



HP201 – Spring 2020

NYOR Community Metrics

Presentation and Summary for the New York Olympic Region Community

17 April 2020

Agenda

- Groups and Make-up
- By Group; Metric Review
 - Metric Name, Short Description, and Value(s)
 - Metric Issues/Challenges/Notes
 - Metric Maintenance
 - Other Information
- Lessons Learned (combination from all groups)
- All Metrics - Summary Card
- Questions, Comments, Thoughts

HP200/201 Group Make-up

Water/Weather

- Maya Cliffe
- Peter Fatouros
- Pieter Heyn
- Megan Wig

Energy 1

- Kevin Alvarado
- Nate Beaupre
- Nick Kachala
- Aaron Kummer
- Marcos Seef

Energy 2

- Brendan Barrow
- Allie Bowman
- Will Martin
- Kyle Locklear
- Abe Hurtic
- Tony Koppers

Land Use/ Transport 1

- Jenette DiLaura
- Jacob Gately
- Kristen Goebel
- Toby Harmon
- Zoe Murray
- Morgan Reynolds
- Matt Rose

Land Use/ Transport 2

- Michael Plocinik
- Rachel Rackliff
- Aria Belle
- Olivia Brown
- Caitlyn McAfee

Residential Stats 1

- Bryan Benitez
- Kalen Bjerga
- Emily Kehoe
- Peter-John King
- Ben Slenker
- Jake Swanson

Residential Stats 2

- Rhiannon Clements
- Cindy Jiang
- Brenna Kokosenski
- Sarah McKinley
- Colin Patricelli
- Loria Sun

Waste

- Sarah Inzerillo
- Autumn Lennon
- Rosalind Bendell
- Nicholas Schalago
- Mikenzie Barankovich

ORDA and NYOR

- Aria Stephan
- Garret Stoyell
- Andrew Lally
- Becca May

HP200/201 Group Metrics

Water/Weather	Energy 1	Energy 2	Land Use/Transport 1	Land Use/Transport 2	Residential Stats 1	Residential Stats 2	Waste	ORDA and NYOR
<ul style="list-style-type: none"> LPCSD Rainwater Collected (Gal/yr) HDD CDD Annual Rainfall Weir Extraction Self-Supplied Water (# Households) Municipal Water (# Households) Public Water Proportion 	<ul style="list-style-type: none"> Solar Renewable Production Wind Renewable Production Hydro Renewable Production Biomass Renewable Production Renewable energy consumed Municipal Energy Use Residential Energy Use Commercial Energy Use 	<ul style="list-style-type: none"> EV charging stations LPCSD Renewable Energy Consumed % Renewable Energy Consumed % Electricity Produced Electricity Consumed Geothermal Sidewalk Adjacency (# businesses) Geothermal heated homes LPCSD energy use 	<ul style="list-style-type: none"> Universal Access trail (mi) Distance to trails (pop. w/in dist. to) Public parks and playgrounds (area) Sustainable multiuse trail (mi) Maintained Nordic ski trail (mi) Maintained alpine ski trail (mi) Pedestrian infrastructure (mi/sq. mi) Vehicle-less worker % 	<ul style="list-style-type: none"> Transpo. bike infrastructure (mi/sq. mi) Singletrack mountain bike trail (mi) Visitors who use public transpo. (#) Resident public transportation commuters (#) ADA compliant trails (mi) Residential properties not owned by locals Residential properties listed for short term rental Recreational bike infrastructure (mi/sq. mi) 	<ul style="list-style-type: none"> Residential buildings with access to high speed internet (100Mbps) Population with health insurance coverage Cost of living Voter turnout # of volunteers at events % population below poverty line Collection of unemployment benefits # public access buildings with access to high speed internet (100Mbps*) 	<ul style="list-style-type: none"> Number of farmer's markets per year Public access to facilities Population who spend more than 30% of income on housing People using green appliance incentive programs Participants in farmers' markets (#/yr) Buildings certified under a sustainability program % metered connected users LEED certified buildings 	<ul style="list-style-type: none"> Total recyclable waste collected Municipal solid waste collection coverage # businesses committed to reducing or eliminating single-us Total recyclable waste collected at large community events Total municipal recycling coverage 	<ul style="list-style-type: none"> Total energy used for snowmaking (kWh) Total energy used for large scale refrigeration (kWh) Pump efficiency Annual water usage for snowmaking Total energy use in NYOR



Weather and Water

Water and Weather – Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
Rainwater Collected (Gal/yr)	This metric measures the amount of rainwater collected, in gallons by the Lake Placid Central School (LPCSD).	74,700 gallons	Annual/ LPCSD	LPCSD	Maya Cliffe
Annual Heating Degree Day (HDD)	Measures the number of degree days in which the temperature is above 65° F which can be used to quantify heating needs	8,350° F/year	Annual/ US Climate Data	All	Meg Wig
Annual Cooling Degree Day (CDD)	Measures the number of degree days in which the temperature is below 65° F which can be used to quantify cooling needs	11° F/year	Annual/ US Climate Data	All	Meg Wig
Annual Rainfall	The average amount of total rain over a year that falls in the Lake Placid and North Elba region.	41 inches/year	Annual/ NWS	Lake Placid/North Elba	Maya Cliffe
Weir Extraction	This metric measures the total quantity of water extracted at weirs in gallons per year primarily used at ski resorts in the area	300,000 gal/year	Annual/ ORDA	ORDA	Pieter Heyn
Self-Supplied Water (# Households)	This metric measures the number of households that have self-supplied water instead of using municipal water supply	50 households	Annual/ Lake Placid water resources	Lake Placid water resources	Pieter Heyn
Municipal Water (# Households)	The number of households with public water in the Village of Lake Placid.	2500 households	Annual/ Village of LP	Village of Lake Placid	Peter Fatouros
Public Water Proportion	The number of households with public water divided by the total number of households within the region.	0.98	Annual/ Village of LP	Village of Lake Placid	Peter Fatouros

Water and Weather - Metric Issues/Challenges/Notes

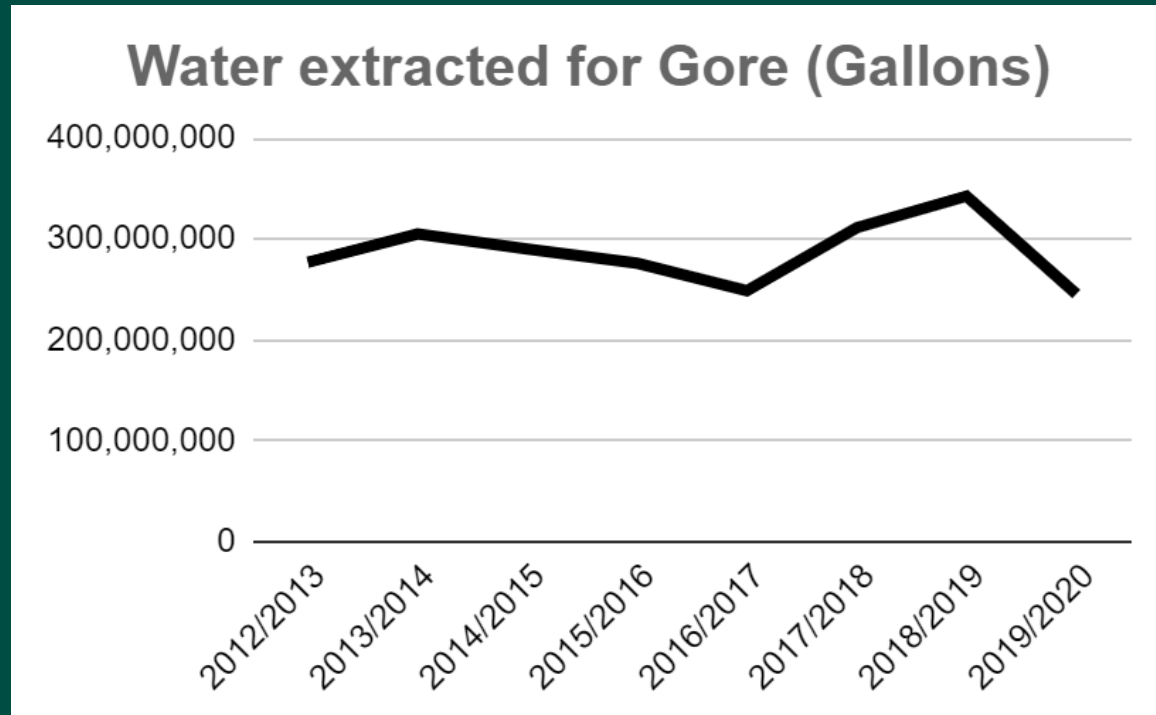
Metric	Issue/Challenge	Future Work/Notes
Gallons of Rainwater Collected	The Lake Placid School District had no information to give on amount of rainwater collected, which building was used, or how many months they collect rainwater.	The school should start to record the amount of rainwater they collect. The building used should be identified and measured so that the current calculations can be updated.

