



MID-OHIO REGIONAL
MORPC
PLANNING COMMISSION

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NOTICE OF A MEETING
SUSTAINABILITY DASHBOARD WORKING GROUP
MID-OHIO REGIONAL PLANNING COMMISSION
111 LIBERTY STREET, SUITE 100, COLUMBUS, OHIO 43215
BUCKEYE CONFERENCE ROOM

September 12, 2019, 3:30 pm – 5:00 pm

AGENDA

- 1. Welcome & Introductions**
Justin Milam, Co-Chair
Rick Stein, Co-Chair
- 2. Regional Sustainability Dashboard Demo**
Adam Porr, CURA
- 3. Review of Sustainability Dashboard Use Case Survey**
Brandi Whetstone, MORPC
- 4. Data Acceptance Criteria and Regional Sustainability Agenda Metrics Discussion for Input**
Natalie Hurst, MORPC
- 5. Next Steps**
Justin Milam
Rick Stein

Please notify Lynn Kaufman at 614-233-4189 or LKaufman@morpc.org to confirm your attendance for this meeting or if you require special assistance.

The next Sustainability Dashboard Working Group Meeting will be
October 8, 2019, 1:00 - 2:30 p.m.
111 Liberty Street, Suite 100, Columbus, Ohio 43215

PARKING AND TRANSIT: When parking in MORPC's parking lot, please be sure to park in a MORPC visitor space or in a space marked with a yellow "M". Handicapped parking is available at the side of MORPC's building. MORPC is accessible by CBUS. The closest bus stop to MORPC is S. Front Street & W. Blenkner St. Buses that accommodate this stop are the Number 61 - Grove City, the Number 5 - West 5th Ave. /Refugee, and the Number 8 - Karl/S. High/Parsons. One electric vehicle charging station is available for MORPC guests.

William Murdock, AICP
Executive Director

Rory McGuinness
Chair

Karen J. Angelou
Vice Chair

Erik J. Janas
Secretary



SUSTAINABILITY DASHBOARD WORKING GROUP

Adam Porr, CURA

Natalie Hurst, MORPC

Brandi Whetstone, MORPC



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TODAY'S AGENDA

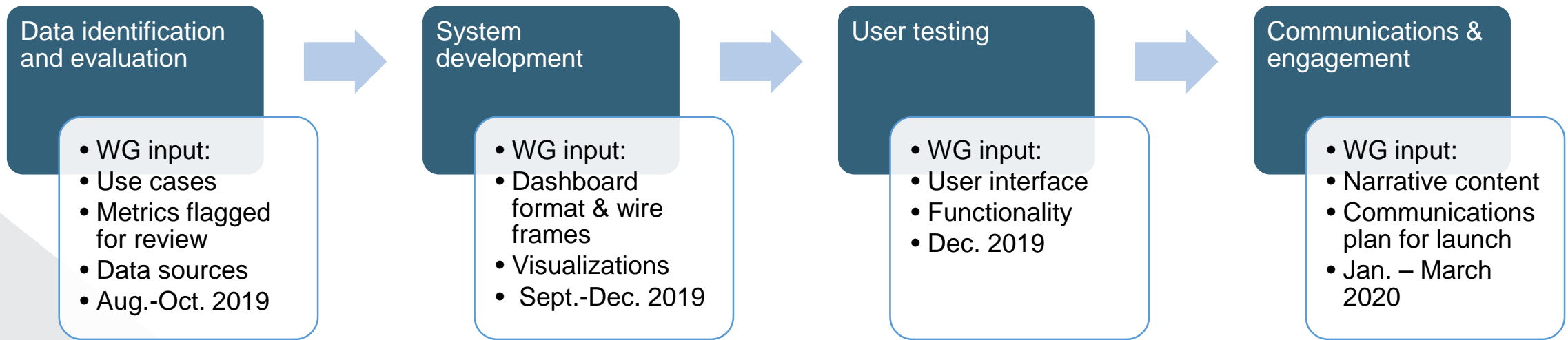


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- Regional Sustainability Dashboard Demo
- Review of Sustainability Dashboard Use Cases Survey
- Review of Data Acceptance Criteria and Metrics in Need of Reconsideration
- Next Steps



MAJOR MILESTONES



**Expected Completion
Spring 2020**



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SUSTAINABILITY DASHBOARD DEMO



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CENTER FOR **URBAN**
AND **REGIONAL ANALYSIS**



THE OHIO STATE
UNIVERSITY





USE CASE SURVEY RESULTS



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Must Have:

