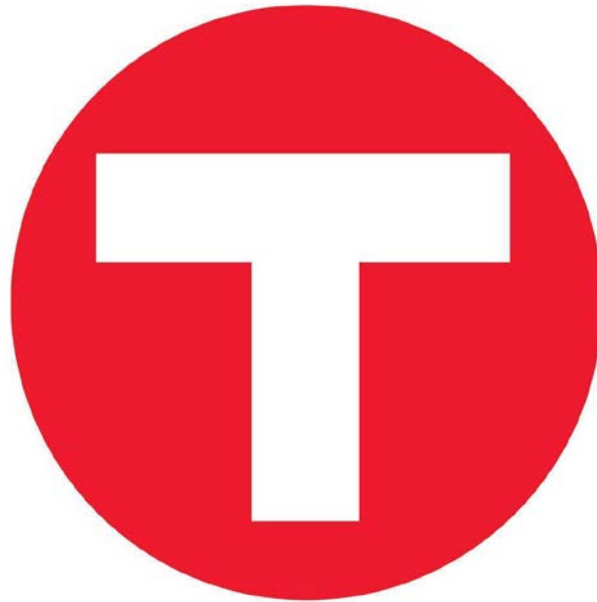




Metro Transit Sustainability/Energy Annual Update



Transportation Committee
July 24th, 2017

Jeff Freeman/Claire Warren
Engineering and Facilities

Metro Transit Sustainability/Energy Update

- Purpose, Leadership and Collaboration
- 2016 Energy Report
- 2016-2017 Projects and Initiatives
- 2017-2018 Future Initiatives

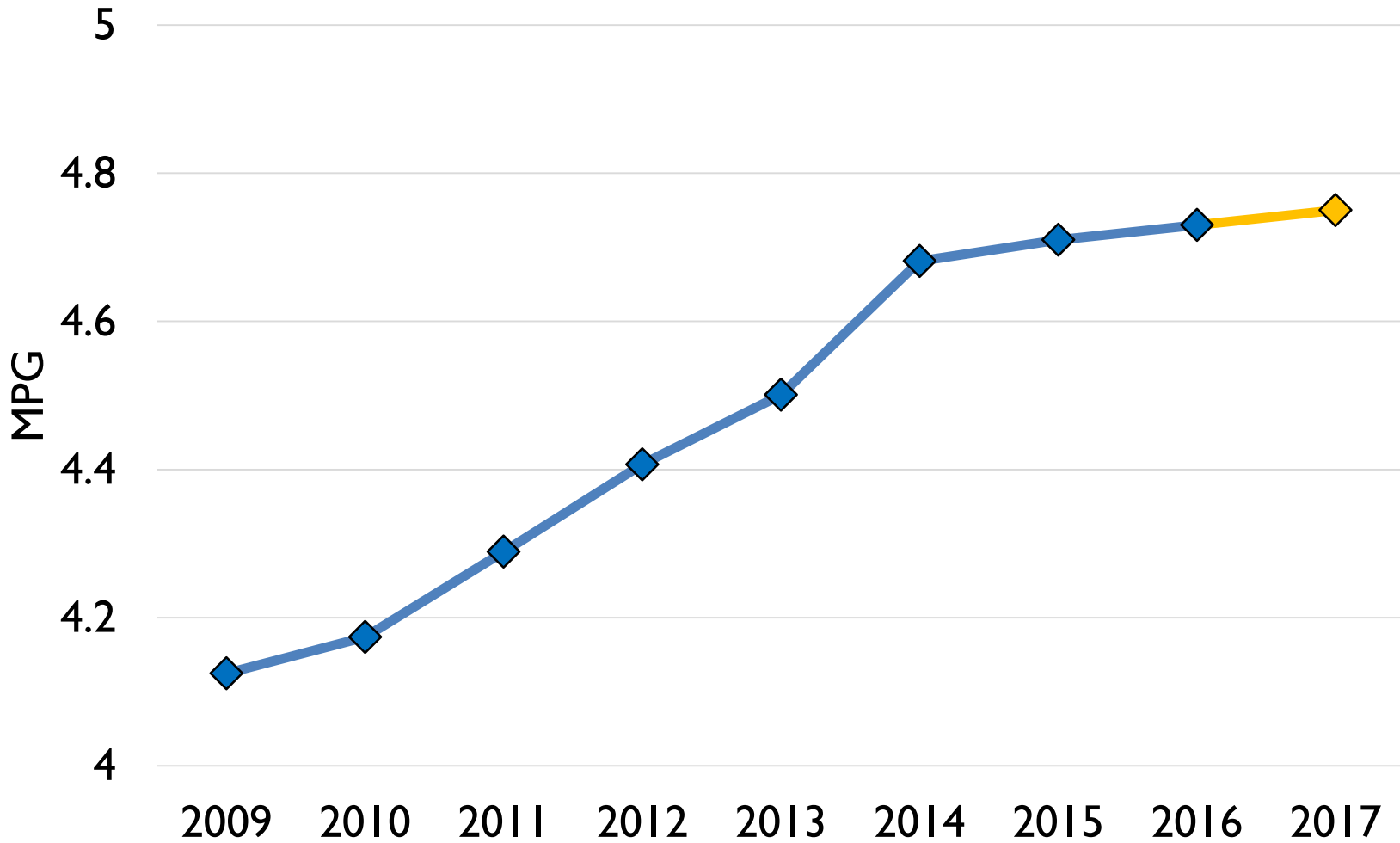


Metro Transit Leadership & Collaboration

- Thrive Work Group
 - Climate Change and Sustainability Focus
- CCEST
 - Climate Change and Environmental Sustainability team member
- MN Office of Enterprise Sustainability
 - Energy & Greenhouse Gases, Waste & Procurement, and Fleet Work Group participation
- Xcel, Connexus, and CenterPoint Energy
 - External collaboration on projects and rebate programs
- Environmental Initiative's *Community Action Award*
 - Government Solar Garden Subscriber Collaboration



