



Environmental Performance Standards Advisory Committee

Agenda

June 24, 2020 5:00 – 7:00 pm

City Hall, 409 South Main Street, Remote/Virtual

5:00-5:05pm	1. Public Input a. Comments must be received by 12noon on the day of the meeting and will be shared with EPSAC members. Please email comments to: Thanh.Dang@HarrisonburgVA.gov
5:05-5:25pm	2. Sustainability Coordinator Position Update - Welcome to New EAP Support Staff Members a. Kelly Adams – Outreach and Communications Specialist b. Keith Thomas – Environmental Specialist
5:25-6:30pm	3. Staff Updates a. Greenhouse Gas Emissions Inventory (20 mins) b. EAP Phase II Baselines Development (35 mins)
6:30-6:55pm	4. Discuss Proposed EPSAC Bylaw Amendments & Vote
6:55-7:00pm	5. 2020 Meeting Dates <ul style="list-style-type: none">• Wednesday, September 23, 2020• December 2020 date TBD
7:00pm	6. Adjourn

Attachments:

EAP Phase II Baselines Development Document dated June 15, 2020

EAP Phase II Baselines Development Document dated May 27, 2020 (for reference)

Proposed EPSAC Bylaw Amendments

Proposed EPSAC Bylaw Amendments Clean Copy

In accordance with the Emergency Ordinance to effectuate temporary changes in certain deadlines and to modify public meeting and public hearing practices and procedures to address continuity of operations associated with pandemic disaster, adopted on April 6, 2020, the public will not be able to physically attend the Environmental Performance Standards Advisory Committee (EPSAC) meeting.

Community members and media will be able to watch the meeting live on:

- The City's website, <https://www.harrisonburgva.gov/agendas>
- Public Education Government Channel 3

Comments must be received by 12noon on the day of the meeting and will be shared with EPSAC members. Please email comments to: Thanh.Dang@harrisonburgva.gov.

EAP Phase II Baselines Development

Last Updated: June 15, 2020

Introduction

This document represents proposed baselines for the City of Harrisonburg's Environmental Action Plan (EAP). The EAP adopted on January 14, 2020 says that:

Phase 2 will involve inventorying (gathering data and studying) municipal and community activities to develop baselines to be later used for measuring progress towards achieving goals. For example, Goal 1 includes a strategy to complete municipal and community-wide greenhouse gas emissions inventories. The inventories will provide a snapshot in time of greenhouse gas emissions coming from different sources.

During Phase 3, the City will consider baseline data gathered and all learned information, establish targets with statements that define a percentage reduction or increase by a specific year. For example, during Phase 2, for Goal 3 of Focus Area 2 – Maintain and Increase a Healthy Tree Canopy, the City might choose to inventory tree canopy cover using available aerial photography and planimetric surveys from 2015. The baseline could be represented as either the total acreage of tree canopy cover in the City or a percentage of the City covered by tree canopy. Then during Phase 3, a target might be developed to state "Maintain an overall tree canopy of at least 40 percent by the year 2030."

For Phase 2, it is important to understand what "baselines" are. Descriptions from a general search online include, but are not limited to:

- *The term "baseline" refers to conditions existing before development against which subsequent changes can be referenced.*
- *A baseline study is an analysis of the current situation to identify the starting points for a program or project. It looks at what information must be considered and analyzed to establish a baseline or starting point, the benchmark against which future progress can be assessed or comparisons made.*
- *Baseline emissions refer to the production of greenhouse gases that have occurred in the past and which are being produced prior to the introduction of any strategies to reduce emissions. The baseline measurement is determined over a set period of time, typically one year*

For Phase 3, targets establish a quantifiable reduction in GHG emissions or a reduction/increase of other measured baseline by a predefined date.

This document continues to be a work in progress and the baselines proposed herein may be refined and amended.

Focus Area Committee Members

Buildings and Energy: Staff lead: Adam Wright. EPSAC: Johann Zimmerman, Benjamin Meredith, Doug Hendren, Jeff Heie, Brad Streibig, Andy Kohen.

Land Use and Green Space: Staff lead: Thanh Dang. EPSAC: Mikaela Schmitt-Harsh, Dan Downey, Richard Baugh

Regional Food Systems: Staff lead: Thanh Dang. EPSAC: Deirdre L. Smeltzer, Tom Benevento, Mikaela Schmitt-Harsh, Emani Morse, Leons Kabongo

Sustainable Transportation: Staff lead: Tom Hartman. EPSAC: Tom Benevento, Doug Hendren, Deirdre L. Smeltzer

Waste Reduction and Recycling: Staff lead: Tom Hartman. EPSAC: Tom Benevento, Doug Hendren, Andy Kohen

Water Resources: Staff lead: Rebecca Stimson. EPSAC: Dan Downey, Brad Streibig, Richard Baugh

Baseline Year

Proposed Baseline Year = 2016 (January 1 - December 31, 2016)

Staff proposes that 2016 be used as the general baseline year for as many measurements as possible. However, during the data collection phase, it may become apparent that the data available from 2016 is incomplete and another year may need to be selected for one or more measurements.

Guiding Goals Baselines

Guiding Goal 1 – Continue to Advance Sustainability Initiatives in the Community.

