EAP Phase II Tracking

Last Updated: September 9, 2020

Introduction

This document is intended to serve as a reference for City Staff to track the progress of the development of the proposed baselines for the City of Harrisonburg's Environmental Action Plan (EAP). The main goal of this document is to account for each baseline in the six Focus Areas, determine if the data is currently available, and if not, what staff thought was needed to obtain the data. In addition, this document will provide pertinent details for staff regarding information needed to collect and present the data, such as where the data is stored (e.g. the name of the system, report, spreadsheet, or GIS layer) and who staff need to reach out to in order to get the data.

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. These baseline indicators should provide a snapshot of the conditions and be useful for setting an actionable and measurable target.

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*

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."

This document continues to be a work in progress and the baselines and other details proposed herein may be refined, amended, added, or deleted.

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: Keith Thomas (Stand-in). EPSAC: Dan Downey, Brad Streibig, Richard Baugh

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

Staff Lead: Adam Wright (HDPT)
EPSAC Members: Johann Zimmerman, Benjamin Meredith, Doug Hendren, Brad Streibig, Andy Kohen
Other Staff: Ron Schuett (CD), Brian O'dell (HEC), Mike Collins (HPU)

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

Indicator #1: Percentage of electricity produced by what energy source

e.g.. Coal, gas, oil, hydro, solar, etc

> *Baseline Availability*
>
> Available
>
> *Baseline Year*
>
> 2017
>
> *Data Source*
>
> HEC electric data by source (from Dominion). Ask Brian if data can be pulled from a website.
>
> *Primary Data Collection Contact*
>
> Brian O'Dell
>
> *Data Collection Frequency*
>
> Annually- Calendar Year (think data is made public in second quarter of the year)
>
> *Data Collection Cost*
>
> N/A
>
> *What does the indicator mean/tell us?*
>
> Energy sources give the breakdown of electricity produced from fossil fuel vs alternative fuels. Each fuel is indicative of the amount of GHGs that may be produced. Higher percentage of fossil

fuel sources indicate higher GHGs emitted while higher percentages of alternative fuel sources indicate lower GHGs emitted. Limitations of this data include does not reflect private landowners who have installed alternative fuel sources on their property.

Collaborators

Public Display Option

Dashboard pie chart of current energy use by source or bar graph over time

Interested Outside Groups

Status Notes

Part of a planned email to Brian O'dell for an information request in the coming weeks.

Indicator #2: Measure metric tons per capital of GHG emissions

Baseline Availability

Potentially with GHG study (Dr. McGinnis might shed more info on this)

Baseline Year

2016

Data Source

GHG divided by Population

Primary Data Collection Contact

Adam Wright

Data Collection Frequency

Every 2-4 years (ask Dr. McGinnis how often this is recommended to be updated)

Data Collection Cost

$$ ($150/hr)

What does the indicator mean/tell us?

Collaborators

Public Display Option

Waiting to see what the data formats will look like

Interested Outside Groups

Status Notes

Currently working with Dr. McGinnis to complete GHG study.

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

Indicator #1: Municipal greenhouse gas emissions inventory for all municipal operations

Baseline Availability

Planned for fall 2020

Baseline Year

2016

Data Source

Initially-Dr. McGinnis GHG Emissions Inventory. Then will be based on obtaining various data points and inputting into system.

GHG Data Inputs Table

Data Input	Primary Staff Contact	Data Location/Source	Notes

Primary Data Collection Contact

Adam Wright

Data Collection Frequency

Every 2-4 years (ask Dr. McGinnis how often this is recommended to be updated)

Data Collection Cost

$$

What does the indicator mean/tell us?

Collaborators

Public Display Option

Waiting to see what the data formats will look like

Interested Outside Groups

Status Notes

Currently working with Dr. McGinnis to complete GHG study.

Goal 3 - Decrease Energy Use Intensity of Municipal Buildings.

Indicator #1: Measure energy use intensity of municipal buildings and parking garages

Baseline Availability

Not available yet, After GHG can use the data to input into calculations for this

Baseline Year

2016

Data Source

based on sqft of building/parking lot

Primary Data Collection Contact

Adam Wright

Data Collection Frequency

TBD

Data Collection Cost

?? $-if we get different program

What does the indicator mean/tell us?

shows how the buildings are performing/impact our emissions

Collaborators

Public Display Option

Waiting to see what the data formats will look like

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

Indicator #1: Measure energy use ~~intensity~~ of school buildings ~~like parking lighting, field lighting, etc~~

Baseline Availability

Available

Baseline Year

2010 (could do farther back if needed)

Data Source

HCPS Energy Bills- have done some energy audits in the past. Does comparison between buildings. Could break out field lighting at HHS (no other facility has lights on separate system), won't be able to get parking lot lighting (not on separate system so number is not broken out anywhere).

Primary Data Collection Contact

Craig Mackail (HCPS), Andrew A (HCPS)

Data Collection Frequency

Collect and display as Quarterly data (Craig gets reports quarterly and monthly as FYI)

Data Collection Cost

N/A

What does the indicator mean/tell us?

All the older buildings were remodeled in the 1990s which included upgrades to some more energy efficient systems

Make sure to cover Energy usage vs energy intensity (can Google for some discussion on the differences)

Note COVID impacts in 2019/2020 (reduced time kids in buildings)

Could also highlight energy saving aspects of Bluestone/Elon (largest elementary school yet operates at a third of the energy of the others)

Collaborators

Public Display Option

TBD- There is no reason to display energy bill as is

Craig requests that we allow him to review any material created before releasing to the general public

Interested Outside Groups

Status Notes

Waiting on Craig and Andrew to send a copy of the most current energy bill so we can see what's on it so we know what info we can parse out of them

Indicator #2: Measure energy ~~use~~ intensity of city school buildings

Baseline Availability

Potentially could be available

Baseline Year

TBD

Data Source

TBD

Primary Data Collection Contact

Craig Mackail (HCPS), Andrew A (HCPS)

Data Collection Frequency

TBD

Data Collection Cost

What does the indicator mean/tell us?