Bus Fleet MPG Increasing

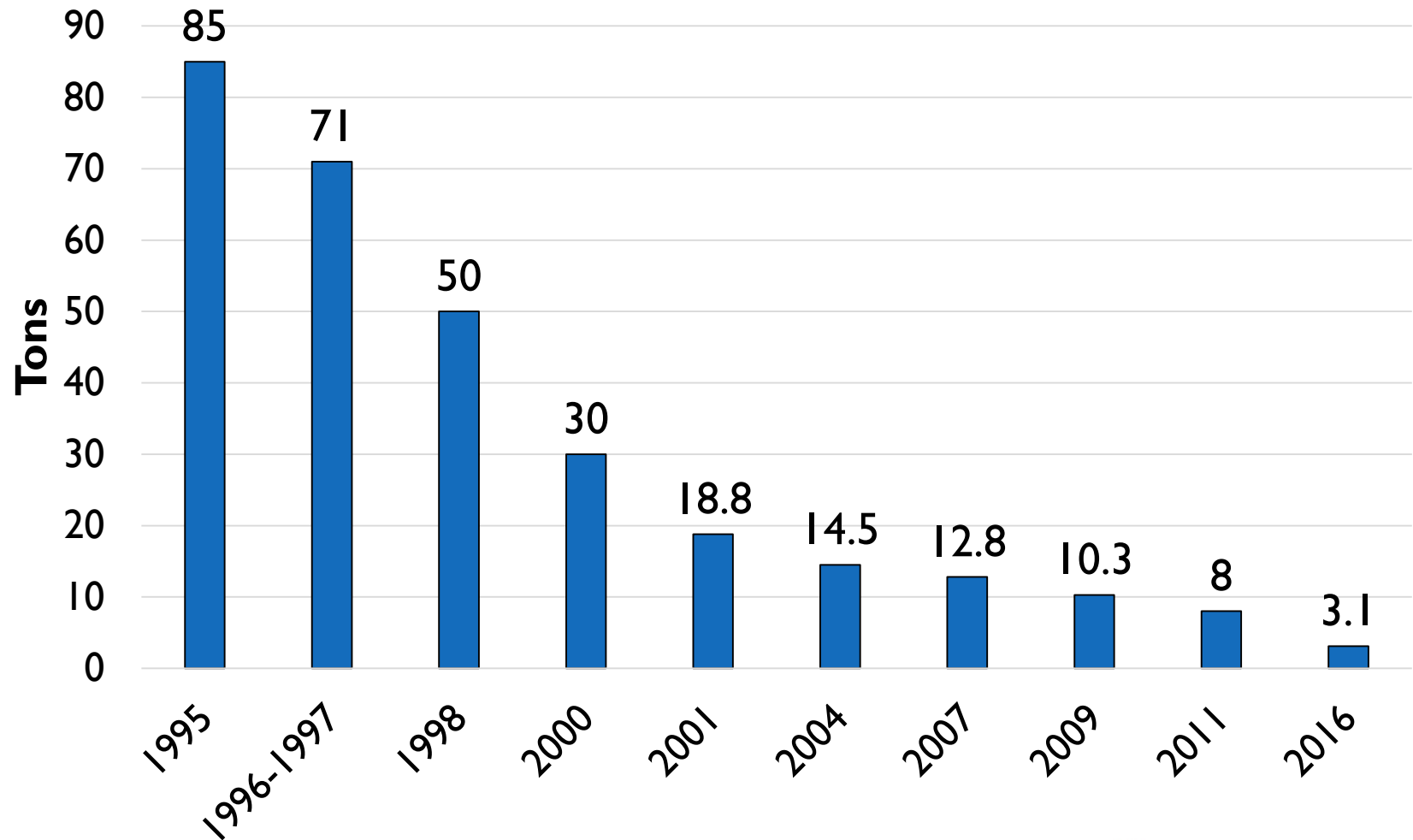


Bus Fleet MPG Improvement

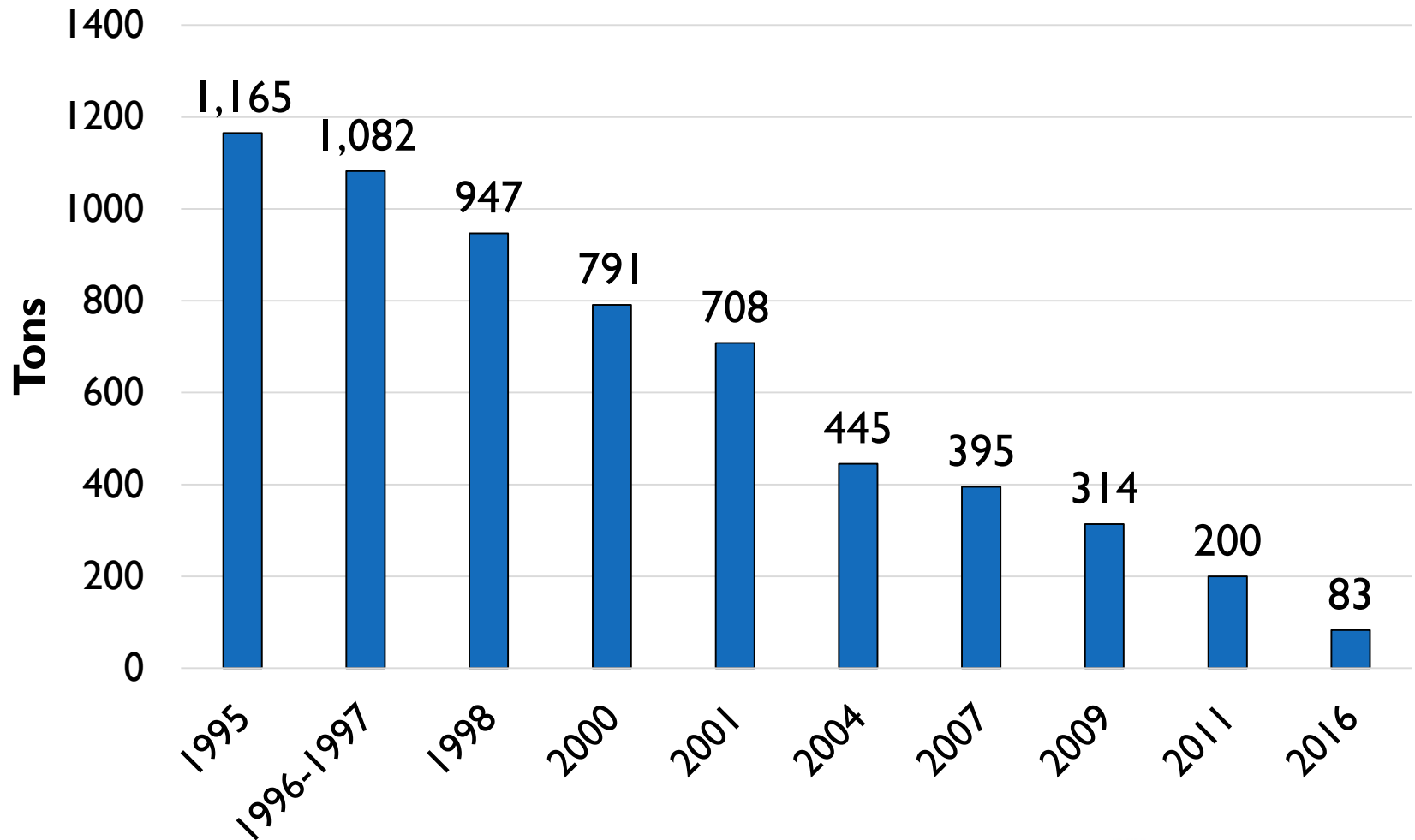


Bus Type	40' Foot	60' Foot	Hybrid