Water and Weather - Metric Maintenance

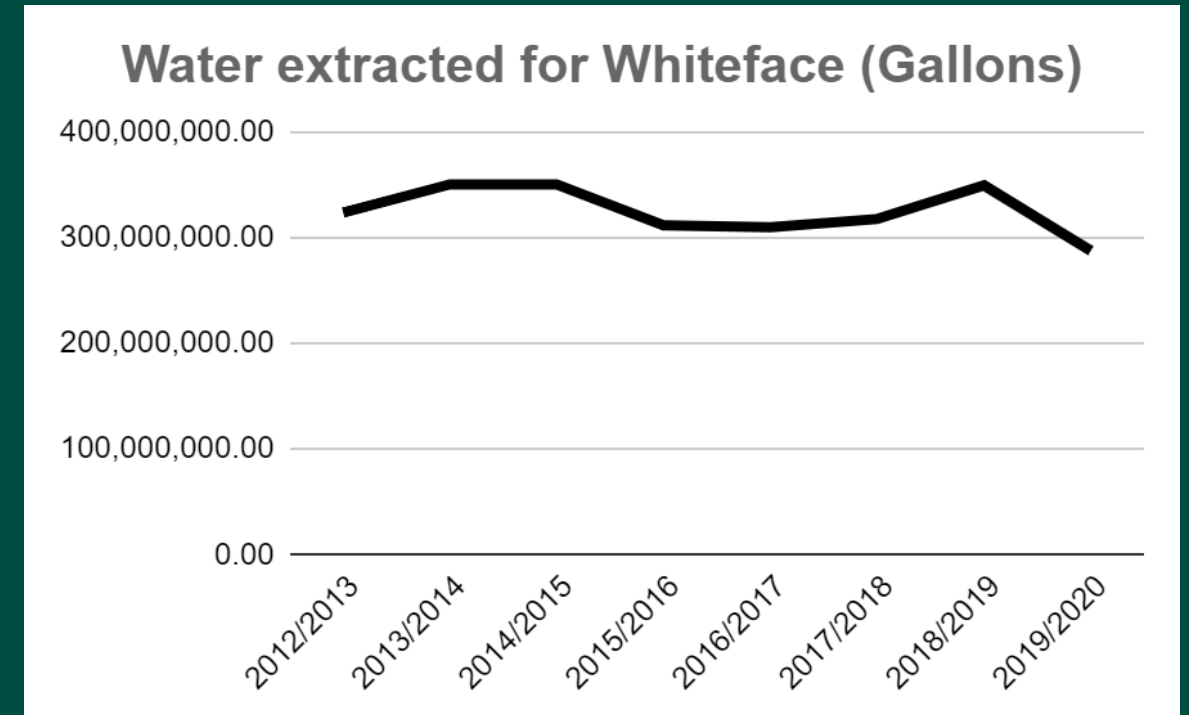
Metric	Data Needed	Data Source	Formula
Rainwater Collected (Gal/yr)	Gallons of rainwater collected by the school every year	Lake Placid School, US Climate Data	Amount of rainfall*Area of Building*Catchment Coefficient
HDD	Annual high and low daily temperature for each day of the year	US Climate Data	Sum of the average of high and low temperature (in ° F) minus 65 for each day the average is over 65
CDD	Annual high and low daily temperature for each day of the year	US Climate Data	Sum of 65 minus the average of high and low temperature (in ° F) for each day the average is under 65
Annual Rainfall	Annual rainfall in Lake Placid	US Climate Data	N/A
Weir Extraction	Total amount of water extracted from weirs	ORDA	N/A
Self-Supplied Water (# Households)	Number of households with self-supplied water	Lake Placid water resources	N/A
Municipal Water (# Households)	Number of households with municipal water	Lake Placid water resources	N/A
Public Water Proportion	Information from the above two metrics	Lake Placid water resources	Number of households with municipal water divided by the total number of households

Weather and Water – Other Information

Gore:



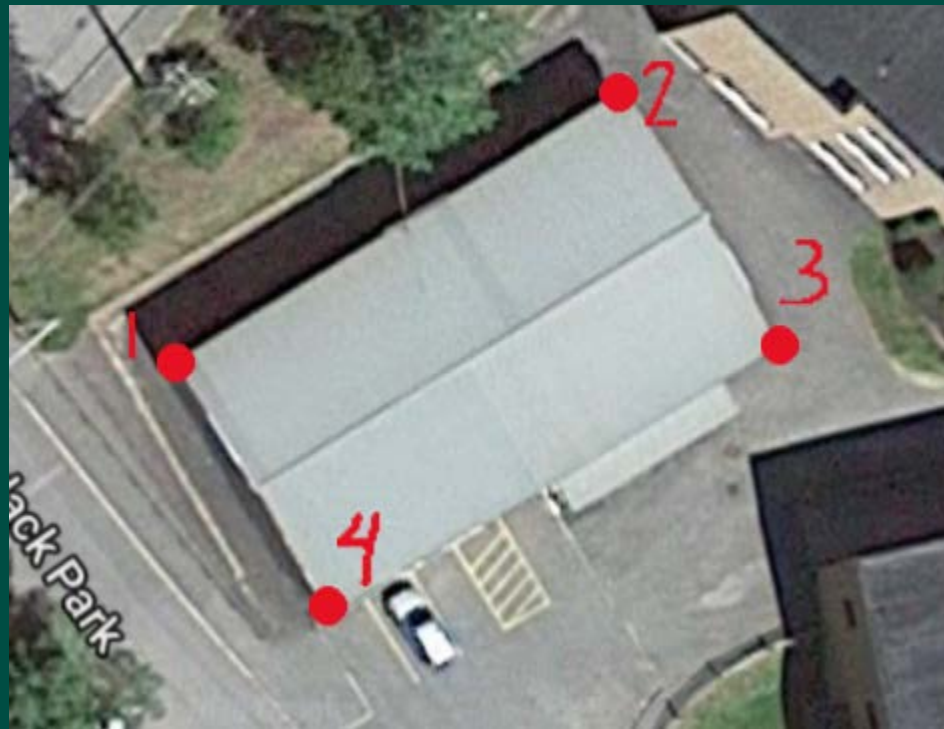
Whiteface:



Weather and Water – Other Information

Gallons of Rainwater Collected Method:

- From aerial imagery



$$\text{Equation 1}^3: \text{Volume (liters)} = r * A * C_1 * C_{\text{eff}} * C_2$$

r = rainfall in millimeters

A = area in m^2

C_1 = conversion factor from millimeters to meters

C_{eff} = constant for the efficiency of the catchment system (0.8)

C_2 = the conversion factor from m^3 to liters

Month	Rainfall (mm)	Catchment Area (m^2)	Conversion (m/mm)	Catchment Coefficient	Catchment (m^3)	Catchment (L)	Catchment (Gal)
January	0	600.00	0.001	0.8	0.00	0	0
February	0	600.00	0.001	0.8	0.00	0	0
March	0	600.00	0.001	0.8	0.00	0	0
April	70.866	600.00	0.001	0.8	34.02	34,016	8985.990217
May	88.646	600.00	0.001	0.8	42.55	42,550	11240.53973
June	113.538	600.00	0.001	0.8	54.50	54,498	14396.90906
July	110.744	600.00	0.001	0.8	53.16	53,157	14042.6227
August	105.41	600.00	0.001	0.8	50.60	50,597	13366.25785
September	99.568	600.00	0.001	0.8	47.79	47,793	12625.47729
October	0	600.00	0.001	0.8	0.00	0	0
November	0	600.00	0.001	0.8	0.00	0	0
December	0	600.00	0.001	0.8	0.00	0	0
					Annual Catchment	282,611	74658



Energy 1

Energy 1 – Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
Renewable Energy produced from Wind	This metric measures the amount of energy produced by wind turbine installations	~0 kWh	APA Regulations	North Elba & Lake Placid	Aaron Kummer
Renewable Energy produced from Solar	This metric measures the amount of energy produced by solar installations	7,161,012 kWh**	Yearly NYSERDA	North Elba & Lake Placid	Nate Beaupre
Renewable Energy produced from Hydro	This metric measures the amount of energy produced by hydroelectric facilities	\$12,335**	Yearly NYPA Rep.	North Elba & Lake Placid	Nick Kachala
Energy produced from Biomass	This metric measures the amount of energy produced by biomass sources	Undetermined**	N/A	North Elba & Lake Placid	Marcos Seef
Total Renewable Energy Consumed	This metric measures the total energy consumed from renewable sources	183,008,410 kWh	Yearly NYPA Rep.	North Elba & Lake Placid	Nick Kachala
Total Municipal Energy Consumed	This metric measures energy consumed by municipally-owned operations	30,445,590 kWh	Yearly NYPA Rep.	North Elba & Lake Placid	Kevin Alvarado
Total Commercial Energy Consumed	This metric measures energy consumed by commercial buildings	61,635,772 kWh	Yearly NYPA Rep.	North Elba & Lake Placid	Kevin and Aaron
Total Residential Energy Consumed	This metric measures energy consumed by residential buildings	81,125,553 kWh	Yearly NYPA Rep.	North Elba & Lake Placid	Kevin and Aaron

Energy 1 - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
Renewable energy produced from biomass	We have contacted many individuals, companies, and organizations that work for the interested region and others that do have general information about wood heating and no data was provided or available.	North Elba town clerk would ask the residents of North Elba which include Lake placid, the school district, and NYOR to report an estimate of how much wood a household burned over a winter. After collecting such data, a trend will eventually appear that we can build future plans around.
Renewable energy produced from solar	No data on sites that are near the town, NYSERDA data only has information on total county projects.	Determining the amount of self owned solar panels in the town as well as the projects that fall within town jurisdiction to get a more accurate metric value.
Total renewable energy consumed	Since electricity generation is hard to source, given the various grids that provide power to the region and the facilities that add power to their grids, it was assumed that all energy consumed is renewable.	Better methods for determining the sourcing of electricity i.e. a way to determine what percent of electricity comes from natural gas and not hydropower.

