

HARRISONBURG'S ENVIRONMENTAL ACTION PLAN SUSTAINABLE TRANSPORTATION PHASE 2 & 3

6-14-22



GUIDING GOALS

- 1** *Continue to advance sustainability initiatives in the community.*
- 2** *Reduce overall, community-wide greenhouse gas (GHG) emissions and the intensity of greenhouse gases emitted from different activities.*
- 3** *Continue to grow and deepen local partnerships in order to further the implementation of the Environmental Action Plan (EAP)*

What's In the EAP?



COMMUNITY INVENTORY

*Community GHG Emissions Inventory quantifies the emissions released from a defined geographic area (Harrisonburg, VA) during a given year. www.harrisonburgva.gov

2019 COMMUNITY ELECTRICAL USAGE



Commercial 33.3%



Residential 29.4%



Industrial 16.5%



JMU 16.1%



Municipal 3.1%



Water & Sewer 1.5%

2019

530,000

metric tons of CO₂ equivalent



9%

since 2016

530,000 metric tons of CO₂e is equivalent to driving your car 1.3 BILLION miles ... in one year.



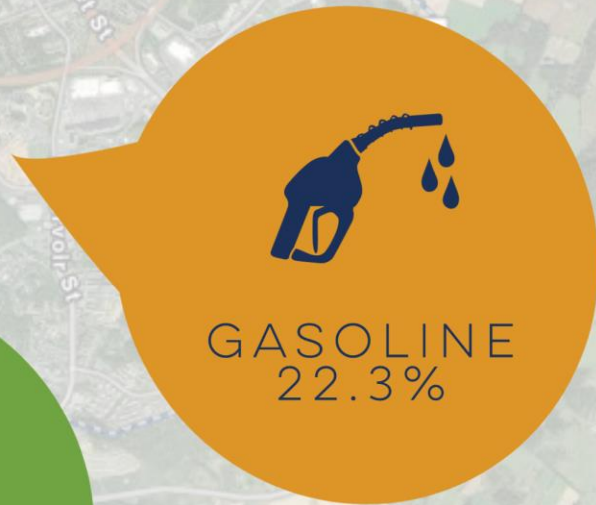
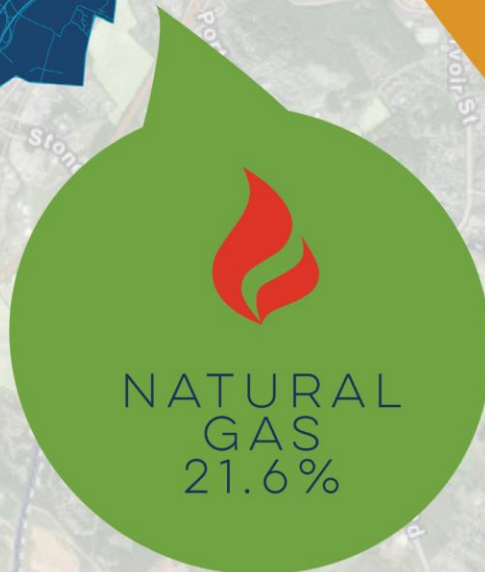
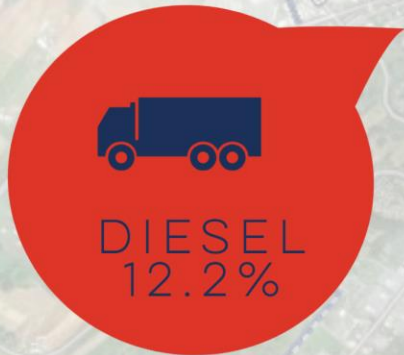
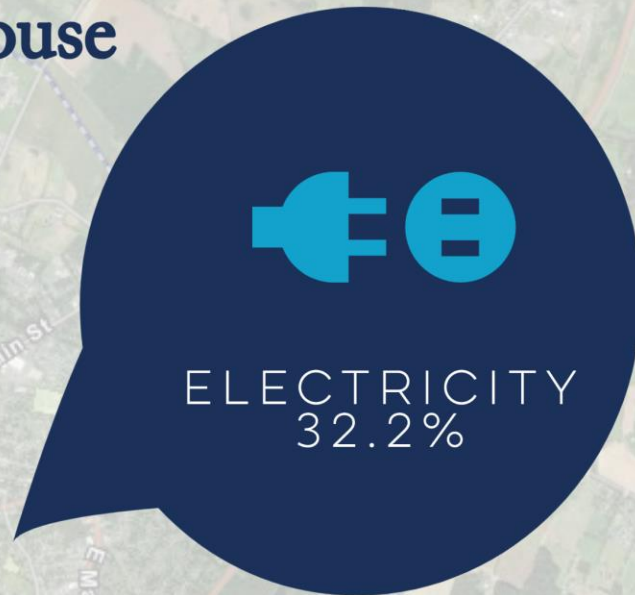
2019 COMMUNITY GHG EMISSIONS BY SECTOR



