent to the Marsh Creek Greenway would sell, on average, for \$18,612 more than a home located a half mile away from the Greenway.

FIGURE 4 – ADDED VALUE TO A HOME ADJACENT TO THE TRAIL  
(AS COMPARED TO AN IDENTICAL PROPERTY A HALF MILE AWAY): \$18,612



## DEMOGRAPHICS

In 2018, there were over 700 households that lived within a fifteen-minute walking distance of the trailhead. Over 3,600 are employed within this same walking distance. Over 82% of the population are over the age of eighteen.

TABLE 1- POPULATION AND INCOME

WALK-TIME DEMOGRAPHICS			
	15 Minutes	30 Minutes	60 Minutes
2010 Population	1,539	2,483	3,419
2018 Population	1,496	2,460	3,409
2023 Population	1,473	2,432	3,375
2018 Total Daytime Population	4,492	5,389	6,508
Workers	3,628	3,964	4,533
Residents	864	1,425	1,975
2018 Households	752	1,200	1,581
2023 Households	741	1,187	1,566
2018 Families	378	653	881
2023 Families	369	641	866
2018 Median Household Income	\$43,232	\$47,644	\$48,680
2023 Median Household Income	\$47,493	\$51,583	\$52,347
2018 Median Age	48	48.6	48.5
2023 Median Age	48.4	49.2	49.1

Source: ESRI Business Analyst

TABLE 2 – POPULATION BY AGE

WALK-TIME AGE DEMOGRAPHICS (2018)			
	15 Minutes	30 Minutes	60 Minutes
<b>TOTAL:</b>	<b>1,495</b>	<b>2,460</b>	<b>3,409</b>
0 to 4	4.5%	4.5%	4.4%
5 to 9	4.5%	4.6%	4.7%
10 to 14	4.7%	4.9%	5.0%
15 to 24	10.0%	10.1%	10.2%
25 to 34	12.0%	11.2%	11.1%
35 to 44	10.5%	10.4%	10.5%
45 to 54	12.5%	12.3%	12.3%
55 to 64	13.2%	13.8%	14.1%
65 to 74	13.1%	13.7%	13.7%
75 to 84	8.6%	8.7%	8.6%
85 +	6.1%	5.8%	5.5%
18 +	82.9%	82.5%	82.4%

Source: ESRI Business Analyst



**TAPESTRY SEGMENTATION**

ESRI Business Analyst Tapestry Segments [3] classifies neighborhoods into 67 segments based on demographic and socioeconomic characteristics. These accurate, detailed descriptions of America’s neighborhoods give planners, local officials, and business owners a better idea of the people who reside in the community. The top two tapestry segments for the 15- to 60-minute walk time area is Small Town Simplicity and Midlife Constants. The Small Town Simplicity segment enjoys outdoor recreation such as hunting and fishing, while the Midlife Constants enjoy fishing and golf.

TABLE 3

DOMINANT TAPESTRY SEGMENTATIONS					
15 MINUTES		30 MINUTES		60 MINUTES	
SEGMENT	%	SEGMENT	%	SEGMENT	%
Small Town Simplicity (12C)	92.0%	Small Town Simplicity (12C)	63.8%	Small Town Simplicity (12C)	57.9%
Midlife Constants (5E)	8.0%	Midlife Constants (5E)	35.8%	Midlife Constants (5E)	37.0%
		The Great Outdoors (6C)	0.5%	The Great Outdoors (6C)	3.7%
				Comfortable Empty Nesters (5A)	1.2%
				Prairie Living (6D)	0.2%

Source: ESRI Business Analyst

FIGURE 5

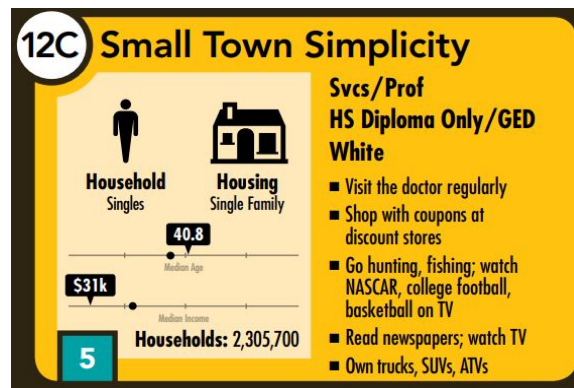
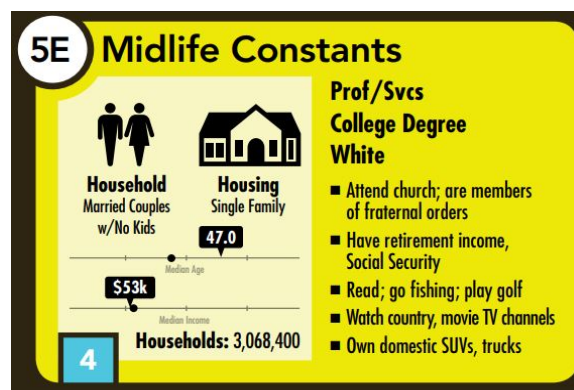