Energy 1 - Metric Maintenance

Metric	Data Needed	Data Source	Formula
Renewable Energy produced from Wind	Electricity generated from wind turbines	APA Regulations on Wind Turbine Installation	N/A
Renewable Energy produced from Solar	Power capacity of solar installations	NYSERDA NY-SUN	Power * Average sunlight hours/month * 12 months
Renewable Energy produced from Hydro	Electricity generated by hydro facilities within the region	NYPA LP Fiscal Report	None - Directly from Report
Energy produced from Biomass	Make a biomass data collection system (yearly form, app, etc)	N/A	N/A
Total Renewable Energy Consumed	Electric energy produced and imported to the region	NYPA LP Fiscal Report	None - Directly from report
Total Municipal Energy Consumed	Electric energy consumed by municipally-owned operations	NYPA LP Fiscal Report	Sum of all public facility energy use
Total Commercial Energy Consumed	Electric energy consumed by commercial buildings	NYPA LP Fiscal Report	None - Directly from report
Total Residential Energy Consumed	Electric energy consumed by households and residences	NYPA LP Fiscal Report	None - Directly from report

Energy 1 – Other Information

- Wind Energy APA regulations make it difficult to install large turbines in the region
 - This, along with other supporting sources led to the conclusion that there is minimal wind energy production in the region
- Hydro energy is measured in dollars due to the Lake Placid Municipal department buying and selling hydro energy.
 - There is only one hydro dam in the region, and they buy and sell the energy as needed
 - Do want them to start putting it into kiloWatt*hours
- Biomass is hard to measure depending on how it is defined.
 - Does biomass energy fall into the renewable category?



Energy 2

Energy 2 – Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
Number of Buildings Adjacent to Geothermal Sidewalks	A basic count of the number of businesses that are adjacent to geothermal sidewalks	0	N?A	North Elba, Lake Placid	Abe Hurtic
Number of Houses with Geothermal Heating	A count of the number of houses that use geothermal energy as their main source of heat.	0*	N/A/ Lake Placid Permit Coordinator	North Elba, Lake Placid	Kyle Locklear
Total Energy Produced/Consumed	The total number value of the energy consumed/produced in NYOR	183,008,410 kWh	Annual/ NYPA Rep.	North Elba, Lake Placid, ORDA	Allie Bowman
Total LPCSD Energy Use	The total energy the Lake Placid Central School District uses	2,272,700 kWh	Annual/ LPCSD	LPCSD	Brendan Barrow
Number of Electric Vehicle Charging Stations	Simple count of available charging stations for electric vehicles within the region. Private, membership only, and all charging types are included.	5	www.plugs-hare.com	North Elba, Lake Placid	William Martin

Energy 2 - Metric Issues/Challenges/Notes

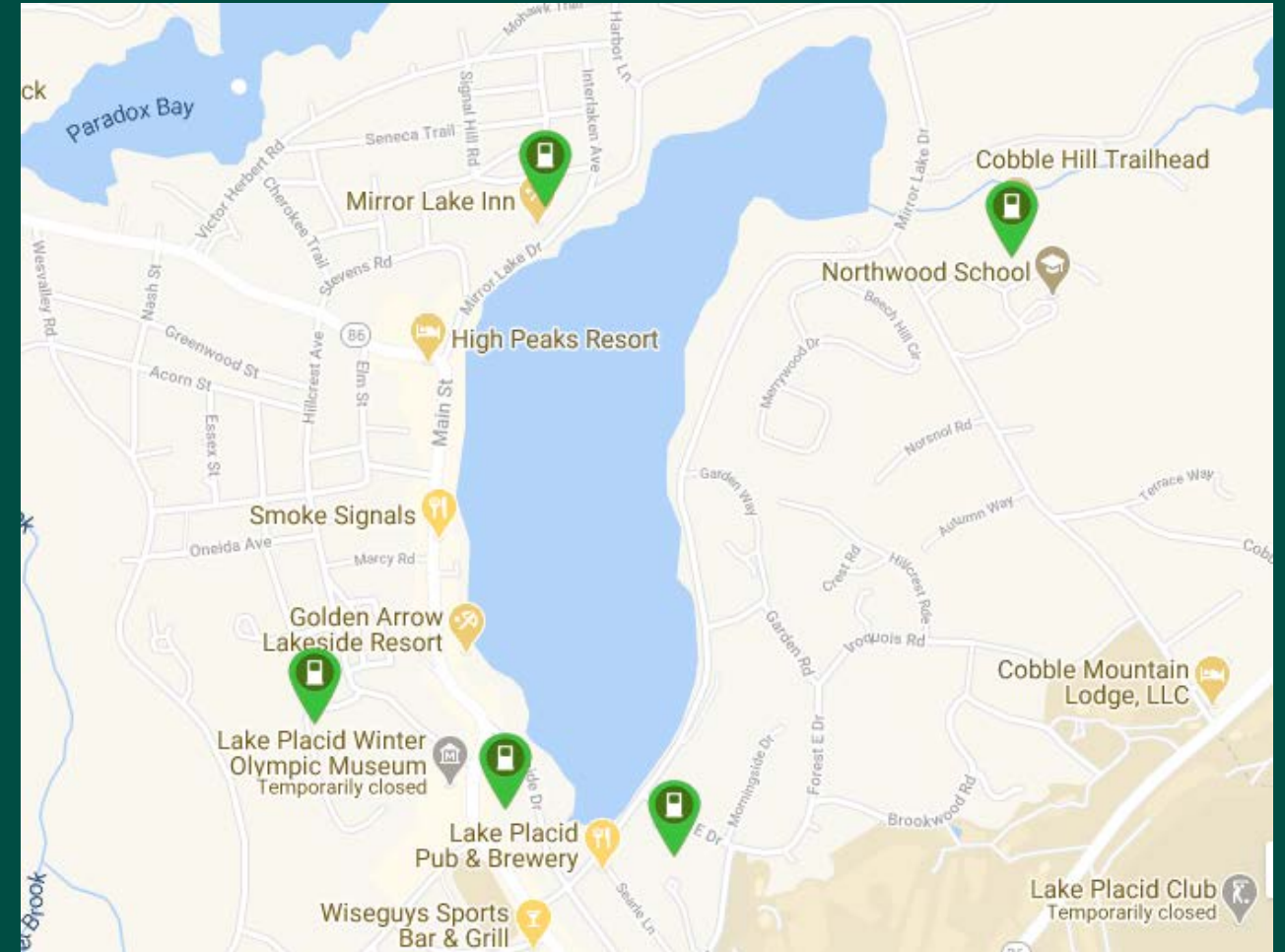
Metric	Issue/Challenge	Future Work/Notes
Number of Buildings Adjacent to Geothermal Sidewalks	There is a plan to install geothermal sidewalks in Lake Placid that has not been updated recently.	The plan does not have any details about building sidewalks, contacting the Village of Lake Placid could provide more information.
Number of Houses with Geothermal Heating	The county has no records of geothermal installations and there was no clear company to contact.	There may be more companies to contact that have installed geothermal heating systems, more research is required.
Total Energy Produced/Consumed	Much of the nonrenewable energy consumed is imported into the region to private residential facilities which made determining a numeric value for this metric challenging.	Further research could be done concerning electricity importation to private sources.
Total LPCSD Energy Use	It was difficult to obtain energy data which was not electricity.	The school may have records of gasoline use and heating, they did not provide it with the electricity bill as requested.

Energy 2 - Metric Maintenance

Metric	Data Needed	Data Source	Formula
Number of Buildings Adjacent to Geothermal Sidewalks	The number of buildings that are adjacent to geothermal sidewalks in Lake Placid.	2014 Lake Placid/North Elba Comprehensive Plan	None - Simple Count
Number of Houses with Geothermal Heating	The number of houses with geothermal heating installations in NYOR.	North Elba Permit Coordinator: Britt Isham	None - Simple Count
Total Energy Produced/Consumed	The total electricity produced and imported annually in NYOR.	NYPA LP Fiscal Report	None - Simple Count
Total LPCSD Energy Use	The amount of energy consumed annually by the LPCSD.	LPCSD Superintendent: Roger Catania	Sum of all energy sources
Number of Electric Vehicle Charging Stations	The number of electric vehicle charging stations within NYOR.	www.plugshare.com	None - Simple Count

Energy 2 – Other Information

The data for the the total electricity produced and consumed in NYOR was generously provided by the Energy 1 group. This metric was a sum total of their reported values.



Map of the electric vehicle charging stations in Lake Placid, obtained from www.plugshare.com



Land Use/Transport 1

Land Use/Transport 1 – Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
Universal Access Trail (mi)	The miles of trails accessible for those with disabilities, must be 3 feet wide with gradual slope.	0.38 mi	As needed/ DEC	All	Jenette DiLaura
Distance to trails (pop w/in dist. to)	The average population living 1, 2, and 3, miles away from a single trailhead.	730 w/in 1 mi 1700 w/in 2 mi 2500 w/in 3 mi	As needed/ ArcGIS, Google Maps	All	Morgan Reynolds
Public Parks and Playgrounds (area)	Total area of public parks and playgrounds in the region.	3.6 sq. mi	As needed/ North Elba Parks Dept.	All	Toby Harmon, Jacob Gately
Sustainable multiuse trail (mi)	The miles of trails in the region that are marked clearly, ADA compliant, maintained bi/tri annually	0 mi	As needed/ DEC	All	Matt Rose
Maintained Nordic ski trails (mi)	The miles of groomed Nordic ski trails in the region.	72 mi	Annual/ ORDA, Ski Centers	All	Kristen Goebel
Maintained Alpine ski trails (mi)	The miles of groomed and glade trails at Whiteface and Gore.	45 mi groomed 7 mi glade	As needed/ ORDA	ORDA	Kristen Goebel
Pedestrian infrastructure (mi/sq. mi)	The miles/sq.miles of pedestrian infrastructure, specifically sidewalks	0.065 mi/sq. mi	As needed/ ArcGIS	All	Zoe Murray
Vehicle-less worker %	Percentage of local employees without vehicle access.	2.9% North Elba 4.6% Village of LP 3.2% LPCSD	5 years/ US Census Bureau	All	Toby Harmon, Jacob Gately

Land Use/Transport 1 - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
Distance to trails (pop w/in dist. to)	<p>Populations had to be estimated based on daytime population, which give the locations where people are during the day and the average number of people at all locations. People were counted multiple times if they are near multiple trails, so the average population near a trailhead was calculated instead of the total population near a trailhead.</p>	<p>Population numbers could be improved by either getting nighttime data, which better shows where people actually live, or by getting direct population. Finding a way to remove duplicated populations would allow for the finding of the total number of people, rather than the average number of people living near any trailhead.</p>
Pedestrian infrastructure (mi/sq. mi)	<p>No official record of pedestrian infrastructure could be found, so the sidewalks had to be manually located using satellite images, a very time consuming process that is open to error.</p>	<p>The time to update this metric would be greatly reduced if an official record of all sidewalks in the region was created.</p>

