



MID-OHIO REGIONAL
MORPC
PLANNING COMMISSION

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Energy and Air Quality Working Group Meeting
Mid-Ohio Regional Planning Commission
Microsoft Teams Meeting
Tuesday, March 23rd, 2021
2:00pm

AGENDA

1. **Welcome and Introductions, *Matt Stephens-Rich, Chair (2:00 pm)***
2. **Featured Presentation: *Cynthia Maves, Lordstown Motors Corporation (2:05pm)***
3. **Policy Update, *Joe Garrity, MORPC (2:35 pm)***
4. **Ohio EPA Update, *Erica Fetty-Davis, Ohio EPA (2:45pm)***
5. **MORPC staff updates, *MORPC staff (2:50pm)***
 - a. **Regional Sustainability Agenda**
 - b. **Energy Program**
 - c. **Air Quality Program**
6. **Subcommittees (3:05pm)**
 - a. **Solar Subcommittee**
 - b. **Diversity and Environmental Justice Subcommittee**
 - c. **Air Quality Monitoring Subcommittee**
7. **Adjourn (3:30pm)**

Please Notify Brooke White 520-331-4359 or bwhite@morpc.org to confirm your attendance.

The next Energy and Air Quality Meeting is
May 25th, 2021 2:00pm

William Murdock, AICP
Executive Director

Karen J. Angelou
Chair

Erik J. Janas
Vice Chair

Chris Amorose Grooms
Secretary

Energy & Air Quality Working Group

March 23, 2021



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Featured Presentation

Cynthia Maves



Energy and Air Quality Working Group Meeting
Mid-Ohio Regional Planning Commission

March 23, 2021

Cynthia Maves, Director of Business Development, East



Vision: Continually revolutionize the way people live and work.

Mission: To deliver the world's best all-electric vehicles built for the modern worker.

Lordstown, Ohio: The epicenter of electrification.

Voltage Valley: Bigger than just us.



Beta Production Update

 57 Betas

 In House production at Lordstown, Ohio



\$20k
Est. Per vehicle savings on total cost of ownership



Truly Differentiated

4
Motors In-wheel hub motors for superior 4-wheel drive traction and control

250
Mile Range per charge, ideal for fleets in a variety of markets

75%
Less Annual maintenance cost compared to competing pickups

5
Star Safety crash test rating, due to its engineless large front crush zone

5,300
Pounds Curb weight, making it the lightest full-size fleet pickup on the market

5X
Better Fuel economy compared to traditional ICE pickups

5.5
Seconds 0-60mph; among the fastest full-size pickups



- Lowest Cost of Ownership
- Greater Traction
- Re-Generative Braking

- Telematics
- No Oil Changes
- Large Front Crush Zone

- Fewest Moving Parts
- Tightest Turning Radius
- Lowest Maintenance Costs

All Electric

Zero Emissions

Design Specs

On Sale in the U.S. • 2021

Base Price • \$52,500 (\$7,500 federal tax credit)

Safety Rating • 5 - 5 - 4

ADAS-LWD, AEB, Rear Cross Traffic Alert • Yes

Software + OTA Updates • Yes

Fault Monitoring • Yes

Vehicle Warranty • 3 Year / 36,000 miles

Battery Warranty • 8 Year / 100,000 miles

EV Range • 250+ Miles

Off Board Tools for Powering • 120v 20 amp

Seating Capacity • 5

Body Type • Crew Cab

Drivetrain Layout • 4 all-electric in wheel Hub Motors

Wheels • 20 inch

HorsePower Equivalent • 600 HP

Top Speed (Software Governed) • 80 mph (129 kph)