FIGURE 6



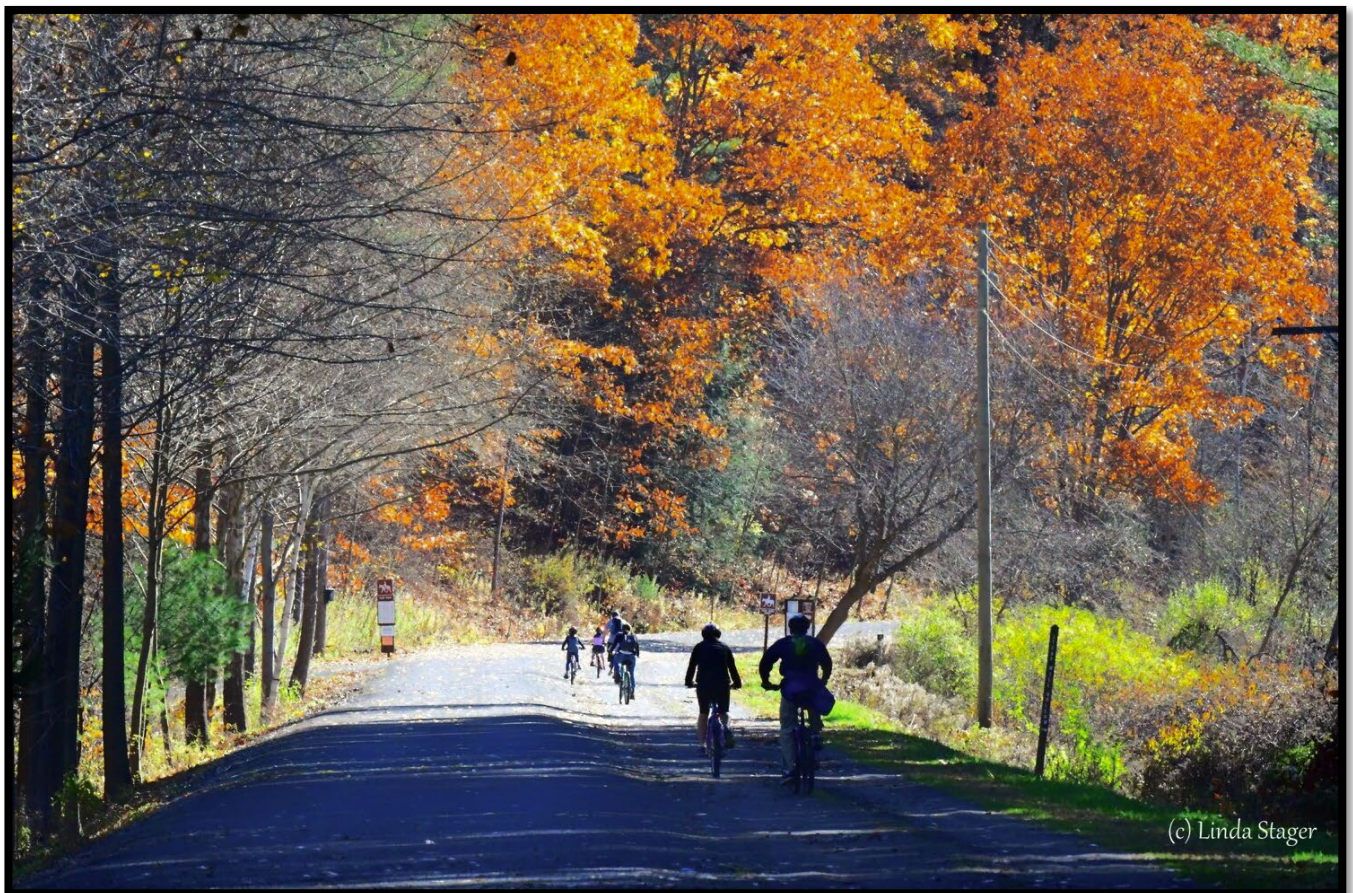
**CURRENT USERS OF PINE CREEK RAIL TRAIL**

The Pine Creek Rail Trail extends through the Tioga and Tiadaughton State Parks. The counters installed to track users for the PCRT is managed by the Recreation Foresters at each park. The data obtained from the Tioga County Recreation Foresters is provided in the table below. It should be noted that the counter for Darling Run stopped working in June of 2018, therefore the correct data was not obtained. Information was not available for the Tiadaughton State Park.

