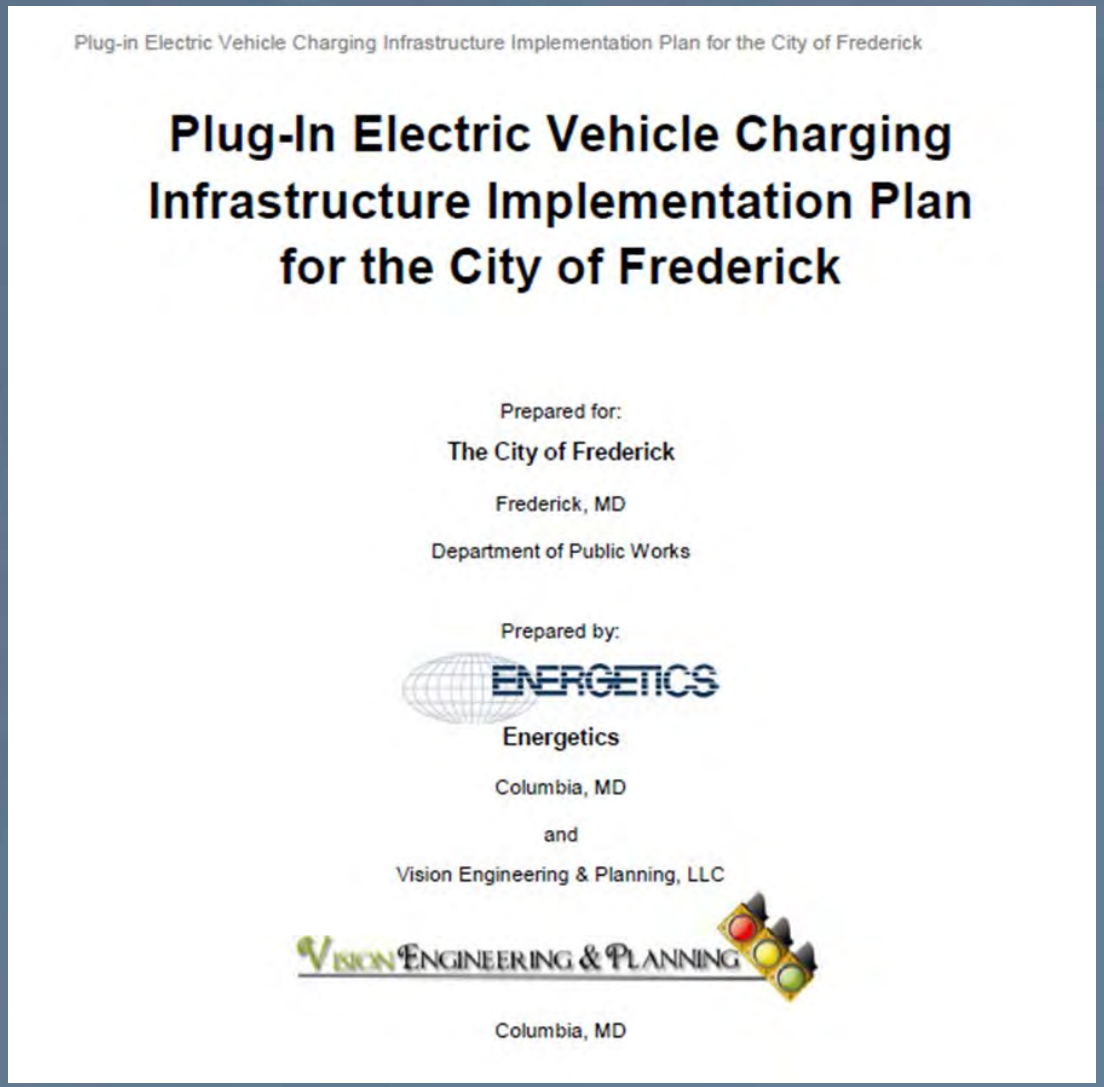
Item 8

The City of Frederick Plug-in Electric Vehicle (PEV) Assessment and Infrastructure Implementation Plan

