

# Creating a Community Climate Plan: City/Transit Partnerships for Climate Response and Resiliency



# Planning Partnerships

- Cooperative initiatives
- Shared resources
- Continual communication
- Common goals

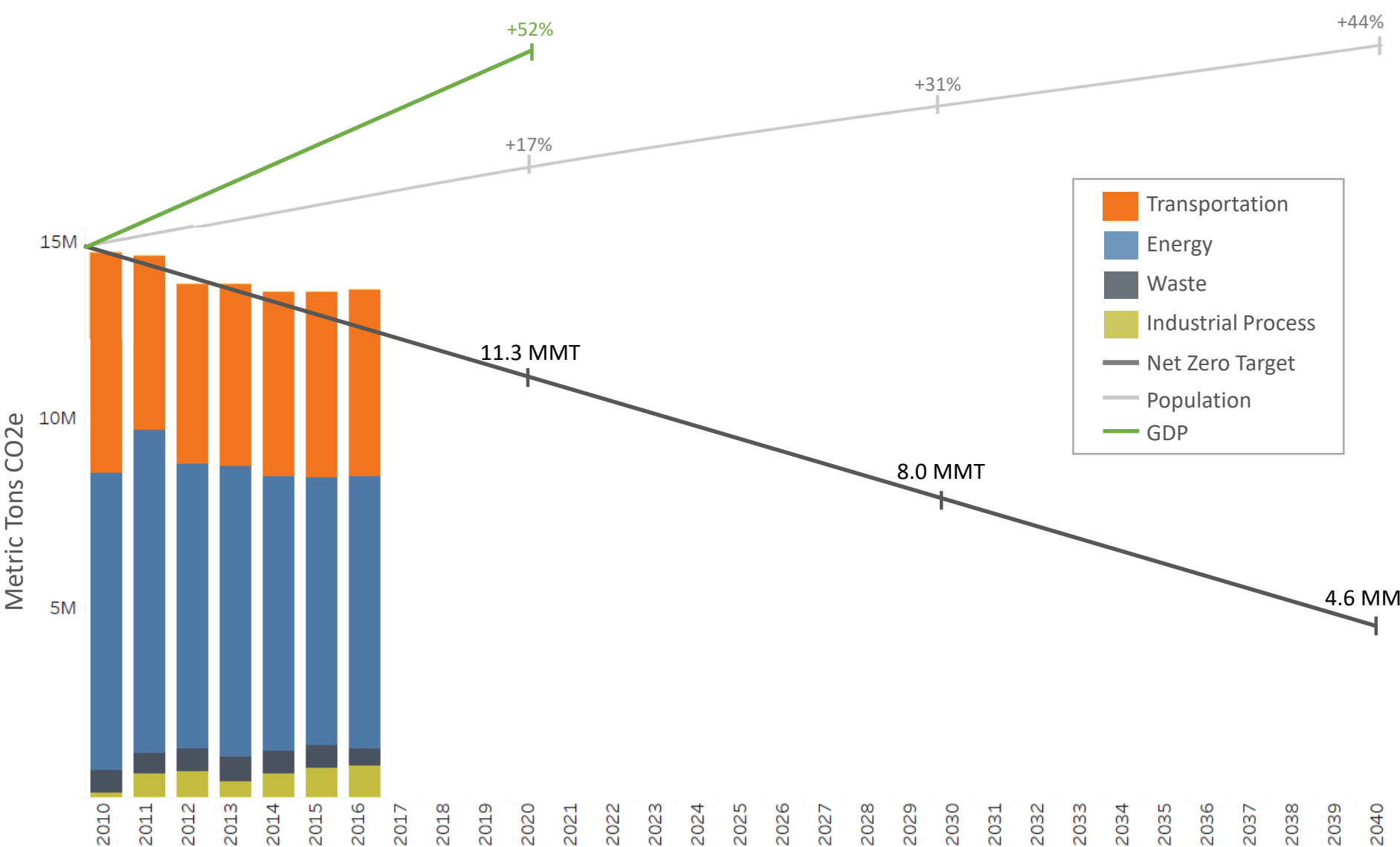


# Additional Potential Benefits

- Climate Mitigation/Abatement
  - Reduced operating costs
  - Improved customer service
  - Increased multi-modal opportunities
- Climate Resiliency
  - Asset protection
  - Increased safety and reduced risk
  - Increased community service