■ Transportation 34.5% ■ Commercial 31.1% ■ Residential 11.7%
 ■ Solid Waste 10.9% ■ Industrial 9.7% ■ Grid Loss 1.6%
 ■ Water & Wastewater .5%



Where do our community's greenhouse gas (GHG) emissions come from?



Focus Area 4 Goals



Focus Area 4 Goals



Strategies for Goal One

Strategy 1.1 - Evaluate the Viability of an Electric City Fleet

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.

ClearPath Harrisonburg Municipal GHG Emissions By Sector (2019)

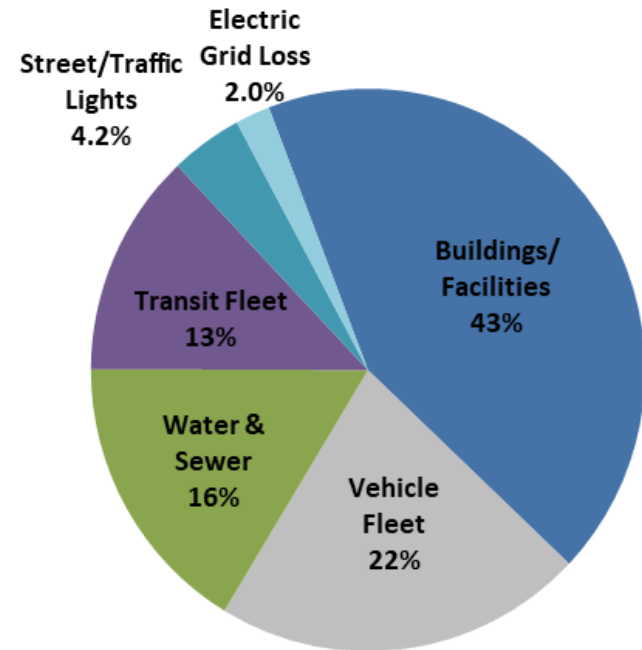


Figure 9 – Harrisonburg Municipal GHG emissions by Source
(From 2019 Harrisonburg Final Emissions Inventory Summary Report)