- Official Tool for SAC to track progress toward RSA (100%)
- Engage additional partners in regional sustainability efforts (80%)
- Serve as a powerful communication tool (for media, reporting, etc) (60%)
- Create common understanding around sustainability goal and the direction we are moving (60%)
- Ability for aggregating metrics into a sustainability index (60%)
- Central data repository for the RSA that is most up-to-date and dynamically fed (60%)

Should Have:

- Elevate sustainability as an issue in the region among a broader audience (80%)
- Identify areas of improvement and progress (80%)
- Force us to re-evaluate measurement criteria (80%)
- Increase engagement with SAC members (60%)

Could Have:

- Ability for user to customize their user experience (interface/data visualizations/dashboards) (60%)
- Sustainable2050 members benchmark with peers and the region (standardized for comparison) (40%)
- Pilot tool for tracking other metrics – example MTP (40%)

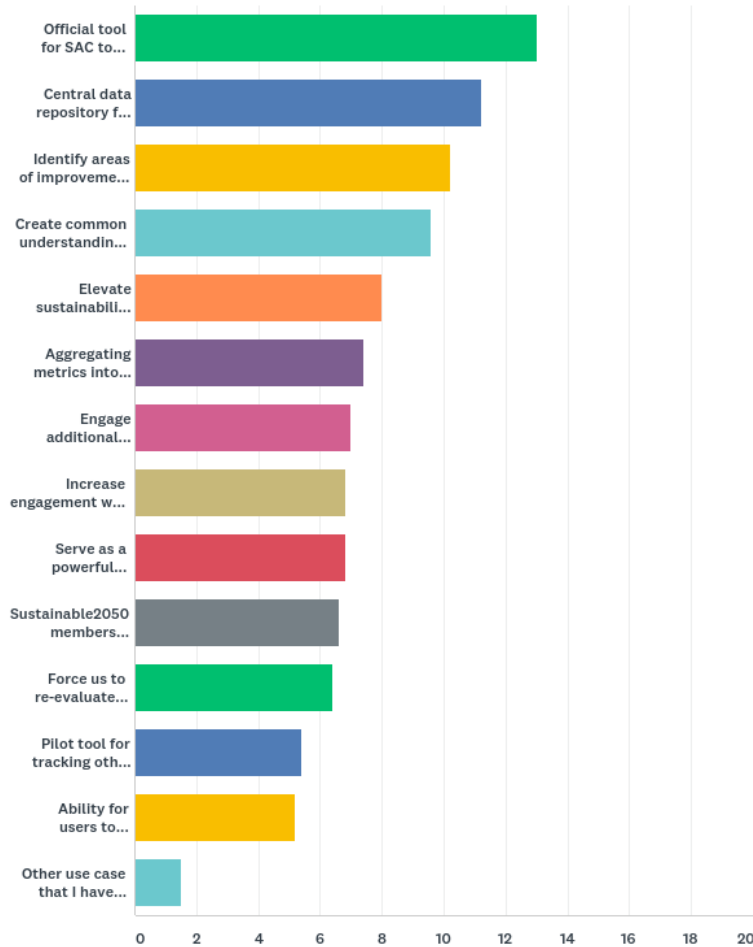


USE CASE SURVEY RESULTS



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Q5 How do you prioritize these use cases?



Top Five:

1. Official Tool for SAC to track progress toward RSA
2. Central data repository for the RSA that is most up-to-date and dynamically fed
3. Identify areas of improvement and progress
4. Create common understanding around sustainability goal and the direction we are moving
5. Elevate sustainability as an issue in the region among a broader audience



USE CASE SURVEY RESULTS



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Additional Comments on Expected Use of Dashboard:

- Need more understanding of the project
- Access to underlying data to perform analysis
- Access to intuitive statistics and maps
- Ensure development is aligned with regional goals
- Ensure environmental equity
- Track renewable energy and mobility data
- Track GHG emissions
- Track program participation
- Promote changes in behavior/understand impacts of behavior change campaigns



DASHBOARD DATA ACCEPTANCE CRITERIA



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- Review data acceptance criteria handout
- Aspirational Standards
 - Timeliness
 - Completeness
 - Uniqueness
 - Validity
 - Consistency
 - Accuracy
 - Ease of Use
- Data Documentation Process

METRICS CATEGORIZATION



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- Review metric status handout

Categorization
Levels

- Good candidate for dashboard with known data sources / metric
- Data uncertain
- Analysis requires reconsideration