# Mitigation

# Travis County Projected Trends



Source: Texas State Data Center, BEA

# Cost / Impact Analysis

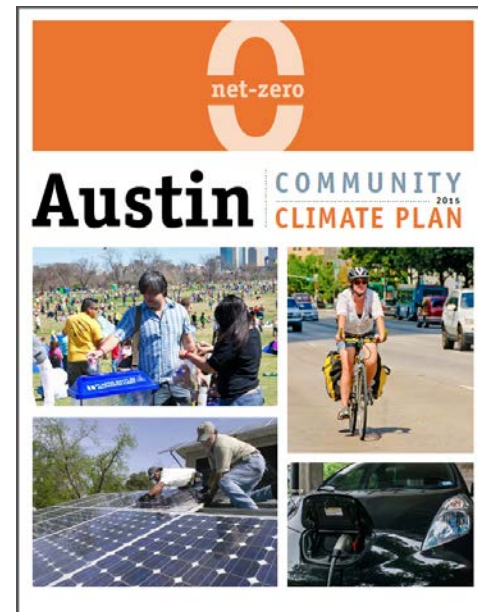
19 Major Actions were analyzed to:

- Prioritize Implementation
- Determine if we can meet our 2020 and 2030 interim GHG Targets

Methodology:

- Cumulative GHG reductions over 13 years
- Costs and Savings

GHG reduction is only ONE lens

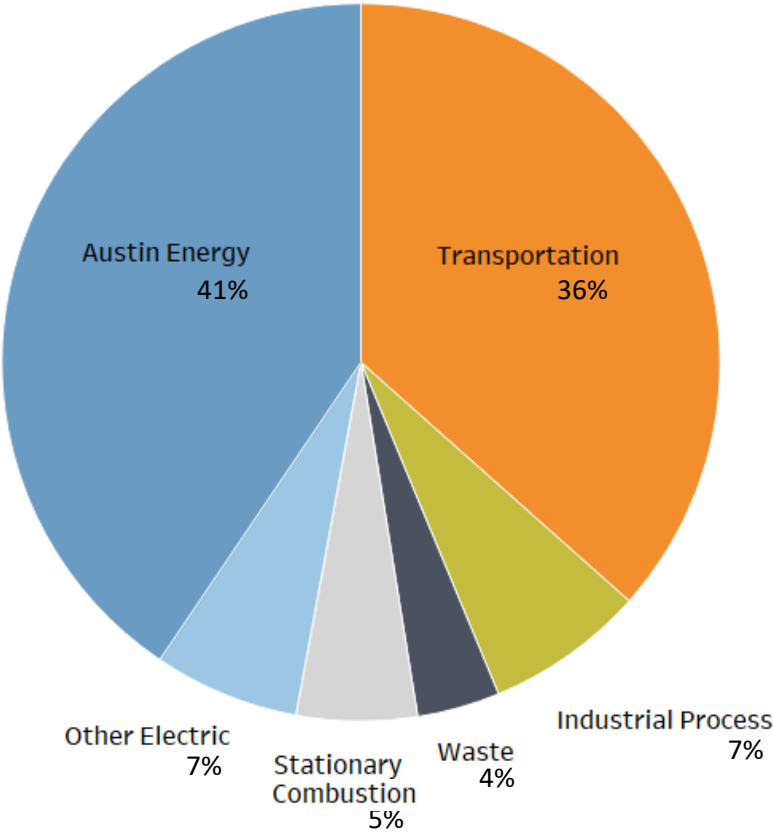


AUSTIN TRANSPORTATION DEPARTMENT



# Austin Community GHG Inventory

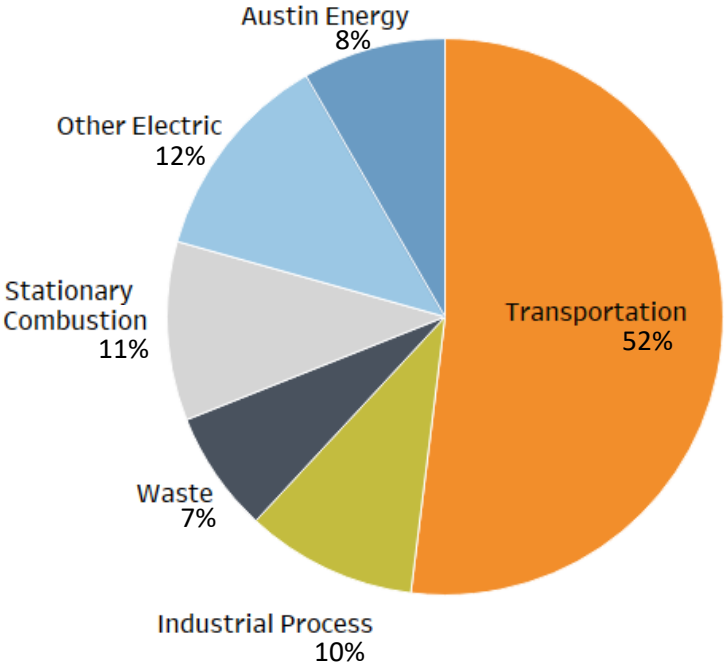
2016



13.5 MMT CO2e



2030

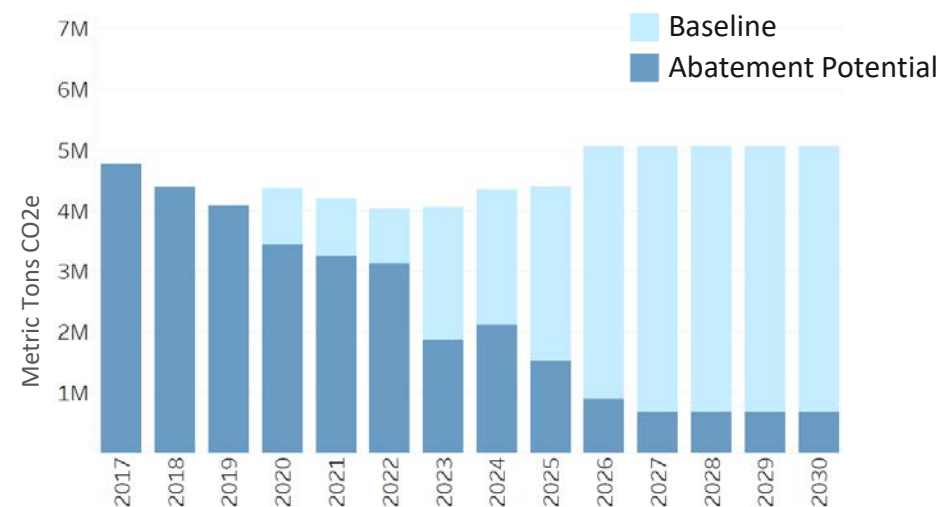