Goal One Metric and Baseline

Metric

- % change in greenhouse gas emissions from fleet vehicles

Baseline

- Based on fleet emissions data from 2016 Greenhouse Gas Emissions Inventory

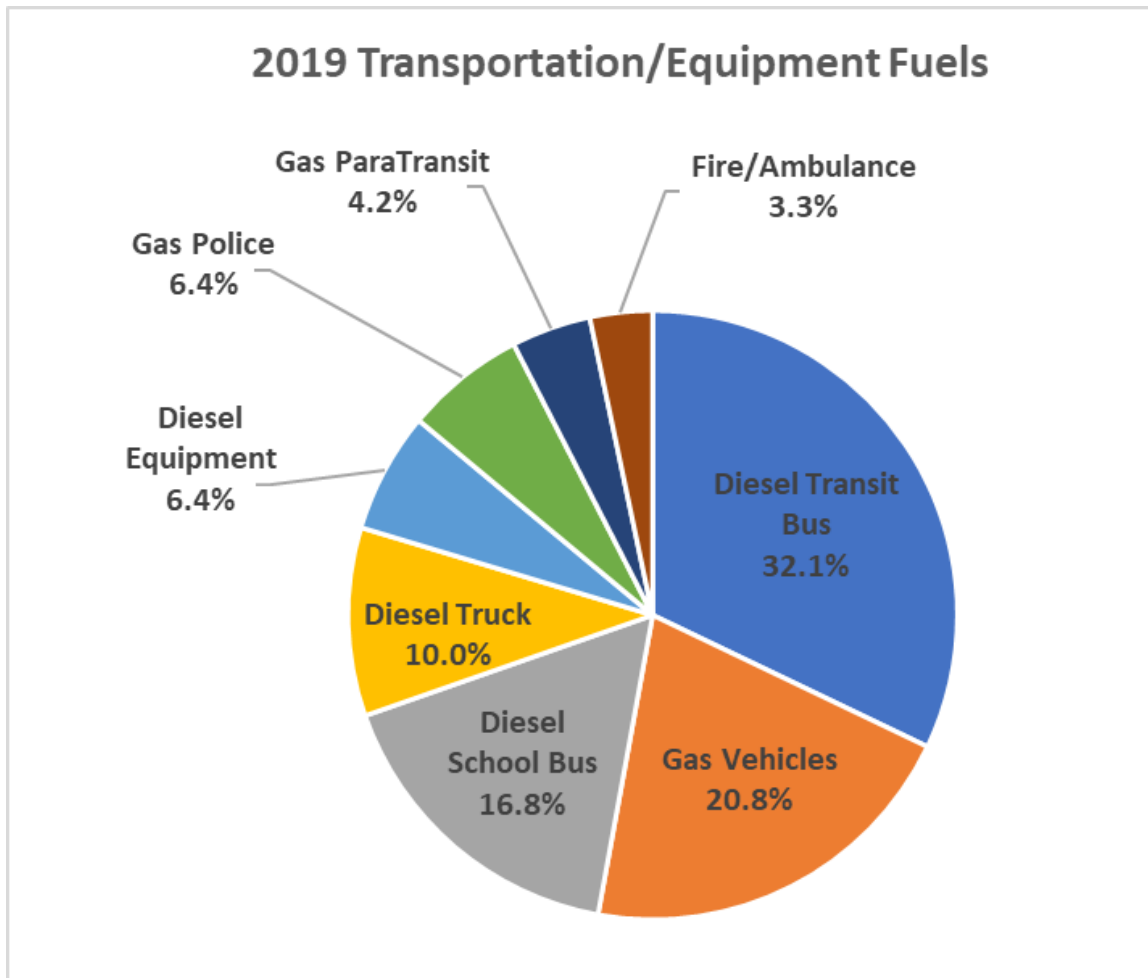


Figure 6 – Harrisonburg Vehicle/Equipment Fuel Usage
(From 2019 Harrisonburg Final Emissions Inventory Summary Report)