Potential Baselines:

- *Difficult if not impossible to measure, not worth the effort to compile data*

Guiding Goal 2 – Reduce Overall, Community-Wide Greenhouse Gas Emissions and the Intensity of Greenhouse Gases Emitted from Different Activities.

Potential Baselines:

- Conduct a community-wide GHG emissions inventory
- Conduct a municipal GHG emissions inventory

Guiding Goal 3 – Continue to Grow and Deepen Local Partnerships in Order to Further the Implementation of the Environmental Action Plan (EAP).

Potential Baselines:

- *Difficult if not impossible to measure, not worth the effort to compile data*

Focus Area 1 - Buildings and Energy

Goal 1 – Encourage Producers of Electricity Supplied to the City to Include More Carbon Free Sources.

Potential Baselines:

- Percentage of electricity produced by what energy source, i.e. coal, gas, oil, hydro, solar.
- Measure metric tons per capital of GHG emissions

Goal 2 - Understand the City's Energy Use. (Municipal Operations)

Potential Baselines:

- Municipal greenhouse gas emissions inventory for all municipal operations

Goal 3 - Decrease Energy Use Intensity of Municipal Buildings.

Potential Baselines:

- Measure energy use intensity of municipal buildings and parking garages.

Goal 4 - Decrease Energy Use Intensity of City School Buildings.

Potential Baselines:

- Measure energy use intensity of school operations like parking lighting, field lighting, etc
- Measure energy use intensity of city school buildings

Goal 5 - Optimize Energy Use of Water Operations.

Potential Baselines:

- Quantity and cost of water for each City municipal building
- Measure energy use of water and operations such as pump stations
- Measure energy loads in each water system zone
- Measure run times on pumps (want to show decreasing run times to reduce electricity amount and increase lifespan of pumps)
- Measure resistance – want system to be configured so water meets least resistance possible
- Measure cost of water operations
- kWh of electricity used per million gallons water usage

Goal 6 – Encourage Efforts to Improve Energy Efficiency and Increase Renewable Energy and Sustainable Energy Sources.

Potential Baselines:

- Number of households and businesses involved in HEC's net metering program
- Total amount of energy created per year by participants of net metering program
- Percentage of government facilities using renewable energy

- Total amount of energy created by government facilities using renewable energy

Focus Area 2 - Land Use and Green Space.

Goal 1 – Modernize and Establish Enduring Land Use and Development Patterns.

Potential Baselines:

- Housing density - number of dwellings per square mile of developed land in the City - (this baseline might exclude vacant/undeveloped parcels, we would want to see increasing density over time as we consider redevelopment of parcels and development patterns for new development to be higher density than what has previously occurred.)
- *Some baselines are captured in Sustainable Transportation (For example, good land use can contribute to decreased vehicle miles traveled, etc.)*

Goal 2 – Maintain and Create a Well-Distributed and Accessible Parks and Recreation System.

Potential Baselines:

- A baseline for determining a well distributed park system would show what we have and where parks would be needed. Need would be based on current population density and future growth. (would be completed with Comprehensive Open Space Master Plan.)
- Number of linear feet/miles of shared use path and trail opportunities in the City. (This baseline would include both transportation shared use paths and recreational walking paths within City parks.)

Goal 3 – Maintain and Increase a Healthy Tree Canopy.

Potential Baselines:

- Percentage or acreage of tree canopy (within municipal boundary and by zone). (Note: This analysis is already complete.)
- Number of public trees planted per year and cumulative number? (The target might be established as a total number of trees planted by a defined date/year, as resources available will create a cap on the number of trees that can be planted each year.)
- Number of public hazard trees removed every year (would want to see a decrease over time as tree canopy health increases)

Goal 4 - Evaluate Opportunities for Underutilized Public and Private Lands and Consider Opportunities to Rehabilitate and Create New Natural Habitats.

Potential Baselines:

- Square footage of pollinator habitat on city property (baseline could be 2016 but program began in 2018)
- Number of community food forests
- Percentage or number of schools with a pollinator meadow program

Focus Area 3 - Regional Food Systems.

Goal 1 - Promote Accessibility to Local, Healthy, and Sustainably Produced Food.

Potential Baselines:

- Percentage or number of schools with garden programs
- Number of community gardens in the City or percentage of households within x-miles of a community garden
- Number of public housing facilities that have community gardens for residents
- Percentage of households within x-miles of a grocery store. (This would be a mapping exercise using ArcGIS and would be measured “as the crow flies.” It would be too difficult and time consuming to consider availability and quality of walking, biking, and public transit infrastructure for access to a grocery store.)
- Number of community gardens within city limits. (Note: While community gardens exist as accessory uses, a zoning ordinance change is needed to allow community gardens as principal uses)
- Amount of Economic Development/City loan dollars per year available to organizations/businesses to establish and support mobile markets, community kitchens, and food hubs.

Goal 2 - Support Sustainable Food Production, Selection, Distribution, and Disposal Practices.

Potential Baselines:

- Number of community gardens within city limits. (Note: While community gardens exist as accessory uses, a zoning ordinance change is needed to allow community gardens as principal uses)
- Annual per-capita expenditures at local farmers market
- *Some baselines are captured in Waste Reduction (For example, baselines associated with composting.)*

Focus Area 4 - Sustainable Transportation.

