

# Exhibit to Agenda Item #1

Board Energy Resources & Customer Services Committee Meeting and Special  
SMUD Board of Directors Meeting

Tuesday, May 14, 2019 scheduled to begin at 5:30 p.m.

Customer Service Center, Rubicon Room

# Strategic Direction Alignment

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Support for California Mobility Center (CMC) aligns with Board's SDs

- SD-9 Resource Planning
  - IRP decarbonization and electrification
- SD-7 Environmental Leadership
  - Lower the region's carbon; engage stakeholders in this goal
- SD-10 Innovation
  - Innovative solutions; integrate new business models and technologies into our offerings
- SD-13 Economic Development
  - Promote the economic vitality of the region

# Integrated Resource Plan

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- CARB has a goal of 5 million Zero Emission Vehicles (ZEVs) on the roads by 2030
- This 2030 ZEV goal will require increasing the charging infrastructure from approximately 14,000 today to 250,000 stations by 2025
- Sacramento regional environmental initiatives highly relevant to electric transportation:
  - Sacramento and West Sacramento Mayors' Climate Commission goals
  - Sacramento Area Council of Governments' Green Region
  - Electrify America, investing \$44M in both EV services and infrastructure in Sacramento
- **SMUD's Integrated Resource Plan (IRP) comprehensively addresses system needs to accommodate a high market penetration of EVs**
  - **Tackles reduction of GHG by increasing electrification of transportation in the region to reach SMUD goal of net zero by 2040**
  - **Plans nearly a \$2B investment in electrification (buildings and transportation), which will catalyze the goal and boost regional economic development**

# What We Have Done So Far



Proposed business structure for the California Mobility Center - legal, governance and funding framework, and potential revenue model including value sharing mechanisms for members and investors

Feasibility study by PEM Motion (Aachen, Germany) for replicating their advanced prototyping and manufacturing ramp-up factory here in Sacramento as a key component of the California Mobility Center



# Four Megatrends Defining Future of Mobility

## CONNECTIVITY

- Networking between vehicles and infrastructure
- Over-the-air software updates to deploy new features faster
- Enablement of shared services
- (e.g. Uber, Lyft, Tesla, etc.)

- Disruptive growth market for EVs to address climate change and air quality
- Less complex vehicles shifting value creation to smaller companies
- (e.g., EVs, Charging Infrastructure)



## AUTONOMOUS DRIVING

- Transition from assisted driving to fully autonomous driving
- Unlimited need for reliability
- Enablement of individual mobility for nondrivers
- (e.g., Olli, Waymo, etc.)

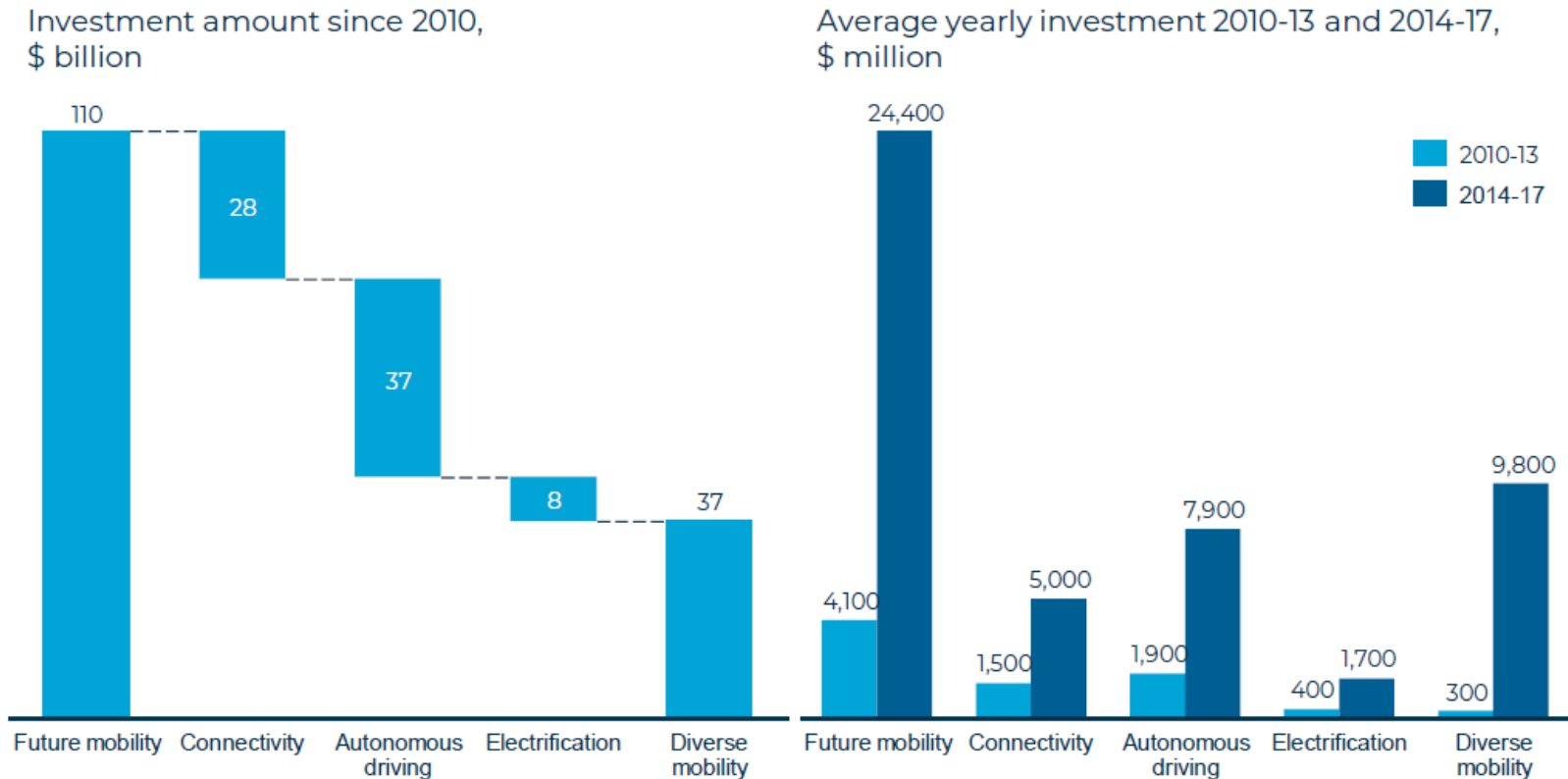
- Enabled by other 3 mega-trends
- Enablement of on-demand market for robo-taxis and shuttles
- Customized driver experiences
- (e.g., Envoy, Amply, etc.)