Goal One Target

2025 Target

2030 Target

2035 Target

2040 Target

-10%

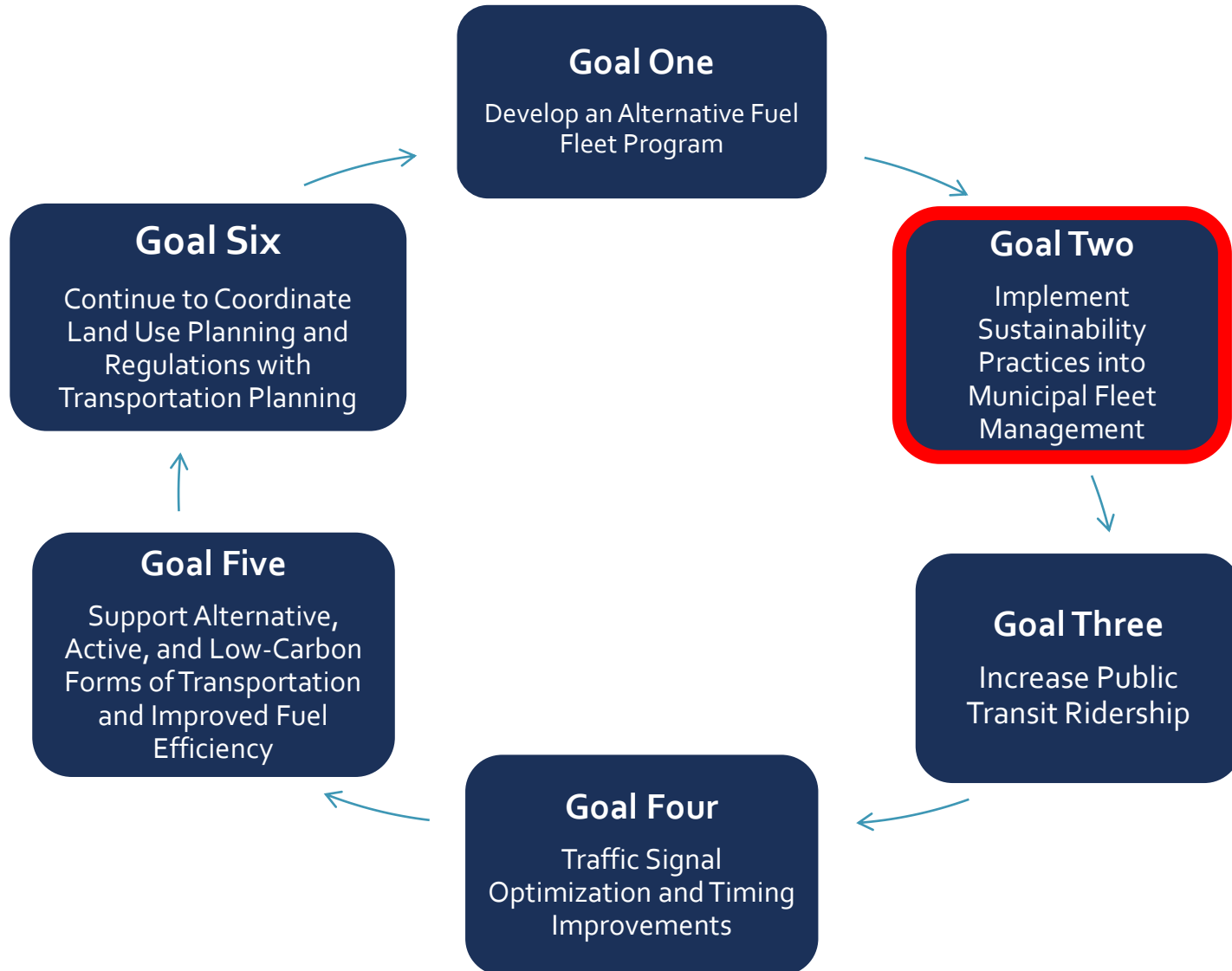
-20%

-40%

TBD¹

¹ 2040 target to be re-evaluated with more data and where technological development has made improvements for certain portions of the City's fleet, like emergency vehicles or snowplows, that must always be ready with minimal downtime for refueling. Additionally, changes to the electrical grid due to the Virginia Clean Economy Act, will increase the reduction potential from electric vehicles.

Focus Area 4 Goals



Strategies for Goal Two



Continue the Vehicle Maintenance and Replacement Program

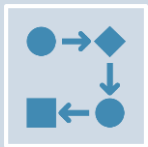


Continue Environmentally Friendly Vehicle Maintenance

Goal Two Targets



No metric/partially reflected in Goal 1



Continue operational procedures that enhance and expand our vehicle maintenance and replacement program.

Focus Area 4 Goals



Strategies for Goal Three



Increase/Promote HDPT Ridership



Improve Bus Stop Connectivity

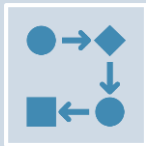


Review Bus Routes, Stop Locations, and Frequency

Goal Three Targets



No targets at this time



Continue operational procedures that enhance and expand ridership and route access

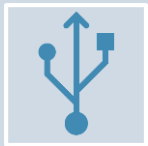
Focus Area 4 Goals



Strategies for Goal Four



Signal Optimization



Continue observing developing technology

Goal Four Targets

| Metric Description | Annual Reductions (lbs CO ₂) |
|---|--|
| GHG reductions from signal improvements (East Market Street)* | 4,609 |
| GHG reductions from signal improvements (High Street)* | 4,748 |
| GHG reductions from signal improvements (Port Republic Road)* | 7,675 |
| GHG reductions from signal improvements (South Main Street)* | 2,806 |
| GHG reductions from signal improvements (Reservoir Street)* | 14,897 |

* Signal optimization must occur every 3-5 years to readjust timing to new traffic patterns