Goal 1 - Develop an Alternative Fuel Fleet Program.

Potential Baselines:

- Number of city vehicles broken down by fuel type and usage
- The number of electrical charging stations or unique locations in the community

Goal 2 - Implement Sustainability Practices into Municipal Fleet Management.

Potential Baselines:

- Measure vehicle efficiency as ratio of GHG emissions to vehicle miles traveled (VMT)

Goal 3 - Increase Public Transit Ridership.

Potential Baselines:

- Determine routes that have overly frequent stops and long dwell times (long dwell times are caused by cash payments, number of stops, and placement)
- Determine reliability of Bus Arrivals
- Determine ridership per mile traveled
- Determine number of riders per year

Goal 4 - Traffic Signal Optimization and Timing Improvements.

Potential Baselines:

- Identify the age of existing corridor coordination plans
- Use Streetlight or other big data sources to track/measure congestion or similar metrics. Metric should be a rate of some sort to account for growing ADT

Goal 5 - Support Alternative, Active, and Low-Carbon Forms of Transportation and Improved Fuel Efficiency

Potential Baselines:

- Develop inventory of current bicycle and pedestrian infrastructure. Ex. number of miles of bike lanes, of shared use paths, of sidewalks, etc.
- Develop inventory of city-owned bike parking facilities
- % of commute trips by walking, biking, or carpooling using American Community Survey data (every 5 years) Roanoke uses this as well
- Miles traveled by micro-mobility devices
- Percentage of transportation capital project dollars going to bike/ped projects

Goal 6 - Continue to Coordinate Land Use Planning and Regulations with Transportation Planning.

Potential Baselines:

- (?) Metric involving what kinds of things we are including in long range plans and/or zoning/subdivision ordinance related to increasing connectivity and promoting alternative modes
 - We came up with “link to node ratio” as a measure of connectivity (see link below). There is a standard number used as a rule of thumb for good connectivity that we could benchmark against. Dastan, Jakob, and Erin agreed that there would be very little change in this metric, if any at all, from year to year, but may be able to see progress every 5-10 years. That being the case, perhaps the EAP metric could be the change in the ratio between present day and what we have planned for in the Street Improvement Plan. (<https://www.cnu.org/our-projects/street-networks/street-networks-101>)
- Vehicle Miles Traveled/capita

Focus Area 5 - Waste Reduction and Recycling.

Goal 1 - Support and Promote the Reduction of Refuse in Landfills.

Potential Baselines:

- GHG emissions going towards collection of solid waste
- Amount (tonnage) of Solid Waste collected per household, per waste type
- Proportion of recycling as a percentage of total refuse citywide. Can this be determined for households only (excluding commercial)?

Goal 2 - Encourage and Promote Zero Waste and the Reuse of Usable Items.

Potential Baselines:

- Tonnage delivered to landfill
- Tonnage diverted from landfill
- Tons of compost collected at City-supported sites within a 12-month period. OR Quantity of compost per capita (x-lbs or x-gallons of compost per person) collected within a 12-month period. (Note: it would be impossible to measure backyard composting efforts.)

Goal 3 - Support and Promote Recycling.

Potential Baselines:

- Number of locations for recycling drop off centers

Goal 4 - Support and Promote Healthy and Safe Solid Waste Disposal

Potential Baselines:

- Amount of HHW (tonnage) disposed of at HHW events
- Reduced number of illicit discharge citations per year

Focus Area 6 – Water Resources.

Goal 1 - Protect and Secure Drinking Water Sources.

Potential Baselines:

- Quality of water entering from each intake source or entering water treatment plan / cost to treat water.
- Are we complying with source water protection plan every year? Yes / No metric
- Are we meeting regulatory compliance with various plans? Yes / No metric

Goal 2 - Implement the Water Use and Water Loss Management Plans.

Potential Baselines:

- Measure non-revenue water to estimate water loss (estimates begin in 2008)
- Measure residential per capita consumption of water (2008 is when data collection began)
- Residential vs industrial uses of water

Goal 3 - Protect Stream Health through Sanitary Sewer Management.

Potential Baselines:

- Number of SSOs that occur throughout the year (would want to see a downward trend)
- Number of septic systems in the city (to show decline) data available from 2006
- Percentage of interceptor sewer pipes meeting sanitary sewer level of service

Goal 4 - Protect and Enhance Water Quality of Surface Water and Stormwater Runoff.

Potential Baselines:

- Level of bacteria in water at monitoring sites. Would want to meet DEQ level of bacteria forming colonies at monitoring sites
- Compliance with local and Chesapeake Bay TMDLs in pounds of nutrients removed per year
- Residential roof area treated with rain barrels
- Residential lawn area with nutrient management plan
- Residential roof area disconnected from street
- Number of HCAP projects, cumulative

EAP Phase II Baselines Development

As of May 27, 2020

Buildings and Energy: Johann Zimmerman, Benjamin Meredith, Doug Hendren, Jeff Heie, Brad Streibig, Andy Kohen

Land Use and Green Space: Mikaela Schmitt-Harsh, Dan Downey, Richard Baugh

Regional Food Systems: Deirdre L. Smeltzer, Tom Benevento, Mikaela Schmitt-Harsh, Emani Morse, Leons Kabongo

Sustainable Transportation: Tom Benevento, Doug Hendren, Deirdre L. Smeltzer

Waste Reduction and Recycling: Tom Benevento, Doug Hendren, Andy Kohen

Water Resources: Dan Downey, Brad Streibig, Richard Baugh

Guiding Goals.