8.0 MMT CO2e



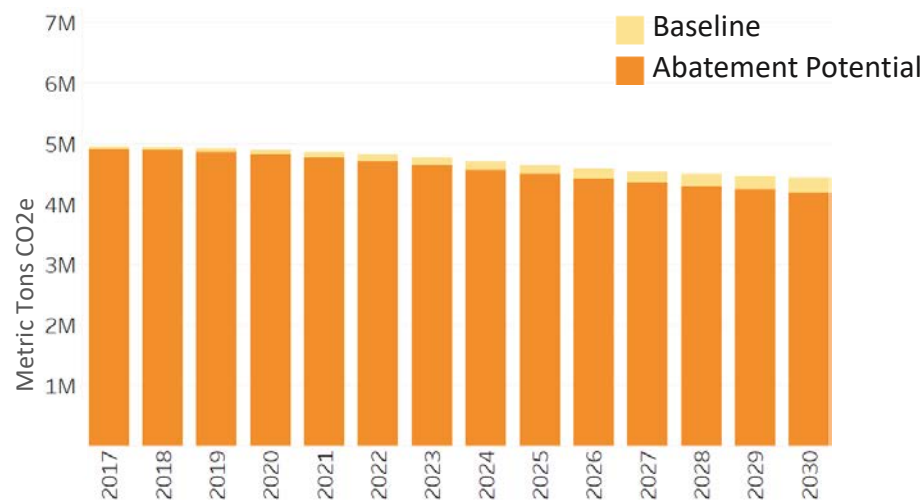
# Abatement Potential Takeaways

## AE Load Carbon Emissions



- Current generation plan reaches 90% carbon free power by 2027
- Further reductions to AE load carbon emissions will be challenging to meet within affordability limits

## On Road Transportation Carbon Emissions

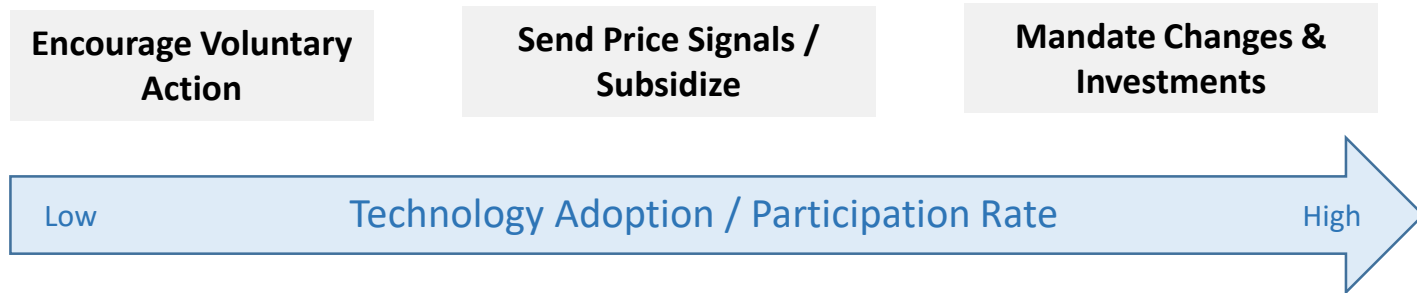


- Transportation overtakes energy as the highest emitting sector in 2020
- Modeling transportation emissions is complex
- There are many decisions still to be made and we have to start making progress now to reach scale in 2030