Land Use/Transport 1 - Metric Maintenance

Metric	Data Needed	Data Source	Formula
Universal Access trail (mi)	Length in miles of all universal access trails in the region	NYSDEC	Sum of trail length
Distance to trails (pop. w/in dist. to)	Trailhead and street locations, household locations and average household size	ArcGis, Google Maps Services	Number of locations times average population size for each trail, average for all trails
Public parks and playgrounds (area)	Area of each public park and playground	Town of North Elba Parks Department	Sum of areas (in sq. mi)
Sustainable multiuse trail (mi)	Length in miles of all sustainable multiuse trails in the region	NYSDEC	Sum of trail lengths
Maintained Nordic ski trails (mi)	Length in miles of groomed Nordic ski trails in the region	ORDA Unit Management Plans, contact with other ski centers	Sum of trails lengths
Maintained alpine ski trails (mi)	Length in miles of the groomed and glade alpine trails at Whiteface and Gore	ORDA Unit Management Plans	Sum of trail lengths
Pedestrian Infrastructure (mi/sq. mi)	Miles of pedestrian infrastructure, total area of NYOR	ArcGIS	Miles of infrastructure divided by the area of the region
Vehicle-less worker %	Population of employed citizens, total and without vehicle access	US Census Bureau American Fact Finder	Workers without vehicles divided by total workers times 100%

Land Use/Transport 1 – Other Information

View in ArcGIS of streets in Lake Placid.

Every road in the region had to be marked as having a sidewalk on 0, 1, or 2 sides to calculate total sidewalk length.



LPC_Roads_Sidewalks: Main Street	
NYSStreetID	517,478,481
LeftFromAddress	2505
LeftToAddress	2585
RightFromAddress	2502
RightToAddress	2584
CompleteStreetName	Main Street
ACC	3-Major Road
Sidewalks_0_1_02_2	2



Land Use/Transport 2

Land Use/Transport 2 – Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
Miles of Singletrack Mountain Bike Trails	The number of miles of trails classified as singletrack mountain bike trails	93 miles of trails, 73 different trails	Updated seasonally by TrailForks	All	Rachel Rackliff
Recreation Bike Trails	Miles of multi-use recreational trails that are bike accessible	16.7 miles	Annually/Emma Lamy at ORDA	All	Rachel Rackliff
Transportation Bike Infrastructure	Miles of bike lanes and the number and location of bike racks	0 miles of bike lanes; 5 bike racks along Main Street in Lake Placid	Annually/Dean Dietrich.	All	Rachel Rackliff
Miles of trails that are ADA compliant	Trails that comply with the explicit Americans with Disabilities Act guidelines	0 miles of ADA compliant trails	Annually/Holly Kneeshaw at NY DEC	All	Aria Belle
Short Term Rentals	The number of residential properties within NYOR used for short term rentals.	783 short term rentals	Daily/airDNA//Rental Registration Permits	All	Olivia Brown
Seasonal Homes	The number of residential properties within NYOR not owned by locals.	1,250 Homes or 23.3% of Homes	Every Decade/Esri Census Data	All	Caitlyn McAfee
Number of Visitors using Public Transportation	The number of visiting people who use buses, shuttles, and trolleys (not including taxis)	N/A // 0 People	None collecting // future plan	All	Michael Plocinik
Number of Residents Using Public Transportation	The number of residents who use buses, shuttles, and trolleys (not including taxis)	N/A // 0 People	None collecting // future plan	All	Michael Plocinik

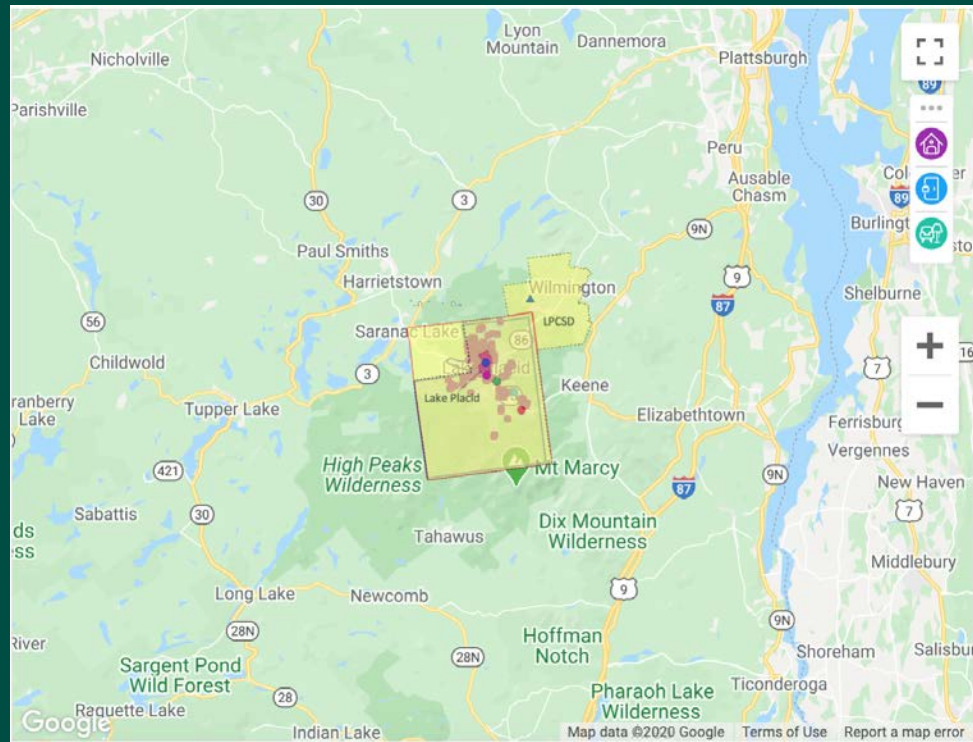
Land Use/Transport 2 - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
Miles of Singletrack Mountain Bike Trails	Difficulties navigating Trailforks. Lack of precise information from BETA	Contact the Adirondack Mountain Club again for more precise information. Contact local bike shops again for additional/untracked trails
Recreational Bike Trails	Difficult to define. Data only found for trails on Mt. Van Hoevenberg; not for the total miles within the boundary.	Contact the Adirondack Mountain Club again for more precise information regarding bike accessible multi-use trails in Lake Placid and North Elba.
Transportation Bike Infrastructure	Information not in one place, and existing information was sparse.	Contact the Lake Placid and North Elba Highway Department to discuss the possibility of adding bike lanes. Contact the Lake Placid Rotary Club to discuss adding more bike racks in town.
Miles of trails that are ADA compliant	Defining ADA Trails - ADA guidelines are extensive and particular - difficult to categorize trails as fully ADA compliant. Discussion with Holly Kneeshaw and Dean Dietrich concluded there are not yet compliant trails.	All future trails built should be recorded on the NY DEC website and used to update this metric.
Short Term Rentals	Present source (airDNA) does not tell the number of days a rental is available. This makes it hard to regulate use. AirDNA also does not provide information on ownership.	In the future, permits will be required for short term rental ownership. The North Elba/Lake Placid Code Enforcement Office will be responsible for these permits.
Properties Not owned by Locals	Tried to contact the tax collector to verify the value from esri but did not receive any calls back.	Use property tax data! If you can compare the zipcodes of the region to the zipcodes of where bills are being sent you can verify and update the value annually.
People Using Public Transportation	Issue: Zero data found after checking multiple sources. Challenge: Creating a way to track this metric	A system of QR Code scanning could be implemented in the future for easy tracking.

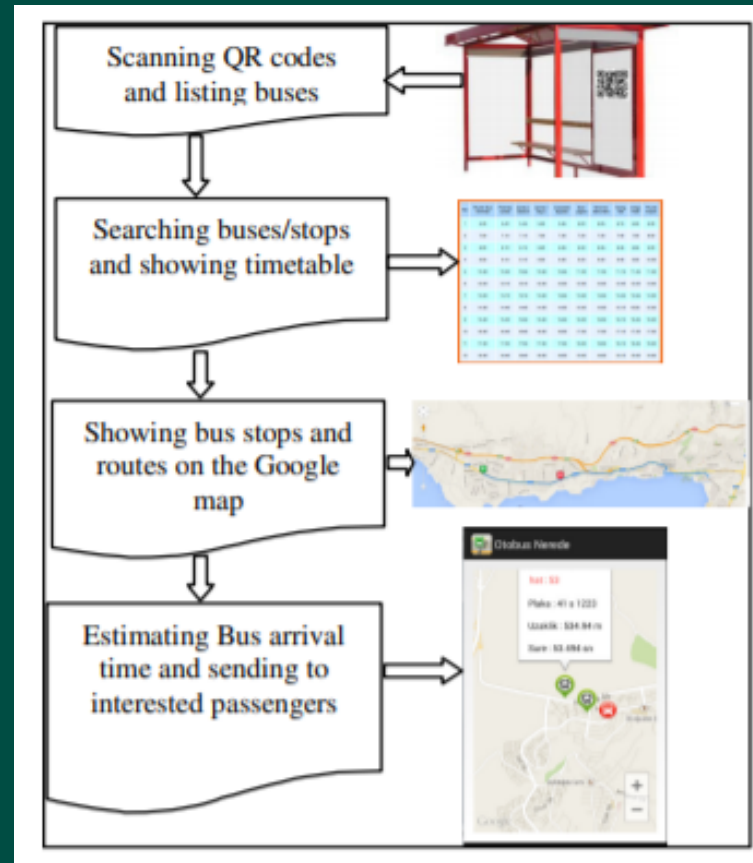
Land Use/Transport 2 - Metric Maintenance