TABLE 4

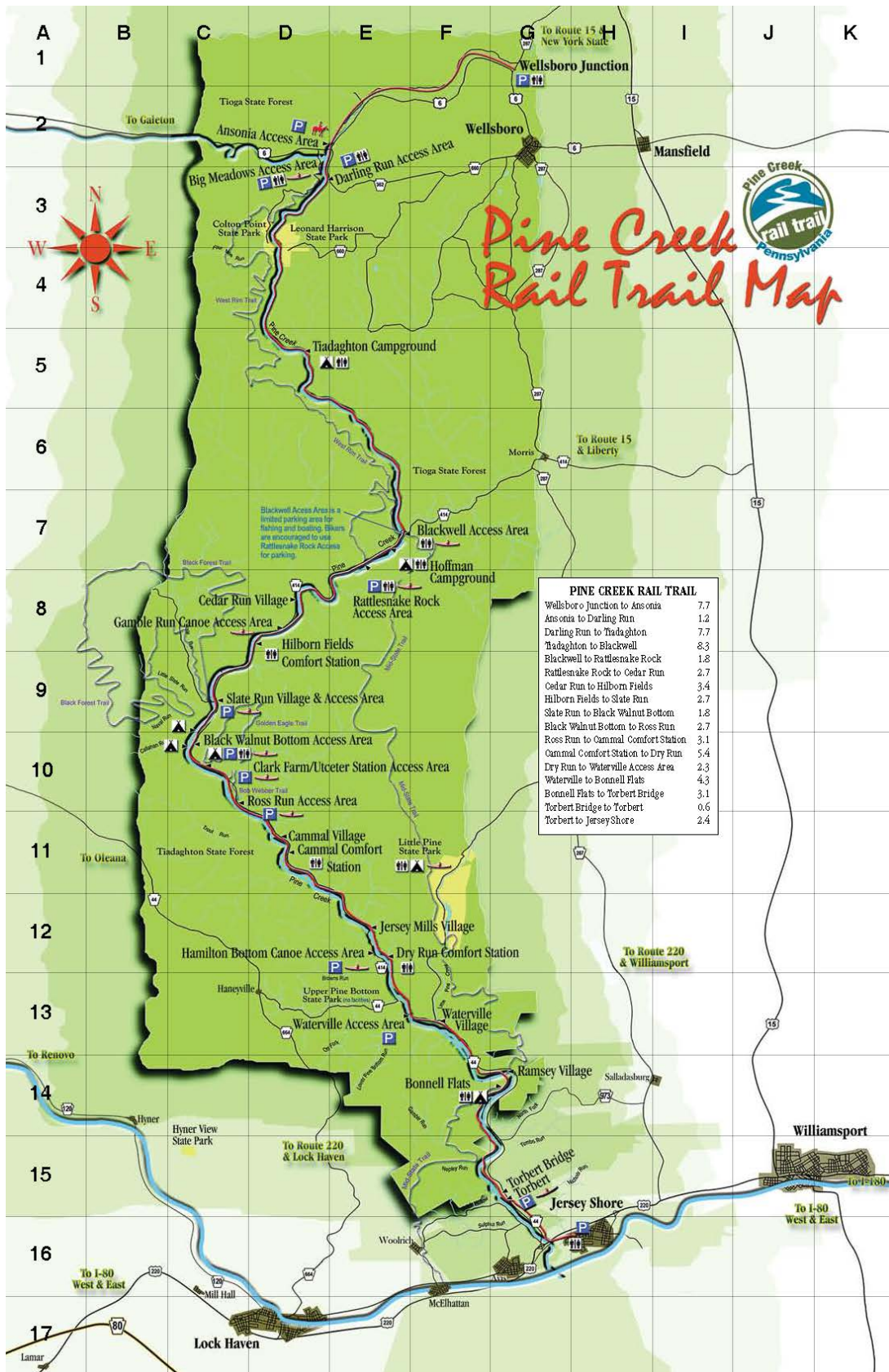
TIOGA COUNTY STATE PARK – PINE CREEK RAIL TRAIL COUNTERS						
COUNTER LOCATION	2013	2014	2015	2016	2017	2018
Darling Run	15,604	20,671	10,521	11,899	11,477	3,518
Rattlesnake Rock	695	23,467	6,612	4,785	20,191	14,415
Butler Road	12,603	6,325	6,676	8,688	12,553	7,964

Source: Tioga State Park Recreation Foresters



(c) Linda Stager

FIGURE 7



## POTENTIAL UNIQUE USERS

### ESTIMATED MARSH CREEK GREENWAY USERS

The Pine Creek Rail Trail is a world-renowned trail that attracts tourists and recreationists throughout the entire year. The connection of this Trail to the town of Wellsboro will create a hub of new activity, which will result in new spending in the areas of retail, dining and lodging.

Previous plans and studies that quantified both recreational activity and consumer spending were relied on to calculate the number of unique users. The first study, the *2017 Outdoor Participation Report*, published by the Outdoor Foundation, was based on 24,134 online surveys conducted by the Physical Activity Council, a partnership of leading organizations in the US sports, fitness and leisure industries. The goal of the survey was to determine the levels of activity and trends in sports, fitness and recreation participation. The most popular outdoor activities by participation rate included:

- Running, Jogging and Trail Running: 18% of Americans / 52.3 million participants
- Freshwater, Saltwater and Fly Fishing: 16 % of Americans / 47.2 million participants
- Road Biking, Mountain Biking and BMX: 15% of Americans / 45.8 million participants
- Hiking: 14% of Americans / 42.1 million participants
- Car, Backyard, Backpacking and RV Camping: 14% of Americans / 40.5 million participants

On average participants in the study traveled 16 miles for outdoor recreation. The commitment to traveling for outdoor recreation breaks down as follows:

- Less than a mile – 11%
- 1-10 miles – 36%
- 11-25 miles – 16%
- 26-50 miles – 9%
- Over 51 miles – 10%

Population data from ESRI Business Analyst was collected at specified intervals around the proposed Marsh Creek Greenway trailhead in Wellsboro. To estimate the number of potential unique visitors, the distance data, shown above, was multiplied by the population data, and then weighted by the likelihood of the population choosing to use the Marsh Creek Greenway. Using this method, it is estimated that the Marsh Creek Greenway could attract approximately 64,387 unique visitors per year, with over 74% traveling 50 miles or more.

TABLE 5

MARSH CREEK GREENWAY TRAIL USER ESTIMATE					
TRAVEL DISTANCE FOR USERS	TRAVEL DISTANCE PERCENTAGE	TRAVEL DISTANCE PERCENTAGE	ESRI BUSINESS ANALYST 2018 POPULATION	WEIGHT (LIKELIHOOD OF USE)	UNIQUE USERS
Less Than 1 Mile	11%	0.11	2,465	3	814
1-10 Miles	36%	0.36	10,576	1.2	4,569
11-25 Miles	16%	0.16	47,552	0.48	3,652
26-50 Miles	9%	0.09	431,081	0.192	7,449
51-100 Miles	10%	0.10	3,172,163	0.0768	24,362
101-150 Miles	8%	0.08	8,485,310	0.019	12,898
151-200 Miles	4%	0.04	34,408,244	0.006	8,258
201-250 Miles	1%	0.01	14,907,824	0.016	2,385
<b>TOTAL:</b>					<b>64,387</b>

*\*Weights for the 0-100-mile rings decline 2.5 times per subsequent population ring; weights for the 101-250-mile rings are calculated based upon the percentage of people falling within ESRI Business Analyst's "The Great Outdoors" Tapestry group.*

## CONSUMER SPENDING

Information contained in the annual publication, *Economic Impact of Travel in Pennsylvania* was relied on to calculate the potential economic impact derived through consumer spending. This publication is commissioned by the Pennsylvania Department of Community and Economic Development.