Focus Area 4 Goals



Strategies for Goal Five



Support Alternative Modes of Transportation



Promote Interconnection Between All Modes of Transportation



Implementation of the Bicycle and Pedestrian Plan



Support Low-Carbon Modes of Transportation

Goal Five Targets

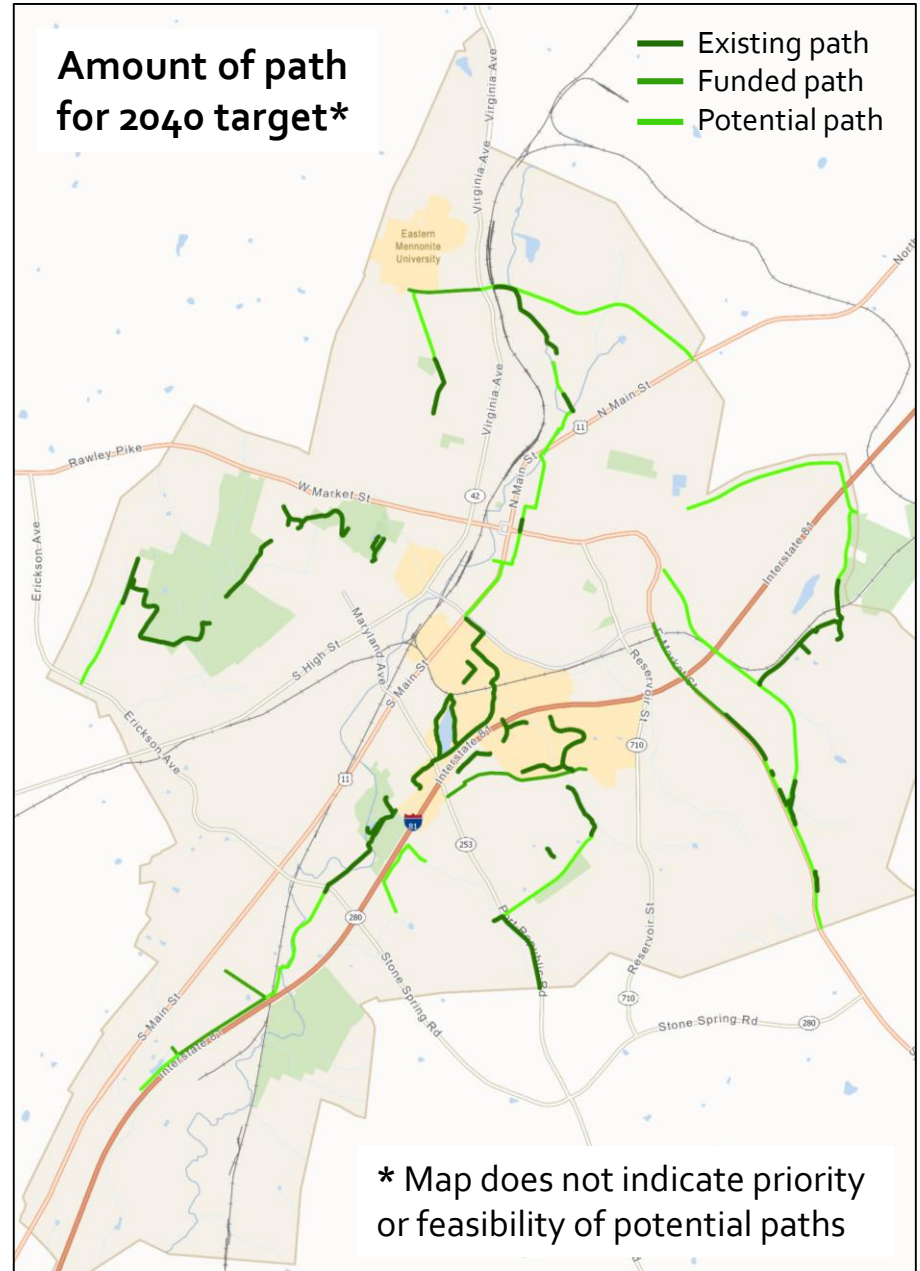
| | 2025 Target | 2030 Target | 2035 Target | 2040 Target |
|-------------------------|----------------|----------------|----------------|----------------|
| Shared Use Paths | +120% | +171% | +239% | +307% |
| Sidewalks | +9% | +17% | +28% | +40% |
| Bike Lanes | +36% | +56% | +68% | +80% |



Shared Use Paths

Year: miles

- 2016: 6
- 2016: 8
- **2021: 11**
- 2025 (funded): 13
- 2030: 16
- 2035: 20
- 2040: 24