Payload Capacity • 2000lbs

Towing Capacity • 7500lbs





Infotainment System
Dashboard w/Built In
Telematics

20 Cubic Foot
Front Trunk
Storage



Charging Port w/
LVL 1, 2 and DC
Fast Charge

Power Tool
Outlet w/
120V 20AMP



**In-Board
Electric Motor
and Gear Box**



EV Motor System



**In-Wheel
Motors**

In-Wheel Motor System

Hub Motors



↳ Innovative Propulsion

↳ IP Innovation

↳ In House production at Lordstown, Ohio





Hub Motors

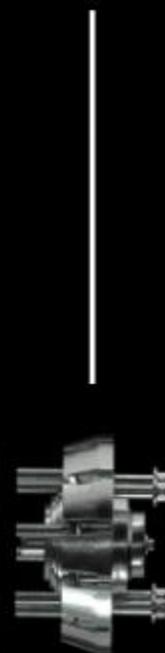
Wheel



Stator



Bearing



Rotor



Brake



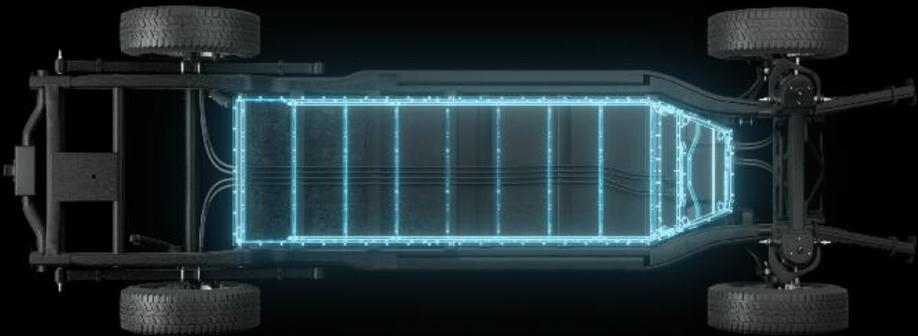


ELAPHE IN-WHEEL MOTOR
TESTS FROM 2016 - Q1 2018
COPYRIGHT ELAPHE 2018

TEST TYPE:
WAL/T:
HIGH-PERFORMANCE CORNERING

Battery Packs

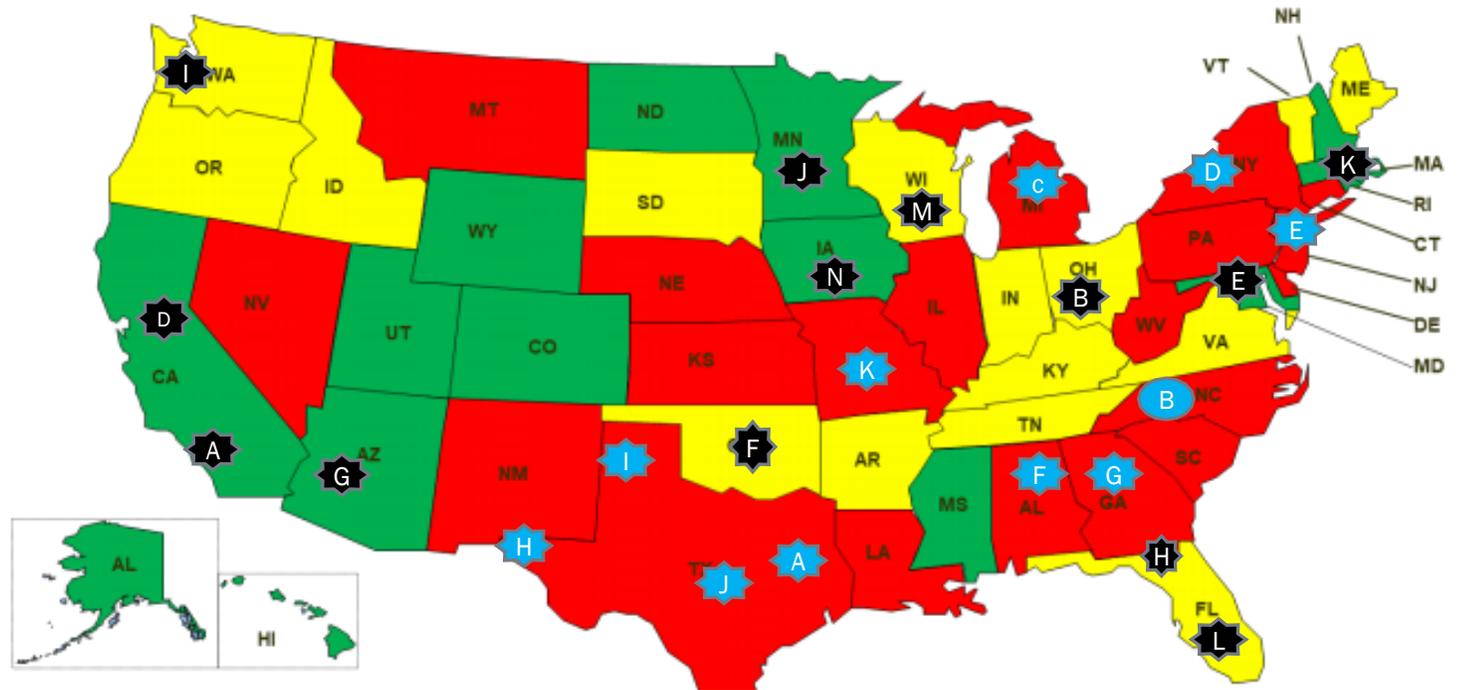
- ↳ In House production in Lordstown, Ohio
- ↳ Battery Management System



Proposed LMC and Camping World Service Location Expansion through 2022

A LMC owned locations			
Letters on Map	Location	% truck sales by state	Completion date
A	Irvine	7.10%	8/15/2021
B	Lordstown	3.10%	9/1/2021
D	Nor Cal	7.10%	9/15/2021
E	Maryland	0.30%	10/15/2021
F	Oklahoma	3.20%	1/15/2021
G	Scottsdale	2.50%	2/15/2021
H	Northern Florida	5.10%	3/15/2022
I	Seattle	1.50%	4/15/2022
J	Minesota	1.90%	5/1/2022
K	Massachusetts	1.30%	6/1/2022
L	South Florida	5.10%	7/1/2022
M	Wisconsin	1.70%	9/1/2022
N	Indiana	1.20%	11/1/2022