METRICS CATEGORIZATION



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Good Candidates for Dashboard (12)

- Reduce VMT per capita
- Reduce single driving commuters
- Increase the number of trail miles traveled
- Increase the number of alternative fuel stations
- Increase # of verified renewable energy facilities
- Increase the number of businesses with established sustainability policies and practices
- Complete streets policies or policies that contain those elements
- Inc number of people and jobs and increase sidewalk coverage of arterials and collectors
- Reduce the number of fatalities and serious injuries from crashes
- Increase % of population that have multiple modes of transportation
- Increase # of miles of Central Ohio Greenways trails built
- Increase # of MORPC members that are Sustainable2050 members

Data Uncertain (6)

- Increased use of alternative fuel vehicles
- Reduce Emissions, Meet air quality standards
- Reduce the amount of municipal solid waste per capita disposed in the landfill
- Reduce per capita water consumption
- Increase the number of adopted institutional purchasing policies that support purchase of local food
- Increase the annual number of income eligible households receiving free weatherization and safety-related home repairs

Analysis Requires Reconsideration (5)

- Reduce per capita energy consumption across all sectors
- Increase number of people receiving Air Quality information and education
- Minimize greenfield development and promote infill and redevelopment
- Improve water quality in the Upper Scioto Watershed
- Establish the annual Summit on Sustainability as a premiere environmental conference through high participation and visibility.



2.1: REDUCE EMISSIONS; MEET AIR QUALITY STANDARDS



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- Challenges

- Completeness and timeliness– attainment tracked for Columbus region
 - [Ohio EPA: Current Air Quality Map](#)
 - [AirNow](#)
- Geographic granularity and accuracy
 - [Air Quality Sensor Performance Evaluation Center](#)
 - [Purple Air](#)



2.3: REDUCE AMOUNT OF MUNICIPAL SOLID WASTE PER CAPITA DISPOSED IN LANDFILL



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- Challenges

- Completeness – data lacking for 15-county region
 - Is there a central place where solid waste per capita is reported?

2.4: MINIMIZE GREENFIELD DEVELOPMENT AND PROMOTE INFILL



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- Challenges
 - Ease of use – previous analysis time intensive
 - Accuracy – land use changes may not always reflect development

5.1: SUMMIT ON SUSTAINABILITY AS PREMIERE ENVIRO EVENT



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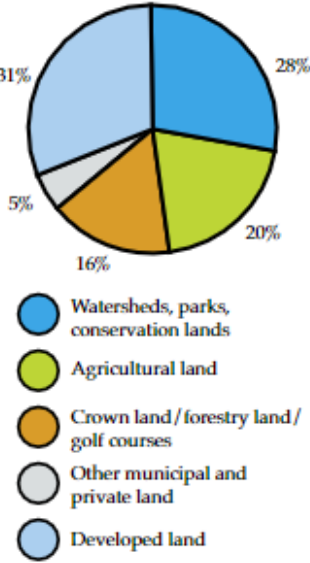
- Challenges
 - Validity
 - Goal and measure do not necessarily align
- Suggestions
 - Number of sustainability events
 - Local sustainability plans
 - Sustainability awareness
 - “Percent of Vancouver residents who are aware of the ecological footprint and understand their contribution to it” ([Report of Regional Vancouver Urban Observatory](#))

2.4: MINIMIZE GREENFIELD DEVELOPMENT AND PROMOTE INFILL



Organization	Measure
Greater Vancouver Regional District <ul style="list-style-type: none"> • Report of Regional Vancouver Urban Observatory 	<ul style="list-style-type: none"> • Number of non-farm dwelling units in Green Zone within defined “Green zone” (see image on right) • Proportion of population in growth concentration areas • Opportunities for “eco-industrial networking” (diverse partners work together to use and reuse resources efficiently)
Geneva and Zurich	<ul style="list-style-type: none"> • Area of valuable natural land
The United Nations Indicators for Sustainable Development (pg 67/99)	<ul style="list-style-type: none"> • Land use change • Land degradation
Seattle Office of Sustainability and Environment	<ul style="list-style-type: none"> • Acres of greenspace per resident • Tree cover • Trees planted in neighborhoods
Environmental Performance Index	<ul style="list-style-type: none"> • Protected natural areas • Wetland conservation

Land Types in the Green Zone





2.6: IMPROVE WATER QUALITY IN UPPER SCIOTO WATERSHED

- Not featured in RSA report card
 - Need new data source
 - Is there a central place where solid waste per capita is reported?
 - [National Water Quality Monitoring Council](#)

NEXT STEPS



- Next Working Group meeting:
 - Continue discussion of metrics
- Reminder: Summit on Sustainability October 11
 - Dashboard Session: So you think you are sustainable? Prove it!