# Analysis Considerations

## Mechanisms For Behavior Change in Transportation



## Scenarios

**Trend** – Enacting currently planned or funded projects

**Moderate** – Modifying inputs to exceed currently planned or funded levels

**Aggressive** – Modifying inputs to maximize reductions within the bounds of reality

# Transportation GHG Reduction Strategies

## Mode Shift and Trip Elimination

- Bike Master Plan
- Improve Transit Service + Infrastructure
- Revise Development Code
- Transportation Demand Management Programs
- Parking Strategies

## Tailpipe Emissions Reduction

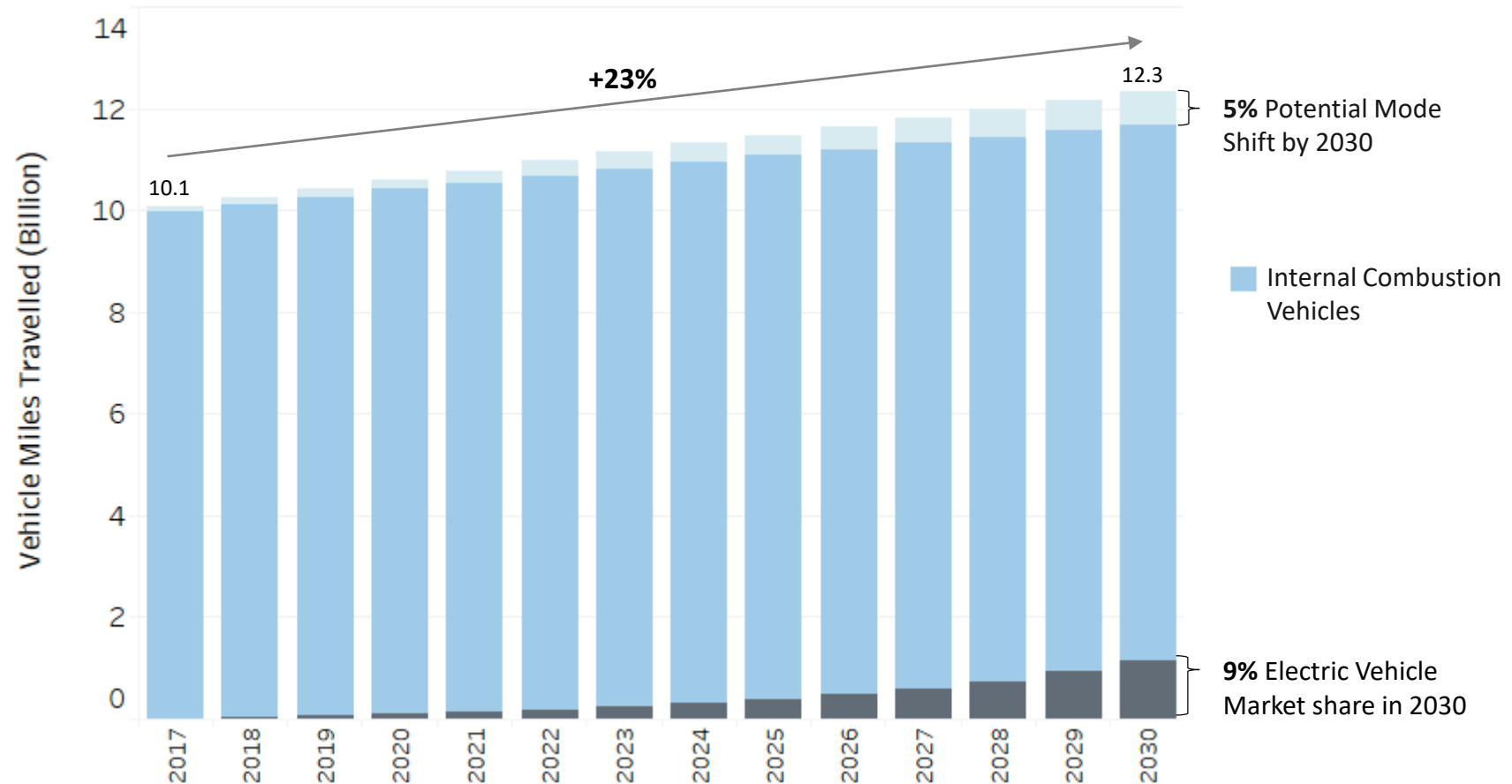
- Electric Vehicles
- Electric Buses



# Opportunities to Increase Transit Options



# Projected Travis County Vehicle Miles Travelled (VMT)

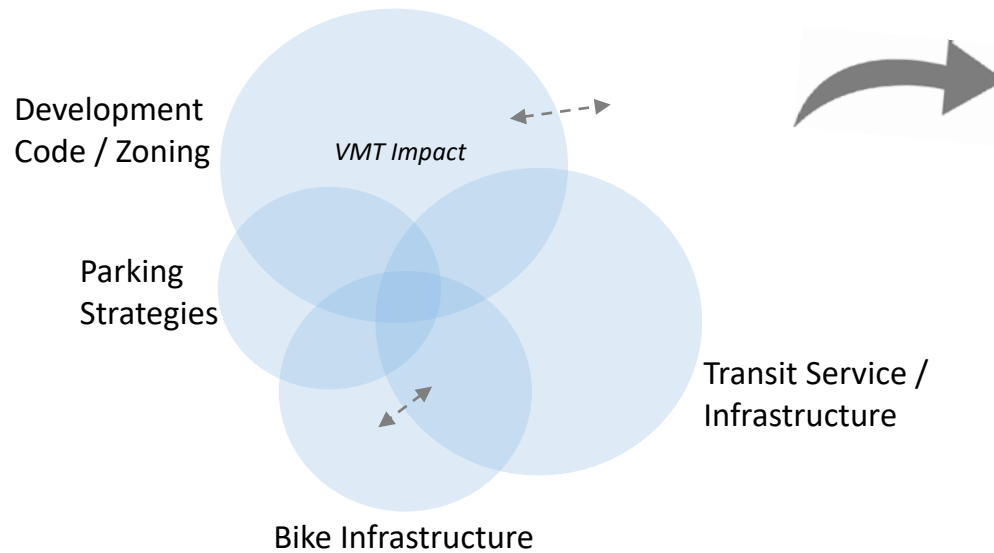