TPB Technical Committee
May 4, 2018

Introduction

- Came about as part of Sustainability Plan
- Plan is On-line
- City Adopted a Resolution



Plug-in Electric Vehicle Charging Infrastructure Implementation Plan for the City of Frederick

Plug-In Electric Vehicle Charging Infrastructure Implementation Plan for the City of Frederick

Prepared for:

The City of Frederick

Frederick, MD

Department of Public Works

Prepared by:

Energetics

Columbia, MD

and

Vision Engineering & Planning, LLC

Columbia, MD

PEV Plan

- Today's Discussion to Include the Route of the Plan
  - Typical Procurement Process
  - Selection of Vendor / Consultant
  - BIG Data During the Assessment and Evaluation Stage
  - How COG/TPB data was used to drive the EV Infrastructure plan
  - MVA Data
  - Successes During the Plan Investigation
  - Challenges for the Future Regarding Implementation

PEV Plan

- Procurement and Selection
- Evaluation Criteria
- Selection of Vendor / Consultant
- Total of Five Respondents
- Proposals Ranged from $34K - $109K

Selection Criteria	Possible Points
Understanding the Project	30
Project Management	10
Experience and Qualifications	30
Price Proposal	15
References	15

PEV Plan

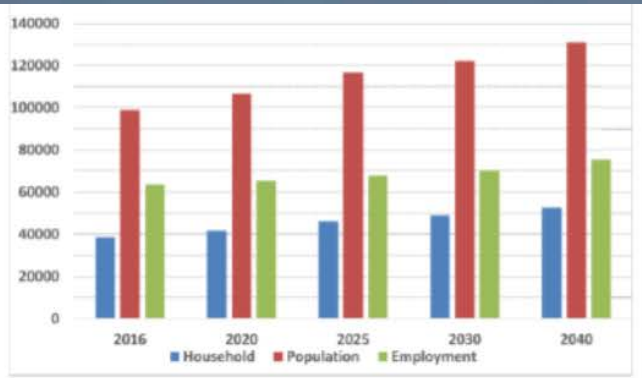
- How COG / TPB data was used to drive the PEV Infrastructure Plan
- 2040 Roadway Volumes
  - Developed by applying the growth factors derived from the MWCOG model to the existing traffic counts in Frederick County/City
- The most impacted roadways in the City will be:
  - US 15, Monocacy Boulevard, Opossumtown Pike, West Patrick Street (west of US 15), Market Street, 7th Street, Liberty Road, and Baughmans Lane.

PEV Plan

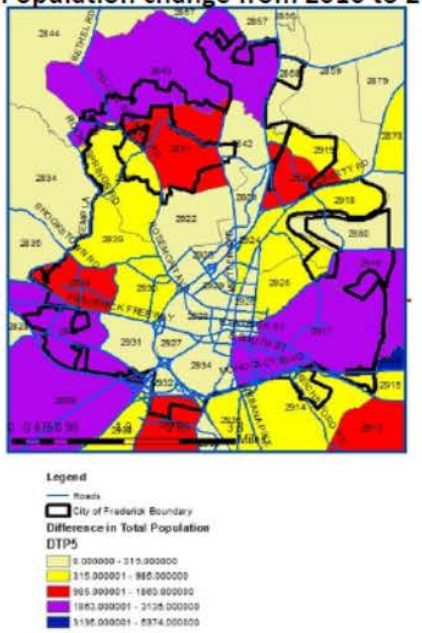
- Sample of MWCOG BIG Data

Use MWCOG data to project: 1) population, 2) households (#people, # vehicles), 3) employment, 4) roadway volumes