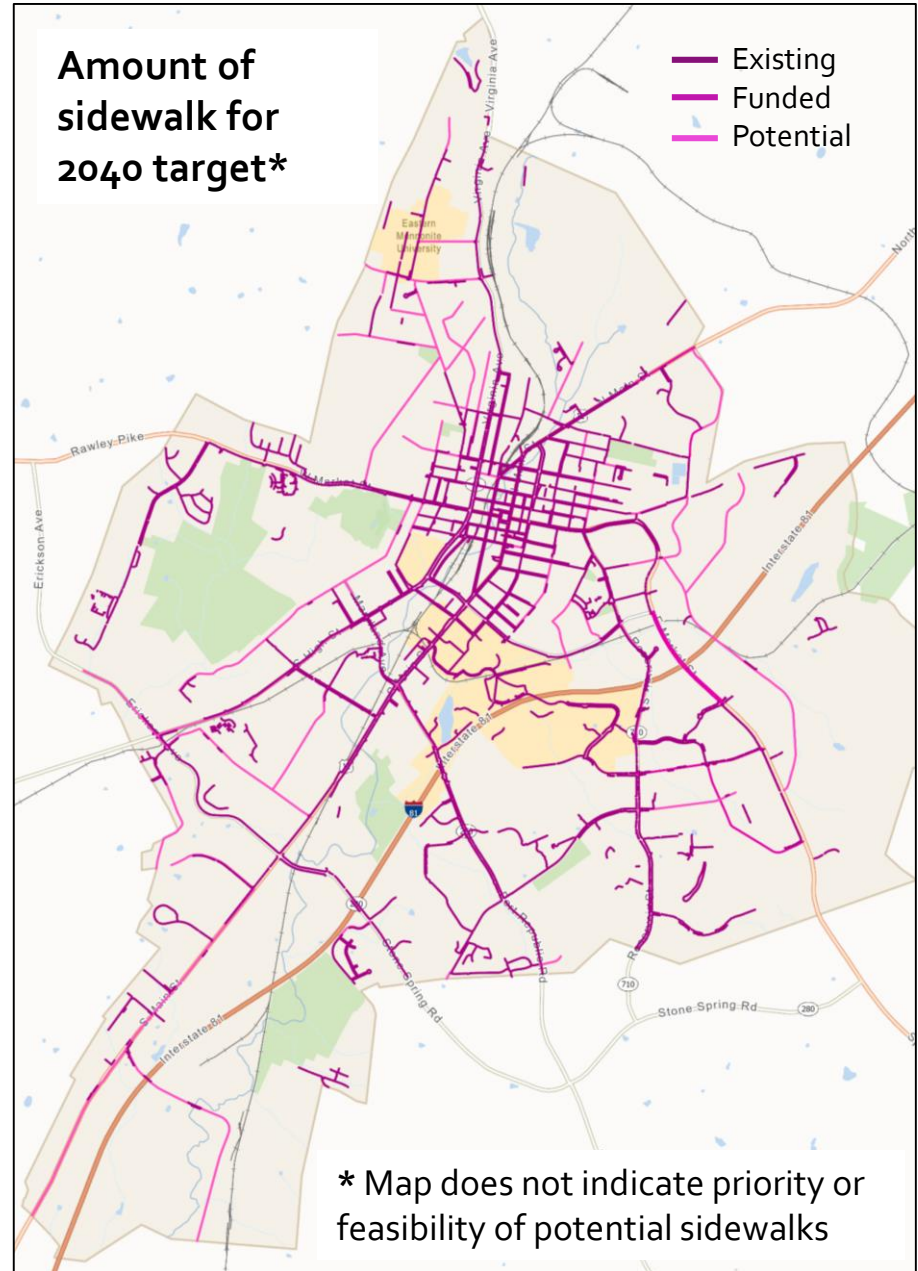




Sidewalks

Year: miles

- 2016: 84
- 2019: 86
- **2021: 87**
- 2025 (funded): 91
- 2030: 98
- 2035: 107
- 2040: 117