Source: Texas Transportation Institute

# Reduce VMT Through Mode Shift

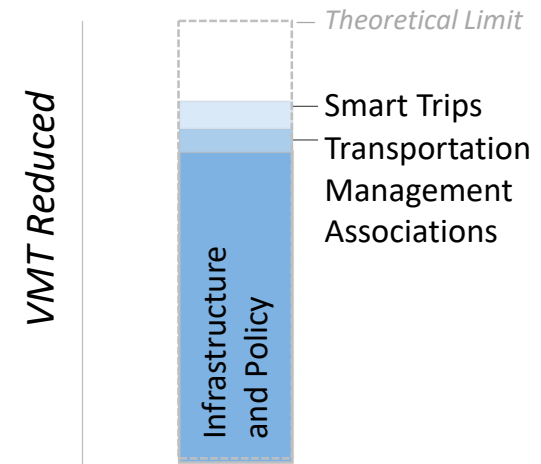
## Project / Program Groups

### Infrastructure and Policy



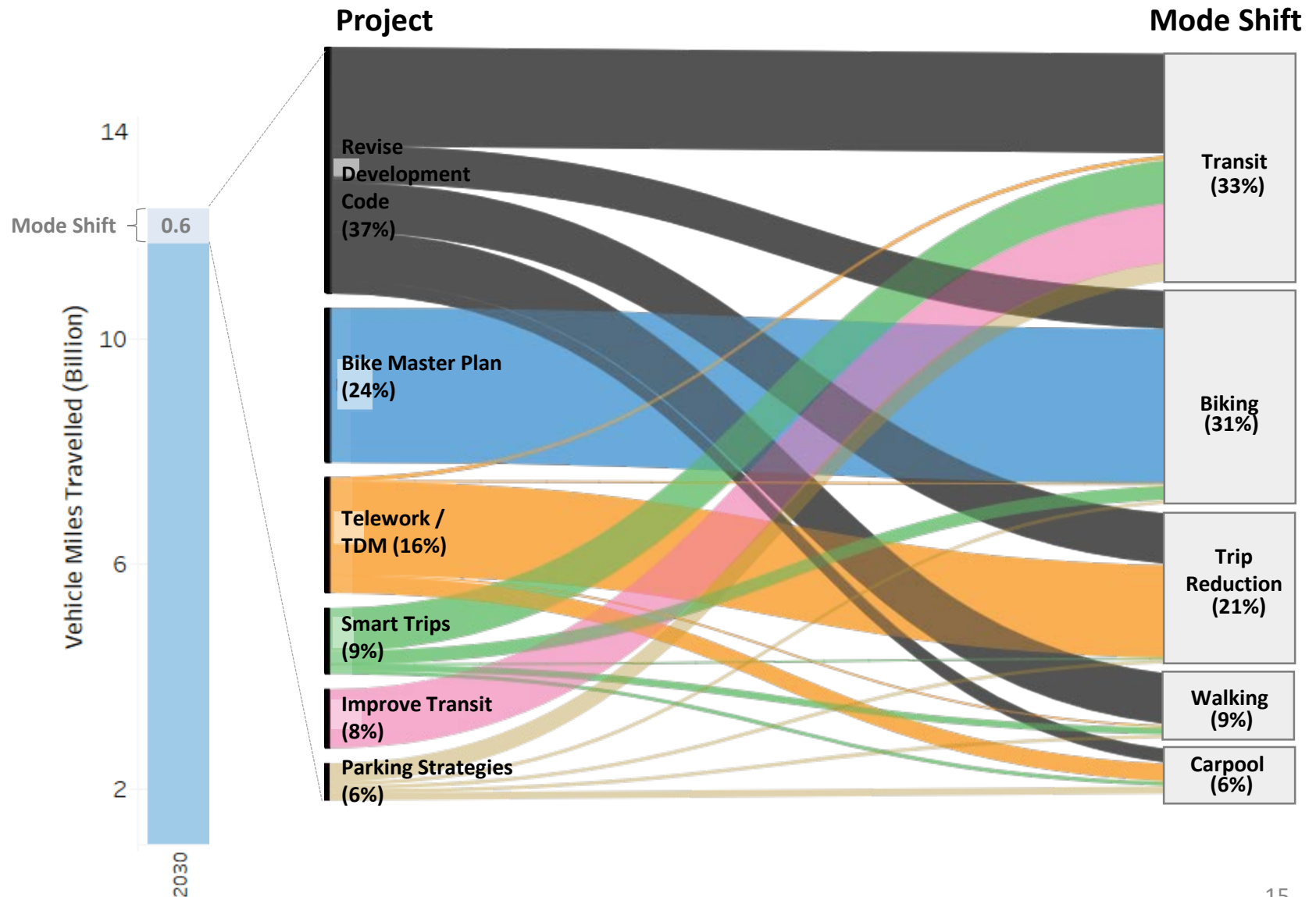
Determine potential of  
VMT reduction

### Transportation Demand Management Programs

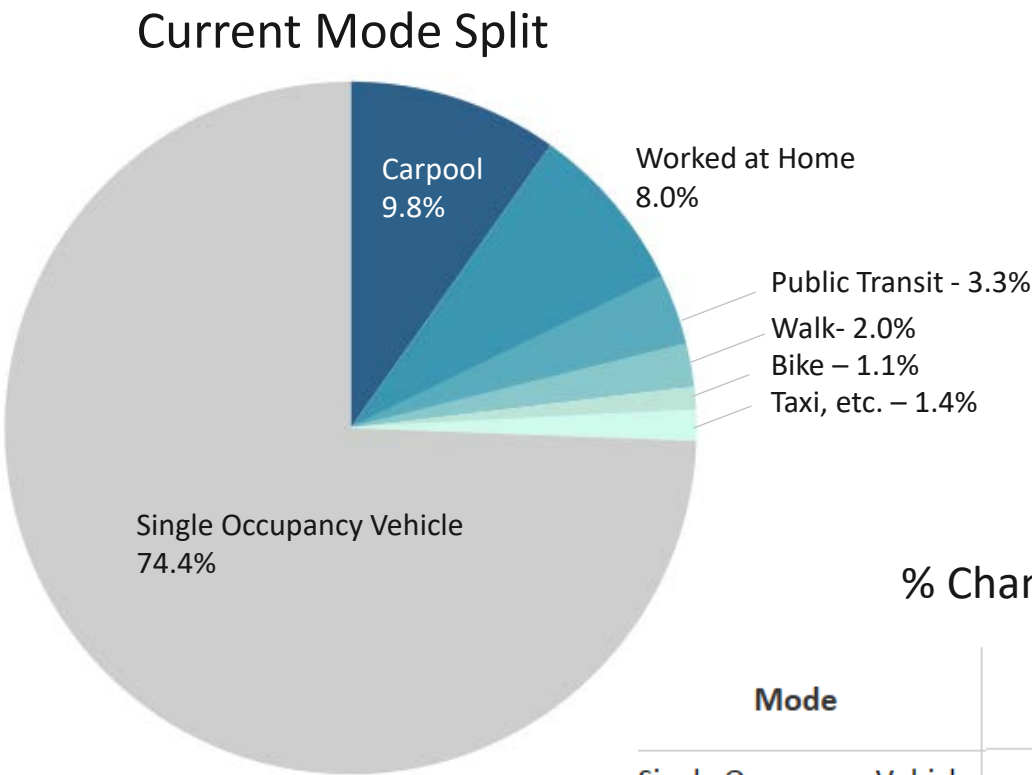


Fulfill potential VMT  
reduction

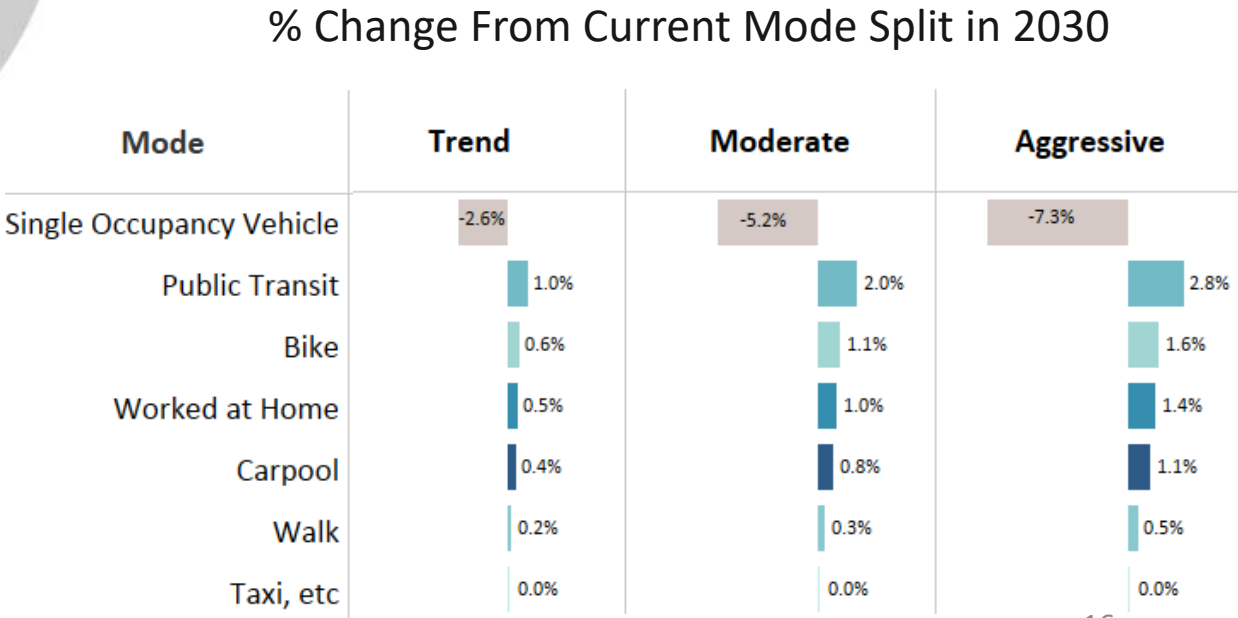
# Mode Shift by Project



# Projected Commuter Mode Shift

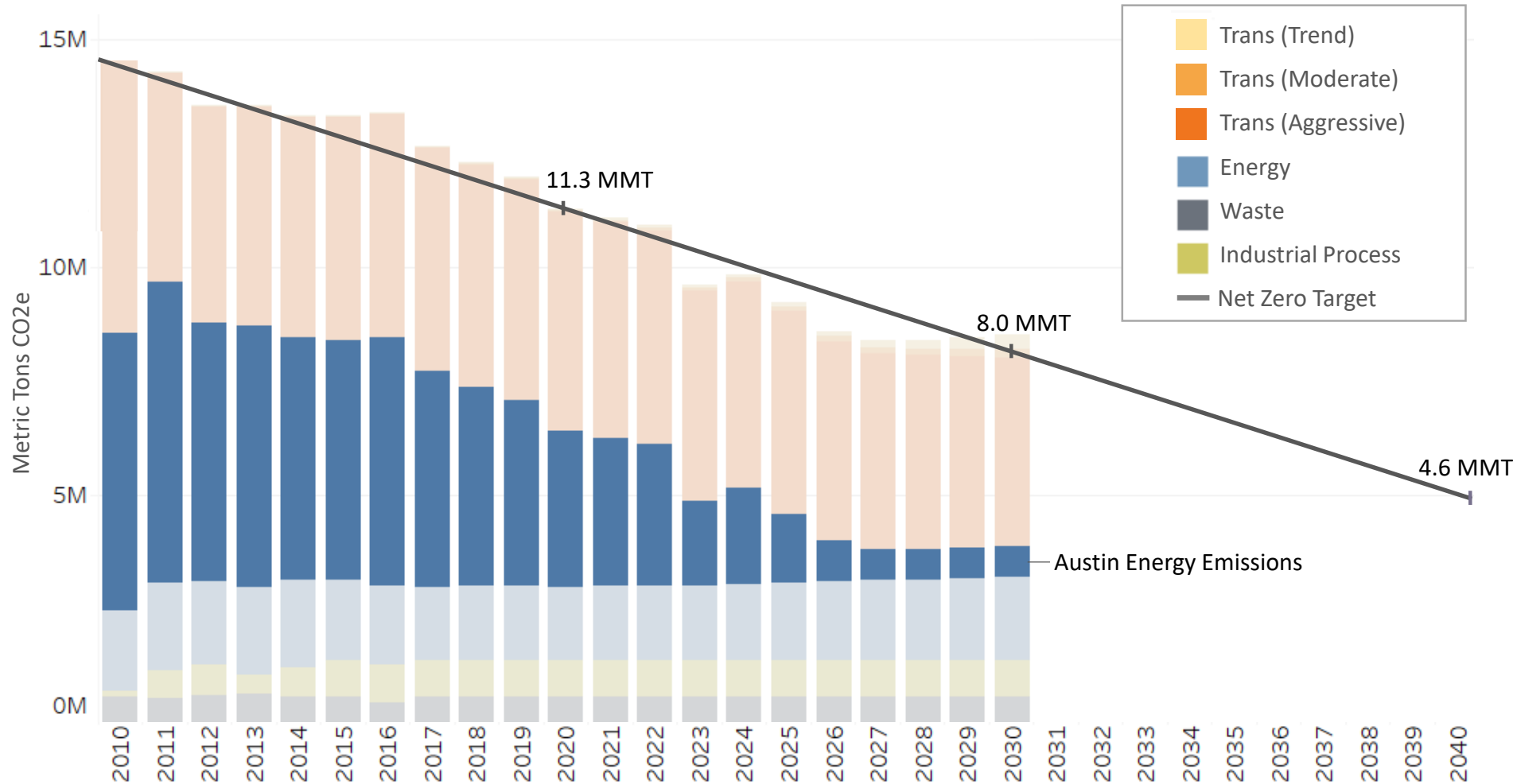


Source: American Community Survey





# Austin Community GHG Emissions



# Recommendations



Support cost effective implementation of the Austin Energy 2027 Generation Plan

Support City efforts that reduce single occupancy vehicle trips