2010/2011	4.60	3.84	5.30
2015/2016	4.91	4.64	5.67

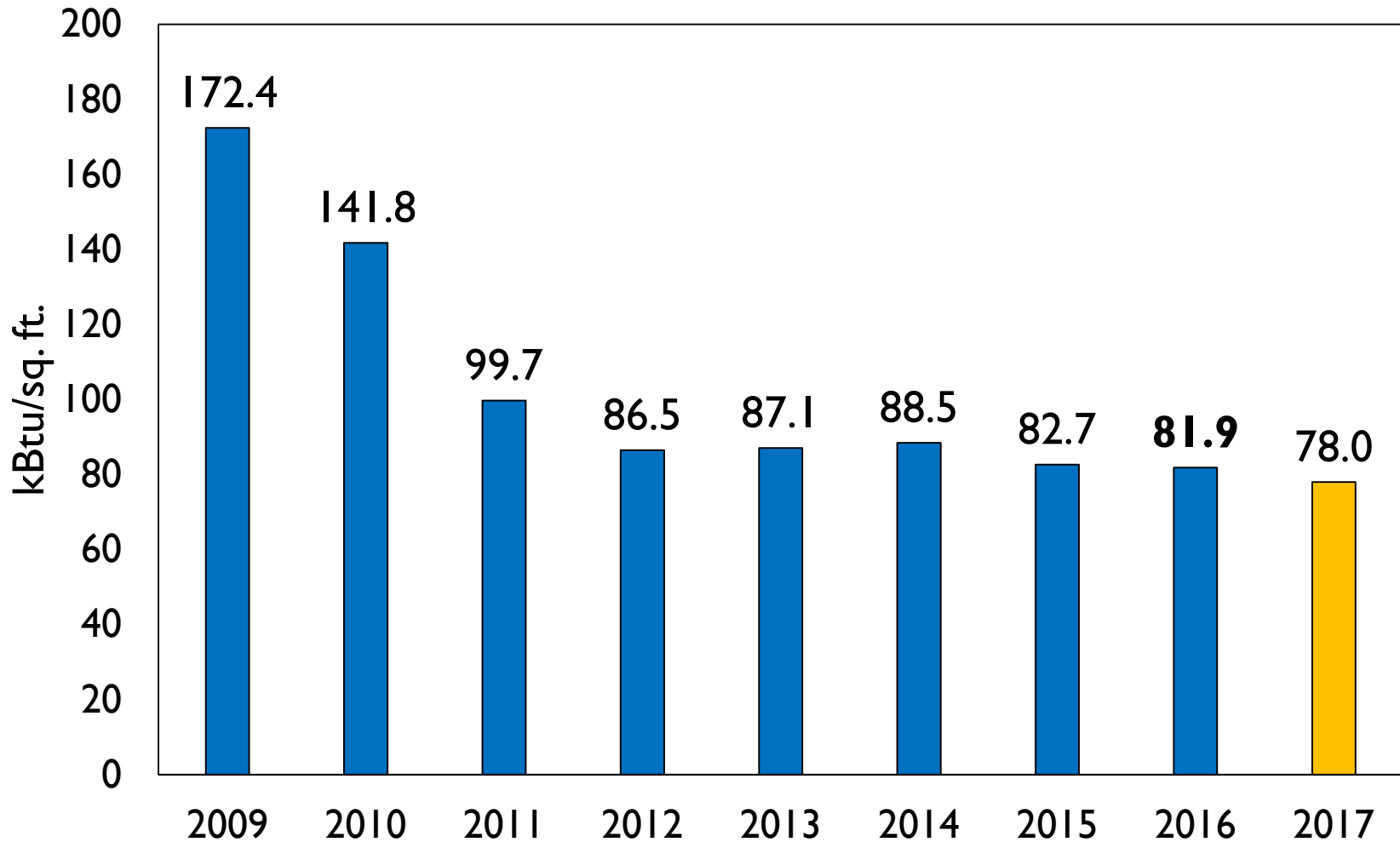
Estimated Fleet Tailpipe Particulate Emissions