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Sustainability Dashboard Acceptance Criteria

Acceptance Criteria Dimensions and Description

Timeliness: The degree to which data represent reality from the required point in time. Measured using time differences between when event occurred and when data is released.

Completeness: The level to which data represents the entire study area. Measured by the absence of null values for attribute data. For spatial data, completeness is measured by the existence of points across the entire region.

Uniqueness: Nothing should be recorded more than once from the same source. This means that the number of “real world” measures should correspond with the number of observations in the dataset. If duplicate recordings do exist for a given observation, measurements should not vary.

Validity: The degree to which the measure reflects the underlying construct, that is, whether it measures what it purports to measure. When a value is not a direct measure of an objective, the value should be a logically and factually sound proxy to measure the objective.

Consistency: Data is constant over time, meaning it is updated on a predictable frequency as well as formatted and measured in a consistent way.

- For sporadically updated data (example: automated trail counters), the data should be updated within a set range of time (ie annually, bi-annually)

Accuracy: The degree to which data correctly describes the "real world" object or event being described. Measured by the degree to which the data mirrors the characteristics of the real-world object or objects it represents.

Ease of Use: The quality of being easy to obtain and process. This includes attributes such as machine readability, data size, cost to obtain data, and effort required to process.

Acceptance Criteria Thresholds

	Ideal	Minimum Standard
Timeliness: Lag Time	There is no lag time between the real-world event and the measurement	The lag time between the real-world event and the measurement is no greater than 5 years
Timeliness: Update Frequency	Data is updated more often than an annual basis	Data is updated annually
Timeliness: Historical Values	Historical data exists for tracking metric	Only present values exist for metric
Completeness: Geographic Extent	Data is available for entire 15-county region	Data is available for parts of region at the county level
Completeness: Geographic Granularity	Data is available for entire region at neighborhood level	Data is available for entire region (or parts) at county level

Uniqueness	Each observation in the dataset only has one measurement	Any duplicate observations have the same values and do not contradict one another
Validity	The value in the dataset is a direct measure of the objective	The value in the dataset is a logically sound proxy to measure the objective, potentially used in other sustainability tracking efforts or vetted by the academic community as related to the objective
Consistency: Measurement	Data is updated using the same measurement process with the same formatting	Data is updated using the same measurement process and contains necessary information for metric. If formatting changes, reformatting must be possible before the data is fed into the dashboard.
Consistency: Reliability	Great certainty exists that data be collected and released in the future	If data may not be collected/released in the future, values could be collected from another source
Consistency: Alignment with other MORPC Metric Data	Sustainability metrics created are identical to other agency metrics (ie MTP) or use same data source	Sustainability metrics created do not contradict other agency metrics (ie MTP) or create differing messages about regional progress
Accuracy	Data is produced by an authoritative, reputable source with a well-documented, vetted methodology	Data has a well-documented methodology that seems logical to measure value
Ease of Use	Data is machine readable, not overly complex or large, available at minimal or not cost, and possible to retrieve without onerous effort	Data must be manually formatted but can be done so within one work day (8 hours)

**Given the number of metrics used in the dashboard, all data used may not fit these standards. Minimum thresholds are context sensitive and defined on a case-by-case basis.*

Metric Categories

Good candidates for dashboard – known data sources and method

RSA Objective Number	RSA Objective	Measure	Data Source
1.1	Reduce VMT per capita	VMT per capita	MORPC and ODOT data for different geographies
1.2	Reduce single driving commuters	% of commuters driving alone, using public transit, biking, walking, or telecommuting	Census American Community Survey
1.4	Increase the number of trail miles traveled	Central Ohio Greenways trail miles traveled annually	MORPC
1.5	Increase the number of alternative fuel stations	# of alternative fuel stations (EV, E85, CNG, LNG, BD)	US Department of Energy
1.7	Increase # of verified renewable energy facilities	# of certified renewable energy facilities with 29.79 MW total generating capacity	Public Utilities Commission of Ohio
3.1	Increase the number of businesses in Central Ohio with established sustainability policies and practices	# of GreenSpot businesses	City of Columbus
4.1	Encourage MORPC communities to adopt complete streets policies or policies that contain those elements	# of MORPC member communities have adopted complete streets policies or policies that contain those elements	MORPC
4.2	Serve a higher number of people and jobs and increase sidewalk coverage of arterials and collectors	% of arterials and collectors; # of people + jobs per acre within 3/4 mile of arterials	ODOT; MORPC
4.3	Reduce the number of fatalities and serious injuries from crashes	Number of fatalities; Number of serious injuries	ODPS; MORPC
4.4	Increase % of population that have multiple modes of transportation	% of population live within 3/4 mile of a bikeway	MORPC; COTA