Metric	Data Needed	Data Source	Formula
Miles of Singletrack Mountain Bike Trails	Miles of trails classified as singletrack trails and the number of trails.	Barkeaters Trail Association Trailforks	N/A
Recreational Bike Trails	Miles of multi-use recreational trails that are bike accessible.	Emma Lamy: Sustainability & Environmental Compliance Officer at ORDA	N/A
Transportation Bike Infrastructure	Miles of bike lanes, and the number and location of bike racks	Dean Dietrich Martha Spear: Lake Placid Rotary Club Kenneth Porter: Town of North Elba Highway Department	N/A
Miles of trails that are ADA (Americans with Disabilities Act) compliant.	Any future mileage once there are trails built.	Holly Kneeshaw, ADA Coordinator of Essex County. NY DEC Accessibility Program website.	N/A
Short Term Rentals	Number of residential homes used for short term rentals	AirDNA	Counting the location markers on the airDNA map
Properties Not owned by Locals	Number of homes not owned by region locals	Census data until regions property tax data is used	N/A
Visitors Using Public Transportation	Number of visitors using specified modes of transportation	Future: system of QR Codes	N/A
Residents Using Public Transportation	Number of residents using specified modes of transportation	Future: system of QR Codes	N/A

Land Use/Transport 2 – Other Information



Region Boundaries and AirDNA map overlay



Example system of QR Code scanning for tracking people using public transportation

Region Details

▲ ● ● ▲ ◆
1 3 13 50 6

Activities

Mountain Bike Hike
Trail Running Snowshoe

Region Status

✖ Closed as of Mar 24, 2020

Stats

Avg Trail Rating: ★★★★★☆

Trails (view details): 73

Total Distance: 93 miles

Total Descent: 6,601 ft

Total Vertical: 654 ft

Highest Trailhead: 2,315 ft

Reports: 465

Photos: 39

Ridden Counter: 3,366

Data collected from TrailForks about number and miles of singletrack mountain bike trails



Residential 1

Residential 1– Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
# Res. Buildings w/ access to high speed internet	This metric measure the amount of seasonal and year round residencies in the area that have access to high speed internet	3450	As updated by NYS database	N/A	Bryan Benitez
Population with Health Insurance Coverage	This metric measures the population in Essex County that has health insurance coverage.	36,244 people	Census.gov	N/A	Kalen Bjerga
Cost of Living	This metric measured the average costs of everyday needs by comparing the cost to the national average which was set at 100.	Lake Placid: 110.3 North Elba:90.5 Essex County: 86.7	Best Places	N/A	Emily Kehoe
Voter Turnout	This metric measures the rate at which people participate in elections (federal, state and local) annually. This rate is measured as a percentage of the voting age population	30%	Essex County Election Board (annually)	N/A	Peter-John King
# of Volunteers at Events	This metric measures the total number of volunteers at large community events (TNE/VLP) or ORDA events	N/A	As updated, ROOST(TNE /VLP) Jenna Lute (ORDA)	N/A	Ben Slenker
% Population below Poverty Line	This metric measures the percentage of people below the poverty line in Essex County.	19%	Census Data/Dep. of Labor	N/A	Jake Swanson/Ben Slenker
Collection of Unemployment Benefits	This metric measures how many people are potentially collecting unemployment benefits in the North Country.	2,951	North Country Workforce	N/A	Jake Swanson
# Public Access Buildings w/ High Speed Internet	This metric measure the amount of public access buildings in the area that offer access to high speed internet	21	As updated by NYS database	N/A	Bryan Benitez

Residential 1 - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
% Population Below the Poverty Line	The data of the ACS survey used was from 2017, and has proven to be slightly inaccurate	2020 Census data should help with accuracy of this data.
Collection of Unemployment Benefits	The data collected is the total number of residents that are unemployed, not the number that are collecting benefits. Also they are from Essex County and three surrounding counties.	Working more closely with the NC Workforce should yield more favorable data as they are a good local and reliable source
Population with Health Insurance Coverage	There was little health insurance data for North Elba. The metric group had to settle for health insurance data for the entirety of Essex County.	A form or survey for the population might be needed if North Elba-specific health insurance data is desired.
# Volunteers At Events	Efficiently reporting on all events may be challenging for TNE and VLP, as ROOST may not record every event	TNE or VLP may want to consider hiring a volunteer coordinator to ensure this data is collected efficiently

Residential 1 - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
Cost of Living	Finding a source that gave reliable information that did not cost a lot of money to use.	May want to look at some sources that do cost money to see how their numbers compare.
Access to High Speed Internet (Residential and Public Access)	Finding data directly from the providers was difficult as there was multiple and some were very large. The data used is not recent and does not get updated frequently.	A survey could be created to be filled out by the residents of these areas to get a more accurate measurement of residencies and public access buildings with high speed internet.
Voter Turnout	Census is taken every 10 years which makes the population between each census only an estimate	Could seek to coordinate with the Census Bureau to get very accurate population estimates in between census years.

Residential 1- Metric Maintenance

Metric	Data Needed	Data Source	Formula
Residential buildings with access to high speed internet (100Mbps)	NYS GIS broadband database and tax parcels	NYS GIS Clearinghouse	Total count of residencies with high speed internet
Population with Health Insurance Coverage	For Essex County: The total population without health insurance.	Datausa.io and census.gov	The total population, multiplied by the percentage given, divided by one hundred.
Cost of Living	Average prices of everyday goods and services	Best Places Website	Comparison to US national average which was set at 100, where anything below has a lower cost of living and vise versa.
Voter Turnout	Number of voters in annual election, size of population above voting age	Essex County Election Board, Census Bureau	number of voters divided by voting age population times 100 percent
# of Volunteers at Events	Number of volunteers at large community events or ORDA events	ROOST (TNE, VLP) Jenna Lute (ORDA)	Total count of volunteers for each area
Collection of unemployment benefits	Number of people collecting unemployment benefits	North Country Workforce	Total count of residents that collect unemployment benefits
% of population below the poverty line	Number of residents below the poverty line	ACS or Census Data	Percentage of residents living below the poverty line
# public access buildings with access to high speed internet (100Mbps*)	NYS GIS broadband database	NYS GIS Clearinghouse	Total count of public access buildings with high speed internet