The study found that in Pennsylvania tourists spend an average of \$129 on hard and soft goods during their trip. Table 6 illustrates how the \$129 is spent.

TABLE 6

AVERAGE DAY-TRIP-SPENDING (2017)		
EXPENDITURE	%	AMOUNT
Food and Beverage	19%	\$25
Retail	25%	\$32
Transportation	32%	\$41
Recreation	24%	\$31
		<b>\$129</b>

*Source: The Economic Impact of Travel in Pennsylvania*

Overnight leisure spending was calculated separately. Those staying overnight spend an average of \$302. Table 7 illustrates how this money is spent.

TABLE 7

OVERNIGHT LEISURE SPENDING (2017)		
EXPENDITURE	%	AMOUNT
Food and Beverage	17%	\$51.07
Lodging	20%	\$59.28
Retail	16%	\$49.25
Transportation	35%	\$105.18
Recreation	12%	\$37.70
		<b>\$302.48</b>

*Source: The Economic Impact of Travel in Pennsylvania*

Tourism spending data, and the estimate of unique annual trail users, were used to estimate the total annual economic impact for Tioga County. It was assumed that because of the Greenway's proximity to their homes, local users will spend less in the local economy, while users further from the Greenway will spend more. It can also be assumed that approximately 36.6% of unique visitors would be overnight guests. Based on these assumptions, and the spending patterns noted by Pennsylvania's tourism study, the Marsh Creek Greenway could generate an additional \$11.6 million in consumer spending.

TABLE 8

ANNUAL TOURISM SPENDING (2017)								
DISTANCE (MILES)	FOOD & BEVERAGE	RETAIL	TRANSPORTATION	RECREATION	LODGING	TOTAL SPENDING	UNIQUE USERS	TOTAL ANNUAL SPENDING
<b>DAY-TRIP LEISURE SPENDING</b>								
Less than 1 Mile	\$0	\$0	\$0	\$0	\$0	\$0	814	\$0
1-10 Miles	\$6.25	\$8	\$10.25	\$7.75	\$0	\$32.25	4,569	\$147,350
11-25 Miles	\$12.5	\$16	\$20.5	\$15.5	\$0	\$64.50	3,652	\$235,554
26-50 Miles	\$25	\$32	\$41	\$31	\$0	\$129	7,449	\$960,921
51-100 Miles	\$25	\$32	\$41	\$31	\$0	\$129	24,362	\$3,142,698
<b>OVERNIGHT LEISURE TRAVELER SPENDING</b>								
101-150 Miles	\$51.07	\$49.25	\$105.18	\$37.70	\$59.28	\$304	12,898	\$3,920,992
151-200 Miles	\$51.07	\$49.25	\$105.18	\$37.70	\$59.28	\$304	8,258	\$2,510,432
201-250 Miles	\$51.07	\$49.25	\$105.18	\$37.70	\$59.28	\$304	2,385	\$725,040
<b>TOTAL:</b>							<b>64,387</b>	<b>\$11,642,987</b>

Source: *The Economic Impact of Travel in Pennsylvania and Delta Projections*

## POTENTIAL INDUSTRY GROWTH

Tioga's entrepreneurial ecosystem is partially fueled by visitor spending. Building and expanding natural assets within the County will continue to strengthen this system. Visitors attracted to Wellsboro because of the Marsh Creek Greenway will have the potential to add over \$11 million to the local economy. The \$11 million is broken down by industry as follows:

- Transportation industry: \$3,907,817
- Retail: \$2,279,342
- Food and Beverage: \$2,077,762
- Recreation: \$1,978,095.31
- Lodging: \$1,399,970

TABLE 9

ANNUAL INDUSTRY INCOME (2017)							
	FOOD & BEVERAGE	RETAIL	TRANSPORTATION	RECREATION	LODGING	UNIQUE USERS	TOTAL ANNUAL SPENDING
<b>DAY-TRIP LEISURE SPENDING</b>							
Less than 1 Mile	\$0	\$0	\$0	\$0	\$0.0	814	\$0
1-10 Miles	\$28,556.25	\$36,552.00	\$46,832.25	\$35,409.75	\$0.0	4,569	\$147,350
11-25 Miles	\$45,650.0	\$58,432.0	\$74,866.0	\$56,606.0	\$0.0	3,652	\$235,554
26-50 Miles	\$186,225	\$238,368	\$305,409	\$230,919	\$0.0	7,449	\$960,921
51-100 Miles	\$609,050	\$779,584	\$998,842	\$755,222	\$0.0	24,362	\$3,142,698
<b>OVERNIGHT LEISURE TRAVELER SPENDING</b>							
101-150 Miles	\$662,011.04	\$639,068.68	\$1,359,803.60	\$493,072.00	\$767,036.67	12,898	\$3,920,992
151-200 Miles	\$423,855.42	\$409,166.47	\$870,620.11	\$315,691.47	\$491,098.53	8,258	\$2,510,432
201-250 Miles	\$122,414.03	\$118,171.70	\$251,444.52	\$91,175.09	\$141,834.57	2,385	\$725,040
<b>TOTAL:</b>	<b>\$2,077,761.74</b>	<b>\$2,279,342.85</b>	<b>\$3,907,817.48</b>	<b>\$1,978,095.31</b>	<b>\$1,399,969.77</b>	<b>64,387</b>	<b>\$11,642,987</b>

Source: *Delta Projections*

### SPACE REQUIRED TO ACCOMMODATE INDUSTRY GROWTH

The infusion of new visitor spending will strengthen the existing businesses and provide an opportunity for new commercial growth. Two sources, the *Urban Land Institute's Dollars & Cents of Shopping Centers (2008)* and information obtained from Hilton's SEC third quarter filings, were referenced to better understand the new square footage requirements. The 2008 figures obtained in the *Dollars & Cents of Shopping Centers* have been inflation-adjusted to reflect current dollar values.