Estimated Fleet Tailpipe NOx Emissions

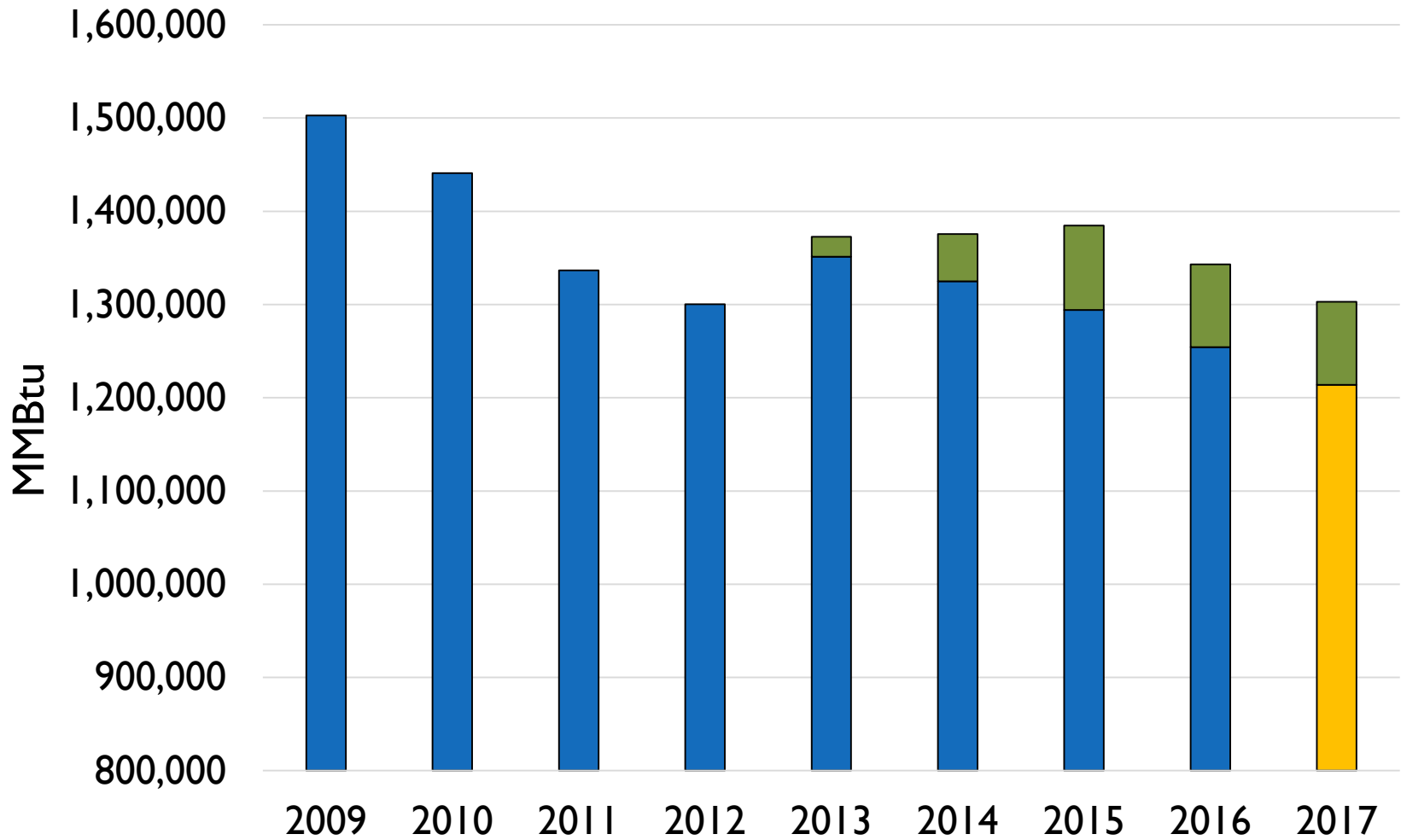


Building Energy Use Intensity (kBtu/sq. ft.)