Guiding Goal 1 – Continue to Advance Sustainability Initiatives in the Community.

Potential Baselines:

Guiding Goal 2 – Reduce Overall, Community-Wide Greenhouse Gas Emissions and the Intensity of Greenhouse Gases Emitted from Different Activities.

Potential Baselines:

- Conduct a community-wide GHG emissions inventory
- Conduct a municipal GHG emissions inventory

Guiding Goal 3 – Continue to Grow and Deepen Local Partnerships in Order to Further the Implementation of the Environmental Action Plan (EAP).

Potential Baselines:

Focus Area 1 - Buildings and Energy.

Goal 1 – Encourage Producers of Electricity Supplied to the City to Include More Carbon Free Sources.

Potential Baselines:

- Amount and percentage of electricity produced by what energy source, ie coal, gas, oil, hydro, solar (JZ) - Does HEC have this data? Including solar in our community?

Goal 2 - Understand the City's Energy Use.

Potential Baselines:

- Municipal Greenhouse Gas Emissions Inventory (of the entire city or just municipal operations and buildings?)
- Measure energy use intensity of entire city (excluding JMU) or
- Measure energy use intensity of municipal operations (like parking garages, parking lighting, etc) or
- Measure energy use intensity of municipal buildings only
- Measure metric tons per capital of GHG emissions (Alexandria)

Goal 3 - Decrease Energy Use Intensity of Municipal Buildings.

Potential Baselines:

- Appears that the city has good baseline information already which includes the following. I'm proposing a 5 to 10 year baseline since that would show what initiatives have already paid off and which need more attention. (JZ):
 - Floor space, total energy use, amount per energy sources, EUI (Energy Use Intensity) for all buildings for last 5 or 10 years
 - Yearly utility cost/sf for each building, ei elec, oil, gas, water for the last 5 or 10 years.
 - Measure percentage of new construction projects with LEED or comparable green certification (Roanoke)

Goal 4 - Decrease Energy Use Intensity of City School Buildings.

Potential Baselines:

- Appears that the city has good baseline information all ready which includes the following (JZ):
 - Floor space, total energy use, amount per energy sources, EUI (Energy Use Intensity) for all buildings for last 5 or 10 years

- Yearly utility cost/sf for each building, ei elec, oil, gas, water for the last 5 or 10 years.
- Measure energy use intensity of school operations like parking lighting, field lighting, etc
- Measure energy use intensity of city school buildings

Goal 5 - Optimize Energy Use of Water Operations.

Potential Baselines:

- Quantity and cost of water for each building for the last 5 to 10 years. (JZ).
- Measure energy use of water (and sanitary sewer?) operations such as pump stations
- Measure energy loads in each water system zone
- Measure run times on pumps (want to show decreasing run times to reduce electricity amount and increase lifespan of pumps)
- Measure resistance - want system to be configured so water meets least resistance possible
- Measure cost of water operations
- kWh of electricity used per million gallons water usage

Goal 6 – Encourage Efforts to Improve Energy Efficiency and Increase Renewable Energy and Sustainable Energy Sources.

Potential Baselines:

- Amount and percent of energy received from each source, ie electric, gas, oil, including solar and geothermal. (JZ)
- Determine number of households and businesses involved in HEC's net metering program
- Determine the amount of energy created per year by participants of net metering program
- Percentage of government facilities using renewable energy (alexandria)
- Measure energy efficiency of city facilities and operations (alexandria)
- Mount of commercial energy demand met with on-site renewables (Blacksburg) , measuring renewable energy demand for residential (survey?) Blacksburg

Focus Area 2 - Land Use and Green Space.

Goal 1 – Modernize and Establish Enduring Land Use and Development Patterns.

Potential Baselines:

- Amount and percent of parking lots and spaces in the city developed with Best SWM practices, ie the existing high school has several acres of parking lot with Worst SWM practices. (JZ)
- Number of existing small area plans. (THD)
- Housing density - number of dwellings per square mile in the City (THD)
- Median single-family residential lot size (THD)
- *Some tasks are related to Transportation tasks (THD)*

Goal 2 – Maintain and Create a Well-Distributed and Accessible Parks and Recreation System.

Potential Baselines:

- Map that identifies the number and location of parks. Analysis that could stem from this map: number and size of parks by geographic area within the city.
- A baseline for determining a well distributed park system would be to complete a Comprehensive Open Space Master Plan. This would show what we have and where parks would be needed. Need would be based on current population density and future growth. (LS)
- Land Use Strategy 2.2 - Number of linear feet/miles of shared use path and trail opportunities in the City. *Other Tasks in Land Use Strategy 2.2 are related to Transportation tasks (THD)*
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Goal 3 – Maintain and Increase a Healthy Tree Canopy.