Make sure to cover Energy usage vs energy intensity (can Google for some discussion on the differences)

Collaborators

Public Display Option

Craig requests that we allow him to review any material created before releasing to the general public

Interested Outside Groups

Waiting on Craig and Andrew to send a copy of the most current energy bill so we can see what's on it so we know what info we can parse out of them. Also need to discuss with them how they might measure intensity from usage.

Goal 5 - Optimize Energy Use of Water Operations.

Indicator #1: Quantity and cost of water for each City municipal building

Baseline Availability

Available

Baseline Year

Data Source

Pull from annual bills

Primary Data Collection Contact

Mike Collins (HPU)

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

Shows water consumption of municipal operations. Note that some operations are going to have a higher usage because it is used more or the specific operations are more water intensive (Community Activities Center, City Hall and public restrooms, etc)

Collaborators

Public Display Option

TBD

Interested Outside Groups

Status Notes

Part of a planned email to Mike Collins for an information request in the coming weeks

Indicator #2: <mark>Water Operation Pump Performance (Consult with Mike for exact name)</mark>

*Note this is the indicator suggested by Mike Collins in place of Measure energy loads in each water zone, measure run times on pumps, measure resistance, measure cost of water operations, kWh of electricity used per million gallons water usage (these indicators either did not represent the best way to measure efficiency/performance or to get the data would be cost and time prohibitive)

Baseline Availability

Available

Baseline Year

2001

Data Source

SE, Cost, Carbon Emissions (all are related to kwh), measure at System, Zone, and Pump level. Include House loads (bigger buildings like treatment plant or water operations building)

measure in Kwh, benchmak in Specific Energy (SE). A lot of data on the "it for now" excel

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Data Collection Cost

N/A unless we required a new system to monitor data

What does the indicator mean/tell us?

Other Notes from Mike

Total Energy (entire city water/kwh)(margin house energy- least important as lowest impact in total energy used)- It would take about 2 days to calculate fixed speed pumps to break down Total Energy into the four components. Variable speed pumps are harder because it does not run the same everyday

EIU (Energy Intensive Unit) in BTU or Kwh per sqft. Have data on EIUs for pump stations. Google electrical energy standards. SE (takes out consumption and deals with input)

Ses (kwh/volume pumped) System --> 8-9 Zones --> Pump Stations

Pump energy is the greatest impact- New tech on south river has ability to go more in depth in operational impact run time and cost efficiency- however- most pump stations are not big enough to warrant the investment in this technology
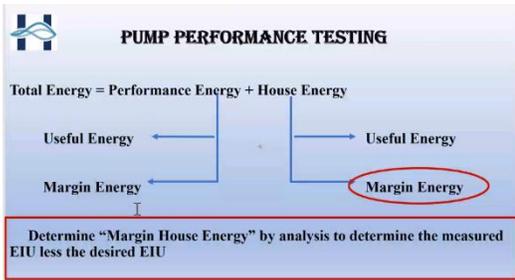
adding new system (south river) increases energy use but adds resiliency

Collaborators

Public Display Option

TBD

Interested Outside Groups

Status Notes

Part of a planned email to Mike Collins for an information request in the coming weeks

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

Indicator #1: Number of households and businesses involved in HEC's net metering program

Baseline Availability

Available

Baseline Year

2010

Data Source

data on the Parallel Connection Rated Capacity AC spreadsheet

Primary Data Collection Contact

Brian O'Dell

Data Collection Frequency

(tabulated monthly) EAP updated Annually

Data Collection Cost

N/A

What does the indicator mean/tell us?

Public investment/interest in alternative fuel sources

Collaborators

Public Display Option

TBD

Interested Outside Groups

Status Notes

Part of a planned email to Brian O'dell for an information request in the coming weeks.

Indicator #2: Total amount of energy created per year by participants of net metering program

Baseline Availability

Available

Baseline Year

2010

Data Source

Column has been added to O'dell's spreadsheet to estimate output

Primary Data Collection Contact

Brian O'dell

Data Collection Frequency

(tabulated monthly) EAP updated Annually

Data Collection Cost

N/A

What does the indicator mean/tell us?

The amount of energy produced by alternative fuels that offset the need for carbon fuel sources

Collaborators

Public Display Option

TBD

Interested Outside Groups

Status Notes

Part of a planned email to Brian O'dell for an information request in the coming weeks.

Indicator #3: Percentage of government facilities using renewable energy

Baseline Availability

Available

Baseline Year

Current

Data Source

Answer is 0

Primary Data Collection Contact

Adam Wright

Data Collection Frequency

As specific projects are known to come online

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

TBD

Interested Outside Groups

Status Notes

No action needed at this time

Indicator #4: Total amount of energy created by government facilities using renewable energy

Baseline Availability

Available

Baseline Year

Current

Data Source

Answer is 0

Primary Data Collection Contact

Adam Wright

Data Collection Frequency

As specific projects are known to come online

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

TBD

Interested Outside Groups

Status Notes

No action needed at this time

Focus Area 2 - Land Use and Green Space.