For the food and beverage industry, the median sales per square foot of gross leasing area is \$238.83. Because the new visitor spending will create over \$2 million in new sales, the space needed to support this growth is 8,700 square feet.

The retail spending will support 13,887 square feet of new space, while recreation spending will support 7,480 square feet of new space.

TABLE 10

IMPACT BY INDUSTRY (2017)			
LOCAL INDUSTRY	TOTAL	MEDIAN SALES PER SF GROSS LEASING AREA (GLA), OR PER ROOM	TOTAL SF, OR ROOMS, SUPPORTED
Food and Beverage	\$2,077,761.74	\$238.83	8,700
Lodging	\$1,399,969.77	\$142.50	9,824
Retail	\$2,279,342.85	\$164.14	13,887
Transportation	\$3,907,817.48	\$1,582.03	2,470
Recreation	\$1,978,095.31	\$264.45	7,480

The overnight guests will spend \$1,399,970 on lodging. Using information from Hilton's SEC filing for the third quarter of 2018, it is approximated that the benchmark for revenue per room is \$2,520 or \$10,079 annually. Therefore, the \$1,399,970 generated through this project would support an additional 138 rooms.

TABLE 11

LODGING EXPANSION		
Gross Revenue – Hilton 10K	\$2,253,000,000	\$9,012,000,000
Total Rooms	894,158	894,158
Revenue Per Room Benchmark	\$2,520	\$10,079
TIOGA COUNTY EXPANSION		
Tioga Projected Lodging Gross Sales		\$1,399,970
Revenue Per Room Benchmark		\$10,079
Potential Supported Rooms		139

Source: Hilton 10K September 30, 2018 for the Quarter; Delta Projections



## JOB GROWTH – TRAILHEAD BUILDING AND NEW INDUSTRY GROWTH

Delta utilized IMPLAN to determine the number of jobs that could be created through the construction of the new Trailhead Building, and the industry growth due to additional consumer spending. IMPLAN is a robust economic modeling software used to model development and operational impacts on local economies. This software uses inputs, such as construction costs, employment, or building square footage, to calculate potential employment, tax income, and value added within the community. IMPLAN modeling is typically conducted using two scenarios: Construction and Operations.

TABLE 12

JOB GROWTH									
IMPACT TYPE	CONSUMER SPENDING- NEW INDUSTRY GROWTH			CONSTRUCTION – TRAILHEAD BUILDING			OPERATIONS – TRAILHEAD BUILDING		
	EMPLOYMENT	LABOR INCOME	VALUE ADDED (\$)	EMPLOYMENT	LABOR INCOME	VALUE ADDED (\$)	EMPLOYMENT	LABOR INCOME	VALUE ADDED (\$)
DIRECT EFFECT	97.48	\$1.579 million	\$2.214 million	93	\$4.311 million	\$5.212 million	4	\$71,241	\$137,230
INDIRECT EFFECT	8.79	\$322,126	\$540,619	14	\$604,625	\$1.002 million	.72	\$23,877	\$39,887
INDUCED EFFECT	8.58	\$281,284	\$519,126	22	\$724,891	\$1.344 million	.43	\$14,081	\$25,958
TOTAL EFFECT	114.84	\$2.183 million	\$3.274 million	129	\$5.640 million	\$7.558 million	5.15	\$109,199	\$203,074
Annual State and Local Tax Impact – New Industry Growth		\$547,511		Annual State and Local Tax Impact – Construction of Trailhead Building		\$485,823	Annual State and Local Tax Impact – Operations of Trailhead Building		\$71,252

*Source: IMPLAN and Delta Projections*

*Direct Effect: Number of jobs created directly from activity*

*Indirect Effect: Number of jobs or amount of \$ spend by businesses benefiting from direct spending (business to business)*

*Induced Effect: Spending by households receiving revenue from the Direct or Indirect spending (household to business)*

*Value Added: The total sum of employee compensation, proprietor income, or other property income, and taxes on productions and imports of a net subsidy.*

## STRENGTH OF EXISTING RECREATION INDUSTRY

### LOCATION QUOTIENT

The Location Quotient (LQ) is a measure used to quantify how concentrated a particular industry is within a study area. An LQ that is higher than 1.0 indicates that the industry employs a proportionally higher number of people in Tioga County than the Commonwealth of Pennsylvania. A LQ lower than 1.0 indicates that the industry employs a lower proportion of people in Tioga County than in the Commonwealth.

Analysis shows growing Location Quotients for NAICS Codes 71 (Arts, Entertainment, and Recreation) and 72 (Accommodation and Food Services). The Marsh Creek Greenway will further strengthen and expand these industries.