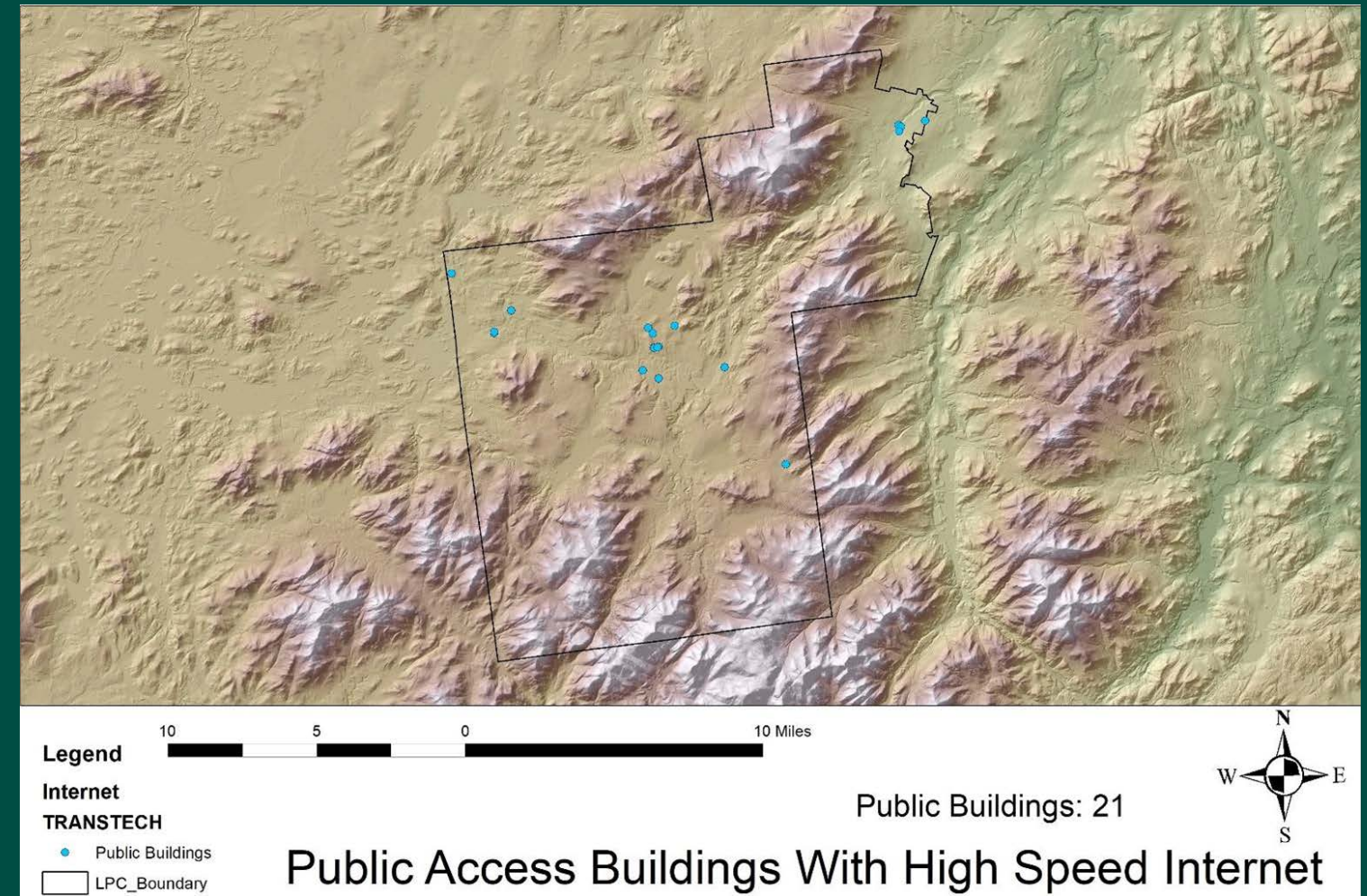
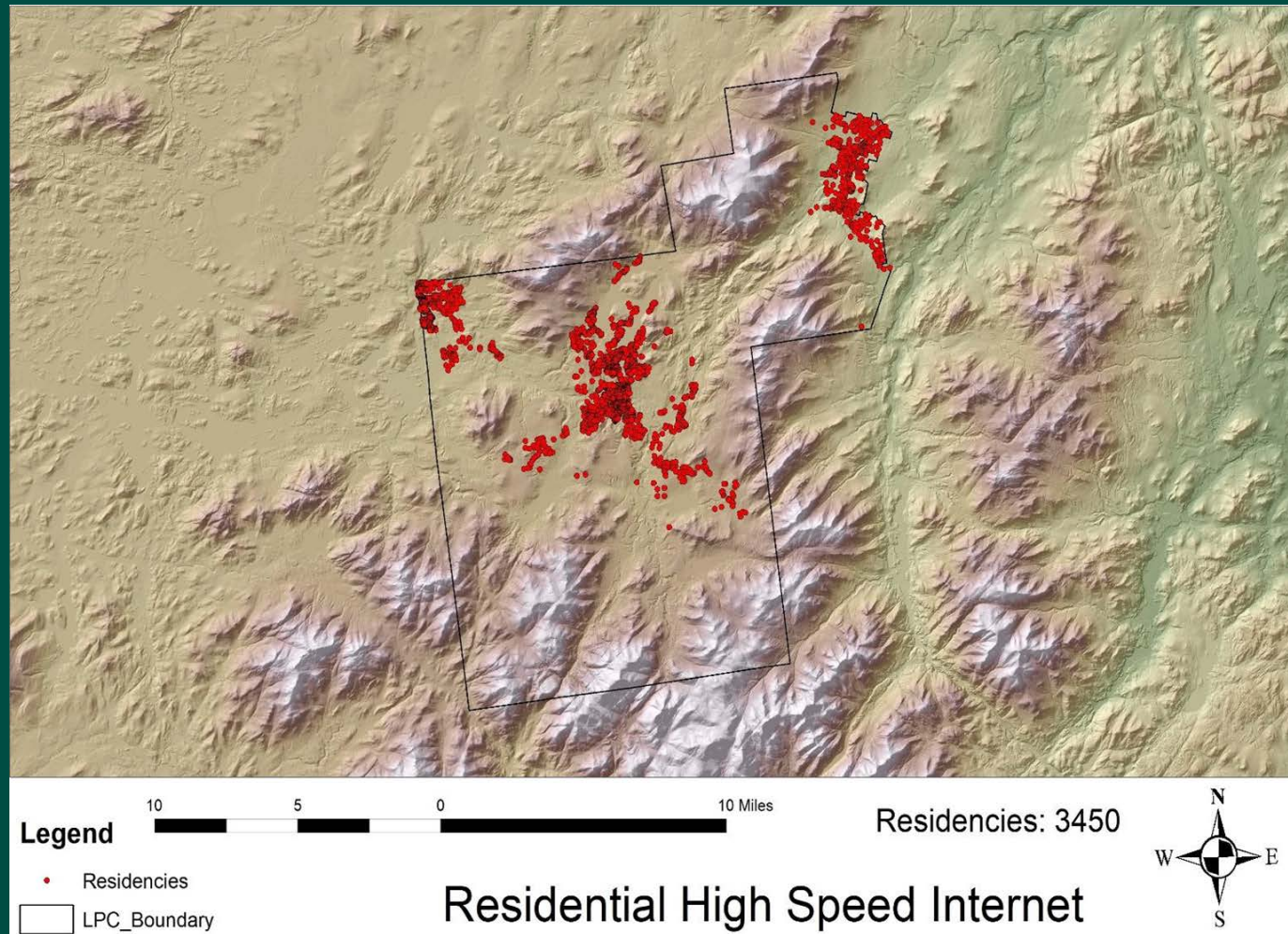
Residential 1 – Other Information

COST OF LIVING	North Elba	New York	USA
Overall	90.5	120.5	100
Grocery	108.1	103.8	100
Health	101.4	105.8	100
Housing	86.2	132.1	100
Median Home Cost	\$199,200	\$305,400	\$231,200
Utilities	99.6	115.9	100
Transportation	69.6	140.7	100

COST OF LIVING	Lake Placid	New York	USA
Overall	110.3	120.5	100
Grocery	109.6	103.8	100
Health	101.4	105.8	100
Housing	142.5	132.1	100
Median Home Cost	\$329,500	\$305,400	\$231,200
Utilities	105.1	115.9	100
Transportation	78.6	140.7	100

COST OF LIVING	Essex	New York	USA
Overall	86.7	120.5	100
Grocery	105.6	103.8	100
Health	101.4	105.8	100
Housing	66	132.1	100
Median Home Cost	\$152,600	\$305,400	\$231,200
Utilities	105.1	115.9	100
Transportation	78.6	140.7	100

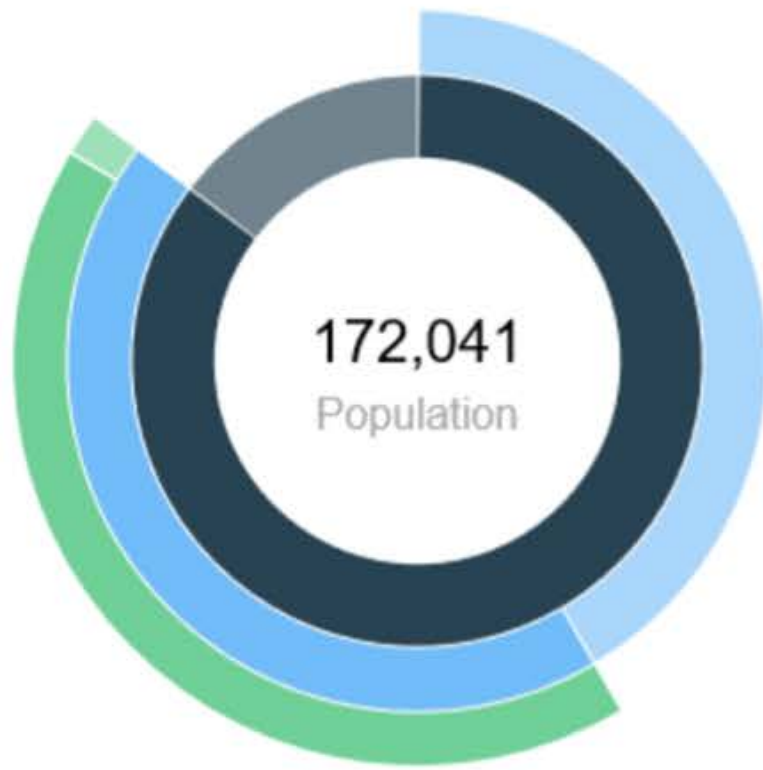
Residential 1– Other Information



Residential 1 – Other Information



2019 Labor Force Breakdown



	Population
● Total Working Age Population	146,650
● Not in Labor Force (15+)	71,361
● Labor Force	75,289
● Employed	72,338
● Unemployed	2,951
● Under 15	25,391



Residential Statistics 2

Residential Statistics 2 – Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
# of Farmers' Markets per Year	The number of farmers' markets per year.	1 market	Annual/Valerie Abraham-Rogers	LPSCD, VLP, TNE	Rhiannon Clements
# of Participants in Farmers' Markets per year	The number of participants in farmers' markets by number of registered vendors per year.	~10 vendors	Annual/Valerie Abraham-Rogers	LPSCD, VLP, TNE	Rhiannon Clements
% of Population Who Spend More Than 30% of Income on Housing	The percentage of the population who spend thirty percent or more of their income on housing. Percentages are separated into owner and renter values due to the large difference between the two percentages	Renter Households: 50.04% Owner Households: 28.82%	Annual/ACS from ArcGIS	LPCSD, VLP, TNE	Brenna Kokosenski
# of People Using Green Appliance Incentive Programs	The number of people who are in the green appliance incentive program which gives customers rebates while they purchase any certificate energy efficient home appliances.	1 Rebate Program	Annual/ NWS	All	Loria Sun
Public Access to Facilities	The number of hours of public access to facilities in the NYOR region.	1,136 Hours/Week (Winter) 812 Hours/Week (Other Seasons)	Annual	All	Sarah McKinley
# of Buildings Certified Under a Sustainability Program	The number of buildings that are certified under a sustainability program.	4 buildings	Unknown/ArcGIS	ORDA, VLP, TNE	Cindy Jiang
% Metered Connected Users	The percentage of buildings in the town of North Elba that possess metered connections	75%	Annual	TNE, VLP	Colin Patricelli
# of LEED Certified Buildings	The number of buildings that are certified under LEED.	4 buildings	Unknown/ArcGIS	ORDA, VLP, TNE	Cindy Jiang

Residential Statistics 2 - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
# of People Using Green Appliance Incentive Programs	I contacted many individuals that work for the town hall of town of North Elba and Lake Placid Village and have general information about the metric, but the available data is not very accurate and complete.	Keep in touch with town staff to work out the best way to keep track on the number of people who are in the rebate program.
# of Buildings Certified Under a Sustainability Program	Currently no one in North Elba/Lake Placid is tracking this data.	Work with the town and the village to set up a way to gather this data from the past and for the future.
# of Farmers' Markets per Year	Since there is only one market in NYOR, and it is not likely that any more will be developed, I propose that this metric be removed. Instead, combine this metric with "# of Participants in Farmers' Markets per Year."	Propose the removal of this metric.