Potential Baselines:

- Amount of tree canopy (within municipal boundary and by zone). This analysis is already complete.
 - Tree inventory
- Determine area for new tree plantings. 1:1 ratio replacement program.
- Determine number of pollinator gardens/habitat on city properties
- Determine linear footage or square footage of riparian buffers on city properties (and private properties?)
- Two greenhouse facilities (1,250 sq./ft.) of growing space to produce 5,000 pollinator plants and tree seedling annually.

- Number of ash trees that will be lost to Emerald Ash Borer.
-

Goal 4 - Evaluate Opportunities for Underutilized Public and Private Lands and Consider Opportunities to Rehabilitate and Create New Natural Habitats.

Potential Baselines:

- Determine locations for community food forest.
- Determine area for pollinator meadows.
- Number of schools that would consider a meadow program.

****Note:** The Green Space Manager position was created January 2020. This position and the Landscape Supervisor transferred from Parks to Public works to dedicate more time to the urban forestry and pollinator programs

Focus Area 3 - Regional Food Systems.

Goal 1 - Promote Accessibility to Local, Healthy, and Sustainably Produced Food.

Potential Baselines:

- (DLS) What percentage of the City's population does not live within x miles of high-quality food sources? How about within x miles of a farmer's market or community garden?
- (LK) How to end penal farms, where incarcerated people charged with not violent charges are enslaved for food production.
- (LK) How to Create supportive pathways for (migrant, seasonal) farmworkers to become land-owning farmers running their own businesses, owner-operators.
- (LK) How to increase access to markets for farmers of color through food hubs, processing centers, farmers markets, and farm to institutions programs.
- Determine how many garden programs are functioning at public schools, how many schools could have garden programs and determine staffing needs. (TB)
- What public housing facilities have space for community gardens for residents?(TB)
- Number and location of community gardens within city limits. *Note: While community gardens exist as accessory uses, an ordinance change is needed to allow community gardens as principal uses (LS/THD)*
- Number and location of grocery stores within city limits. (THD)
- What percentage of the City's population does/does not live within x-distance of a grocery store? (THD)
- Number of small and mid-sized grocery stores (3,000-20,000 sq ft), seasonal farmers markets, and community gardens within City limits. (THD)
- Amount of Economic Development/City loan dollars per year available to organizations/businesses to establish and support mobile markets, community kitchens, and food hubs. (THD)

- *Not sure what metric can be used for Regional Food/Strategy 1.2 “Improve sidewalk connectivity, bike facilities, and availability of public transit from residential neighborhoods to grocery stores, farmers markets, and open spaces described above.”*

Goal 2 - Support Sustainable Food Production, Selection, Distribution, and Disposal Practices.

Potential Baselines:

- (DLS) What percentage of land within the City is utilized for community gardening or urban agriculture? *Or: How many community gardens are located within the City?*
- (DLS) How many tons of compost are collected at City-supported sites within a given time period? *Or: What is the quantity of compost per capita collected at City-supported sites within a given time period?*
- (DLS) How many City-provided composting sites are available?
- Determine the weekly/monthly amount (volume or weight) of waste collected at the food composting drop off at City Hall
- What specific locations (food deserts?) could benefit by having small farmers markets located in their neighborhoods to increase access to healthy local foods?(TB)
- Annual Per-capita expenditures at local farmers markets (Blacksburg)

Focus Area 4 - Sustainable Transportation.

Goal 1 - Develop an Alternative Fuel Fleet Program.

Potential Baselines:

- What is the number of city vehicles and which vehicles would have the highest impact for electric or hybrid conversion? (TB)
- What locations would be effective for installing electric charging stations?(TB)
- Measure the amount of electrical charging stations in the community (Roanoke)

Goal 2 - Implement Sustainability Practices into Municipal Fleet Management.

Potential Baselines:

- Purchase fuel efficient vehicles for the City’s municipal fleet. Purchase at least three (3) or more alternative fuel based vehicles within the next 3-5 years
- Explore and incorporate a plan to replace diesel fuel buses with electric buses. This can be done within the next two years when HDPT has to update its State required Strategic

Plan. HDPT will seek Department of Rail and Public Transportation (DRPT) guidance with regards to purchasing electric buses and funding related infrastructure costs.

- Explore use/purchase of electric school buses by the year 2025.
- Work with Harrisonburg Electric Company (HEC) to draw up future electric infrastructure plans for the Harrisonburg Department of Public Transportation (HDPT) and the City that can be implemented by 2025. Necessary infrastructure changes, investments, and costs need to be predetermined to enable a smooth transition to electric vehicles for both Transit and School Bus.
- Locate a suitable location for a transit/transfer center and park and ride lot that would incorporate electric vehicle infrastructure for regular vehicles, and transit vehicles.
- Plan for electric vehicle technology training for our Central Garage mechanics to ensure a seamless transition to electric vehicles.
- Measure vehicle efficiency as ratio of GHG emissions to VMT (Blacksburg)

Goal 3 - Increase Public Transit Ridership.