Staff Lead: Thanh Dang (CD)
EPSAC Members: Mikaela Schmitt-Harsh, Dan Downey, Richard Baugh
Other Staff: Luanne Santangelo (P&R), Jeremy Harold (HPW), Wes Runion (HPW)

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

Indicator #1: Housing density

Baseline Availability

Yes- number of dwellings per square mile of developed land in the City- GIS exercise

Baseline Year

Current? Depends on data that is archived

Data Source

GIS- vacant/undeveloped parcels? Dwelling units per 100 acre? Dwelling per sq mi?

Primary Data Collection Contact

Thanh

Chip

CD GIS Analyst (if position filled)

Data Collection Frequency

TBD- Long term to see any changes

Data Collection Cost

N/A

What does the indicator mean/tell us?

(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.)

Collaborators

Public Display Option

TBD

Interested Outside Groups

Status Notes

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

Indicator #1: Distribution of park system

Baseline Availability

Available. 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- proposed for FY23.) consider including school facilities

Baseline Year

2016

Data Source

GIS?- distribution of parks proximity relative to rooftops? Work with Chip to do this

GIS layer of existing park boundaries

Primary Data Collection Contact

GIS

Luanne Santangelo (for any questions on parks, future proposed parks)

Data Collection Frequency

Longer term changes (every 3-5 years) or as new parks are established for recreational use

Data Collection Cost

N/A

What does the indicator mean/tell us?

walkability to park for each neighborhoods

Collaborators

Public Display Option

Map with existing parks indicated. Second layer showing potential park locations.   How/would school grounds be represented? They are often used for recreation as well. Do we include Riven Rock and Switzer/Dry River land?

Interested Outside Groups

Status Notes

Indicator #2: <mark>Acres in parks system</mark>

Baseline Availability

Available

Baseline Year

(Year of first park)- Kelly working on history of parks component

Data Source

GIS- Do we want to include Switzer watershed? Riven Rock? Undeveloped parks (Large portion of Ramblewood, section behind Westover, behind a dream come true, etc)?

Primary Data Collection Contact

GIS

Luanne Santangelo (for any questions on parks, future proposed parks)

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Show total acres, have acres per park, create storymap like Downtown Historic Buildings map with info on each park such as when it was established, and include some old pictures if we can find some

Interested Outside Groups

Status Notes

Indicator #3: Number of linear feet/miles of shared use path and trail opportunities in the City.

Baseline Availability

Yes- GIS/Plans. Consider also proximity to paths. Categories- recreational vs transportation

Baseline Year

2016

Data Source

GIS

[..\FileShare\Parks and Recreation\Purcell Park Master Plan Docs](..\FileShare\Parks and Recreation\Purcell Park Master Plan Docs)

Also info in bike/ped plan

Erin Yancey/Thanh might have info on planned stuff

Primary Data Collection Contact

GIS

Luanne Santangelo (for any questions on parks, future proposed park paths)

Erin Yancy (for questions on transportation paths and future planed SUPs)

Data Collection Frequency

After project completion of new paths

Data Collection Cost

N/A

What does the indicator mean/tell us?

(This baseline would include both transportation shared use paths and recreational walking paths within City parks.)

Collaborators

Public Display Option

# of miles, Map of trails/SUP's and pop up with length (ft). As part of dashboard. Type of trail (SUP, trail, gravel trail, etc)

Interested Outside Groups

Rocktown Trails

Status Notes

Working on getting GIS data from Jakob and have created an Online GIS layer for this to collect new paths and to more accurately measure existing (Jakob determining which paths need a little extra refinement using the Collector App).

Goal 3 – Maintain and Increase a Healthy Tree Canopy.

Indicator #1: Percentage or acreage of tree canopy (within municipal boundary and by zone) <mark>Or by sub watershed and by land use?</mark>

Baseline Availability

Yes- Already complete. (study was done citywide, split into sub watersheds and by land use). Could potentially rerun by city owned land/zones/neighborhoods

Baseline Year

2016

Data Source

Tree study ([..\Stormwater\Projects & Grants\2016-08-30 GIC Tree Canopy Technical Assistance](..\Stormwater\Projects & Grants\2016-08-30 GIC Tree Canopy Technical Assistance))

GIS- original from 2015 Lidar. Could maybe recreate with iTree application

Primary Data Collection Contact

GIS

Jeremy Harold (for any questions)

Data Collection Frequency

Every 3-5 years?

Data Collection Cost

free with iTree and most recent aerials?

What does the indicator mean/tell us?

Collaborators

Public Display Option

% number with tab to Map with layers to show annual(?) growth

Interested Outside Groups

Status Notes

Indicator #2: Number of public trees planted per year and cumulative number?

Baseline Availability

Available

Baseline Year

First year on spreadsheet

Data Source

GIS- Tree inventory map and Trees planted spreadsheet

Primary Data Collection Contact

Jeremy Harold

Data Collection Frequency

Annually (may also consider semi-annual or Quarterly?)

Data Collection Cost

N/A

What does the indicator mean/tell us?

Note limitations that we cannot constantly increase every year, see year over year total increase, there will be a point where we reach "capacity". Note EAB effects and development.

Collaborators

Public Display Option

Tree inventory map, aggregate number of trees planted, and chart with # of trees planted each year over time. Show stormwater benefit of public trees in water resources?

Interested Outside Groups

Status Notes

Indicator #3: Number of public hazard trees removed every year

Baseline Availability

AVailable

Baseline Year

Data Source

GIS TreesMarkedForRemoval map? Is this recorded also on a spreadsheet?

Primary Data Collection Contact

Wes Runion or Jeremy Harold

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

(would want to see a decrease over time as tree canopy health increases), removal of these trees also shows taking practice steps to improve tree health

Collaborators

Public Display Option

or trees noted with map of where trees removed to see if localized trend? As a part of dashboard

Interested Outside Groups

Status Notes

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

Indicator #1: Square footage of pollinator habitat on city property.