TABLE 13

HISTORIC CHANGE IN EMPLOYMENT BY 2-DIGIT NAICS, 2012-2017, TIOGA COUNTY						
NAICS	INDUSTRY	3RD Q 2012	3RD Q 2017	2012-2017 CHANGE	2012 Q3 LOCATION QUOTIENT	2017 Q3 LOCATION QUOTIENT
11	Agriculture, Forestry, Fishing and Hunting	111	111	0	2.1	2.1
21	Mining	613	452	-161	7.6	8.0
22	Utilities	171	204	33	2.3	2.6
23	Construction	555	1109	554	1.0	1.9
31	Manufacturing	2219	1853	-366	1.6	1.5
42	Wholesale Trade	660	439	-221	1.2	0.9
44	Retail Trade	1570	1492	-78	1.1	1.1
48	Transportation and Warehousing	655	418	-237	1.3	0.7
51	Information	170	143	-27	0.8	0.7
52	Finance and Insurance	431	435	4	0.7	0.8
53	Real Estate and Rental and Leasing	74	76	2	0.5	0.5
54	Professional, Scientific, and Technical Services	355	326	-29	0.5	0.4
55	Management of Companies and Enterprises	44	49	5	0.1	0.2
56	Administration & Support, Waste Management and Remediation	222	254	32	0.3	0.4
61	Educational Services	672	803	131	0.7	0.9
62	Health Care and Social Assistance	2022	1646	-376	0.9	0.7
71	Arts, Entertainment, and Recreation	126	369	243	0.5	1.4
72	Accommodation and Food Services	1066	1115	49	1.0	1.1
81	Other Services (excluding Public Administration)	378	355	-23	0.8	0.8
90	Public Administration	749	711	-38	2.0	1.7
	<b>TOTAL</b>	<b>12,863</b>	<b>12,360</b>	<b>-503</b>		

Source: U.S. Census Bureau Quarterly Workforce Indicators

## CURRENT HEALTH RANKINGS AND ROADMAPS

County Health Rankings & Roadmaps <sup>[2]</sup> is a collaborative effort between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Using these statistical rankings, a county gains a baseline for proposed health improvement projects. Currently, Tioga County residents' access to exercise opportunities (29%) falls significantly short as compared to the entire Commonwealth of Pennsylvania (68%).

Construction of the Marsh Creek Greenway will provide a new recreation asset that will provide a tremendous health benefit, greatly enhancing the well-being of Tioga County residents.

TABLE 14

TIOGA	FACTOR	PENNSYLVANIA
33%	Adult Obesity	30%
12%	Diabetes Prevalence	11%
26%	Physical Inactivity	24%
29%	Access to Exercise Opportunities	68%
14%	Population in Poor or Fair Health	15%

HEALTH AND WELLNESS

DISTANCE OF MEDICAL FACILITIES FROM TRAILHEAD

Once operation of the Marsh Creek Greenway commences, Tioga County residents will have a conveniently located venue for outdoor recreation. The proposed trailhead's proximity to local healthcare facilities ensures ease of access for all Tioga County residents seeking to live a healthier lifestyle.

FIGURE 8



**HEALTH BENEFITS**

**HOW THE GREENWAY WILL HELP**

According to the U.S. Department of Health and Human Services<sup>[7]</sup>, adults should get approximately 150 minutes of moderate aerobic activity or 75 minutes of rigorous aerobic activity a week. In general, American adults should aim for approximately 30 minutes of moderate physical activity per day. The Mayo Clinic<sup>[8]</sup> calculates that a 160 lb. adult can burn approximately:

- 314 calories in walking 3.5 MPH for 1-hour, or the approximate length of the Greenway.
- 292 calories doing leisurely bicycling for 1-hour, and
- 438 calories hiking for 1-hour

By using the Greenway for daily exercise, Tioga County residents stand to reap the benefits of an active lifestyle.