Increased ridership has four key factors, 1. Reliability 2. Speed to destination 3. Convenience. 4. Improved image. My understanding is that the city is already working on these, but additional baseline information below may improve this.(TB)

Potential Baselines:

- Analyze origins and destination with service hierarchy for backbone of service; ie. determine what routes can be shortened with less stops that take high users groups to high need locations for more quick transport. Particular emphasis should be on underserved neighborhoods.(TB)
- Determine routes that have overly frequent stops and long dwell times.(long dwell times are caused by cash payments, number of stops, and placement). (TB)
- Determine where dedicated bus lanes could be effective in high traffic zones to increase speed to destination. (TB)
- Analyze feasibility of Real Time Bus Arrival Signals at key bus stop locations. (TB)
- Determine financial capabilities of free bus fares and continual 15 minute loop services. (TB)
- Determine feasibility for chip card and fare card reader in place of cash payment. (TB)
- Data collection on attitudes of bus use and how to shift motivational concepts. (TB)
- Evaluate the feasibility of microtransit within the City of Harrisonburg within the next three years. Aim to increase ridership for City residents by providing a safe and convenient alternative to Uber, Lyft, and Rideshare.

- Continue to evaluate new/emerging Intelligent Transportation Systems (ITS) technologies that provide stop data, on-time performance data, and an efficient App that provides user friendly trip information/data for rider convenience
- Route Analysis for City Routes to be completed by 2024. Route analysis will incorporate a feasibility study for a proposed transit/transfer center and park and ride

Goal 4 - Traffic Signal Optimization and Timing Improvements.

Potential Baselines:

- How on/off schedule are we with corridor retiming according to industry standard
- Research how we can use Streetlight or other big data source to easily track congestion or similar metric (?). Metric should be a rate of some sort to account for growing ADT. As it is difficult to imagine a downward trend in absolute idling times when the traffic volume trend is going up.

Goal 5 - Support Alternative, Active, and Low-Carbon Forms of Transportation and Improved Fuel Efficiency

Potential Baselines:

- Determine most effective locations for green bike lanes, protected bike lanes, and bike boxes at traffic signal stops. (TB)
- Analyze key locations for vehicle electric charging stations. (TB)
- Study and determine effective locations for bicycle corral parking stations.(TB)
- % of commute trips by walking, biking, or carpooling using American Community Survey data (every 5 years) Roanoke uses this as well
- miles traveled by micromobility devices
- # of electric vehicle chargers (public + private)
- presence/absence of park and ride facilities and then utilization
- # of users of RideShare app
- Percentage of transportation capital project dollars going to bike/ped projects
- Amount (miles) of bicycle and pedestrian infrastructure, by category

Roanoke Targets:

- **Reduce car reliance and promote cycling, walking, and transit use. 4) Construct or designate 20 additional miles of on-street, protected bike lanes by 2020 to allow safe and efficient travel for all types of cyclists.**

- **Construct 6 miles of paved greenway infrastructure and 11 miles of natural surface greenway on city-owned land by 2020 to provide greater connectivity to housing, public areas, transit facilities, recreational centers, and cultural amenities.**

Alexandria Targets:

- **By FY2030, double the miles of dedicated bus infrastructure to at least 1.5 miles**
- **By FY2023, reduce total average vehicle miles traveled (VMT) per capita by at least 1 percent per year and determine the amount of carbon reduction from transportation sector**
- **By FY2023, increase the share of all trips taken by public transit, walking and biking by at least 15 percent taking the 2018 Mobility Survey as the base year**

Goal 6 - Continue to Coordinate Land Use Planning and Regulations with Transportation Planning.

Potential Baselines:

- Feasibility for mixed use zoning to increase access for active transportation use; ie 15 minute zoning used in Portland Oregon where cyclists and walkers can access basic needs without the need for car or transit. (TB)
- (?) Metric involving what kinds of things we are including in long range plans and/or zoning/subdivision ordinance related to increasing connectivity and promoting alternative modes
 - We came up with “link to node ratio” as a measure of connectivity (see link below). There is a standard number used as a rule of thumb for good connectivity that we could benchmark against. Dastan, Jakob, and Erin agreed that there would be very little change in this metric, if any at all, from year to year, but may be able to see progress every 5-10 years. That being the case, perhaps the EAP metric could be the change in the ratio between present day and what we have planned for in the Street Improvement Plan. (<https://www.cnu.org/our-projects/street-networks/street-networks-101>)
- Vehicle Miles Traveled/capita

Other:

- *Not sure what metric can be used for Regional Food/Strategy 1.2 “Improve sidewalk connectivity, bike facilities, and availability of public transit from residential*

neighborhoods to grocery stores, farmers markets, and open spaces described above.”
(THD)

- Land Use Strategy 2.2 - Number of linear feet/miles of shared use path and trail opportunities in the City. Other *Tasks in Land Use Strategy 2.2 are related to Transportation tasks (THD)*

Focus Area 5 - Waste Reduction and Recycling.

My understanding is that the city has good data on volumes of waste and recycling. (TB)

Goal 1 - Support and Promote the Reduction of Refuse in Landfills.

Potential Baselines:

- Overall cost of residential bulk pickup. (TB)
- Feasibility of eliminating bulk pickup to use cost savings for improved curbside recycling or composting. (TB)
- Recycling Rates (Roanoke)
- GHG emissions going towards collection of waste (Alexandria)
- Amount of Solid Waste collected per household (Alexandria, Blacksburg)
- Proportion of recycling as a percentage of total refuse (Blacksburg)

Goal 2 - Encourage and Promote Zero Waste and the Reuse of Usable Items.