Baseline Availability

Available & Complete

Could also include Number of pollinator habitat spaces (67 as of 2020)

Habitat area-52,955sqft/ 1.22ac (as of Sept 2020). Number of pollinator habitat spaces (67 as of sept 2020)

Baseline Year

2016 (0 sqft of pollinators?)

Data Source

Pollinator GIS layers- include everything including planter boxes

Primary Data Collection Contact

Jeremy Harold

Data Collection Frequency

Annually/updated automatically in Collector App

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

like pollinator map (https://arcg.is/0HuTS1), how do we want to tie in our Strategies to Create Pollinator Habitat section from that map?

Interested Outside Groups

Status Notes

Indicator #2: Percentage or number of schools with a pollinator meadow program

Baseline Availability

Available- Bluestone has meadow, being replanted due to accidental mow down.

Baseline Year

Year first planted

Data Source

GIS / HCPS when new areas are established. Info may be captured in MS4 materials

Primary Data Collection Contact

Craig and Andrew (HCPS)

Data Collection Frequency

As new projects are completed

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #3: Number of community food forests

Baseline Availability

Available- -0 community food forests as of 2020

Baseline Year

2020

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #4: Stream Buffers (wooded/undeveloped area adjacent to stream)

Baseline Availability

Available

Baseline Year

2018 imagery? (we could go back some but may be time consuming)

Data Source

GIS- parcels that intercept stream, classify as private/public, map "buffer". Determine if area is Impervious, pervious grass or pervious trees

Use land use mapping from Bay progam for our area (NAIP) to help with classificaitions.- CAn pull all previous years that they have, clip land use to instersection with stream layer plus 50 ft boundary. Could allow users to toggle between years.

Ask Thanh, Chip, someone what is the easiest way to denote if the adjacent parcel is government/public or private?

Primary Data Collection Contact

GIS

Data Collection Frequency

Every 3-5 years?

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Map with slider

Interested Outside Groups

Status Notes

Focus Area 3 - Regional Food Systems.

Staff Lead: Thanh Dang (CD)
EPSAC Members: Deirdre L Smeltzer, Tom Benevento, Mikaela Schmitt-Harsh, Leons Kabongo
Other Staff: Luanne Santangelo (P&R), Harsit Patel (HPW), Craig Mackail (HCPS), Andrew Ansoorian (HCPS), Andrea Early (HCPS)

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

Indicator #1: Percentage or number of schools with garden programs

Baseline Availability

Available

Baseline Year

First year first garden planted

Data Source

GIS- location of garden/location of school, include data on year established, size, pictures

Primary Data Collection Contact

Craig, Andrew, Andrea

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Storymap to include year established, size of garden, some pictures of garden

Interested Outside Groups

Status Notes

Indicator #2: <mark>Additional programs HCPS uses in their food operations</mark>

% of food procured from local (Rockingham) farms? Some of this may end up in Focus Area 5 for composting

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #3: Number of community gardens within city limits

Baseline Availability
Refer back to comments in Focus Area 2
Baseline Year

Data Source
Refer back to comments in Focus Area 2
Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

# of gardens. Layers to show year over year comparison. Can measure sqft of space. Divide into categories of public/private

Interested Outside Groups

Status Notes

Need ordinance language change to allow for this use as primary function

Indicator #4: Percentage of households within x-miles of a community garden

Baseline Availability

Need ordinance language change to allow for this use as primary function

Baseline Year

2016

Data Source

If on private- ask permission to map?
Do just a count of known locations?

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Accessibility to food/ access to fresh food, does not account for backyard gardening, access in lower income and apartments. More abstract is more close options of fresh food could have a correlation on lower emissions from needing to ship food in

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

# of households within x% that we establish
Need ordinance language change to allow for this use as primary function

Indicator #5: Number of public housing facilities that have community gardens for residents

Rethink wording of this- public housing like HRHA? or base on low income census tract plus certain density zoning? Does this indicator even make sense and worth keeping?

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #6: Percentage of households within x-miles of a grocery store/general food access picture

Baseline Availability

Baseline Year

Data Source

GIS- Bike map, bike racks, sidewalk layer, bus route/stops (covered/uncovered, road traffic volume/ADT map https://www.virginiaroads.org/datasets/traffic-volume?geometry=-79.173%2C38.399%2C-78.520%2C38.493, any speed info we can get for roads, zoning layer, vacant lots, census data (all minority, low income), store locations (include farmers market. Differentiate b/w grocery and dollar stores?)(many of these layers we already have, can easily get, or will be part of the transportation focus area)

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Do people have a basic food access issue because they lack safe and accessible ways to reach a location selling food? Explores where impediments may exist to identify areas that may benefit in a change of City policy (community garden zoning lang, speed limits, informational material, etc), addition of certain infrastructure (sidewalk, bike lane, crosswalk, signage, etc), or the expansion of a City service (bus routes/stops). Limitations include the City cannot dictate where and if a store will open on a particular lot.

Collaborators

Public Display Option

Storymap- display areas identified as potentially impacted/likely to experience food access issues and describe the impediments for that particular area. I don't think all the layers we use to analyze need to be turned on for the whole map as that would be busy- we can create AOI around the ID areas and turn on the layers. Have the main map show potential areas then allow to zoom to each neighborhood

Interested Outside Groups

Status Notes

Indicator #7: Amount of Economic Development/City loan dollars per year available to organizations/businesses to establish and support mobile markets, community kitchens, and food hubs

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

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

Indicator #1: Number of community gardens within city limits (same as Focus Area 3, Goal 1 Indicator 2)

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #2: Annual per-capita expenditures at local farmers market

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Call Farmers Market for total Vendor revune- divide that by total population
Reber is the operations manager: reber@harrisonburgfarmersmarket.com

Evan Bullard is the board chair of the Farmers Market: evanwbullard@gmail.com

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Would want to see go up over time, but not sure how much it can tell us- what if they go to Co-op? What if go to local farm stand? What if they bought local food products from bigger chain stores?