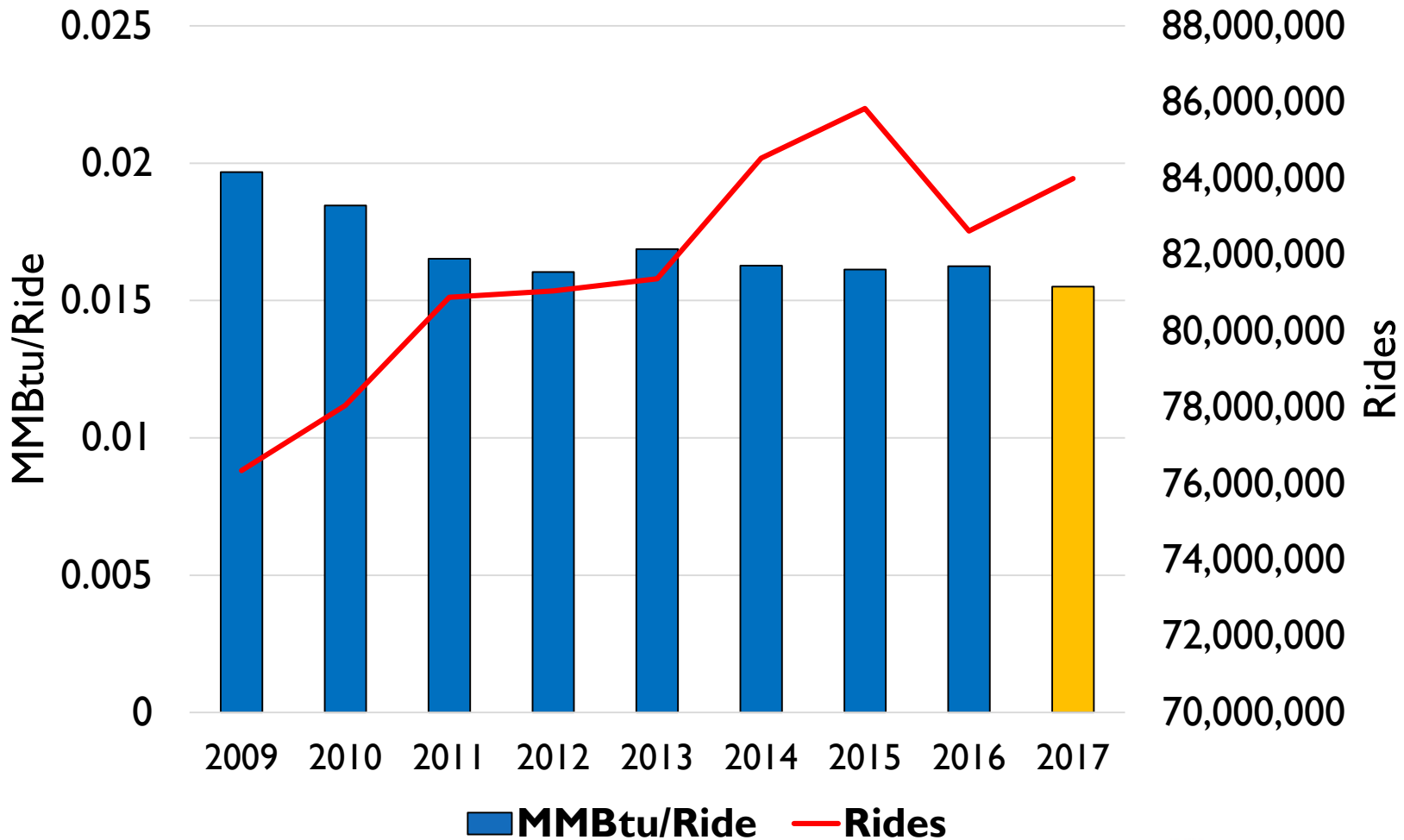


*Weather normalized facility data for 11 major support facilities

Metro Transit Total MMBtu

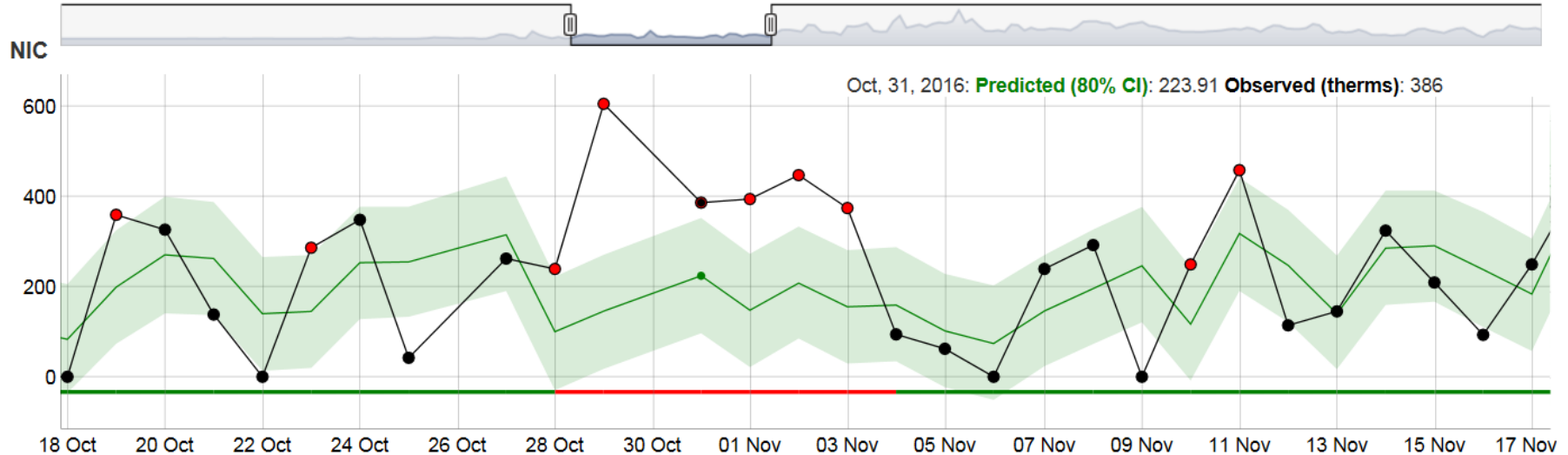


MMBtu/Ride & Annual Ridership



Gas Usage App

- Collaboration between Engineering, Facilities Maintenance, Strategic Initiatives & CenterPoint Energy
- Predict, monitor, and visualize natural gas consumption for energy monitoring