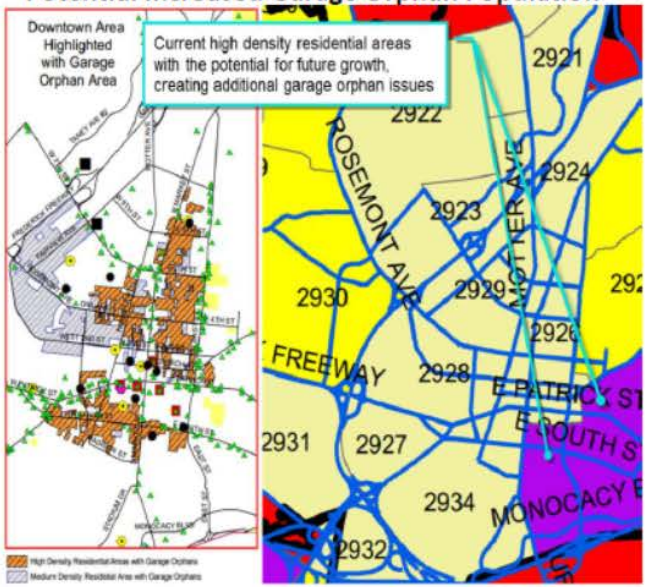
  - Shows where, and when, changes are projected to happen to focus efforts