## ELECTRIFICATION

## DIVERSE MOBILITY

*Includes heavy, medium and light duty vehicles; public transit; school buses; motorcycles and scooters; and all necessary supporting systems and infrastructure*

# Market Opportunities



Source: McKinsey 2018

*Globally, over 750 new mobility companies attracting investment since 2010; over 250 of which in Bay Area*

# CALIFORNIA MOBILITY CENTER - *A Hub For Mobility Innovations*

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- Technology- and policy-driven
- Partnership of founders and members seeking to:
  - attract new businesses, investments, and start-ups
  - work collaboratively with local governments, regulators, manufacturers, utilities, universities, community colleges and international partners



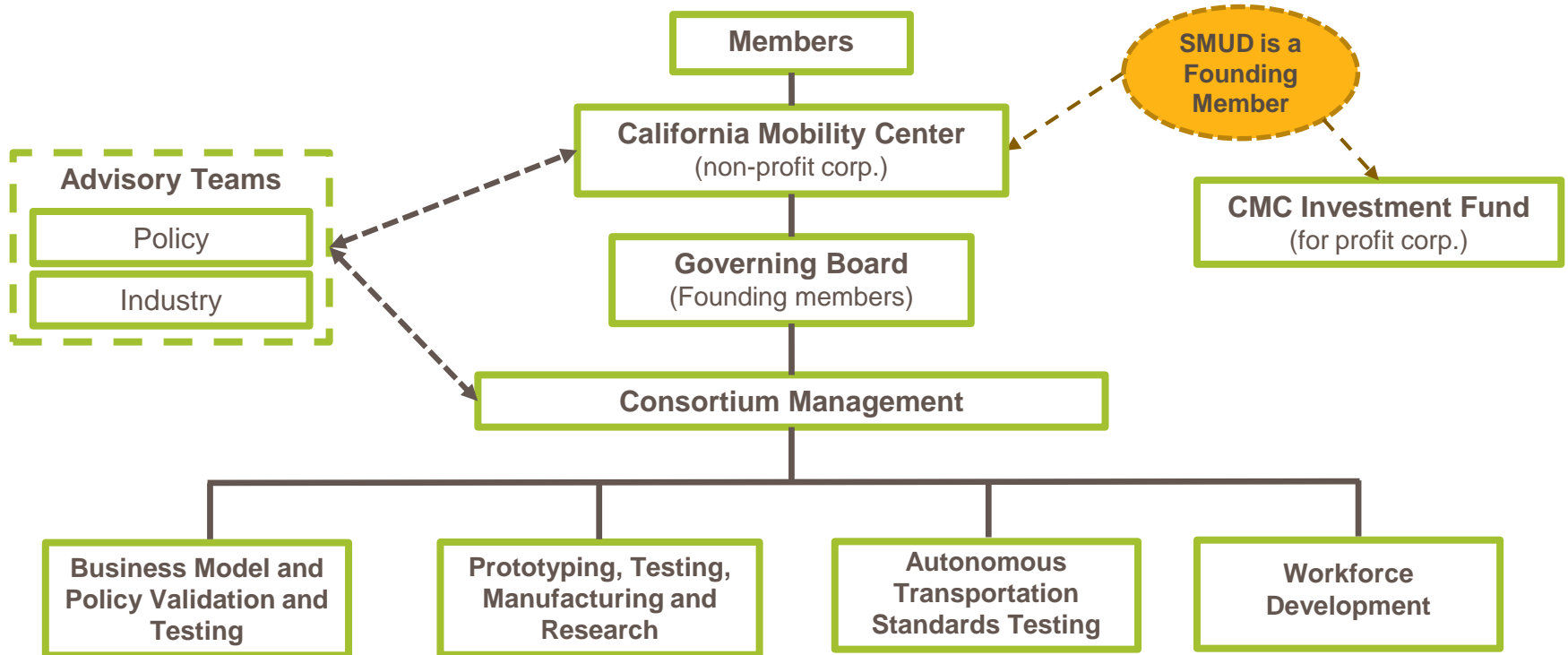
# California Mobility Center

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- **VISION:** To become the Global Electric Mobility Leader
- **MISSION:** To fund, test and commercialize advancements in mobility technologies including electric vehicles, autonomous transportation, battery storage, shared mobility solutions, public transit and new business and policy models for adoption on the international stage
- **STRATEGIC GOAL:** Opportunity for businesses, investors and entrepreneurs from around the world to build world-class companies related to electric, shared and autonomous mobility



# Proposed CMC Structure



*Other founders likely to be local partners, large original equipment manufacturers, and other large, technology-intensive, progressive companies*

# The Center Is Uniquely Positioned

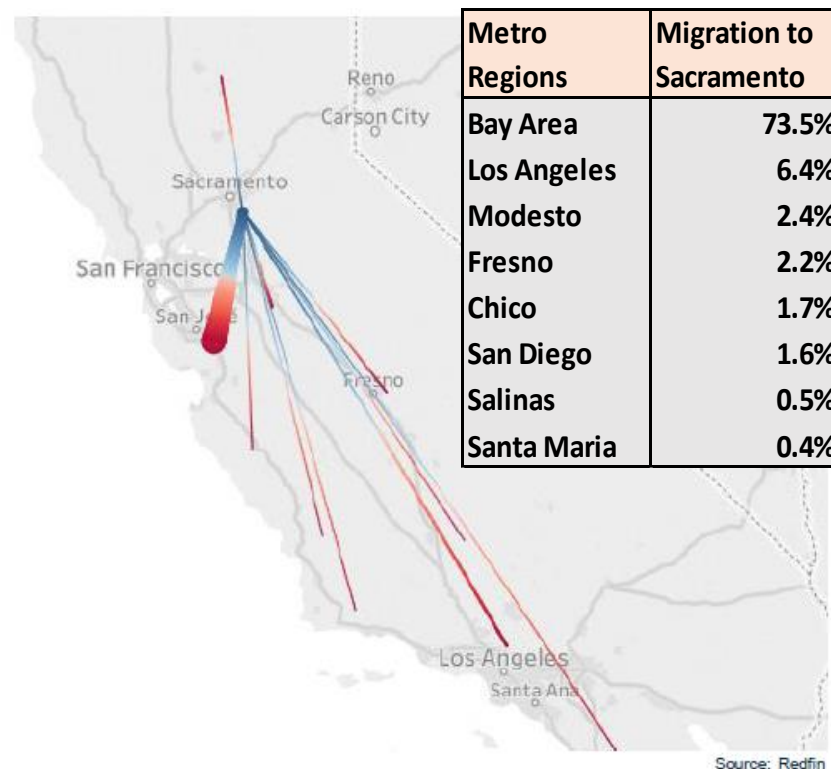
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- To provide access to:
  - Cutting edge public policy
  - Electric transportation expertise
  - Research and workforce development at the universities and community colleges
  - Development, prototyping, testing and commercialization of emerging transportation technologies
  - Business model testing and policy testing and validation