- Austin Strategic Mobility Plan (In Development)
- Bike Master Plan
- More Housing Opportunity + Transit + Parking Policies
- Transportation Demand Management Programs

Maximize Support for Electric Vehicles and a shared autonomous future

Support Regional collaboration to reduce vehicle miles traveled and emissions

Explore partnerships to reduce emissions in Semiconductor and Natural Gas Sectors

# Analysis Conclusions



Implementation of the recently adopted Austin Energy Generation Plan has us on track to reach our interim 2020 & 2030 GHG emission targets.

By 2020, Transportation will be the largest emission sector and it must become our primary focus for GHG reduction.

Transformation to a Net Zero Community is an enormous challenge, but it can be cost effective and create health and safety benefits.

# Resiliency

# Resilience for cities

The ability of individuals, communities, institutions, businesses and systems within a city to survive, adapt and thrive no matter what kinds of chronic stresses and acute shocks they experience.

**Rockefeller Foundation 100 Resilient Cities initiative**

## 2013, 2015 & 2016 Floods





# Climate Extremes already being experienced in Austin

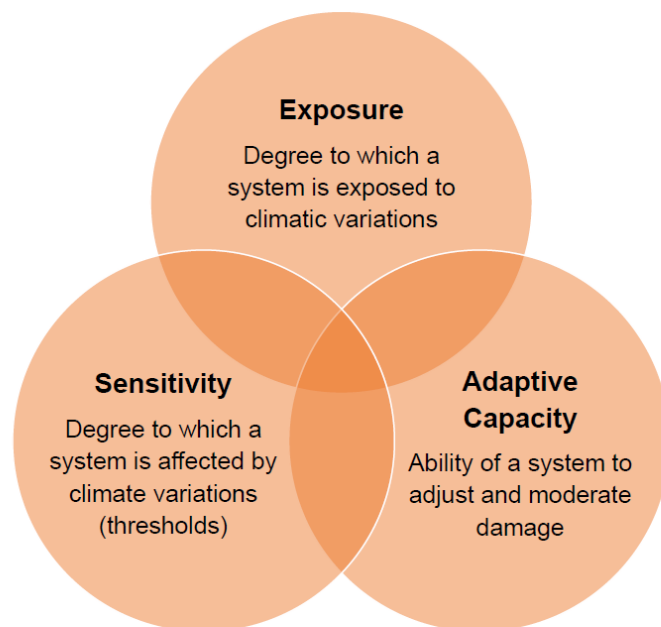


15





# Vulnerability = Exposure, Sensitivity, Adaptive Capacity




## To minimize vulnerability:

- Reduce exposure
- Reduce sensitivity
- Increase adaptive capacity

## Process:

1. Identify Climate Hazards
2. Conduct Vulnerability Assessment
  - a. Criticality assessment
  - b. Threshold to hazard
3. Identify Resiliency Strategies & Actions





19



# CLIMATE RESILIENCE ACTION PLAN

for City Assets and Operations

APRIL 2018





## Action Areas

### Emergency Response

- Emergency Procedures
- Safe Emergency & Evacuation Routes
- Disaster Response Resources

### Staff Safety

- Field Staff & Workplace Safety
- Hazard Training

### Existing Facilities & Infrastructure

- Critical Infrastructure
- Building Efficiency & Redundancy
- Telecommunications

### New Facilities & Infrastructure

- Design for Resilience
- Plan for Resilient Infrastructure

24

# Opportunities for Transit

- Assess facility and fleet preparedness
- Plan to address vulnerabilities
- Protect assets
- Understand regional risks in the transportation system
- Provide community services