Potential Baselines:

- What entities and events (residential, commercial, public) are creating large volumes of waste and what types of waste are they? (TB)
- What wastes are being produced in the city that could be locally reused, recycled, or reduced? (TB)
- What light commercial industries are being incentivized in other municipal locations to recycle locally produced waste and could be incentivized in Harrisonburg? Example: carpet manufacturer using locally sourced plastics. (TB)
- Tonnage delivered to landfill (Roanoke)

Goal 3 - Support and Promote Recycling.

Potential Baselines:

- Number of additional locations for effective recycling drop off centers. (TB)
- Number of residents interested in curbside compost pick-up. (TB)

- Attitudes and interest in curbside recycling versus drop off centers. (TB)

Goal 4 - Support and Promote Healthy and Safe Solid Waste Disposal

Potential Baselines:

- Amount of HHW (tonnage ?) disposed of at HHW events
- Reduced number of illicit discharge citations

Focus Area 6 – Water Resources.

Goal 1 - Protect and Secure Drinking Water Sources.

Potential Baselines:

- Quality of water chemical, organic and turbidity, ph, etc entering each water intake source, At Dry River, Shenandoah River, wells. These baselines measurements should be available for the past 5 to 10 years. (JZ)
- Measure how many sources of contamination are identified in the source water protection plan
- Measure if we are meeting water demand in the raw water supply management plan for future development
-

Goal 2 - Implement the Water Use and Water Loss Management Plans.

Potential Baselines:

- Develop a survey for K-12 students (high school?) to determine educational awareness baseline. Continue to partner with local schools to administer annual surveys to see if educational programming is effective. Alternatively could consider utilizing consultants to survey residents to understand the level of understanding and best/preferred marketing approaches for receiving future educational materials. (KT)
- Measure non-revenue water (Roanoke) Measure water loss (estimates begin in 2008)
- Measure per capita consumption of water (2008 is when data collection began)
- Regional water supply plan created in 2013

Goal 3 - Protect Stream Health through Sanitary Sewer Management.

Potential Baselines:

- Quality of water chemical, organic and turbidity, ph, etc leaving each treatment plant. These baselines measurements should be available for the past 5 to 10 years. (JZ)
- Identify how many SSOs occur during or after rain events to evaluate potential of I&I or potential stormwater connections. Investigate interceptors and trunks off of that interceptor which have frequent SSOs. (KT)
- Number of septic systems in the city (to show decline) data available from 2006
- Percentage of interceptor sewer pipes meeting sanitary sewer level of service
- Use flow monitoring data - number of suspected I&I issues, number of issues resolved each year
- Measure number of I&I issues investigated

Goal 4 - Protect and Enhance Water Quality of Surface Water and Stormwater Runoff.

Potential Baselines:

- Quality of water (chemical, physical, E. coli, benthic). Some data will be available from Stream Health and Environmental Field positions (KT)
- GIS- Measure % of riparian buffer (as defined by 100 year floodplain?) that is forested, open/turf, or developed. Could denote public/private to give complete picture and allow private landowners to be informed about potential to increase buffers on their land or could just evaluate on City owned land. This could also be used for Focus Area 2 Goal 4 (KT)
- Tree coverage, which will also be measured for Focus Area 2 Goal 3. (KT)
- # of stormwater BMPs per BMP category (Stormwater Utility, HCAP, VCAP, City Owned, Private). Would have some numbers on past quantities. (KT)
- Create partnership with local businesses to voluntarily report aggregate numbers of fertilizer products sold (on monthly, quarterly, or yearly basis). Could give insight into fertilizer habits in the area. (KT)
- Measure compliance with local and Ches Bay TMDLs

Environmental Performance Standards Advisory Committee Bylaws



City of Harrisonburg, Virginia

Article I: Name

The name of this organization shall be the Environmental Performance Standards Advisory Committee (the "Committee") of the City of Harrisonburg (the "City").

Article II: Purpose

The City is committed to reducing negative impacts on the local, regional, and global environment and strives toward being a good steward of the resources to which it has been entrusted.

The purpose of this Committee is to advise City Council and city staff on matters pertaining to the development and implementation of the Environmental Action Plan, and to other environmental issues of concern to the community.

~~The City will take a proactive approach for establishing standards related to environmental performance and sustainability as outlined in the City's 2011 Comprehensive Plan Update Objective 8.3, which states:~~

- ~~• To create a set of environmental performance standards for public and private development and redevelopment projects.~~

~~The purpose of this Committee is to provide guidance and recommendations to City Council in the establishment of environmental performance standards for public development and redevelopment projects, and will encourage the private sector to meet these standards as well.~~

Article III: Responsibilities

The Committee shall:

1. Engage in matters pertaining to the development of the Environmental Performance Standards Action Plan, with particular focus on financially feasible and measurable public sector standards that comply with state and federal requirements.
2. Monitor the formulation and implementation of the Environmental Action Plan ensuring that it reflects current City priorities and needs, standards, and its progress with respect to those standards.
- ~~3. Conduct periodic assessments of priorities and needs.~~
- ~~4.3.~~ Participate in the development and implementation of public outreach and education efforts to improve and expand environmental sustainability efforts.
- ~~5.4.~~ Provide recommendations to and advise City Council and staff on those matters referred to the Committee, accordingly.