# Why Sacramento?

- Sacramento is home to state regulatory and transportation licensing agencies that champion bold new ideas
  - The California Air Resources Board leads the world in innovative public policy development in the areas of carbon reduction and clean transportation
  - The California Department of Transportation and the Department of Motor Vehicles are actively engaged in initiatives for autonomous transportation
- The Sacramento Region is a burgeoning innovation ecosystem that encompasses emerging technology, business and policy models



# 5-Year Start-up Costs

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- Founders provide one time, start-up funding to de-risk the Center and cover start-up costs
  - CapEx for ramp-up factory and OpEx for Center operations
  - 5-year budget estimate is \$70M - \$80M
    - \$45M - \$50M factory construction; \$25M - \$30M operating costs
- Consortium model is self-sustaining – cover operational costs through annual memberships and project revenues

# Founders Return On Investment

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- Founders receive lifetime membership and seat on Governing Board
- Also will receive revenues back from companies whose projects come through the Center and commercialize
- Revenues could be either warrant or royalty proceeds depending on specific project negotiations

# Board Request

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Authorize the Chief Executive Officer and General Manager to:

- Commit SMUD to participate in California Mobility Center as a Founding Member and related investment fund
- Financial commitment of \$15M to establish and support the Center's start-up costs as follows:
  - Initial \$5M to support start up costs and initial operations
  - Additional \$5M when CMC has secured an additional \$25M in funding commitments from other Founders and Members
  - Additional \$5M when CMC as secured total funding commitments of \$50M from other Founders and Members