Collaborators

VCE buy fresh, buy local numbers?

Public Display Option

Displayed as a chart over time? As part of dashboard

Interested Outside Groups

Status Notes

==Indicator #3: Metric on downtown restaurants that utilize some portion of local (Rockingham/City) food==

Baseline Availability

Does/would HDR be able to find out this number?

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Focus Area 4 - Sustainable Transportation.

Staff Lead: Tom Hartman (HPW)
EPSAC Members: Tom Benevento, Doug Hendren, Deirdre L Smeltzer
Other Staff: Erin Yancy (HPW), Traffic Engineer (HPW), Jakob zumFelde (HPW), Gerald Gatobu (HDPT), Mike Newbill (HDPT), Cheryl Spain (HDPT)

Goal 1 - Develop an Alternative Fuel Fleet Program.

Indicator #1: Number of city vehicles broken down by fuel type and usage

Baseline Availability

Available
182-D (37 DEF)
257-gas (90 flex fuel capable- though don't use it now)
439 total vehicles (does not count equipment)

Baseline Year

Can go back as far as reports still listed

Data Source

Fleet management system- can pull data out of

Primary Data Collection Contact

Mike Newbill

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

Tells us what fuel types are used in the City Fleet and a proxy indication of GHGs emitted

Collaborators

Public Display Option

Pie Chart

Interested Outside Groups

Status Notes

Indicator #2: The number of electrical charging stations or unique locations in the community

Baseline Availability

Available

Baseline Year

2020

Data Source

GIS Location

Primary Data Collection Contact

Alleyn Harned (JMU VA Clean Cities)

Data Collection Frequency

Ask Alleyn

Data Collection Cost

N/A

What does the indicator mean/tell us?

Expansion of electric vehicle usage. The more stations there are indicates more electric car demand

Collaborators

Alleyn

Public Display Option

Map of electric car charging stations

Interested Outside Groups

Status Notes

Goal 2 - Implement Sustainability Practices into Municipal Fleet Management.

Indicator #1: Measure vehicle efficiency as ratio of GHG emissions to vehicle miles traveled (VMT)

Baseline Availability

Available

Baseline Year

Can go back a few years

Data Source

Report- Vehicle Usage (for specific timeframe)- see mileage and fuel used. Get totals (some things are broken down per vehicle)

Primary Data Collection Contact

Mike Newbill

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

Historical data is not always as accurate as some vehicles are taken out of service. Should show improvement over time.

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Goal 3 - Increase Public Transit Ridership.

Indicator #1: Determine routes that have overly frequent stops and long dwell times

Baseline Availability

Available   Route study analysis (last in 2019)

Baseline Year

Data Source

Avail System (Per stop data)

Primary Data Collection Contact

Gerald Gatobu, Cheryl Spain

Data Collection Frequency

Transit gets data daily (reports weekly) to track ridership. Updating Quarterly (or semi-annual) Data would reflect seasonal fluctuations as it's tracked daily

Data Collection Cost

N/A

What does the indicator mean/tell us?

Decrease dwell by increasing frequency.

Gerald says long dwell times mean= how long is the bus sitting around and what's the frequency. Need to make sure there is enough frequency (every 5 mins, 15 mins, 30 mins, etc based on need). Need to increase frequency. The more frequent and more riders the better service. This changes every year during their audit. listen to feedback (study and rider feedback) and adjusts as they can.
(long dwell times are caused by cash payments, number of stops, and placement)
seasonal flux- mostly because of school breaks (thanksgiving, spring break, summer, etc) and weather (nice weather- more people walk, cold or rain- more people take bus)

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #2: Determine reliability of Bus Arrivals

Baseline Availability

Available

Baseline Year

Data Source

Avail System

Primary Data Collection Contact

Gerald Gatobu, Cheryl Spain

Data Collection Frequency

Quarterly / Semester End

Data Collection Cost

N/A

What does the indicator mean/tell us?

How many times arrive withing +- 5 mins. Aim for 90-95%. Difficult to reach 100% (for example traffic, accidents, road work, special events, etc)

Collaborators

Public Display Option

Link to Transit bus map https://ride.hdpt.com/InfoPoint/

Interested Outside Groups

Status Notes

Indicator #3: Determine ridership per revenue hour and ridership per revenue mile

Baseline Availability

Available

Baseline Year

Data Source

Avail System

Primary Data Collection Contact

Gerald Gatobu, Cheryl Spain

Data Collection Frequency

Quarterly

Data Collection Cost

N/A

What does the indicator mean/tell us?

time and miles traveled from garage to first stop is called deadhead. From first stop is where revenue hour and mile starts as that's when the bus is collecting fares and passengers. (JMU students do not pay a fare since there is a contract with JMU)

Collaborators

Public Display Option

as part of dashboard

Interested Outside Groups

Status Notes

Indicator #4: Determine number of riders per month (Key Performance Indicator)

Baseline Availability

Available

Baseline Year

Data Source

Avail System

Primary Data Collection Contact

Gerald Gatobu, Cheryl Spain

Data Collection Frequency

Monthly

Data Collection Cost

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What does the indicator mean/tell us?

Collaborators

Public Display Option

\# as part of dashboard

Interested Outside Groups

Status Notes

Goal 4 - Traffic Signal Optimization and Timing Improvements.