		; % of population live within 3/4 mile of a transit stop;	
4.6	Increase # of miles of Central Ohio Greenways trails built	miles of Central Ohio Greenways trails built	MORPC
5.2	Increase # of MORPC members that are Sustainable2050 members	# of MORPC members are Sustainable2050 members	MORPC

Data Uncertain

RSA Objective Number	RSA Objective	Measure	Previous Data Source	Issue
1.3	Increased use of alternative fuel vehicles	Registered vehicles that use alternative fuels	Smart Columbus via HNTB	Data acquisition initiated
2.1	Reduce Emissions, Meet air quality standards	Ozone attainment, PM2.5 attainment	Ohio EPA	We are now meeting the federal air quality standards for ozone and PM2.5, but this information is not conducive to a dynamically fed dashboard and is only re-evaluated every few years.
2.3	Reduce the amount of municipal solid waste per capita disposed in the landfill	lb per person per day of solid waste disposed in the landfill	SWACO Solid Waste Management Plan used before.	Using only SWACO data limits us to Franklin County, and does not include the solid waste districts located throughout the 15-county region.
2.5	Reduce per capita water consumption	gallons of water per capita consumed	City of Columbus Division of Water; City of Marysville Division of Water; City of Westerville Division of Water; Del-Co	Data not easily available from all water utilities.

			Water used before.	
3.2	Increase the number of adopted institutional purchasing policies that support purchase of local food	# of adopted institutional local food purchasing policies	Not used in report card	Need a data source.
4.5	Increase the annual number of income eligible households receiving free weatherization and safety-related home repairs	# of weatherization and safety-related households served in the 15-county region	combination of program data	There are many programs in region, and some have overlapping boundaries

Analysis Requires Reconsideration

RSA Objective Number	RSA Objective	Measure	Previous Data Source	Issue
1.6	Reduce per capita energy consumption across all sectors	Gap of per capita total energy consumption between Central Ohio and U.S. (mmBTU per capita)	BEA - percentage of population and personal income ODOT - VMT estimates EIA: SEDS - energy consumption estimates ACS (factfinder) - population estimates (method below)	Estimation process averages values based on population/income/VMT; may not reflect true progress. Previous data analyst recommended replacing gap between Ohio and US average with % reduction in mmBTU/capita from baseline year.
2.2	Increase number of people receiving Air Quality information and education	number of people receiving Air Quality alerts (through our email system); number of people exposed to Air Quality highway alerts;	Previously, MORPC and ODOT data used. Reported number of Enviroflash e-mail recipients, number of people assumed	Assumptions about people passing sign are based on annual averages, so may not reflect total number; Need info about marketing. The data collection is time

		number of people exposed to info via media marketing	to pass signs, and ad impressions.	consuming and not always consistent.
2.4	Minimize greenfield development and promote infill and redevelopment	% of development occurred inside the urban area since 2010	MORPC Land Use	Previous analysis too time intensive and may not reflect actual development patterns
2.6	Improve water quality in the Upper Scioto Watershed	% of Upper Scioto Watershed sampling sites are in attainment	Not used in report card	Need new data source or indicator.
5.1	Establish the annual Summit on Sustainability as a premiere environmental conference through high participation and visibility.	# of attendees to annual summit	MORPC	Goal #5 is to Increase regional collaboration and educational opportunities to advance innovative sustainability solutions. Tracking attendance at MORPC event does not necessarily demonstrate regional progress.

Methods:

1.6: Reduce per capita energy consumption across all sectors

Residential Consumption - total state residential energy consumption is multiplied by the percentage of population for each county in each year

Commercial Consumption - total state commercial energy consumption is multiplied by the percentage personal income generated in each county

Industrial Consumption - total state industrial energy consumption is multiplied by the percentage of population in each county

Transportation Consumption - total state transportation energy consumption is multiplied by the percentage of population for years 2008 - 2014. For 2015 and 2016, total state energy consumption is multiplied by the percentage of VMT attributed to each county. If these values can be found for 2008 - 2014, they should replace the population methodology

MMBTU per capita is calculated for each county and summed for the region.