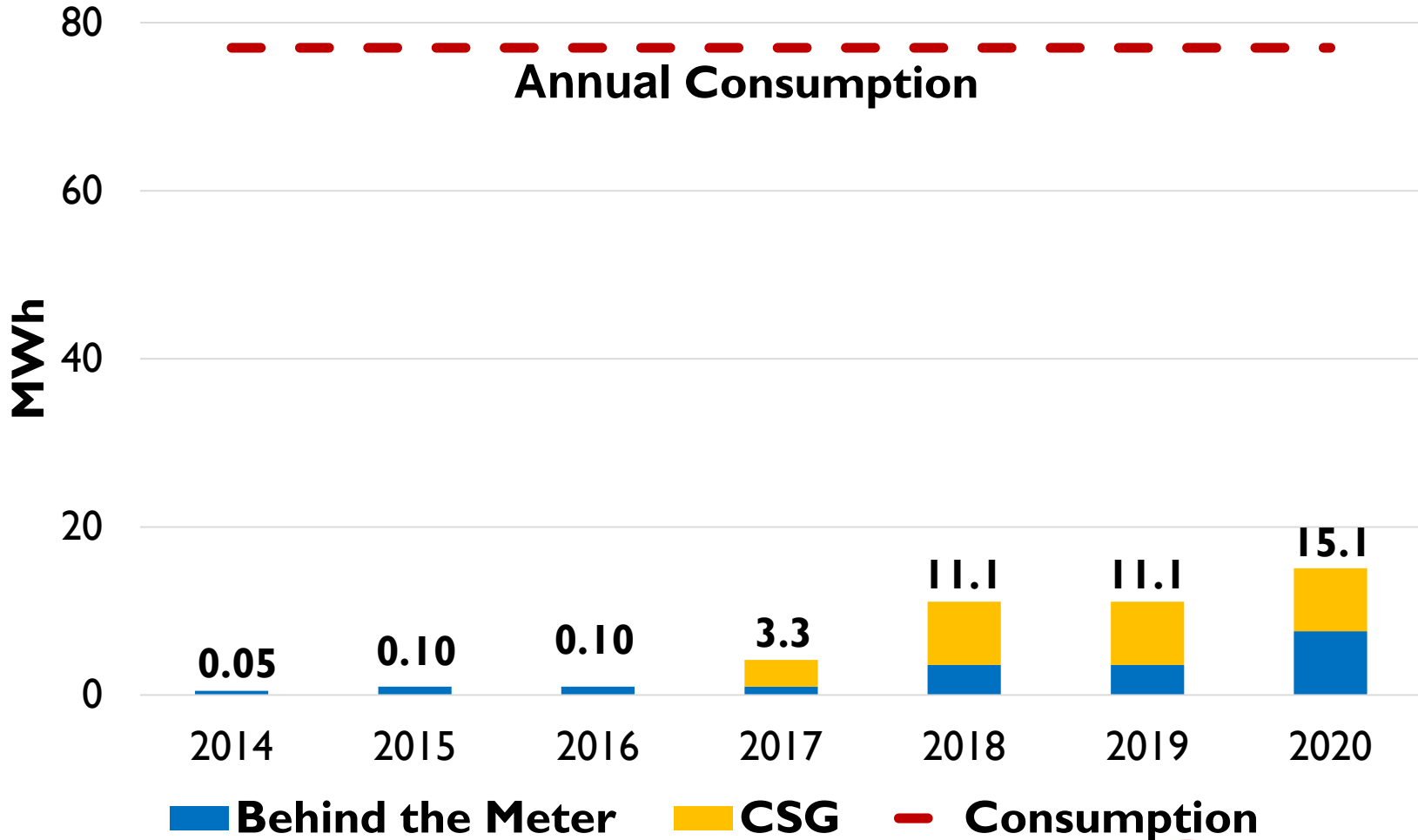


Other 2016 Sustainable Highlights

- Electric Cars – 1 year anniversary!
 - Two Nissan LEAF electric cars for staff use
- Blue Line Station Lighting Retrofit
 - 28th Ave to Fort Snelling Station
- Sustainability Studies & Audits
 - Inflow & Infiltration Study at Garages
 - Xcel Energy Air Compressor Audit
- Community Solar Gardens
 - 3.2 MW Active CSG Subscriptions