FIGURE 9

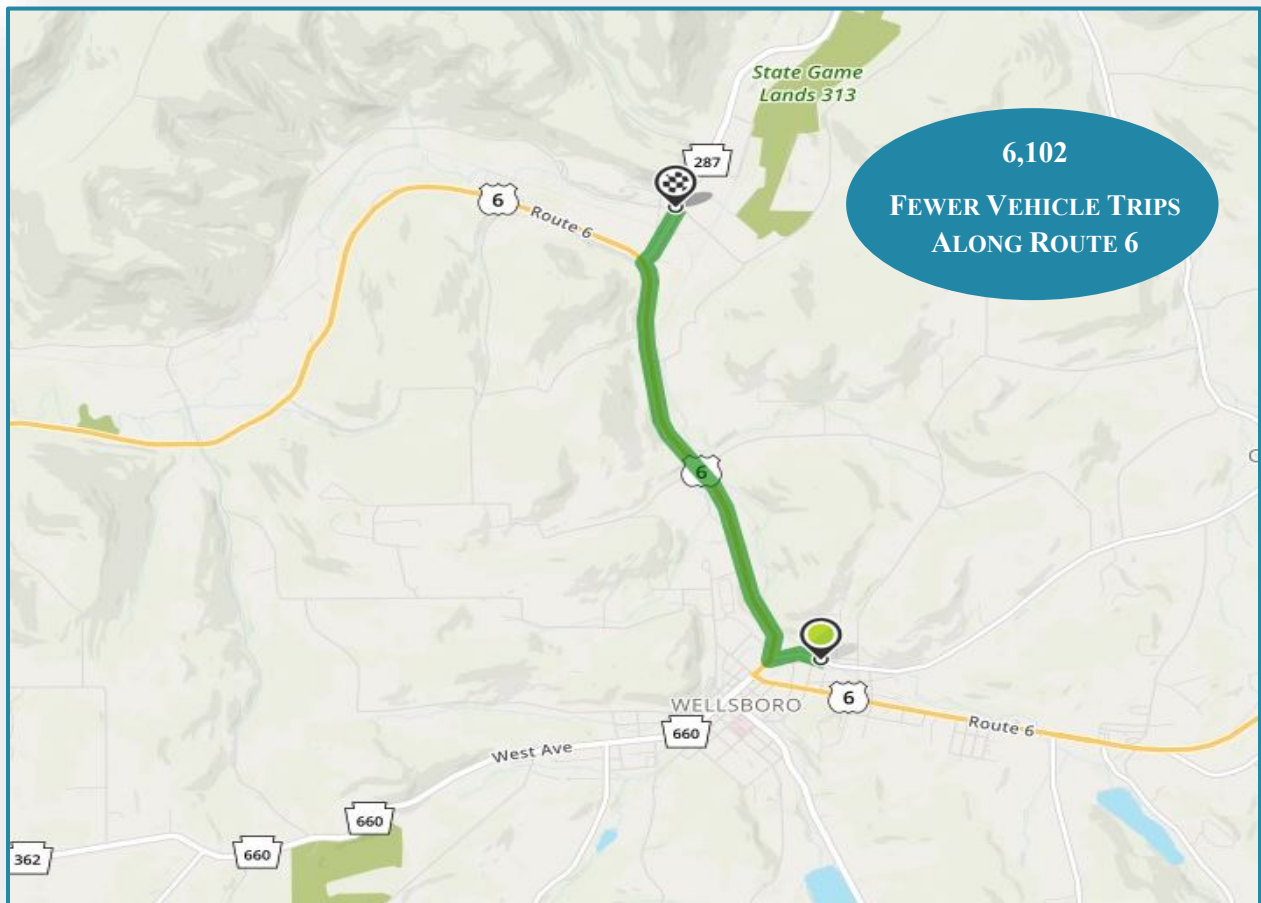


Source: The Mayo Clinic

TRANSPORTATION IMPACTS - DRAFT

Upon completion of the Marsh Creek Greenway, Marsh Creek Greenway users will be able to access points of interest without making the journey via automobile along U.S. Route 6. According to PennDOT's 2017 Traffic Map <sup>[11]</sup>, U.S. Route 6 between Wellsboro and the Pine Creek Trail trailhead is traveled approximately 6,900 times per day. The same map indicates that there are approximately 27,450 vehicles entering and exiting Wellsboro per day. Therefore, approximately 25.1% of all traffic to and from Wellsboro travels along the Route 6 Corridor. According to the Federal Highway Administration, Americans drive with an average of 1.68 occupants per vehicle <sup>[12]</sup>. By dividing the total number of unique users by the average number of occupants per vehicle, and then multiplying by the percentage of vehicles entering/exiting Wellsboro along the Route 6 Corridor, it can be expected that construction of the Marsh Creek Greenway will result in the reduction of 6,102 vehicle trips along the Route 6 Corridor per year.

FIGURE 10 – (40,846 ANNUAL UNIQUE USERS/1.68 USERS PER VEHICLE) 25.1% ENTERING ON THE ROUTE 6 CORRIDOR



ENVIRONMENTAL IMPACTS - DRAFT

GREENHOUSE GAS IMPACTS

According to the Federal Highway Administration, Americans drive with an average of 1.68 occupants per vehicle [16]. Analysis from the previous page indicates that approximately 25.1% of Wellsboro traffic enters/exits along the Route 6 Corridor. This indicates that 74.9% of all other traffic approaches from different directions, and therefore would have to drive an additional 9.2 miles to get to the Pine Creek Trail trailhead along PA Route 287. According to the U.S. EPA, the average fuel economy for U.S. vehicles is 24.9 MPG [17]. By correlating these variables, it can be assumed that operation of the Marsh Creek Greenway will result in 2,343 fewer gallons of gasoline consumed per year.

- $(40,846/1.68) \times 74.9\% = 18,235$  Vehicle Trips
- $18,235 \text{ Vehicle Trips} \times 3.2 \text{ Miles} = 58,351$  miles per year reduced
- $58,351 \text{ Vehicle Miles Traveled}/24.9 \text{ MPG} = 2,343$  Fewer Gallons of Gasoline Consumed