A Camping World Locations			
Letter s on Map	Location	% truck sales by state	Completion date
A	fort worth, TX	13.09%	9/15/2021
J	Spring Tx	13.09%	10/1/2021
B	Concord (Charlotte), NC	3.10%	10/1/2021
C	Grand Rapids, MI	4.50%	10/1/2021
D	Syracus, NY	3.30%	10/15/2021
E	Bridgeport, CT	1.30%	11/1/2021
F	Calera, AL	1.60%	12/1/2021
G	Woodstock	3.30%	1/15/2022
H	Anthony	13.09%	2/1/2022
I	Lubbock	13.09%	3/1/2022
K	St Luis, MO	6.00%	5/1/2022



III. Direct Warranty Service by Manufacturers In the following map, we categorized each state by the limitations applied to warranty service work provided directly to customers by manufacturers (or entities owned by manufacturers). States in the first category, colored green, permit direct warranty service work by a manufacturer. This is usually because the state does not require an entity who only provides warranty service work to be licensed as a dealer. Other green states may only prohibit competition with dealers; if LMC has no franchised dealers in the state, it cannot be competing with any dealer for warranty service work. In some states, LMC will need to be licensed as a dealer (or direct sales manufacturer) to provide warranty service work (e.g., Colorado and Utah). Green states include Alaska, Arizona, California, Colorado, Hawaii, Iowa, Maryland, Massachusetts, Minnesota, Mississippi, New Hampshire, North Dakota, Rhode Island, Utah, and Wyoming



Summary

- Endurance late September 2021
- Baja Validation April 2021
- Lordstown Next Vehicle - Van
- Expanding Production Capacity
- Aggressive Timeline
- 60,000 Vehicle Capacity

Policy Update

Joe Garrity



2021-2025 Regional Sustainability Agenda

Brandi Whetstone, Sustainability Officer
MORPC



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RSA SUB-COMMITTEE



Chair: Justin Milam, City of Upper Arlington

Vice-Chair: Alex Slaymaker, Columbus Partnership

Membership:

- Emerald Hernandez, City of Columbus Department of Neighborhoods
- Kyle O'Keefe, SWACO
- Nick Plouck, City of Dublin
- James Mako, Fairfield Regional Planning Commission
- Jennie McAdams, Franklin County Public Health
- Basar Ozbilen, Ohio State University
- Dan Sowry, Ohio EPA
- Eric Walli, Honda North America



PROCESS



- Vision and principles
- Sustainable2050 member survey & interviews
- Workshop focused on equity considerations
- Propose and vet goals, objectives, strategies
- Regional stakeholder survey



Regional Sustainability Agenda Lunch and Learn Join us to learn more!

Friday, March 26 from noon-1:00pm

Contact Brandi Whetstone at bwhetstone@morpc.org for the Zoom meeting information



Goal 1

Improve air quality and reduce climate change impacts to protect public health and the environment.



Objectives:

- a. Reduce per capita vehicle miles traveled.
- b. Increase alternative fuel vehicles and infrastructure.
- c. Reduce per capita energy consumption across all sectors.
- d. Increase local renewable energy generating capacity.
- e. Reduce regional greenhouse gas emissions.
- f. Increase the number of days with good air quality.



Goal 2

Protect & preserve natural resources to support healthy & resilient communities and ecosystems.



Objectives:

- a. Reduce the amount of municipal solid waste per capita disposed in the landfill.
- b. Reduce per capita water consumption.
- c. Improve water quality in central Ohio watersheds.
- d. Increase the amount of land devoted to natural areas and ecosystem services.
- e. Prioritize a balanced growth approach to community development. (under review)



Goal 3

Improve quality of life for all residents by creating sustainable and equitable communities.



- Improve transportation safety for all residents.
- Prioritize infrastructure development which supports multi-modal transportation options for all users.
- Increase access to parks and regional trails.
- Reduce household energy cost burden.
- Reduce environmental hazards that pose risks to public health and safety. (under review)



Goal 4

Promote robust, inclusive, and sustainable economic growth and development.



- a. Increase the number of businesses with established sustainability policies and practices.
- b. Maximize infill and redevelopment along existing infrastructure.
- c. Increase availability of affordable housing options near transit or job centers.
- d. Increase employment levels in green jobs.

NEXT STEPS



- Review survey and make final updates
- Review/finalize equity resource document
- RSA Sub-committee final meeting - March 30.
- Sustainability Advisory Committee review/adoption – April 21
- MORPC Board adoption - May or June



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