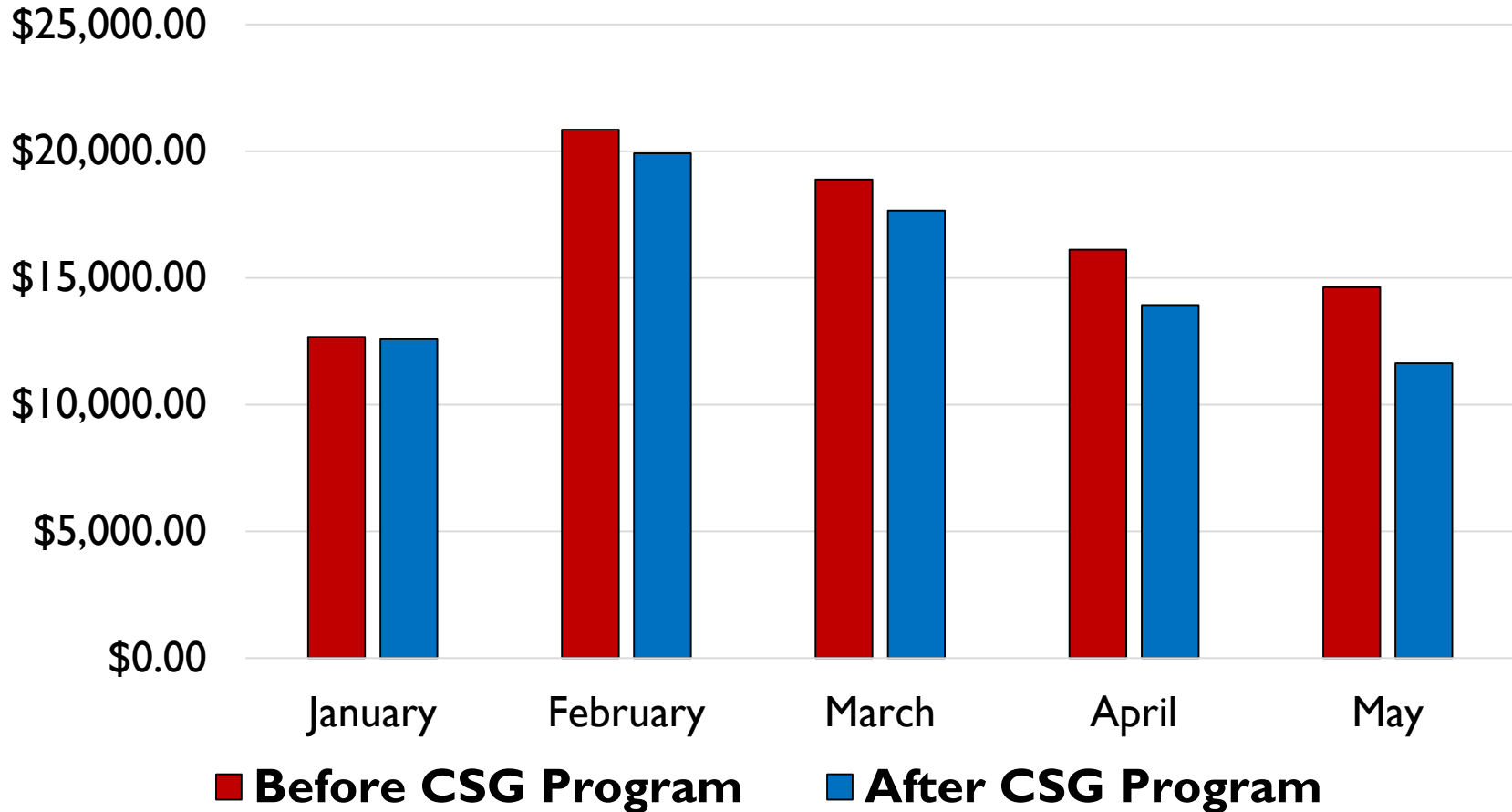


Metro Transit Solar Participation



Community Solar Garden Subscriptions

Utility Costs: Before & After CSG Program



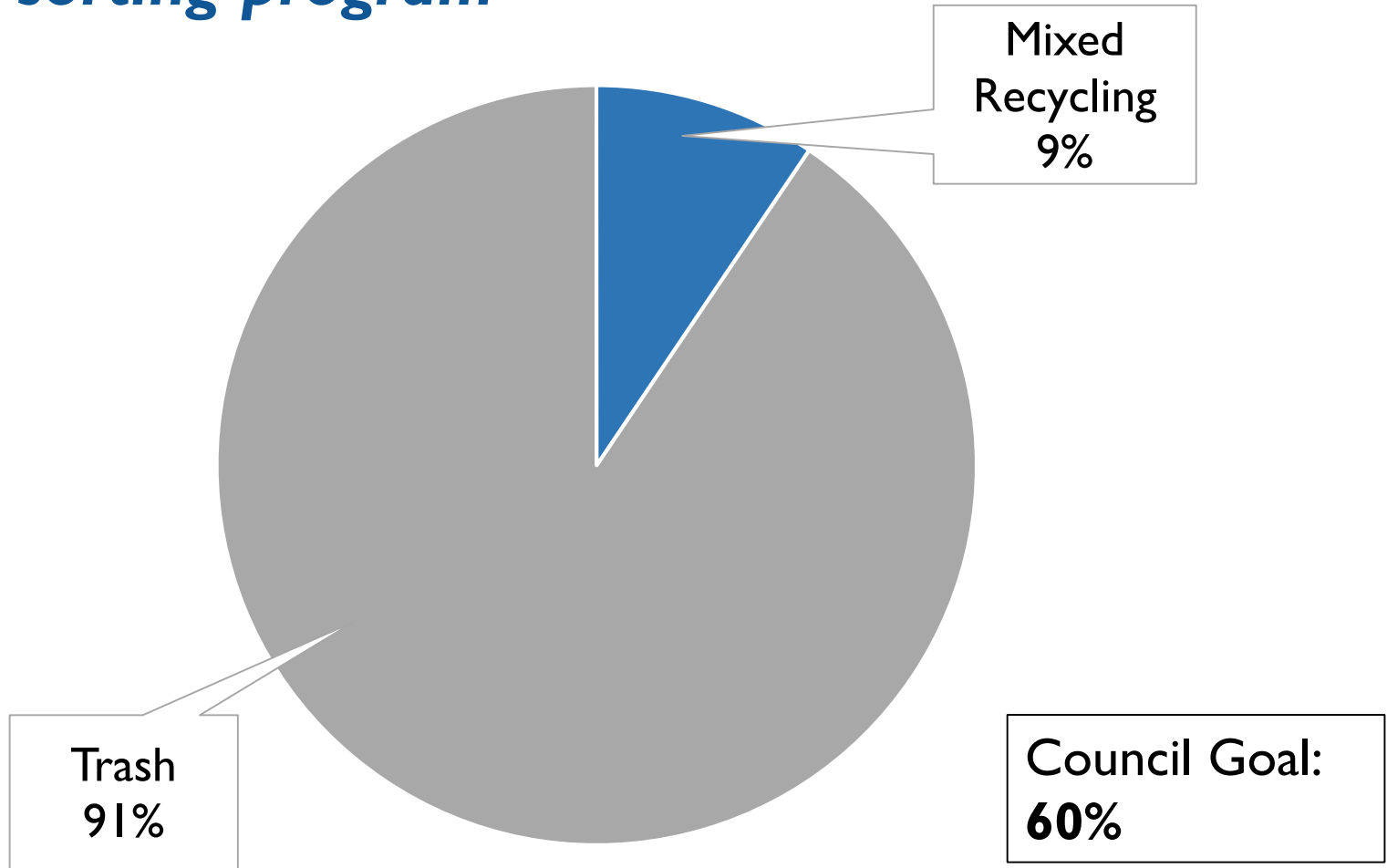
Be The Solution: Spring 2017 Campaign

- New waste sorting program
 - Centralized waste sorting stations for organics, mixed recycling, and trash
- New waste contract in 2017
 - Estimated savings: > \$50,000/year
 - Improved waste data collection and tracking
 - Expansion of new waste program to other facilities
- Future recycling initiatives for plastic film and pallets

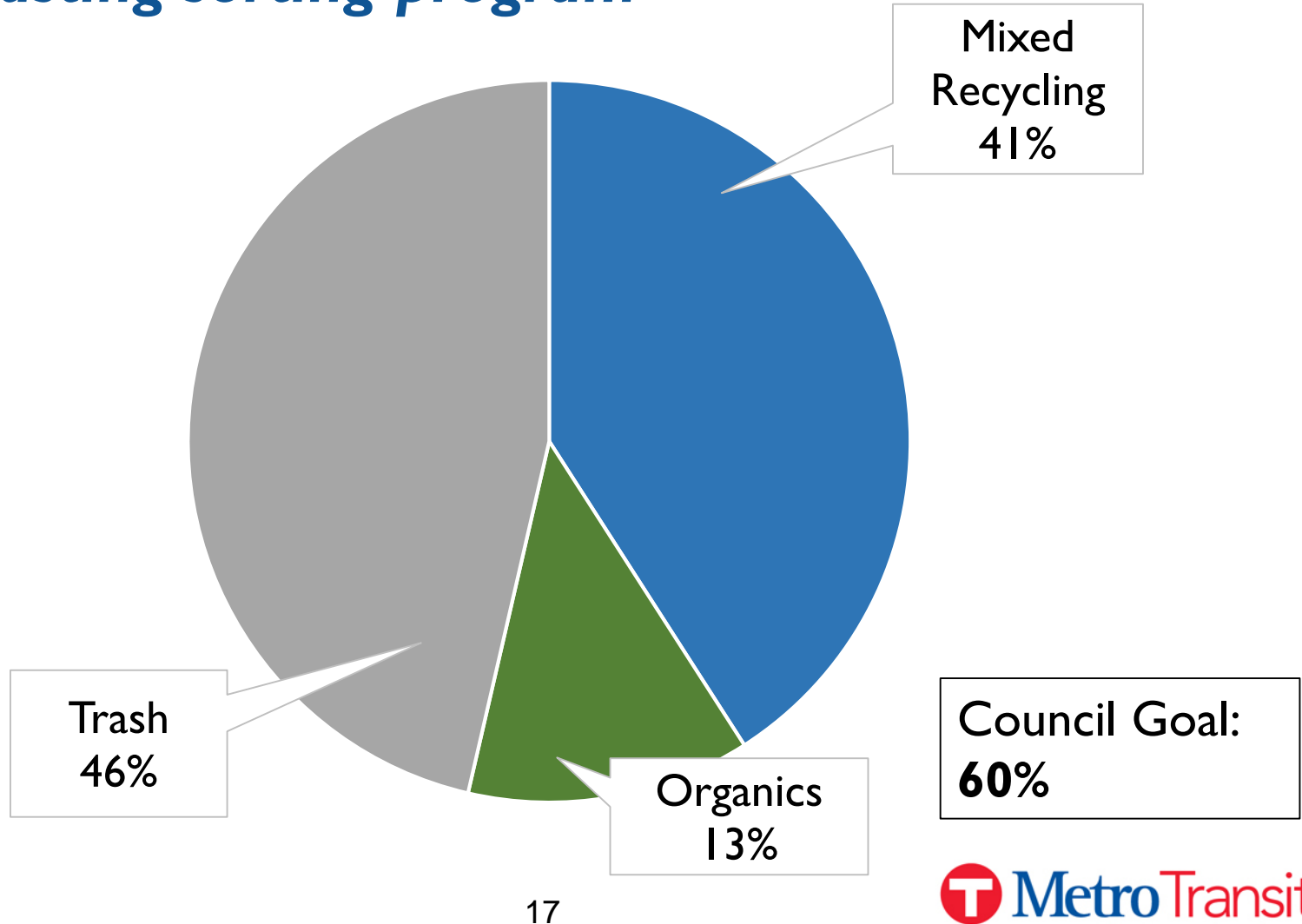


Recycle First. Trash Last.

Heywood Office Waste Profile: *Prior to new waste sorting program*



Heywood Office Waste Profile: *Two months into new wasting sorting program*



2017 → 2018 Projects & Initiatives



- APTA 2017 Sustainability & Multimodal Operations Workshop
- LED Lighting Retrofits
 - Blue Line Downtown Stations, Nicollet & South Garage Exteriors, Northstar Stations, and Overhaul Base Interior/Exterior
 - Design: Garage Interior LED Retrofit
- Transfer Road Rain Gardens (CRWD Water Grant)
- Xcel Energy Turn Key Audit: Overhaul Base
- Renewable Energy Initiatives
 - Maplewood Mall Solar Array & Rooftop Solar PPA
 - Traction Power Energy Storage System
 - Solar Shelters for *Better Bus Stops*



Questions?



Be the Solution

Jeff Freeman

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