Indicator #1: Identify the age of existing corridor coordination plans

Baseline Availability

Available

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

3-5 years

Data Collection Cost

$$

What does the indicator mean/tell us?

NOTE: Plans are based on people driving the speed limit.

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #2: 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

<mark>Need more work on defining this.</mark>

   Baseline Availability

   Baseline Year

   Data Source

   Primary Data Collection Contact
   Public Works
   Data Collection Frequency

   Data Collection Cost

   What does the indicator mean/tell us?

   Collaborators

   Public Display Option

   Interested Outside Groups

   Status Notes

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

Indicator #1: Develop inventory of current bicycle and pedestrian infrastructure. Ex. number of miles of bike lanes, of shared use paths, of sidewalks, etc

Baseline Availability

Mostly Available

Baseline Year

2010

Data Source

GIS- info from city 2015 bike map (https://www.harrisonburgva.gov/sites/default/files/PublicWorks/files/bicycle-pedestrian/Bike_Map/Community%20Bike%20Map%20%282015-10%29.pdf , bike rack locations (like JMUs popup? https://jmuad.maps.arcgis.com/apps/webappviewer/index.html?id=af4a02a3663c42739d3d1df66c7bb485 ,sidewalk layer, street light layer

Primary Data Collection Contact

Jakob zumFelde

Data Collection Frequency

3-5 Years

Data Collection Cost

N/A

What does the indicator mean/tell us?

How easy it is to traverse Harrisonburg on foot and on a bicycle.

Collaborators

Public Display Option

Storymap with Bike map and pedestrian layers and ability to toggle between bike and pedestrian infrastructure. Could also embed link to trail counters to include that info as an FYI

Interested Outside Groups

Status Notes

Indicator #2: Develop inventory of city-owned bike parking facilities.

Baseline Availability

Available

Baseline Year

Date of existing map (it has not been updated in a couple of years)

Data Source

GIS locations

Primary Data Collection Contact

Jakob
Rachel (CD-Zoning)- do they track private bike parking facilities required in plans?

Data Collection Frequency

Ask Jakob

Data Collection Cost

N/A

What does the indicator mean/tell us?

Relevant to how easy it is to bike around/to locations in Harrisonburg.

Collaborators

Public Display Option

with tab to map as a part of dashboard- map all locations we can find and divide into category of public/private

Interested Outside Groups

Status Notes

Indicator #3: % of commute trips by walking, biking, or carpooling using American Community Survey data

Baseline Availability

Available

Baseline Year

Data Source

American Community Survey Data

Primary Data Collection Contact

Data Collection Frequency

5 years

Data Collection Cost

What does the indicator mean/tell us?

Standard measure of how people are commuting. Increase means fewer single occupant commutes.

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #4: Miles traveled by micro-mobility devices

Baseline Availability

Availability

Baseline Year

2019

Data Source

Populus/Mobility manager

Primary Data Collection Contact

Kelly Adams

Data Collection Frequency

Monthly

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

\# as part of dashboard

Interested Outside Groups

Status Notes

Indicator #5: Percentage of transportation capital project dollars going to bike/ped projects

Note this will be skewed as new ordinances require new housing projects include bike/ped infrastructure

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

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

Indicator #1: (?) 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

Baseline Availability

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)

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

5-10 years

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #2: Vehicle Miles Traveled/capita

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact
Jakob or PW Traffic Engineer
Data Collection Frequency
Annual
Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

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.

Staff Lead: Tom Hartman (HPW)
EPSAC Members: Tom Benevento, Doug Hendren, Andy Kohen
Other Staff: Harsit Patel (HPW)

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

Indicator #1: GHG emissions going towards collection of solid waste

Baseline Availability

Baseline Year

Data Source

Flagship tracking

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #2: Amount (tonnage) of Solid Waste collected per household, per waste type

Baseline Availability
Available
Baseline Year
2016
Data Source
N: (data provided by Rockingham County Landfill annually)
Primary Data Collection Contact
Harsit Patel
Data Collection Frequency
Annual
Data Collection Cost
N/A
What does the indicator mean/tell us?

Collaborators

Public Display Option

Pie chart with tabs for year over year comparison

Interested Outside Groups

Status Notes

Indicator #3: Proportion of recycling as a percentage of total refuse citywide. Can this be determined for households only (excluding commercial)?

Baseline Availability

Available

Baseline Year

2016   *Note: Shift in recycling industry April 2018

Data Source

N:\Sanitation\Recycling Convenience Center (PBR628)\Solid Waste Reports\Daily Solid Waste Reports

Primary Data Collection Contact

Harsit Patel/Rockingham County Landfill Staff

Data Collection Frequency

Annual

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

% with tab to line graph showing period over period change.

Interested Outside Groups

Status Notes

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

Indicator #1: Tonnage delivered to landfill

Baseline Availability

Available

Baseline Year

2016

Data Source

N:\Sanitation\Recycling Convenience Center (PBR628)\Solid Waste Reports\Daily Solid Waste Reports

Primary Data Collection Contact

Harsit Patel and Rockingham County Landfill

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #2: Tonnage diverted from landfill

Baseline Availability

Need to further define "diverted" for clearer measure of baseline

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #3: 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

Baseline Availability
Available
Baseline Year
2017 (program began in 2016)
Data Source

Some info here: https://climateactionallianceofthevalley.org/composting/
Primary Data Collection Contact

Climate Action Alliance of the Valley

Data Collection Frequency

Annual

Data Collection Cost

What does the indicator mean/tell us?