Residential Statistics 2 - Metric Maintenance

Metric	Data Needed	Data Source	Formula
% of Population Who Spend More Than 30% of Income on Housing	Total number of renter occupied housing units, number of renter households who spend more than 30% income on housing, total number of owner-occupied housing units, number of owner households who spend more than 30% income on housing	ArcGIS map generated from data from ACS	Divide number of renter households who spend more than 30% of income on housing by total number of renter occupied housing units, multiply by 100. Perform similar calculation for owner households.
# of People Using Green Appliance Incentive Programs	The total number of people who are in the rebate program, for green energy appliance.	Lake Placid Village Treasure: Mindy Goddeau	Counted the total number of people who are in the program.
# of Farmers' Markets per Year & # of Participants in Farmers' Markets per Year	Number of farmers' markets and number of participants (number of vendors) per year.	Lake Placid Farmers' Market: Valerie Abraham-Rogers	N/A
Public Access to Facilities	Hours that facilities are open, depending on season	Various websites, listed in this spreadsheet	Total hours that each facility is open each week are added, two numbers depending on season
# of LEED Certified Buildings	Number of LEED certified buildings	ArcGIS	N/A
# of Buildings Certified Under a Sustainability Program	Number of buildings certified under any sustainability program	ArcGIS	N/A
% Metered Connected Users	Total Number of buildings in the area, number of buildings that have metered connections	Village of Lake Placid Water Department	Number of buildings with metered connections over the total number of buildings, multiplied by 100%



Waste

Waste – Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
Total recyclable waste collected	Number, in tons, of recyclable waste collected	1924 tons (2018)	Monthly, Casella & North Elba Transfer Station	VLP, TNE, LPCSD	Nicholas Schalago
Total municipal recycling coverage	Number of buildings receiving recycling pick-up services	Unknown	Annually, Casella	VLP, TNE, LPCSD	Autumn Lennon
Municipal solid waste collection coverage	Number of buildings receiving solid waste pick-up services	Unknown	Annually, Casella	VLP, TNE, LPCSD	Mikenzie Barankovich
Number of businesses committed to reducing or eliminating single-use plastics	Number of businesses enacting a policy to reduce the use of single use plastics	Unknown	Annually, Lake Placid Visitors Bureau	VLP, TNE	Sarah Inzerillo
Total recyclable waste collected at large community events	Number, in tons, of recyclable waste collected at large community events in the NYOR	Unknown	Annually, Unknown	All	Rosalind Bendell

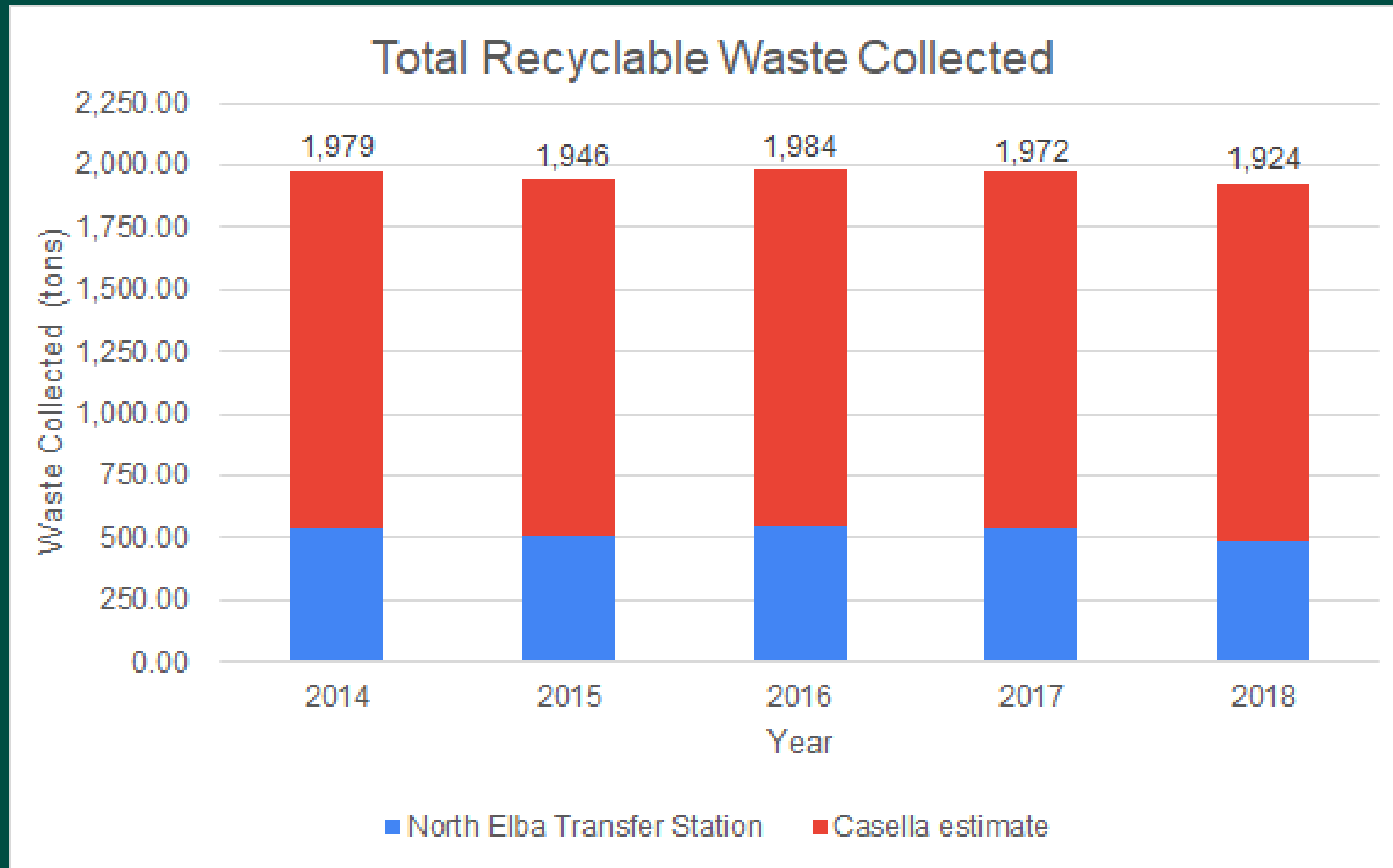
Waste - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
Total recyclable waste collected	Monthly data and data before 2019 was not available from Casella. Data for 2019 was not provided by the North Elba Transfer Station.	A required monthly total recyclable waste tracker (Excel files) for Casella should be created. Other methods of recycling may need to be considered (bottle returns, etc.)
Total municipal recycling coverage	Data couldn't be obtained without infringing on privacy of Casella customers.	An agreement between Casella and NYOR on how this data can be collected without compromising the private components of data should be made.
Municipal solid waste collection coverage	Data specific to solid waste collection couldn't be obtained. Data for locations only within the NYOR couldn't be obtained.	An agreement between Casella and NYOR to collect the necessary data more efficiently should be created.
Number of businesses committed to reducing or eliminating single-use plastics	A list of all current businesses wasn't obtained. A plan for contacting each business to receive their feedback couldn't be made.	A list of all businesses can be obtained from Chamber of Commerce. A form or email should be sent to each business where they can answer yes/no to if they have a policy reducing single use plastics.
Total recyclable waste collected at large community events	A definition for a large community event is difficult to create. A thorough events list wasn't organized and waste data wasn't measured.	A thorough events list of potential large community events and a definition for a large community event should be created. This list should be refined and a method for measuring the tons of recyclable waste collected at each event should be determined.

Waste - Metric Maintenance

Metric	Data Needed	Data Source	Formula
Total recyclable waste collected	Monthly and annual totals for 2019 forward	Catherine Edman (North Elba Transfer Station) and Meghan Weeden (Casella)	Total (tons)
Total municipal recycling coverage	The number and the location of the buildings receiving recycling services	Meghan Weeden (Territory Manager), Casella	Total (locations)
Municipal solid waste collection coverage	The number and the location of businesses and homes receiving solid waste pickup services	Meghan Weeden (Casella)	Total (locations)
Number of businesses committed to reducing or eliminating single-use plastics	The number of businesses enacting a policy which limits their use of single use plastics	Each business', defined by the Chamber of Commerce, survey responses.	Total (businesses)
Total recyclable waste collected at large community events	The number on tons of recyclable waste collected at every large community events in the NYOR	Undetermined	Total (tons)

Waste – Other Information





ORDA/NYOR

ORDA/NYOR– Metrics Summary

Metric	Short Description	Value(s)	Freq./ Source	NYOR Partner	Honors Student
Total Energy Used For Snowmaking	This metric is a subsection of the total energy use at the ORDA facilities concerning the energy involved in snow production. This is defined as the annual energy used by the pumps and guns at the facilities.	4,650,000 (kWh)	Annual/ ORDA	ORDA	Garrett Stoyell
Total Energy Used for Large Scale Refrigeration	Large scale refrigeration is a refrigeration system that maintains temperatures below room temperature for large areas. This metric tracks the Energy used by these large-scale refrigeration units over the span of a year.	19,152,663 (kWh)	Annual/ ORDA	ORDA	Andrew Lally
Pump Efficiency	Pump efficiency is a measurement of how many gallons of water can be pumped and the amount of energy used to do so. This metric tracks gallons of water and energy used by ORDA facility pumps annually.	117.294 (G/kWh) Whiteface Mt. 117.578 (G/kWh) Gore Mt.	Annual/ ORDA	ORDA	Becca May
Annual Water Used for Snowmaking	This metric is used to identify the annual amount of water used, in gallons, to support the surrounding facilities run by the Olympic Regional Development Authority (ORDA) within the Lake Placid Region.	532,842,000 (gal/yr)	Annual/ ORDA	ORDA	Aria Stephan
Total Energy Use in ORDA	This metric includes all sources of energy use in ORDA facilities including heating and general electricity usage.	53,574,199 (kWh)	Annual/ ORDA	ORDA	Garrett Stoyell