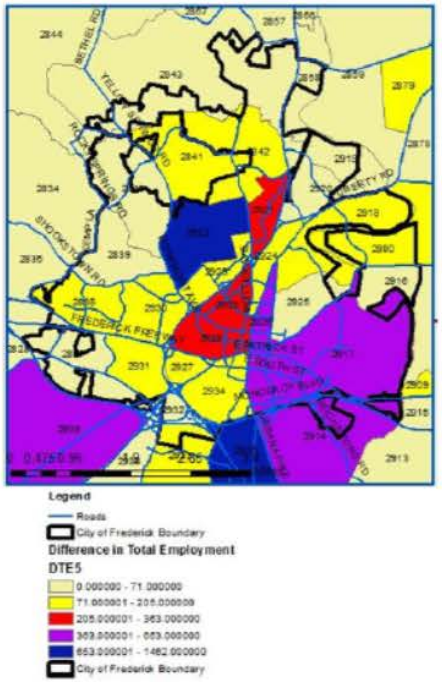


Population change from 2016 to 2030



Potential Increased Garage Orphan Population



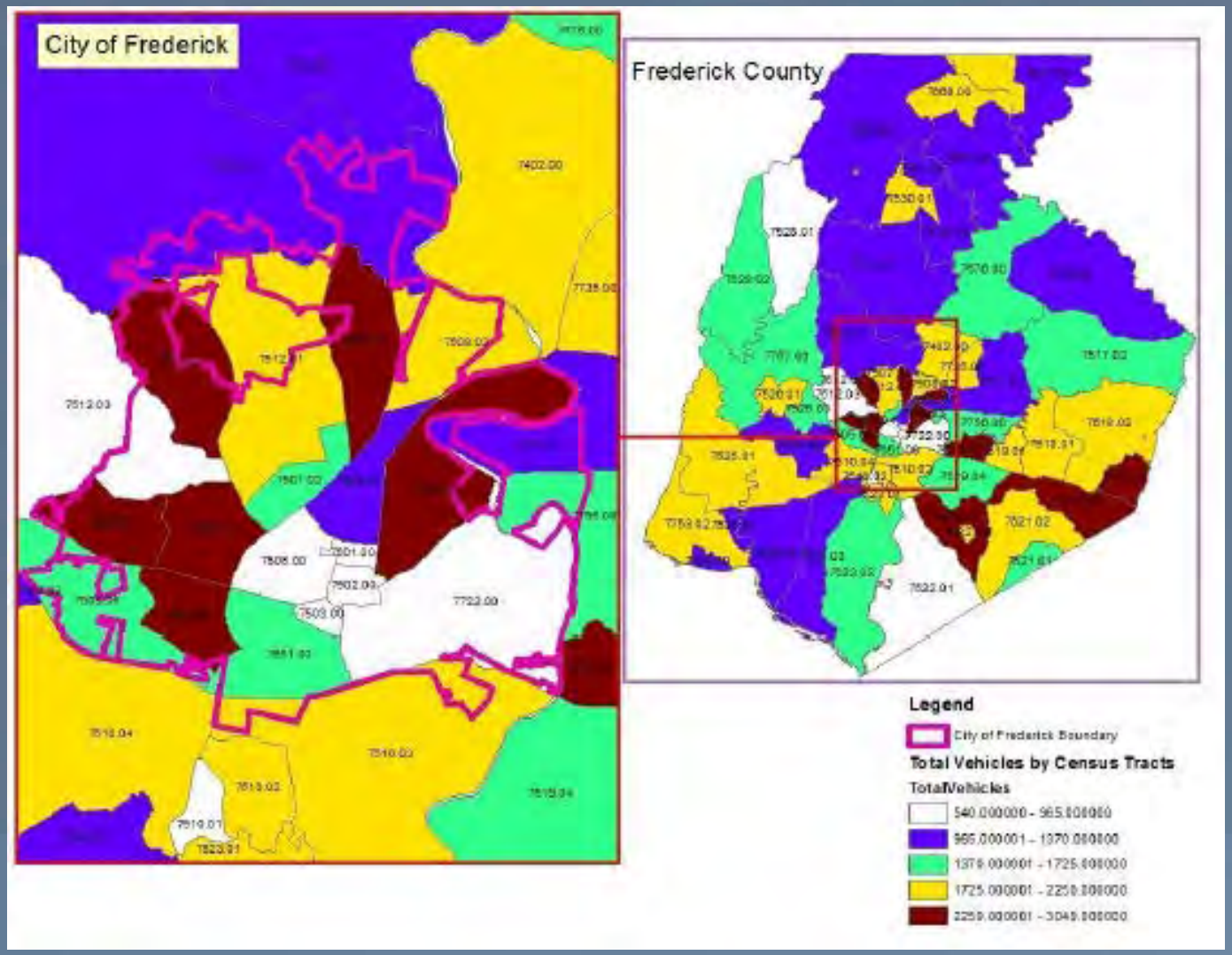


PEV Plan

- MVA and Data Access
  - Just a short note that for Maryland, the big data for registration, etc is very easily attained
  - Anyone working on or planning to develop a plan need two main resources for projections
    - Base line MVA registration data

PEV Plan

- Sample of MVA BIG Data



PEV Plan

- Plan Investigation: Successes and Challenges
  - City Staff Support
    - Public Works, Sustainability, Parking, Planning and Permits
  - Ease of access to data
  - Public interest and support