(Note: it would be impossible to measure backyard composting efforts- but could create a Survey123 survey to allow folks to self-report for an FYI purpose only (not to count in analysis))

Collaborators

Climate Action Alliance of the Valley

Public Display Option

Dashboard

Interested Outside Groups

Status Notes

Goal 3 - Support and Promote Recycling.

Indicator #1: ~~Number of locations for recycling drop off centers~~. ==Tonnage of recycling sent away? Staff hours to manage service==

Baseline Availability

Available

Baseline Year

2019

Data Source

Primary Data Collection Contact

Harsit Patel

Data Collection Frequency

Annual

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

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

Indicator #1: Amount of HHW (tonnage) disposed of at HHW events

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Data Collection Frequency

Baseline Availability

Available

Baseline Year

2016

Data Source

MCM #2 HHW excel found in each years report (U:\Stormwater\MS4 Annual Reports). Ask Harsit if he has a one stop shop to get these that require less digging

Primary Data Collection Contact

Harsit Patel and Rockingham County Landfill

Data Collection Frequency

Annual

Data Collection Cost

What does the indicator mean/tell us?

Collaborators

Public Display Option

displayed as a chart of ton over time? Also include aggregate number?

Interested Outside Groups

Status Notes

Indicator #2: Number of illicit discharge events per year

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Keith Thomas

Data Collection Frequency

Annual

Data Collection Cost

What does the indicator mean/tell us?

Would want to see decreasing numbers. Not 100% in City control (we can't control when residents and business owners decided to knowingly or unknowingly cause an illicit discharge.

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Focus Area 6 – Water Resources.

Staff Lead: Keith Thomas (Stand-in HPW)
EPSAC Members: Dan Downey, Brad Streibig, Richard Baugh
Other Staff: Mike Collins (HPU), Wes Runion (HPW), Keith Thomas (HPW)

Goal 1 - Protect and Secure Drinking Water Sources.

Indicator #1: Quality of water entering from each intake source or entering water treatment plan / cost to treat water

Baseline Availability

Available

Baseline Year

Data Source

raw water management plan. Sampling intake water data

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Data Collection Cost

What does the indicator mean/tell us?

biggest impact is which water source we are pulling from. Mike's Motto "Maximize from dry river, minimize from shenandoah, gap fill with north river". If you are concerned about Environmental issues- don't want to pull from dry river, if you care about energy consumption/GHG emissions, you want to pull from Dry River. Most chemicals needed from shenandoah, least amount needed from dry river. North river fluctuates due to quality impact of runoff.

Collaborators

Public Display Option

Interested Outside Groups

Friends of Shenandoah, DEQ

Status Notes

Indicator #2: Are we complying with source water protection plan every

Baseline Availability

Available- Yes / No metric

Baseline Year

Data Source

Sourcewater Plan DEQ

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

Hazards in water shed to drinking water.

Collaborators

Public Display Option

Dashboard- aggregate of # of consecutive fully compliant years? % of compliant?

Interested Outside Groups

Status Notes

Indicator #3: Are we meeting regulatory compliance with various plans?

Baseline Availability

Available- Yes / No metric

Baseline Year

Data Source

potable water distribution management plan

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Dashboard- aggregate of # of compliant plans, % of compliant?

Interested Outside Groups

VDH

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

Indicator #1: Measure non-revenue water to estimate water loss

Baseline Availability

Available

Baseline Year

2001

Data Source

in potable water distribution plan. Target: system of our system 15%

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Compare to state average

Interested Outside Groups

Status Notes

Indicator #2: Measure residential per capita consumption of water

Baseline Availability

Available

Baseline Year

2008

Data Source

data comes from billing- every customer is marked as: res, industrial, commercial, institutional. Divide by City population for per capita

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Data Collection Cost

N/A

What does the indicator mean/tell us?

Downward trend as efficiency of household appliances that consume water increases.

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #3: Water us by Customer Type (Residential, industrial, commercial, institutional, etc).

Baseline Availability

Available

Baseline Year

Data Source

data comes from billing- every customer is marked as: res, industrial, commercial, institutional

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Goal 3 - Protect Stream Health through Sanitary Sewer Management.

Indicator #1: Number of SSOs that occur throughout the year

Baseline Availability

Available

Baseline Year

Data Source

sanitary sewer management plan prob have some historical data. Two types of SSOs (first caused by hydraulic issue due to rain/water. The second is by backup/clog/issue in pipe)

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

(would want to see a downward trend)

Collaborators

Public Display Option

represented on a dashboard?

Interested Outside Groups

Status Notes

Indicator #2: Number of septic systems in the city

Baseline Availability

Available

Baseline Year

2016 (We can work backwards a bit using our TMDL septic conversion spreadsheet)

Data Source

..\Stormwater\TMDLs\Chesapeake Bay TMDL\MS4\Septic to Sanitary\Credit Accounting Septic to Sanitary.xlsx

Primary Data Collection Contact

Keith Thomas

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

(would want to show decline) Approx 100 septic systems in City. Cost to covert is typically $6-$9K.

Collaborators

Public Display Option

represented on dashboard. Can include money (PU and PW) contributed to conversion

Interested Outside Groups

Status Notes

Indicator #3: Percentage of interceptor sewer pipes meeting sanitary sewer level of service

Baseline Availability

Baseline Year

Data Source

Primary Data Collection Contact

Mike Collins

Data Collection Frequency

Data Collection Cost

N/A

What does the indicator mean/tell us?

How may (measurement) of pipe services the City? (Mike can get this for us- its in their CIP-know install date and lifespan of pipe-projected retirement data)

Collaborators

Public Display Option

Does Mike have some pictures of old pipe that has been replaced. Measurement of pipe fixed/replaced per year? Fixed/replaced since 2016?