FIGURE 11

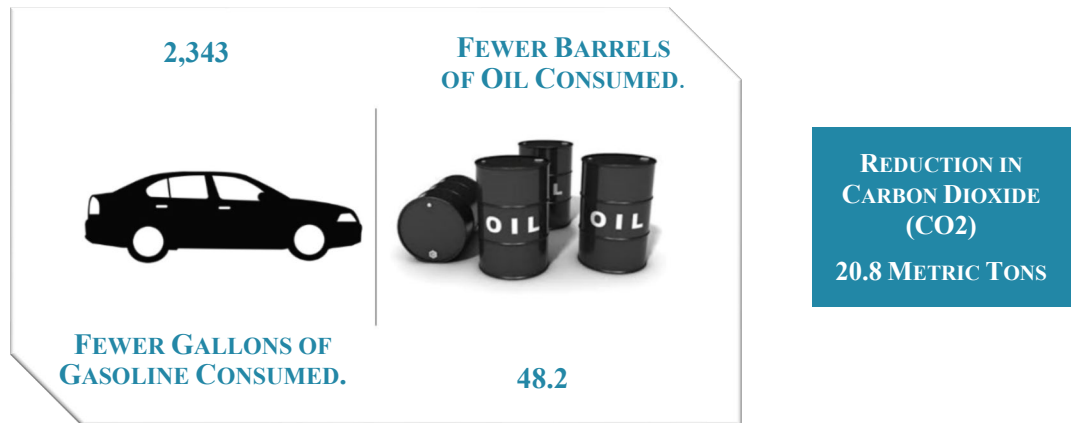


FIGURE 12

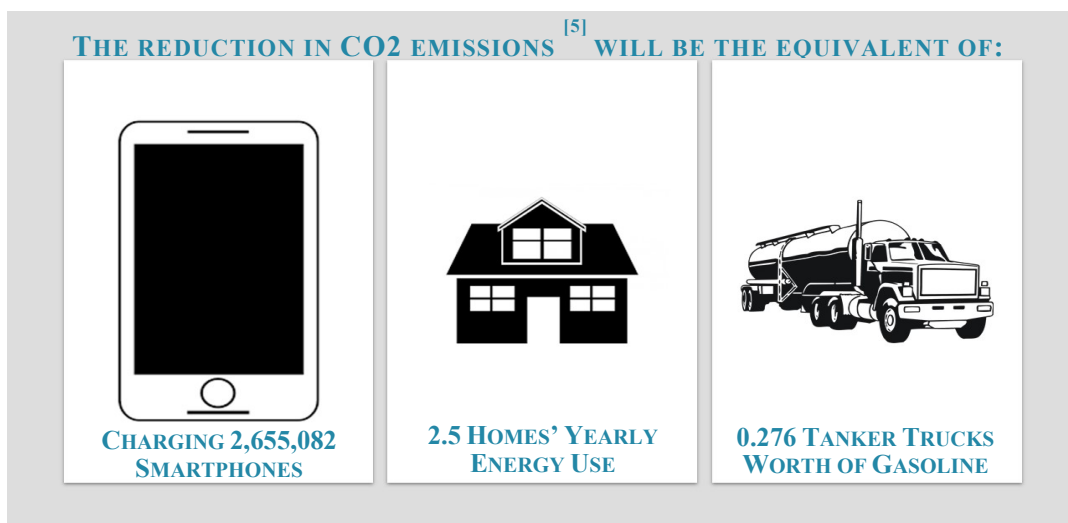
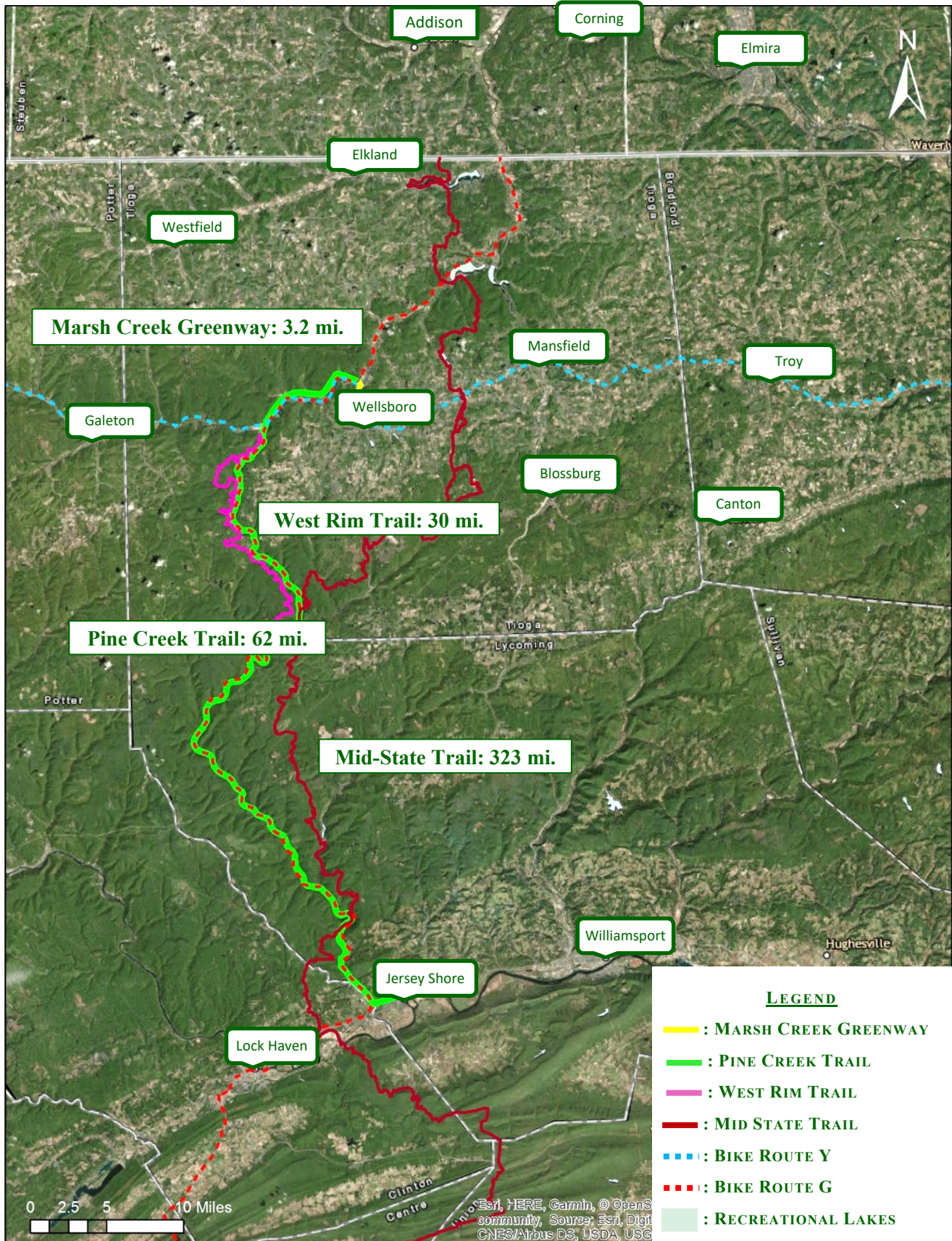


FIGURE 13





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