ORDA/NYOR - Metric Issues/Challenges/Notes

Metric	Issue/Challenge	Future Work/Notes
All Energy Metrics	The values used are not exact as ORDA does not have methods for metering energy used for refrigeration separate from other electricity used by the facilities.	Because refrigeration at the ice rink and bobsled run require more energy than any of the other energy needs at those facilities we considered other energies used as negligible at these locations and used the total energy used at these facilities. In the future we would like to see a more concrete valuation of what percentage of the total energy is used for refrigeration or find an alternative way to meter these energies separately.
Annual Water Used for Snowmaking	Currently there are Unit Management Plans for each mountain that are publicly available with data for this metric, however the data is out of date and inaccurate.	We would recommend that the data that ORDA has for this metric and is required to maintain, is also included in the updates for annually posted Unit Management Plans

ORDA/NYOR - Metric Maintenance

Metric	Data Needed	Data Source	Formula
Total Energy Used For Snowmaking	Energy Consumption data specifically for the pumps and guns at applicable ORDA facilities	ORDA	Sum of energy used by pumps and guns
Total Energy Used for Large Scale Refrigeration	Energy used for refrigeration at all ORDA facilities.	ORDA	Sum of energy used for refrigeration at all facilities
Pump Efficiency	For Whiteface and Gore: Annual snow making gun through put volume of water; Annual energy used for snowmaking (pumps and guns)	ORDA, Sustainability and Environmental Compliance (metering)	Total volume of water (in gallons) divided by total energy used (in kWh)
Annual Water Used for Snowmaking	Annual number of gallons pumped from the Hudson and Ausable Rivers for snowmaking use	ORDA, Sustainability and Environmental Compliance (metering)	Sum of total annual gallons of water used for snowmaking at each mountain.
Total Energy Use in ORDA	Energy Consumption data from each of the individual ORDA facilities	ORDA	Sum of monthly energy totals for each of the ORDA facilities

ORDA – Other Information

TOTAL FACILITY ENERGY USAGE (kWh)						
ELECTRIC	OLYMPIC CENTER	OLYMPIC JUMPING COMPLEX	OLYMPIC SPORTS COMPLEX	BELLEAYRE	GORE	WHITEFACE
UTILITY DELIVERER	LAKE PLACID VILLAGE ELECTRIC	LAKE PLACID VILLAGE ELECTRIC	LAKE PLACID VILLAGE ELECTRIC	NYSEG	NATIONAL GRID	NYSEG
UTILITY SUPPLIER	LPVE	LPVE	LPVE	CHAMPION ENERGY	CHAMPION ENERGY	DIRECT ENERGY
RENEWABLE ENERGY SOURCES? IF YES, TYPES	YES, HYDROPOWER	YES, HYDROPOWER	YES, HYDROPOWER	YES; WIND, SOLAR	YES; WIND, SOLAR	YES; 100% GREEN ENERGY IMPORTED
Jan-19	1742400	153670	388620	1856814	2683172	4173151
Feb-19	1616400	138430	335280	792340	1302742	2761914
Mar-19	1584238	119380	360680	415099	816102	832353
Apr-19	956310	76389	127931	198443	410608	415233
May-19	293972	49667	56173	113607	236855	202142
Jun-19	108240	71359	44787	70946	176242	166921
Jul-19	1493402	70100	45993	73069	180089	167109
Aug-19	1793652	58659	51107	77309	179792	168282
Sep-19	1002346	66267	192089	59211	152247	164131
Oct-19	1804335	67442	482439	123466	252356	206497
Nov-19	1779128	192347	440480	1205865	3177698	935468
Dec-19	1982927	127657	469735	1700490	3140909	3641497
TOTAL FACILITY ENERGY USAGE (kWh)	16157349	1191367	2995314	6686659	12708812	13834698

ORDA – Other Information

LEED FOR COMMUNITIES		
	Whiteface Mountain	Gore Mountain
Water Source	Ausable	Hudson/ Gore Reservoir
Total Gallons Pumped	287370000	245472000
Energy Used by Pumps and Guns (kWh)	2200000	2450000
Type of Energy	ELECTRIC	ELECTRIC
Operating Hours for Pumps and Guns	1,267	1418
Amount of water diverted annual into reservoirs for snowmaking use	N/A	Reservoir naturally fills; some water pumped from Hudson
Gallons per minute used	6000	4800
Rough trail area that has snowmaking ability (acres)	198	339

	OLYMPIC CENTER	OLYMPIC SPORTS COMPLEX
TYPE OF SYSTEM	VEGETABLE-BASED POLYPROPELENE GLYCOL COMPRESSORS (4)	AMMONIA CHILLERS
TYPE OF METERING SYSTEM	ONE MAIN ELECTRIC METER FOR WHOLE ARENA COMPLEX	ONE MAIN ELECTRIC METER FOR WHOLE ARENA COMPLEX
AREAS REQUIRING REFRIGERATION	1932, 1980, AND U.S.A RINKS	BOBSLED, LUGE, SKELETON TRACKS

Lessons Learned

- Contacting Professionals
 - Phone calls vs emails
 - How to have a professional conversation
- Work in Large Team
 - Communicate between groups
 - Put together one final presentation
- Planning Skills
 - Learned to justify our methods
 - Applied plan to future measurements
- Minimal guidance
- LEED Certification
 - What is LEED
 - Why it is important to the sustainability of our future

All Metrics - Summary Scorecard

Area	Metric	2019 Value
Weather	HDD CDD Annual Rainfall	8,345.65° F/year 11.15° F/year 41.08 inches/year
Water	LPCSD Rainwater Collected (Gal/yr) Weir Extraction Self-Supplied Water (# Households) Municipal Water (# Households) Public Water Proportion % metered connected water users	74,658 gallons ~300,000 gallons/year 50 households 2,500 households 0.98 75%
Energy Production	Renewable Energy produced from Wind Renewable Energy produced from Solar Renewable Energy produced from Hydro Energy produced from Biomass	~0 kWh 7,161,012 kWh** \$12,335** Undetermined**
Energy Consumption	Total Renewable Energy Consumed Total Municipal Energy Consumed Total Commercial Energy Consumed Total Residential Energy Consumed	183,008,410 kWh 30,445,590 kWh 61,635,772 kWh 81,125,553 kWh

All Metrics - Summary Scorecard

Area	Metric	2019 Value
Geothermal	Number of Buildings Adjacent to Geothermal Sidewalks Number of Houses with Geothermal Heating	0 0*
Total Energy	Total Energy Consumed Total Energy Produced Total LPCSD Energy Use Total Energy Use in ORDA	183,008,410 kWh 183,008,410 kWh 2,272,700 (kWh) 53,574,199 (kWh)
Vehicle Charging	Number of Electric Vehicle Charging Stations	5
Trails	Universal Access Trail (mi) Distance to trails (pop w/in dist. to) Sustainable multiuse trail (mi) Maintained Nordic ski trails (mi) Maintained Alpine ski trails (mi) Miles of Singletrack Mountain Bike Trails Recreation Bike Trails Miles of trails that are ADA compliant	0.38 mi 730 w/in 1 mi 1700 w/in 2 mi 2500 w/in 3 mi 0 mi 72 mi 45 mi groomed 7 mi glade 93 miles of trails, 73 different trails 16.7 miles 0 miles of ADA compliant trails

All Metrics - Summary Scorecard

Area	Metric	2019 Value
Public Spaces	Public Parks and Playgrounds (area)	3.6 sq. mi
Pedestrian Activity	Pedestrian infrastructure (mi/sq. mi) Vehicle-less worker %	0.065 mi/sq. mi 2.9% North Elba 4.6% Village of LP 3.2% LPCSD
Bike Infrastructure	Transportation Bike Infrastructure	0 miles of bike lanes; 5 bike racks along Main Street in Lake Placid
Public Transportation	Number of Visitors using Public Transportation Number of Residents Using Public Transportation	N/A // 0 People N/A // 0 People
Housing and Lodging	Short Term Rentals Seasonal Homes	783 short term rentals 1,250 Homes or 23.3% of Homes
Farmers Markets	Number of farmer's markets per year Participants in farmers' markets (#/yr)	1 Market ~10 Vendors
Sustainability Programs	People using green appliance incentive programs Buildings certified under a sustainability program LEED certified buildings	1 Rebate Program 4 Buildings 4 Buildings

All Metrics - Summary Scorecard

Area	Metric	2019 Value
Public Fac. Access	Public access to facilities	1,136 hrs/wk (winter) / 812 hrs/wk (other)
Economic Equity	Population who spend more than 30% of income on housing	50.0378% Renters, 28.8184% Households
	Population with Health Insurance Coverage	36,244 People
	Cost of Living	VLP:110.3 TNE:90.5 Essex County:86.7
	Number of Volunteers at events	N/A
	Population Below Poverty Line	19%
	Collection of Unemployment Benefits	2,951 People
Voting	Voter Turnout	30%
High Speed Internet	Residential Buildings with Access to High Speed Internet	3,450 Residencies
	Public Access Buildings with Access to High Speed Internet	21 Buildings

All Metrics - Summary Scorecard

Area	Metric	2019 Value
Waste	Total recyclable waste collected	unknown in 2019, 1924 (tons) in 2018
Recycling and Composting	Total municipal recycling coverage	Unknown
	Municipal solid waste collection coverage	Unknown
	Number of businesses committed to reducing or eliminating single-use plastics	Unknown
	Total recyclable waste collected at large community events	Unknown
Snowmaking, Refrigeration, and Pumps	Total Energy Used For Snowmaking	4,650,000 (kWh)
	Total Energy Used for Large Scale Refrigeration	19,152,663 (kWh)
	Pump Efficiency	117.294 (G/kWh) Whiteface Mt. 117.578 (G/kWh) Gore Mt.
	Annual Water Used for Snowmaking	532,842,000 (gal/yr)



Clarkson