Article IV: Membership

The Committee shall consist of ~~97~~ to ~~127~~ members, plus two ex-officio members. One City Council and one School Board representative shall serve as ~~an~~ ex-officio members. Except for the School Board representative who is appointed by the School Board, ~~a~~All Committee members are

to be appointed by City Council. The rights of an ex-officio member are the same as other members.

~~Individuals and groups that might be represented may include, but are not limited to: residents; residential, commercial, and industrial property owners; civic leagues and community groups; homeowner's associations; community leaders; business owners; professional engineers, architects, construction and building contractors, and other real estate developers; special interest groups representing matters such as construction and building, economic development, environmental causes, social causes, outdoor recreation, and others; education professionals from the local schools and city staff.~~ Council shall strive to appoint Committee members with substantive knowledge, technical expertise, or skillsets relevant to the Committee's responsibilities, as well as Committee members who reflect the diversity of the City's population.

The terms of the appointed members shall be for three (3) years and such terms shall be staggered, such that approximately one-third (1/3rd) of the committee is appointed each year by City Council.

Appointments to fill vacancies shall be for the unexpired terms. The City Council may remove any appointed member at any time and appoint his or her successor.

Article V: Officers

1. Chair~~man~~
 - a. The Chair~~man~~ shall preside over all meetings of the Committee.
 - b. When necessary, the Chair~~man~~ shall represent the Committee at outside meetings, conferences, and other instances of a similar nature.
 - ~~c. The Chairman shall serve as the primary liaison with city staff.~~
2. Vice-Chair~~man~~
 - a. The Vice-Chair~~man~~ shall perform all duties of the Chair~~man~~ during the absence of the Chair~~man~~, or at the request of the Chair~~man~~.

Article VI: Meetings

1. All Committee meetings shall be open to the public.
2. Attendance by a majority of voting members shall constitute a quorum, and minutes shall be kept by city staff of each meeting.
3. Participation in meetings through electronic communications.
 - a. Any Committee member who is unable to attend a regular or special meeting in person due to (i) an emergency or a personal matter, or (ii) a temporary or permanent disability or other medical condition, may participate in the meeting through electronic communication from a remote location that may not be open to the public, subject to the following:
 - i. A quorum of the Committee is physically assembled at the central meeting location.

- ii. The member notifies the chair on or before the day of the meeting that he or she is unable to attend (i) due to an emergency or personal matter identified with specificity, or (ii) due to a temporary or permanent disability or other medical condition that prevents the member's physical appearance. A member shall participate in a remote meeting due to an emergency or personal matter at no more than two meetings in each calendar year.
- iii. The Committee records in its minutes the (i) specific nature of the emergency or personal matter or the fact of the disability or medical condition, and (ii) the remote location from which the member is participating.
- iv. The Committee arranges for the voice of the absent member to be heard by all persons in attendance at the central meeting location.
- b. The Committee by motion shall vote to approve or disapprove the member's electronic participation. If the absent member's remote participation is disapproved because such participation would violate the above, such disapproval shall be recorded in the minutes.

2.

Article VII: Voting

1. All issues to be voted upon shall be stated in the form of a motion.
2. Each Committee member shall have one vote.
3. No absent member shall receive a vote.
4. No member shall abstain from a vote unless the member has a specific conflict of interest in the issue being voted upon.

Article VII: Amendments

Any of the written bylaws may be amended by City Council. The Committee may recommend amendments to City Council after a regular meeting by a two-thirds vote of the members present, provided that notice of the amendment recommendation has been presented to each member at least thirty days prior to the meeting at which the amendment recommendation will be voted on.

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Article III: Responsibilities

The Committee shall:

1. Engage in matters pertaining to the development of the Environmental Action Plan.
2. Monitor the formulation and implementation of the Environmental Action Plan ensuring that it reflects current city priorities and needs.
3. Participate in the development and implementation of public outreach and education efforts to improve and expand environmental sustainability efforts.
4. Provide recommendations to and advise City Council and staff on those matters referred to the Committee.

Article IV: Membership

The Committee shall consist of 9 to 12 members, plus two ex-officio members. One City Council and one School Board representative shall serve as ex-officio members. Except for the School Board representative who is appointed by the School Board, all Committee members are to be appointed by City Council. The rights of an ex-officio member are the same as other members.

Council shall strive to appoint Committee members with substantive knowledge, technical expertise, or skillsets relevant to the Committee’s responsibilities, as well as Committee members who reflect the diversity of the City’s population.

The terms of the appointed members shall be for three (3) years and such terms shall be staggered, such that approximately one-third (1/3rd) of the committee is appointed each year by City Council.

Appointments to fill vacancies shall be for the unexpired terms. The City Council may remove any appointed member at any time and appoint his or her successor.

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1. Chair
 - a. The Chair shall preside over all meetings of the Committee.
 - b. When necessary, the Chair shall represent the Committee at outside meetings, conferences, and other instances of a similar nature.
2. Vice-Chair
 - a. The Vice-Chair shall perform all duties of the Chair during the absence of the Chair, or at the request of the Chair.

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