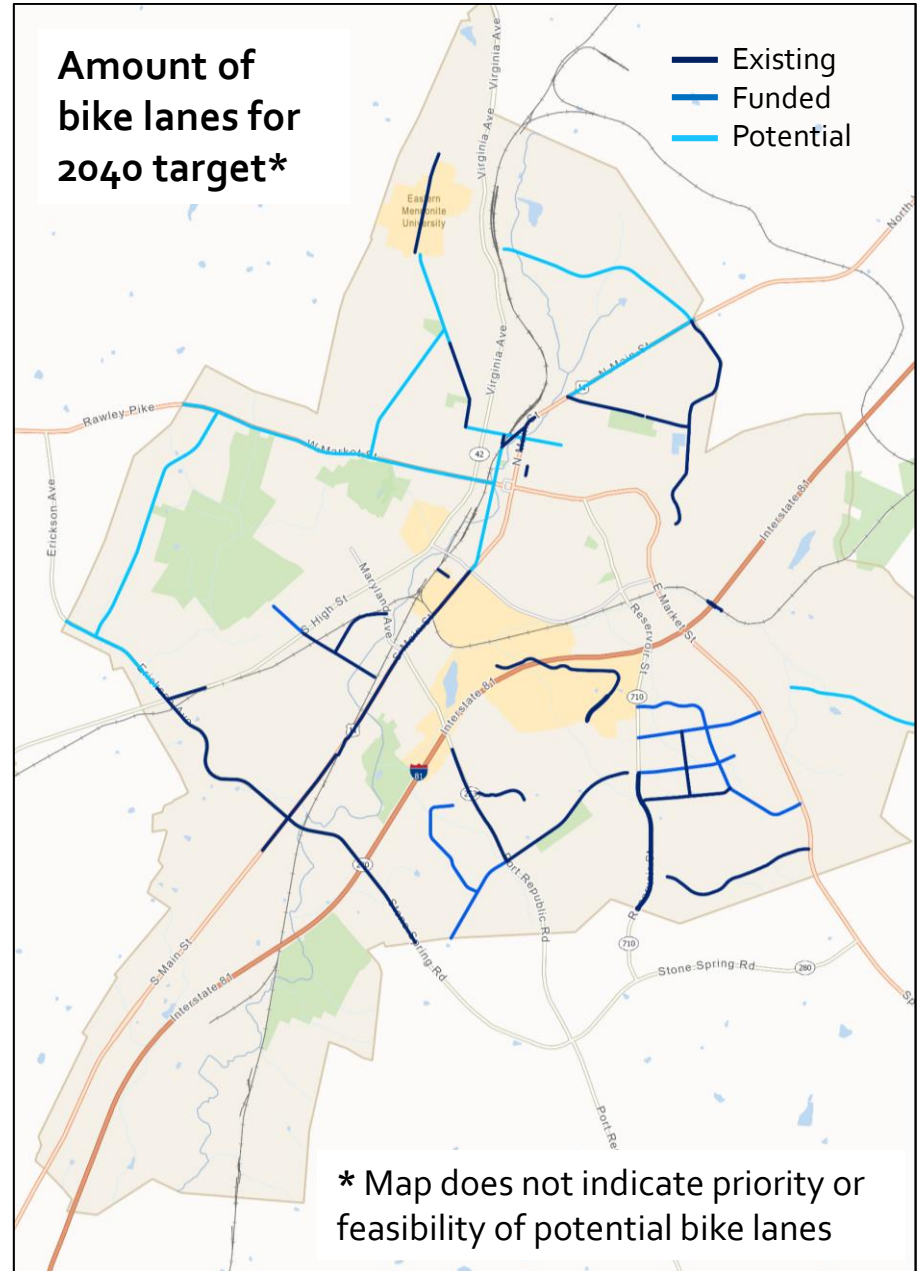




Bike Lanes

Year: miles

- 2016: 25
- 2019: 28
- **2021: 28**
- 2025 (funded): 34
- 2030: 39
- 2035: 42
- 2040: 45



Goal Five Targets

| | 2025 Target | 2025 Target | 2030 Target | 2030 Target |
|---|---------------------------|------------------|------------------|------------------|
| # of EV cars registered in the City | NO TARGET- PRIVATE ACTION | | | |
| # of hybrid cars registered in the City | NO TARGET- PRIVATE ACTION | | | |
| Public Use City EV charging stations (Level 2 Stations) | +10 | TBD ¹ | TBD ¹ | TBD ¹ |
| Public Use City EV charging stations (DCFC Stations) | 0 ² | TBD ² | TBD ² | TBD ² |

1. The City recently tried soliciting for EV charging stations but received no proposals. The adoption of EV charging infrastructure across private residences and businesses will also influence the demand for public charging infrastructure. Thus, subsequent targets will be developed at a future time.

2. DCFC chargers- Best within a short distance of interstate. Private EVs more likely in these areas (hotels, restaurants, stores).

Focus Area 4 Goals



Strategies & Targets for Goal Six



City policies and regulations to encourage more infrastructure and alternative transportation modes



No metric/partially reflected in Goal 5

Questions



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