PEV Plan

- Snap Shot of Chargers Around Town

PEV Plan

- Heat Map for Future Infrastructure

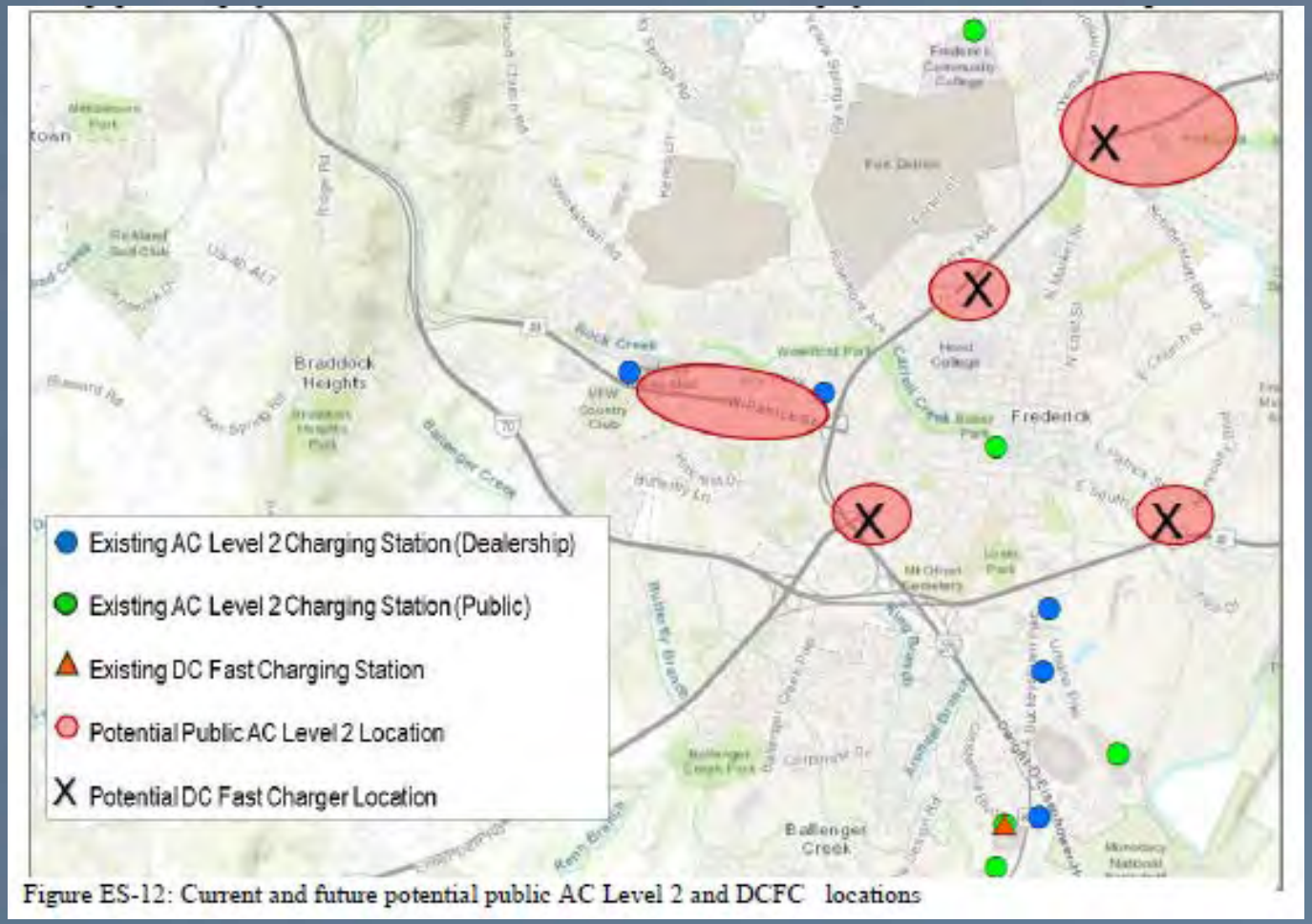


Figure ES-12: Current and future potential public AC Level 2 and DCFC locations

PEV Plan

- Projections for PEV

Table ES-1: PEV Population Projections

Case	2017	2020	2025	2030	2040
Low Oil	239	793	3,172	7,437	14,709
Reference	239	793	3,612	8,709	18,133
High Oil	239	793	4,898	12,198	27,525

Table ES-2: Projected PEV Population Requiring Public Charging at City Garages for Daily Charging

Case	2017	2020	2025	2030	2040
Low Oil	6	20	80	186	368
Reference	6	20	91	218	454
High Oil	6	20	123	305	688

PEV Plan

- Challenges for the Future Regarding Implementation (Plan Recommendations Below)
  - **Dedicated parking** *(Single-family house/townhouse [garage, carport, driveway])*
  - **Shared Parking** *(townhouse, multi-dwelling units)* – Consider requiring charging infrastructure (electrical panel, conduit, wire, receptacle, etc.) at all/% of new construction, and major upgrade projects
  - **Streetside Charging**–develop method for residents to install private charging on city right-of-way (supports garage orphans)
  - **Permits/Inspection** – If the permit/inspection process is inefficient, consider establishing an online residential PEV charging station specific permitting process and inspection self-certification (by electrician)
  - **Zoning** – Consider supporting homeowners/business requests to install off-street driveways/parking when a PEV charging station(s) will be installed.

PEV Plan – Presentation Conclusion

- The entire plan can be found here:

www.cityoffrederick.com/DocumentCenter/View/10005

- Contact Information:

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