Interested Outside Groups

Status Notes

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

Indicator #1: Level of bacteria in water at monitoring sites

Baseline Availability

Available

Baseline Year

2011?

Data Source

Wes' spreadsheet/reports (may need to aggregate on one)

Primary Data Collection Contact

Wes Runion

Data Collection Frequency

Quarterly

Data Collection Cost

N/A

What does the indicator mean/tell us?

E. coli samples indicate presence of fecal matter (and harmful pathogens) in the water. DEQ set the standard threshold for bacteria forming colonies at XXXXX. Limitations- source is unknown, impacted from wildlife such as ducks and geese, results can be "flashy" from recent SSOs or wildlife movement, impacted by recent weather conditions.

Collaborators

Public Display Option

Dashboard- could do chart of bacteria levels over time per site. Could also include % meeting threshold over time

Interested Outside Groups

DEQ, local college groups/classes, local friends of groups?, local high school ecology/environmental clubs

Status Notes

Indicator #2: Compliance with local and Chesapeake Bay TMDLs in pounds of Polluntants removed per year

Baseline Availability

Available

Baseline Year

First Permit Year (2002 or 2008?)

Data Source

MS4 Annual Report

Primary Data Collection Contact

Keith Thomas

Data Collection Frequency

Annually in July

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Interested Outside Groups

Status Notes

Indicator #3: Residential roof area treated with rain barrels

Baseline Availability

Available

Baseline Year

2015

Data Source

Utility Database

Primary Data Collection Contact

Keith Thomas

Data Collection Frequency

Updated annually

Data Collection Cost

N/A

What does the indicator mean/tell us?

Limitations: does not account for every home meeting this standard- only those who self reported through signing up. Not a direct City action- a City incentive

Collaborators

Public Display Option

% of homes/parcels covered under this? Per year? Total sq.ft. Combine with HCAP dashboard? Can I tie in my 2020 updates to the utility web app? Title "Measuring Water Quality: Residential Practices"

Interested Outside Groups

Status Notes

Indicator #4: Residential lawn area with nutrient management plan

Baseline Availability

Available

Baseline Year

2015

Data Source

Utility Database

Primary Data Collection Contact

Keith Thomas

Data Collection Frequency

Updated annually

Data Collection Cost

N/A

What does the indicator mean/tell us?

Limitations: does not account for every home meeting this standard- only those who self reported through signing up. Not a direct City action- a City incentive

Collaborators

Public Display Option

% of homes/parcels covered under this? Per year? Total sq.ft. Combine with HCAP dashboard? Can I tie in my 2020 updates to the utility web app? Title "Measuring Water Quality: Residential Practices"

Interested Outside Groups

Status Notes

Indicator #5: Residential roof area disconnected from street

Baseline Availability

Available

Baseline Year

2015

Data Source

Utility Database

Primary Data Collection Contact

Keith Thomas

Data Collection Frequency

Updated annually

Data Collection Cost

N/A

What does the indicator mean/tell us?

Limitations: does not account for every home meeting this standard- only those who self reported through signing up. Not a direct City action- a City incentive

Collaborators

Public Display Option

% of homes/parcels covered under this? Per year? Total sq.ft. Combine with HCAP dashboard? Can I tie in my 2020 updates to the utility web app? Title "Measuring Water Quality: Residential Practices"

Interested Outside Groups

Status Notes

Indicator #6: Number of HCAP projects, cumulative

Baseline Availability

Available

Baseline Year

2020

Data Source

HCAP Tracking

Primary Data Collection Contact

Keith Thomas

Data Collection Frequency

Annual

Data Collection Cost

N/A

What does the indicator mean/tell us?

More awareness of stormwater issues. Less untreated water entering the system (though very low impact) Limitations: Not a direct City action- a City incentive

Collaborators

SVSWCD

Public Display Option

Dasboard- cumulative # per practice category. $ Contributed. Combine with homeowner BMP dashboard?

Interested Outside Groups

Status Notes

Indicator #7: <mark>Pounds of Trash removed on Blacks Run Clean Up Day (BRCD) & from individual groups throughout the year</mark>

Baseline Availability

Available and complete

Baseline Year

2001 (for BRCD data) and 2017 (for individual groups)

Data Source

..\Stormwater\Public Education & Outreach - Public Involvement\Clean Up Day\Stream Clean Up Groups & BRCD Data.xlsx

Data is automatically added to Online GIS "Stream Clean Up Data" Feature Layer. Will have to pull info out of there into spreadsheet above.

Primary Data Collection Contact

Wes Runion

Data Collection Frequency

Quarterly (updated automatically with Collector App)

Data Collection Cost

N/A

What does the indicator mean/tell us?

Individual cleanup sections- total pounds or frequency of groups at a section is not indicative that the section is more or less polluted with trash. Sections are assigned to individual groups based on ease of access, availability of parking for volunteers, and limited proximity to busy roads. Additionally, some groups volunteer regularly for a specific location

Collaborators

Public Display Option

Complete: Measuring Water Quality: Stream Cleanup Dashboard

https://arcg.is/1PrTKT

Interested Outside Groups

Status Notes

Complete

Indicator #8: <mark>Linear feet of stream restored</mark>

Baseline Availability

Available- Will need to map on GIS

Baseline Year

(year of first section of Blacks Run in Purcell Park)

Data Source

Projects as they happen

Primary Data Collection Contact

Wes Runion

Data Collection Frequency

As projects are completed

Data Collection Cost

N/A

What does the indicator mean/tell us?

Collaborators

Public Display Option

Linear Feet/year & % Total

Interested Outside Groups

Status Notes